



Connecting Your World

AT&T's Response to Fairfax County's Solicitation for Next Generation Core Services Solution (NGCS) RFP2000002010

Updated Technical Proposal Final

July 11, 2017

Asif Iqbal
Client Solutions Executive
AT&T
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Executive Summary

AT&T is uniquely qualified to perform the work described in this Request for Proposal. AT&T, a \$147B company, is a recognized leader in National Public Safety. A major part of the AT&T Corporation is our Commercial, Consumer, Enterprise and Government Leadership. AT&T has a robust Public Safety Solutions practice that nationally serves Public Safety Agencies with Legacy and Next Generation 911 call routing (ESInet), Call Handling, Location Services, Computer Aided Dispatch (CAD), GIS, Records Management, Jail Management, AVL, Security, Cloud solutions, IP Networks, Wireless solutions, Internet of Things (IoT), Unified Communications and many more applications and services. AT&T is driving the convergence and integration of communication technologies and applying to the Public Safety sector to more quickly and effectively manage emergency response.

AT&T was one of the first carriers to implement the original 911 service, enhanced 911 and now Next Generation 911. Recently, AT&T made a bold national product announcement that detailed our vision for a national, i3 compliant ESInet solution. This solution is funded and built by AT&T to support twice the entire United States 911 traffic. AT&T announced West Corporation as our main supplier of technology and services to help support the AT&T Next Generation 911 strategy.

AT&T and West are the industry leaders in terms of ESInet systems contracted and delivered. At the time of this writing, AT&T and West combined have over 700 PSAPs connected and/or contracted to ESInet solutions. These systems and contracts cover over 50M U.S. citizens in aggregate. Some of the more significant deployments identified in our references response include the State of Tennessee, US Navy, State of Hawaii, State of Delaware and Brevard County, Florida. No other provider has the same depth of experience in architecting and delivering mission critical Next Generation 911 solutions.

AT&T and West have been delivering ESInet solutions prior to the NENA i3 standards ratification, and have continually updated and enhanced our service offerings with market, technology and standards development. We are well versed in all aspects of system design, delivery, and ongoing lifecycle management. Combined, AT&T and West have more than 500 resources dedicated to the national AT&T ESInet™ solution, of which the National Capital Region will be a major benefactor. These resources are highly experienced and skilled in actual deployments.





AT&T is responding with our flagship Next Generation ESInet solution to the National Capital Region (NCR) and local 9-1-1 Authorities as a solution that will facilitate a transition from legacy 9-1-1 networks to networks capable of supporting the growing demands of a mobile society. AT&T's solution supports key NENA i3 capabilities today, while forming the basis of a true Next Generation 9-1-1 platform that will support multimedia emergency services as standards are solidified in the industry.

The AT&T ESInet™ solution is a combination of our world class IP network and the Next Gen 9-1-1 components. Our ESInet proposal (delivered as a service) comes complete with a full suite of advanced features, management services and tools to help ensure we provide the best possible service to your Public Safety Access Points (PSAPs) and 9-1-1 Agencies and ultimately the citizens that you support.

The AT&T ESInet™ solution provides the Public Safety community with an i3 architecture built from the ground up. Our commitment to NENA i3 is based on years of contributions to NENA standards committees and understanding the evolving needs and requirements of the Public Safety community. Our solution is not just "i3 like," or "i3 aligned." As elements of the i3 standard continue to be ratified, updated and enhanced—AT&T will continue its commitment to i3. The AT&T ESInet™ services will provide the NCR everything needed to deliver the critical foundational components of an industry standard i3 solution delivered over the world's most advanced IP network.

AT&T ESInet™ Included Features

- Initial build-out with expandable capacity
- Nationally distributed, geographically diverse and redundant service architecture
- Pre-deployed ESInet Call Processing Centers in AT&T datacenters across US
- Aggregation Centers (AGC) in AT&T Central Offices across the US to easily augment growth capacity as well as one within a 50 mile radius
- Initial call processing capacity more than twice current US E9-1-1 call volumes
- NENA i3 compliant
- High availability design (99.999% availability)
- 6 core redundant architecture
- Redundant ALI database
- Interoperable with neighboring PSAPs Legacy PSAP Gateway at each PSAP
- Defense in depth security
- Text to 911 – National TCC Provider



- IPV6 capable
- Reporting Suite
- Full lifecycle management
- End to end management and monitoring
- Fully resourced team to install and support
- Full Business Continuity/Disaster Recovery organization
- Dedicated Program / Service Manager

The proposed solution provides a secure IP-based network with no single point of failure. With no single point of failure, the solution includes six ESI Net data centers located at AT&T facilities throughout the country. The ESI Net will provide the core for a robust emergency services IP network that assures call delivery. The AT&T solution enables call delivery into a legacy PSAP environment, an IP-enabled 9-1-1 PSAP, or to peer ESI Nets. This environment will provide the NCR with the flexibility to grow its own IP-enabled 9-1-1 solution and to share it with other systems in and around the nation

AT&T and West Corporation have deep security and support provisions in place. As the world's largest IP Company, AT&T has demonstrated experience in cybersecurity that is unlikely to be matched by any other respondents. All of this is backed by AT&T's 24/7/365 Resolution Center, AT&T Labs, AT&T's world class project management and service delivery organizations.

In addition, AT&T proposals supports the NCR's Next Gen 9-1-1 "Network of Networks" under the umbrella of NENA i3 based networks, with a conscious design to provide a flexible solution in a collaborative effort if so chosen by the NCR. AT&T's willingness to work with the NCR and other entities in a collaborative environment to improve overall public safety for the people living in NCR should not be understated.

AT&T has a proven track record of innovation, leadership and commitment to public safety. We continue to play a key role in developing emerging technologies and defining new standards in support of public safety as evidenced in our partnerships with NENA, NENA Industry Collaboration Events (ICE), Next Generation Partner Program (NGPP), APCO, ATIS and FCC CSCIC working groups.

One Truck versus Fleet of Trucks

AT&T doesn't rest its emergency preparedness on a single truck. Rather, AT&T has more than 86,000 vehicles in their fleet, making AT&T the largest commercial fleet in the United States – larger than UPS. The AT&T fleet has responded to many Emergency



services across various US states. This has been demonstrated both on a day to day level as well as in emergency conditions. Because the fleet is in place, AT&T is not dependent on moving vehicles from other commitments, customer tours or other distractions to being on site when needed.

AT&T Labs

Throughout the years, AT&T Labs remained an innovator. Our inventors pioneered new technologies and developed promising new products and services. These innovations range from IP network management and optical technology to automatic speech recognition and next generation text-to-speech products.

AT&T Labs has a rich heritage of innovation. Since 1901, our researchers and engineers developed some of the world's major technological inventions, including the transistor, the creation of the field of Information Theory, the solar cell, and the communications satellite. Today, our teams of technologists continue to invent technologies that enable AT&T to bring a new generation of universal network and communications services. We remain committed to developing state-of-the-art communications technologies that enable seamless, easy-to-use, high quality and affordable communications — anytime, anywhere.

Fairfax County and the NCR will enjoy the following AT&T Key Advantages:

- AT&T/West are premier leaders for Public Safety; while others are exiting the business AT&T is doubling down to invest in implementing a National solution to accelerate adoption of NG9-1-1. Fairfax County can leverage AT&T's investment in a cloud based solution to recognize economies of scale benefits that eliminate upfront CapEx costs, reduce implementation times via AT&T's existing ESInet core facilities and lower overall total cost of ownership.
- AT&T has designed our solution to scale to support more than twice the 9-1-1 busy hour call for the entire nation.
- AT&T ESInet™ is built upon the AT&T's Global IP Private Network that is backed up by industry leading SLA's. AT&T ESInet™ service provides NCR a complete end-to-end solution monitored by a single provider to accelerate troubleshooting and eliminate vendor finger pointing.
- Flexible routing platform that supports both ESN and GIS on the same ECRF.
- Our Legacy Network Gateway has RTP recovery that automatically reconnects the 9-1-1 caller in the event of mid-call failure.



- AT&T/West have proven NCR experience providing service today to Loudoun County VA, including successful implementation of Originating Service Provider interconnections using with the Verizon legacy selective router; AT&T will leverage this knowledge base and experience to benefit the NCR resulting in shorter integration cycles and reduced integration risk.
- AT&T's ESInet™ is considered "on net" with existing West NCR ESInet PSAPs (e.g., Loudoun County) and provides "built-in" interconnectivity and seamless call transfers between PSAPs connected to the AT&T ESInet™; this "on net" feature is included at no additional charge.
- AT&T investment in building a national solution leveraging existing AT&T data center assets enables NCR to eliminate CapEx and reduce OpEx costs. Additionally, AT&T ESInet™ provides redundant, geographically diverse facilities to increase resiliency and survivability in natural and man-made disaster scenarios.
- AT&T ESInet™ is monitored 24 x 7 x 365 from a NOC with tier2 and tier 3 technical resources dedicated to ESInet. AT&T's Global IP network is monitored by 8 different SOC facilities located across the world. AT&T's security portfolio capabilities are used to protect our data centers and networks that carry more than 100.4 Petabytes of data traffic on an average business day.
- AT&T 9-1-1 Resolution Center and West NOC have dedicated public safety resources and have a proven track record for deployments and installed base covering nearly 50M citizens.

AT&T has been providing wireless voice and data services for over a decade to Fairfax County and NCR members. In addition, AT&T has been providing Mobile Data connectivity to support Computer Aided Dispatch for a number of Public Safety Agencies of the NCR including Fairfax county Department of Public Safety Communications since 2009.

In conclusion, AT&T is the best choice to support Fairfax County and the National Capital Region in its pursuit to migrate to Next Generation 911. AT&T is the most reliable and financially stable and has the resources, experience, network, service and support to deliver the finest Emergency Services.





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Required Forms (Appendix B) and Corporate Information

This section contains AT&T's signed DPSM32 form (Cover sheet), and all applicable required forms in Appendix B, including a signed Fairfax County Department of Information Technology IT Services Provider Consultant/Contractor Agreement





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3033 Chain Bridge Rd.
Oakton, VA 22124

Office: 703-474-6025
asif.iqbal.1@att.com
www.att.com

December 13, 2016

Jamie Pun
Department of Procurement and Material Management
Fairfax County Government
12000 Government Center Parkway
Fairfax, Virginia 22035 - 0013

Dear Ms. Pun:

This is to confirm that each electronic version of proposal on thumb drive is a true copy of the printed version of AT&T proposal to Fairfax County RFP 2000002010

Sincerely,

Asif Iqbal
Client Solutions Executive

State of Virginia, County of Fairfax
On this 13 day of Dec. 2016 Before me, personally appeared
Asif Iqbal, proved to me through satisfactory evidence of
identification, which were VA ID, to be the person whose name is
signed above and who swore or affirmed to me that the contents of the
document are truthful and accurate to the best of his/her knowledge and belief.

DINORA SORTO
NOTARY PUBLIC
COMMONWEALTH OF VIRGINIA
MY COMMISSION EXPIRES MAR. 31, 2019
COMMISSION # 7100748



FAIRFAX COUNTY

DEPARTMENT OF PROCUREMENT & MATERIAL MANAGEMENT
12000 GOVERNMENT CENTER PARKWAY, SUITE 427
FAIRFAX, VIRGINIA 22035-0013

www.fairfaxcounty.gov/dpmm

VIRGINIA

TELEPHONE: (703) 324-3201 FAX: (703) 324-3228 TTY: 1-800-828-1140

ISSUE DATE: August 26, 2016	REQUEST FOR PROPOSAL NUMBER: RFP2000002010	TITLE: Next Generation Core Services Solution (NGCS)
DEPARTMENT: Public Safety Communications (DPSC)	DUE DATE/TIME: November 4, 2016 at 2:00 P.M. EST	CONTRACT SPECIALIST: Jamie Pun; ji.pun@fairfaxcounty.gov or 703-324-3653

Proposals - In accordance with the following and in compliance with all terms and conditions, unless otherwise noted, the undersigned offers and agrees, if the proposal is accepted, to furnish items or services for which prices are quoted, delivered or furnished to designated points within the time specified. It is understood and agreed that with respect to all terms and conditions accepted by Fairfax County the items or services offered and accompanying attachments shall constitute a contract.

Note: Fairfax County does not discriminate against faith-based organizations in accordance with the *Code of Virginia*, § 2.2-4343.1 or against a bidder or offeror because of race, religion, color, sex, national origin, age, disability, or any other basis prohibited by state law relating to discrimination in employment in the performance of its procurement activity.

NAME AND ADDRESS OF FIRM:

Telephone/Fax No.: (703)-220-7741

AT&T Corp.

E-Mail Address: jeff.craft@att.com

3033 Chain Bridge Rd. Oakton VA 22124

Federal Employer Identification No or 13-4924710

Federal Social Security No.(Sole
Proprietor)

Prompt Payment Discount: NA% for payment within 30 days/net
days

State Corporation Commission (SCC)
Identification No. F1024936

By signing this proposal, Offeror certifies, acknowledges, understands, and agrees to be bound by the conditions set forth in the General Conditions and Instructions to Bidders as described in Appendix A, the Certification Regarding Ethics in Public Contracting set forth in Appendix B, and by any other relevant certifications set forth in Appendix B.

AT&T SO AGREES AS AND TO THE EXTENT RESPONDED BY AT&T IN ITS RESPONSE TO THIS RFP.

BUSINESS CLASSIFICATION – Described in Appendix B - CHECK ONE: ☒ LARGE (Y) ☐ SMALL (B)

☐ MINORITY-OWNED SMALL (X) ☐ MINORITY OWNED LARGE (V) ☐ WOMEN-OWNED SMALL (C)

☐ WOMEN OWNED LARGE (A) ☐ NON PROFIT (9)

CHECK ONE: ☐ INDIVIDUAL ☐ PARTNERSHIP ☒ CORPORATION

State in which Incorporated: Delaware

December 9, 2016

Date

Vendor Legally Authorized
Signature

John D. Irwin

Print Name and Title

SVP Government, Education & Healthcare Solutions

Sealed proposals subject to terms and conditions of this Request for Proposal will be received by the Fairfax County Purchasing Agent at 12000 Government Center Parkway, Suite 427, Fairfax, Virginia 22035-0013 until the date/time specified above.

AN EQUAL OPPORTUNITY PURCHASING ORGANIZATION





Request for Protection of Trade Secrets or Proprietary Information Pursuant to Article 2, Section 4.D.3 of the Purchasing Resolution and Va. Code Ann.

§ 2.2-4342(F)

Request for Protection of Trade Secrets or Proprietary Information Pursuant to Article 2, Section 4.D.3 of the Purchasing Resolution and Va. Code Ann. § 2.2-4342(F)

This form is provided as a courtesy to assist vendors desiring to protect trade secrets and proprietary information from disclosure under the Virginia Freedom of Information Act. In order to receive protection, you must (a) invoke the protection prior to or upon submission of the data or other materials, (b) identify the data or other materials to be protected, and (c) state the reason(s) why protection is necessary. Each of these requirements must be met with respect to the particular information for which protection is sought.

Submission of this form with or without other reference to Article 2, Section 4.D.3 of the Purchasing Resolution or Va. Code Ann. § 2.2-4342(F) shall satisfy the invocation requirement with respect to data or other materials clearly identified herein.

Identify the specific data or other material for which protection is sought. Suggested forms of designation include: listing the Proposal Section, Tab, or Page numbers; attaching to this form a copy of the table of contents from your Proposal with the relevant trade secret or proprietary contents highlighted; or identifying herein a document stamp used within the Proposal to designate the relevant materials (e.g. "all portions of the Proposal marked "Proprietary" or "Trade Secret""). NOTE: The classification of an entire proposal document, line item prices, and/or total proposal prices as proprietary or trade secrets is not acceptable.

For each distinct section of data or other information identified in response to paragraph b), above, state the reason(s) why protection is necessary. NOTE: Your explanation must do more than simply stating the materials are "proprietary," or "trade secrets," or "not publically available." You may attach additional sheets to this form as needed.

Use of this form does not guarantee protection. It is incumbent upon each vendor to meet the prerequisites for protection of their trade secrets or proprietary information. Provision of this form does not constitute legal advice; you are encouraged to consult with your legal counsel prior to designation of materials for protection.





DATA/MATERIAL TO BE PROTECTED	SECTION NO., & PAGE NO.	REASON WHY PROTECTION IS NECESSARY
Proprietary processes	Section 4.9.5 Page: 100-105	This information describes details regarding processes that have not been publicly announced by the vendor, and constitute a competitive advantage to the vendor in the market. The disclosure of this information to competitors would have a significant negative economic effect on vendor's business.
Proprietary solution features and functions	Section: 4.10.2 # 2 Page: 134	This information describes details regarding features and functions that have not been publicly announced by the vendor, and constitute a competitive advantage to the vendor in the market. The disclosure of this information to competitors would have a significant negative economic effect on vendor's business.
Proprietary solution features and functions	Section: 4.10.4 # 1, 3, 6, 7, 8 Page: 152-162	This information describes details regarding features and functions that have not been publicly announced by the vendor, and constitute a competitive advantage to the vendor in the market. The disclosure of this information to competitors would have a significant negative economic effect on vendor's business.
Proprietary solution features and functions	Section: 4.10.5 # 2, 3, 9, 10, 12 Page: 163-180	This information describes details regarding features and functions that have not been publicly announced by the vendor, and constitute a competitive advantage to the vendor in the market. The disclosure of this information to competitors would have a significant negative economic effect on vendor's business.
Proprietary solution features and functions	Section: 4.10.8, # 1 Page: 193-196	This information describes details regarding features and functions that have not been publicly announced by the vendor, and constitute a competitive advantage to the vendor in the market. The disclosure of this information to competitors would have a significant negative economic effect on vendor's business.





COUNTY OF FAIRFAX
DEPARTMENT OF PROCUREMENT & MATERIAL MANAGEMENT
SMALL AND MINORITY BUSINESS ENTERPRISE PROGRAM
12000 Government Center Parkway, Suite 427
Fairfax, Virginia 22035-0013
Fax: 703-324-3228

SUBCONTRACTOR(S) NOTIFICATION FORM

Contract Number/Title: _____ N/A

Prime Contractors Name: _____ N/A

Prime Contractor's Classification: _____ N/A

You are required to provide the County with names, addresses, anticipated dollar amount and small/minority classification of each first-tier subcontractor (ref. paragraph 277, Special Provisions). Please complete this form and return it with your submission.

Please check here if you are not using a subcontractor: x

SUBCONTRACTOR(S) NAME	STREET ADDRESS	CITY	STATE	ZIP CODE	ANTICIPATED DOLLAR AMOUNT	VENDOR CLASSIFICATION

Complete and return this form with your proposal.

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OFFEROR DATA SHEET

NAME OF OFFEROR: AT&T Corp.

ADDRESS: 3033 Chain Bridge Road

Oakton, VA 22124

E-MAIL ADDRESS: asif.iqbal.1@att.com

Name and e-mail addresses of both service and fiscal representatives (Key Personnel) who would handle this account.

Service Representative: Jeff Craft, Account Executive

Telephone Number: (703)-220-7741

E-Mail Address: jeff.craft@att.com

Fiscal Representative: Asif Iqbal, Client Solutions Executive

Telephone Number: (703)-474-6025

E-Mail Address: asif.iqbal.1@att.com

Payment Address, if different from above:

AT&T

PO Box 105068, Atlanta, GA 30348-5068





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VIRGINIA STATE CORPORATION COMMISSION (SCC)
REGISTRATION INFORMATION

The bidder:

☒ is a corporation or other business entity with the following SCC identification number:
F1024936 -OR-

☐ is an out-of-state business entity that does not regularly and continuously maintain as part of its ordinary and customary business any employees, agents, offices, facilities, or inventories in Virginia (not counting any employees or agents in Virginia who merely solicit orders that require acceptance outside Virginia before they become contracts, and not counting any incidental presence of the bidder in Virginia that is needed in order to assemble, maintain, and repair goods in accordance with the contracts by which such goods were sold and shipped into Virginia from bidder's out-of-state location) -OR-

☐ is an out-of-state business entity that is including with this bid/proposal an opinion of legal counsel which accurately and completely discloses the undersigned bidder's current contacts with Virginia and describes why those contacts do not constitute the transaction of business in Virginia within the meaning of § 13.1-757 or other similar provisions in Titles 13.1 or 50 of the Code of Virginia.

Please check the following box if you have not checked any of the foregoing options but currently have pending before the SCC an application for authority to transact business in the Commonwealth of Virginia and wish to be considered for a waiver to allow you to submit the SCC identification number after the due date for bids:





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BUSINESS, PROFESSIONAL AND OCCUPATIONAL LICENSE

All firms located or operating in Fairfax County must obtain a Business, Professional and Occupational License (BPOL) as required by Chapter 4, Article 7, of the Code of the County of Fairfax, Virginia. In order for the Department of Tax Administration to determine your BPOL requirement prior to contract award, it is necessary for you to provide the following information:

- If you currently have a Fairfax County business license, please submit a copy with your proposal.

AT&T Response:

Please see Annex L for a copy of Fairfax County business License.

- Do you have an office in: Virginia ☒ Yes ☐ No
Fairfax County ☒ Yes ☐ No
- Date business began/will begin work in Fairfax County

AT&T Response:

AT&T is a pioneer in the telecommunications industry and we have worked in Fairfax County since the advent of telecommunications services.

A detailed description of the business activity that will take place in Fairfax County. If business is located outside of Fairfax County, give the percentage of work actually to be done in the County

AT&T will conduct any physical installation activities and any direct customer support activities within Fairfax County, as needed. Network activities would be done at appropriate facilities. At this time, it would not be possible to give an accurate percentage of work per location, because network services can be fluid and work will be done when and where necessary to meet customer needs.

Signature

December 15, 2016

Date

Complete and return this form or a copy of your current Fairfax County Business License with your proposal.



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Certification Regarding Ethics in Public Contracting

In submitting this bid or proposal, and signing below, Bidder/Offeror certifies the following in connection with a bid, proposal, or contract:

Check one:

- ☒ 1. I have not given any payment, loan, subscription, advance, deposit of money, services or anything of more than nominal or minimal value to any public employee or official have official responsibility for a procurement transaction.
- ☐ 2. I have given a payment, loan, subscription, advance, deposit of money, services or anything of more than nominal or minimal value to a public employee or official have official responsibility for a procurement transaction, but I received consideration in substantially equal or greater value in exchange.

If 2 is selected, please complete the following:

Recipient: _____ Date of _____

Gift: _____

Description of the gift and its value:

Description of the consideration received in exchange and its value:

Printed Name of Bidder/Offeror Representative: Asif Iqbal

Signature/Date:  December 15, 2016

Company Name: AT&T Corp.

Company Address: 3033 Chain Bridge Road

City/State/Zip: Oakton, VA 22124

This certification supplements but does not replace the requirements set forth in paragraph 64 (OFFICIALS NOT TO BENEFIT) of the General Conditions and Instructions to Bidders included in this solicitation.





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CERTIFICATION REGARDING DEBARMENT OR SUSPENSION

In compliance with contracts and grants agreements applicable under the U.S. Federal Awards Program, the following certification is required by all offerors submitting a proposal in response to this Request for Proposal:

1. The Offeror certifies, to the best of its knowledge and belief, that neither the Offeror nor its Principals are suspended, debarred, proposed for debarment, or declared ineligible for the award of contracts from the United States federal government procurement or nonprocurement programs, or are listed in the List of Parties Excluded from Federal Procurement and Nonprocurement Programs issued by the General Services Administration.
2. "Principals," for the purposes of this certification, means officers, directors, owners, partners, and persons having primary management or supervisory responsibilities within a business entity (e.g., general manager, plant manager, head of a subsidiary, division, or business segment, and similar positions).
3. The Offeror shall provide immediate written notice to the Fairfax County Purchasing Agent if, at any time prior to award, the Offeror learns that this certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
4. This certification is a material representation of fact upon which reliance will be placed when making the award. If it is later determined that the Offeror rendered an erroneous certification, in addition to other remedies available to Fairfax County government, the Fairfax County Purchasing Agent may terminate the contract resulting from this solicitation for default.

AT&T Response:

The undersigned is unaware of any disqualification or debarment.

Printed Name of Representative:

Asif Iqbal

Signature/Date:

Dec. 15, 2016

Company Name:

AT&T Corp.

Address:

3033 Chain Bridge Road

City/State/Zip:

Oakton, VA 22124

SSN or TIN No:

13-4924710





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Listing Of Local Public Bodies

REFERENCE PARAGRAPH 28 OF THE SPECIAL PROVISIONS,"USE OF CONTRACTS BY OTHER

PUBLIC BODIES." You may select those public bodies that this contract may be extended to; a "blank" will signify a "NO" response:

Yes	Alexandria Public Schools, VA	Yes	Manassas Park, Virginia
Yes	Alexandria Sanitation Authority	Yes	Maryland-National Capital Park & Planning Commission
Yes	Alexandria, Virginia	Yes	Maryland Transit Administration
Yes	Arlington County, Virginia	Yes	Metropolitan Washington Airports Authority
Yes	Arlington Public Schools, Virginia	Yes	Metropolitan Washington Council of Governments
Yes	Bladensburg, Maryland	Yes	Montgomery College
Yes	Bowie, Maryland	Yes	Montgomery County, Maryland
Yes	Charles County Public Schools, MD	Yes	Montgomery County Public Schools
Yes	College Park, Maryland	Yes	Northern Virginia Community College
Yes	Culpeper County, Virginia	Yes	Omni Ride
Yes	District of Columbia	Yes	Potomac & Rappahannock Trans. Commission
Yes	District of Columbia Courts	Yes	Prince George's County, Maryland
Yes	District of Columbia Public Schools	Yes	Prince George's County Public Schools
Yes	DC Water and Sewer Authority	Yes	Prince William County, Virginia
Yes	Fairfax County Water Authority	Yes	Prince William County Public Schools, VA
Yes	Fairfax, Virginia (City)	Yes	Prince William County Service Authority
Yes	Falls Church, Virginia	Yes	Rockville, Maryland
Yes	Fauquier County Government and Schools, Virginia	Yes	Spotsylvania County Schools, Virginia
Yes	Frederick, Maryland	Yes	Stafford County, Virginia
Yes	Frederick County Maryland	Yes	Takoma Park, Maryland
Yes	Gaithersburg, Maryland	Yes	Upper Occoquan Sewage Authority
Yes	Greenbelt, Maryland	Yes	Vienna, Virginia
Yes	Herndon, Virginia	Yes	Virginia Railway Express
Yes	Leesburg, Virginia	Yes	Washington Metropolitan Area Transit Authority
Yes	Loudoun County, Virginia	Yes	Washington Suburban Sanitary Commission
Yes	Loudoun County Public Schools	Yes	Winchester, Virginia
Yes	Loudoun County Sanitation Authority	Yes	Winchester Public Schools
Yes	Manassas, Virginia		
Yes	Manassas City Public Schools, Virginia		

Complete and return this form with your proposal.

AT&T Corp.

Vendor Name





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BUSINESS CLASSIFICATION

DEFINITIONS

Small Business – means a business, independently owned or operated by one or more individuals who are U.S. citizens or legal resident aliens, and together with affiliates, has 250 or fewer employees, or average annual gross receipts of \$10 million or less averaged over the previous three years. One or more of the individual owners shall control both the management and daily business operations of the small business.

Minority-Owned Business - means a business concern that is at least 51% owned by one or more minority individuals who are U.S. citizens or legal resident aliens, or in the case of a corporation, partnership, or limited liability company or other entity, at least 51% of the equity ownership interest in the corporation, partnership, or limited liability company or other entity is owned by one or more minority individuals who are U.S. citizens or legal resident aliens, and both the management and daily business operations are controlled by one or more minority individuals.

Woman-Owned Business – means a business that is at least 51% owned by one or more women who are U.S. citizens or legal resident aliens, or in the case of a corporation, partnership, or limited liability company or other entity, at least 51% of the equity ownership interest is owned by one or more women who are U.S. citizens or legal resident aliens, and both the management and daily business operations are controlled by one or more women.

YOU MUST CLASSIFY YOUR BUSINESS/ORGANIZATION BY MARKING THE APPROPRIATE BOXES ON

THE COVER SHEET (DPSM32). This designation is required of all business/organizations including publicly traded corporations, non-profits, sheltered work shops, government organizations, partnerships, sole proprietorships, etc.



AT&T Corporate Information

Name of firm submitting proposal; main office address; when organized; if a corporation, when and where incorporated; appropriate Federal, State, and County registration numbers.

AT&T Response:

The following table contains the requested corporate information.

Main Local Address	3033 Chain Bridge Road Oakton VA, 22124
Date of Incorporation	The AT&T Corp. date of incorporation was March 3, 1885
Federal Registration number	FEIN: 13-4924710.
State Registration number	SCC ID: F1024936
County Registration number	Business License: 1638302



Technical Requirements (Appendix C)

1. BACKGROUND AND PROJECT SCOPE

The National Capital Region (NCR)¹ is preparing for a migration from legacy, circuit-switched 9-1-1 with limited interoperability to a Next Generation 9-1-1 (NG9-1-1) regional system built on a standards-based, Emergency Services Internet Protocol (IP) network (ESInet) that will enable seamless interoperability across the region. This request for proposals (RFP) is the first step in progressing toward the NCR's end vision of regional interoperability.

The NCR has been working collaboratively to ensure a smooth migration to the Next Generation platform. The establishment of the 9-1-1 Directors Committee under the Metropolitan Washington Council of Governments (MWCOG) has brought together regional 9-1-1 stakeholders to work across jurisdictional lines toward a reliable and redundant regional solution. Recently, the committee established an NG9-1-1 working group to assess the technical and operational needs of the region.

This Next Generation Core Services (NGCS) and ESInet procurement for the NCR consists of 13 primary, 7 secondary, and 10 backup public safety answering points (PSAPs) residing in the State of Maryland and the Commonwealth of Virginia. The counties and cities included within the NCR that are participating in this procurement may be seen in Figure 1, below. A complete list of participating NCR PSAPs may be found in Attachment A. Each jurisdiction will procure its service through this RFP and contract with the Contractor independently.

Respondents may notice that two of the NCR's jurisdictions are not participating in this procurement. The District of Columbia (D.C.) Office of Unified Communications (OUC) is in the process of independently deploying, and Loudoun County Emergency Communications Center (ECC) has independently deployed, NG9-1-1 call-routing services with West Safety Services (West). Specifically, both jurisdictions have independently deployed, or are in the process of deploying, IP selective routing (IPSR) services, and it is anticipated that both eventually will migrate to geospatial routing using National Emergency Number Association (NENA) i3 protocols during the initial

¹ The NCR region, in the context of this RFP, includes the following Virginia, Maryland, and District of Columbia jurisdictions and municipalities included with those jurisdictions: (1) The City of Alexandria, VA (2) Arlington County, VA, (3) Calvert County, MD (4) Charles County, MD, (5) the District of Columbia, (6) Fairfax County, VA, (7) Fauquier County, VA, (8) Frederick County, MD, (9) Loudoun County, VA, (10) Montgomery County, MD, (11) Prince George's County, MD, (12) Prince William County, VA, (13) St. Mary's County, MD, and (14) Stafford County, VA. Some federal planning programs may list different jurisdictions in their definition of the NCR.



term of the NCR's NGCS services. The NCR requires interoperability with these two neighboring jurisdictions on Day 1.

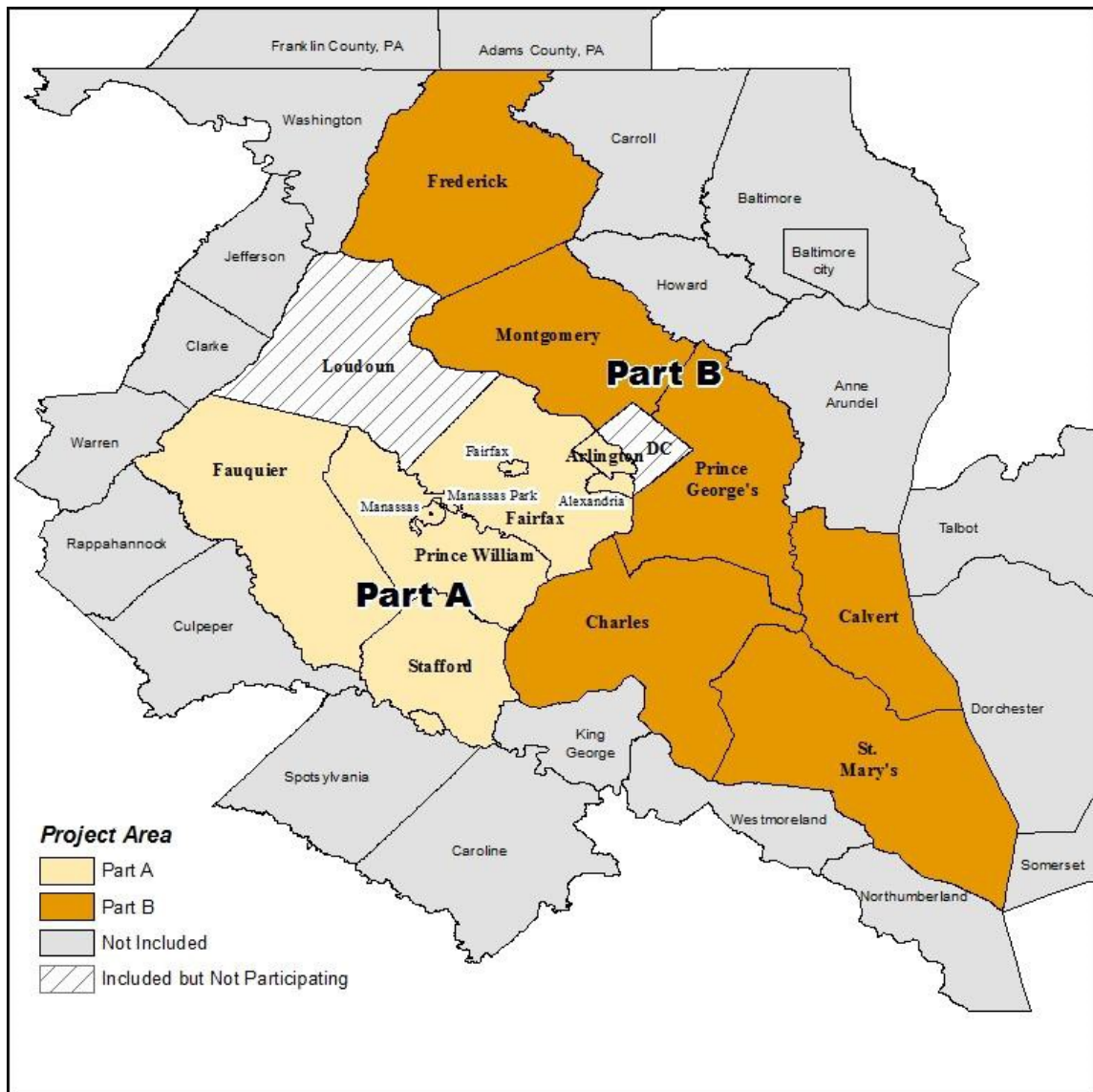


Figure 1: NCR Map

The NCR understands that other NG9-1-1 components and GIS data development must be implemented prior to, or in conjunction with, the NGCS. The NCR is seeking to procure and deploy a transitional NGCS solution with managed ESInet services. This transitional solution should align with NENA-INF-008.2-2014, providing for geospatial routing of calls with the implementation of legacy network gateways (LNG), border



control function (BCF), emergency service routing proxy (ESRP), policy routing function (PRF), emergency call routing function (ECRF), location validation function (LVF), spatial interface (SI) and location database (LDB).

In January 2016, the NCR PSAPs initiated a project to develop a common GIS data set across the region. Individual jurisdictions are developing their boundaries and street centerline data, which is being uploaded to a common database for quality assurance (QA) and quality check (QC) analysis. The disparate data sets then will be coalesced into a single dataset and loaded into a test ECRF and LVF. The project will conclude in May 2018, at which time the data will be capable of meeting the data requirements for all fields marked as required in Attachment B of NENA 08-003, and meet all spatial audits as described in Section 4.3 of NENA 02-014. A copy of the NCR's GIS data model may be viewed in Attachment B.

The NCR PSAPs have individually deployed, or will be individually deploying, NG9-1-1 callhandling systems to interface with the NGCS. In some cases, secondary PSAPs may require the Contractor to deploy a legacy PSAP gateway (LPG) to interface with its legacy E9-1-1 callhandling solution. New call-handling equipment is not in the scope of this procurement, and proposals that include call-handling solutions may be disqualified.

2. OBJECTIVES

2.1. EXPECTATION

The NCR desires that NGCS provide the call-routing intelligence required by a next-generation system. The functional elements include transitional elements as well as NGCS, including, but not limited to, the following:

- Legacy Network Gateway (LNG)
- Legacy Public Safety Answering Point (PSAP) Gateway (LPG)
- Border Control Function (BCF)
- Emergency Services Routing Proxy (ESRP)
- Policy Routing Function (PRF)
- Emergency Call Routing Function (ECRF)
- Location Validation Function (LVF)
- Location Database (LDB)
- Spatial Interface (SI)



- PSAP Interfaces
- Discrepancy Reporting
- Event Logging
- Time Server

2.2. RESPONDENT PROFILE

Each Respondent shall provide a brief description of its company and experience with similar projects. As part of this profile, each Respondent also shall list business partner(s) for this proposal, with an explanation of why its business partner(s) was chosen and its experience with similar projects.

AT&T Response:

AT&T welcomes the opportunity to expand our successful public safety partnership with Fairfax County and the National Capital Region. As a proven partner in Fairfax County in providing first responder communications, AT&T has successfully delivered telecommunications to Fairfax County.

National Capital Region Public Safety personnel understand and value the critical importance of history and the lessons learned from past experience. AT&T has been there since the beginning and is well positioned to support the Public Safety continuum from Call to Car to Crisis.

- **From Call.** In 1968 AT&T established 9-1-1 as the nation's emergency code, leading the effort to protect the public and make law enforcement officers safer and more effective. Today, we are leading the mobile revolution where citizens have instant access to video, text, GPS capabilities, and more. And as the lines blur between voice calls, data in real time and mobile access anytime anywhere, we are working side by side with leading Industry Associations, like NENA, and our innovative Public Safety customers to enable Next Generation 9-1-1 Solutions.
- **To Car.** In an emergency, first responders need to share vital information and improve response times to help ensure citizen safety. Even before arriving at the scene, emergency personnel need to make decisions about deploying equipment, securing the area and anticipating potential risks. From interoperable communications solutions to encrypted data sharing, satellite devices, and customer deployable cell sites, AT&T delivers a range of solutions to meet the critical information needs of public safety agencies when time matters most.



- **To Crisis.** When disaster strikes, communication becomes the first line of defense for emergency services. On March 14, 2012, the Department of Homeland Security (DHS) announced that AT&T had become the first private sector company to be certified to DHS-selected standards under the Voluntary Private Sector Preparedness Program. The PS-Prep™ program enables private sector organizations to enhance their capabilities for planning, responding to, and recovering from natural disasters and other threats. The strength of our AT&T continuity program coupled with our industry-leading Global Network Operations Center (GNOC) helps us and our customers effectively continue operations during and after emergencies.

AT&T has invested in developing a National ESInet solution to accelerate adoption of Next Generation 9-1-1 (NG9-1-1) across the country. AT&T ESInet™ is our flagship NG9-1-1 service and provides 9-1-1 Authorities with a solution that will facilitate a transition from legacy 9-1-1 networks to networks capable of supporting the growing demands of a mobile society. AT&T is delighted to present a solution that supports key NENA i3 capabilities today, while forming the basis of a true NG 9-1-1 platform that is positioned to support multimedia emergency services as standards are solidified in the industry.

AT&T's ESInet solution is a combination of our world class IP network and the Next Gen 9-1-1 components provided by industry leading partners. Our ESInet proposal (delivered as a service) comes complete with a full suite of advanced features, management services and tools to help ensure you provide the best possible service to your Public Safety Access Points (PSAPs) and ultimately the citizens that you support.

AT&T's ESInet solution provides the Public Safety community with an i3 architecture built from the ground up. Our commitment to NENA i3 is based on years of contributions to NENA standards committees and understanding the evolving needs and requirements of the Public Safety community. Our solution is not just "i3 like," or "i3 aligned." As elements of the i3 standard continue to be ratified, updated and enhanced—AT&T will continue its commitment to i3. AT&T's ESInet services will provide the NCR everything it needs to deliver to your citizens the critical foundational components of an industry standard i3 solution delivered over the world's most advanced IP network.

AT&T has partnered with West Safety Services (WSS), a proven leader in public safety in order to provide an ESInet solution unmatched in the industry. AT&T and West have extensive ESInet experience totaling over 700 PSAPs either connected or under contract for ESInet with a corresponding population of nearly 50M lives. We leverage West's superior call routing technology and 9-1-1 database solutions to meet with the ever changing demand of the 9-1-1, public safety industry. West has been a partner for over 20 years and continues to demonstrate proven performance and excellence in 9-1-1.



AT&T's ESInet service has earned industry accolades being recognized by:

- 1) Frost & Sullivan in receiving their North American Public Safety Visionary Innovation Leadership Award and
- 2) AT&T ESInet™ was also awarded the 2016 Communications Solutions Product of the Year by TMC.

3. GENERAL REQUIREMENTS

3.1. PROJECT KNOWLEDGE

3.1.1. Responses to Each Requirement

The responses to each requirement described in this RFP must include one of the following:

Understood: The Respondent understands the statement without question or providing clarification.

Complies: The Respondent proposal complies with the RFP requirements and the products/services are included in the base price, are currently developed, and are available for implementation (i.e., must be generally available).

Complies Partially: The Respondent proposal addresses the RFP requirements through another method that is currently developed and is available for implementation (i.e., must be generally available), or the solution complies with some, but not all of the requirements. Respondent is responsible for clearly explaining how its proposed solution does not fully comply.

Complies with Future Capability: The RFP requirements will be met with a capability delivered at a future date. This response must include a calendar quarter and year that the requirement will be met with a generally available product or service at no additional cost.

Does Not Comply: The Respondent proposal does not/cannot meet the specific RFP requirement.

1. Below each requirement will be either one (Understood) check box or four check boxes (Complies, Complies Partially, Complies with Future Capability, Does Not Comply). Respondent must respond by placing an "X" in only one check box per



stated requirement. Failure to complete this process properly will be treated the same as "Did Not Answer."

☒ Understood

2. A response and description to each requirement is required. Do not underestimate the importance of providing details. The details should be sufficient to properly convey Respondent's intentions, but should not be verbose in nature. Marketing materials are not considered appropriate in-line responses. Respondent may attach marketing materials as separate, supplemental documents, but details are still required to support the answer.

☒ Understood

3. Respondent shall not refer to other sections as a response. Even if the response is an exact duplicate of a previous response, the details must be provided in the same paragraph as the requirement. Respondent must not include pricing information in its description, and must not refer the reader to pricing; note that the NCR's evaluation team(s) members will not have access to pricing information.

☒ Understood

3.2. RESPONDENT VISION OF NG9-1-1

The NCR is interested in retaining the Respondent that understands and can clearly demonstrate alignment with the industry's evolution to NENA NGCS solutions. Each Respondent shall describe its vision of NG9-1-1 and how it aligns with NENA's vision.

Also noteworthy would be items such as position papers or partnerships/alliances intended to further the vision of the NGCS. All proprietary documents must be clearly marked.

☒ Complies

☐ Complies Partially

☐ Complies with Future Capability

☐ Does Not Comply

Details to support the answer:



AT&T Response:

AT&T is responding with our flagship Next Generation ESInet solution. AT&T presents our ESInet to National Capital Region (NCR) and local 9-1-1 Authorities as a solution that will facilitate a transition from legacy 9-1-1 networks to networks capable of supporting the growing demands of a mobile society. AT&T is delighted to present a solution that supports key NENA i3 capabilities today, while forming the basis of a true Next Generation 9-1-1 platform that will support multimedia emergency services as standards are solidified in the industry.

AT&T's ESInet solution is a combination of our world class IP network and the Next Gen 9-1-1 components provided by industry leading partners. Our ESInet proposal (delivered as a service) comes complete with a full suite of advanced features, management services and tools to help ensure you provide the best possible service to your Public Safety Access Points (PSAPs) and 9-1-1 Agencies and ultimately the citizens that you support.

AT&T's ESInet solution provides the Public Safety community with an i3 architecture built from the ground up. Our commitment to NENA i3 is based on years of contributions to NENA standards committees and understanding the evolving needs and requirements of the Public Safety community. Our solution is not just "i3 like," or "i3 aligned." As elements of the i3 standard continue to be ratified, updated and enhanced—AT&T will continue its commitment to i3. AT&T's ESInet services will provide the NCR everything you need to deliver to your citizens the critical foundational components of an industry standard i3 solution delivered over the world's most advanced IP network.

In addition, AT&T provides our solution as our proposal supporting the NCR's Next Gen 911 Network of Networks under the umbrella of NENA i3 based networks, with a conscious design to provide a flexible solution in a collaborative effort if so chosen by the NCR. AT&T's willingness to work with the NCR and other entities in a collaborative environment to improve overall public safety for the people living in NCR should not be understated.

AT&T has a proven track record of innovation, leadership and commitment to public safety. We continue to play a key role in developing emerging technologies and defining new standards in support of public safety as evidenced in our partnerships with NENA, NENA Industry Collaboration Events (ICE), Next Generation Partner Program (NGPP), APCO, ATIS and FCC CSCIC working groups.

The proposed solution provides legacy network interoperability and converts all legacy calls to SIP at the ingress of the network, providing the NCR traffic with SIP call delivery



from the ingress network demarcation points to the PSAP CPE. These SIP calls are delivered via the public safety grade i3 AT&T ESInet™.

3.3. SINGLE POINT OF CONTACT

The successful Respondent shall be the Contractor of record and serve as the NCR's single point of contact ("Prime") for proposals and any contract that may result from this RFP. The Prime is responsible for any partners or subcontractors.

☒ Understood

3.4. INFORMATION PROVIDED BY THE RESPONDENT

Respondent is solely responsible for conducting its own independent research, due diligence or other work necessary for the preparation of responses, negotiation of contracts and the subsequent delivery of services pursuant to any contract resulting from this RFP. NCR takes no responsibility for the completeness or the accuracy of any information presented in this RFP, or otherwise distributed or made available during this selection process or during the term of any subsequent contract.

☒ Understood

3.5. COMPLIANCE SUMMARY

Respondent shall state its compliance in the summary table provided in Attachment C, as depicted below:

☒ Understood

4. TECHNICAL REQUIREMENTS

4.1. CAPACITY

Please see Section 2.2 of the AT&T Emergency Service IP (ESInet) Service Guide.

1. All IP network components, physical network segments, and NGCS elements shall support each PSAP's current call-handling capacity, plus 25 percent growth over the life of the initial contract. All networks and NGCS elements shall be designed with no single points of failure. All equipment shall be new and of current manufacture. Used, refurbished, or end- of-life equipment shall not be used.



- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The proposed system has been designed to accommodate the metrics as enumerated in this section of the RFP.

Not only is the AT&T ESInet™ capable of scaling to meet expected and future call volume in the National Capitol Region (NCR), it is designed to handle more than twice the nationwide call volume for 9-1-1 (NENA estimated at 240M calls annually). Each AT&T ESInet™ Core can exceed a call arrival rate of 30 calls per second and handle thousands of simultaneous calls. The AT&T ESInet™ Core ESRP and ECRF configurations distribute transactions across a set of processors in an active/active configuration and any Core can handle and process any given call. Maintenance, logging and alarm management functions are all incorporated into the capacity management model.

IP network transport used by the AT&T ESInet™ will initially be sized to comply with specified network bandwidth requirements. The AT&T ESInet™ IP network is monitored for capacity trends that indicate the need for proactive growth of the ESInet. As the needs of the NCR ESInet grow, local PSAP connectivity bandwidth will be scaled up or down by a change order process or through procedures as defined in the SLA and/or contract.

The solution deploys redundant and diverse components providing the i3 architecture, such as but not limited to, ECRF, ESRP, PRF, BCF, and LNG functionality. The solution has no single point of failure, positioning the NCR with a unique foundation to deploy future NG9-1-1 functions as and when they become available.

AT&T has designed our solution to scale to support more than twice the 9-1-1 busy hour call for the entire nation.

The AT&T ESInet™ solution has been designed solely for the purpose of completing every 9-1-1 call 24x7x365. The AT&T ESInet™ can withstand the failure of individual components or the failure of Core processing sites and continue to successfully process 9-1-1 calls.



The solution has no single point of failure, positioning the NCR with a unique foundation to deploy future NG9-1-1 functions as and when they become available.

All equipment will be new and of current manufacture. Used, refurbished, or end-of-life equipment is not used.

Response from Negotiation Issues Part C dated April 25, 2017

9. Please confirm the concurrent call throughput or bandwidth in the proposal for each jurisdiction, for Part A and B (and Part C separately). Please confirm the process for Fairfax County or any jurisdiction to adjust (increase or decrease) bandwidth capacity into a particular PSAP (that varies from the submitted price proposal). If possible provide a contract line item schedule that can be used should adjustments be necessary for a PSAP over the life of the contract (minimums, maximums, incremental changes).

AT&T Response:

AT&T has estimated the bandwidth requirements for each Part C PSAP. AT&T proposed excess initial bandwidth to support growth over term. The proposed AVPN transport bandwidth for each respective PSAP in Part C are based on estimated maximum concurrent calls at 100kbs per call and provides for a minimum growth of 25% per PSAP connection. Estimated bandwidth was also used for respective Local Access Network pricing from appropriate third party providers.

If a PSAP is nearing its bandwidth capacity or projects a large increase, the process to increase bandwidth is simple and straightforward with the AT&T proposed solution. The PSAP in question would engage the dedicated AT&T Service Manager to execute a change order to modify the circuit bandwidth to the increased or decreased speed.

At the time of contracting with respective PSAPs for billing, AT&T's pricing schedule will provide the additional MRC for every available speed if any respective PSAP desires to increase its bandwidth or throughput.

The incremental cost to the Total MRC for each PSAP is reflected in the table below:

<u>Bandwidth</u>	<u>Incremental Costs</u>
<u>From 3MB to 6MB for each connection</u>	<u>Not to exceed incremental \$100 MRC</u>
<u>From 6MB to 10 MB for each connection</u>	<u>Not to exceed incremental \$100 MRC</u>
<u>From 10MB to 20 MB for each connection</u>	<u>Not to exceed incremental \$100 MRC</u>
<u>From 20 MB to 50 MB for each connection</u>	<u>Not to exceed incremental \$250 MRC</u>
<u>From 50MB to 100 MB for each connection</u>	<u>Not to exceed incremental \$300 MRC</u>



2. If the Respondent's solution is rate limited, Respondent shall state the maximum number of calls per second that the proposed solution can sustain. Respondent also should specifically address how multimedia and text calls will affect call-handling capacity.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The AT&T ESInet™ does not impose rate limits on call processing and is built with significantly more capacity than necessary to allow for component failures and/or maintenance that will not impact customer call processing. According to NENA 9-1-1 Statistics (<http://www.nena.org/?page=911Statistics>) approximately 240 million 9-1-1 calls occur annually in the United States which equate to approximately 7.7 emergency calls originating every second. A "busy hour" call rate can be estimated at ten times the average call rate or approximately 77 calls per second. The AT&T ESInet™ core processing centers are capable of processing more than twice the estimated national busy hour rate for 9-1-1. The AT&T ESInet™ can successfully process all 9-1-1 calls in the NCR even under severe loads that may occur during unusual events such as extreme weather. The limiting factor for the NCR will be the origination call capacity provided by originating service providers (OSPs) network.

The AT&T ESInet™ service is sized to support voice and data calls, i.e., Text to 9-1-1. In the future when NG9-1-1 multimedia services become standardized, AT&T will work with the NCR to increase bandwidth capacity as necessary. The AT&T Virtual Private Network (AVPN) transport can be easily scaled to support from 1.5Mbps up to 10 Gbps port speeds to accommodate future needs.

Response from Negotiation Issues dated April 18, 2017

9. Please confirm the concurrent call throughput or bandwidth in the proposal for each jurisdiction, for Part A and B (and Part C separately). Please confirm the process for Fairfax County or any jurisdiction to adjust (increase or



decrease) bandwidth capacity into a particular PSAP (that varies from the submitted price proposal). If possible provide a contract line item schedule that can be used should adjustments be necessary for a PSAP over the life of the contract (minimums, maximums, incremental changes).

AT&T Response:

AT&T has analyzed the bandwidth requirements for each PSAP. AT&T proposed excess initial bandwidth to support growth over term. The proposed AVPN transport bandwidth for each respective PSAP in Part A and Part B are based on estimated maximum concurrent calls at 100kbs per call and provides for a minimum growth of 25% per PSAP connection. The proposed concurrent call throughput for Part C will be provided as part of our response on April 25th.

If a PSAP is nearing its bandwidth capacity or projects a large increase, the process to increase bandwidth is simple and straightforward with the AT&T proposed solution. The PSAP in question would engage the dedicated AT&T Service Manager to execute a change order to modify the circuit bandwidth to the increased or decreased speed.

At the time of contracting with respective PSAPs for billing, AT&T's pricing schedule will provide the additional MRC for every available speed if any respective PSAP desires to increase its bandwidth or throughput.

The incremental cost to the Total MRC for each PSAP is reflected in the table below:

<u>Bandwidth</u>	<u>Incremental Costs</u>
<u>From 3MB to 6MB for each connection</u>	<u>Not to exceed incremental \$100 MRC</u>
<u>From 6MB to 10 MB for each connection</u>	<u>Not to exceed incremental \$100 MRC</u>
<u>From 10MB to 20 MB for each connection</u>	<u>Not to exceed incremental \$100 MRC</u>
<u>From 20 MB to 50 MB for each connection</u>	<u>Not to exceed incremental \$250 MRC</u>
<u>From 50MB to 100 MB for each connection</u>	<u>Not to exceed incremental \$300 MRC</u>

4.2. STANDARDS

Please see Page 1, Opening section of the AT&T Emergency Service IP (ESInet) Service Guide.

The NCR seeks a standards-based solution that complies with all applicable NENA, Association of Public-Safety Communications Officials (APCO), American National Standards Institute (ANSI), and Internet Engineering Task Force (IETF) standards. Proprietary solutions or solutions with limited compliance with industry-standards may be disqualified if it is determined that the solution will not immediately achieve the



NCR's goal of interoperability throughout the region, with neighboring legacy selective routers, and with future neighboring ESInets.

As industry standards evolve, the Contractor's solution shall continue to comply with industry standards. Specifically, the Contractor's solution shall comply with new NGCS and ESInet industry standards within 18 months of ratification of applicable industry standards. This applies to current and future revisions of the following list of standards, and the supporting standards referenced within each standard. As solution updates are made to maintain industry standards compliance, the solution shall not abandon services or feature functionality in place at the time of the solution upgrade. Applicable industry NG9-1-1 standards and informational documents include, but are not limited to:

- NENA 08-003, *Detailed Functional and Interface Specification for the NENA i3 Solution*, Stage 3 Version 1, and its successors
- NENA 75-001, *Security for Next Generation 9-1-1 Standard (NG-SEC)*, and its successors
- NENA 08-506, *Emergency Services IP Network Design for NG9-1-1 Information Document*, Version 1, and its successors
- NENA-STA-003.1.1-2014, *NENA Standard for NG9-1-1 Policy Routing Rules*, and its successors
- NENA-REQ-002.1-2016, *NENA Next Generation 9-1-1 Data Management Requirements*, and its successors
- NENA-STA-004.1.1-2014, *NENA Next Generation 9-1-1 United States Civic Location Data Exchange Format (CLDXF)*, and its successors
- NENA/APCO-INF-005, *NENA/APCO Emergency Incident Data Document (EIDD)*, to be replaced by its eventual ANSI document
- NENA-STA-006.1-201x, *NENA GIS Data Model for NG9-1-1 (Draft)*
- IETF base IP protocols
- IETF IP-routing protocols such as Border Gateway Protocol (BGP) and Open Shortest Path First (OSPF)
- IETF session and media protocols such as Session Initiation Protocol (SIP), Session Description Protocol (SDP), Message Session Relay Protocol (MSRP), and Real-Time Transport Protocol (RTP)
- IETF protocols such as Location-to-Service Translation (LoST), HTTP-Enabled Location Delivery (HELD), and Presence Information Data Format Location Object (PIDF-LO)



Respondent shall reveal any use of proprietary standards or protocols in its proposed solution, or state that it fully complies with this requirement. Any limitations, whether technological or philosophical, shall be disclosed in the response.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The AT&T ESInet™ provides a Next Generation 9-1-1 (NG9-1-1) solution that adheres to industry standards. The AT&T ESInet™ solution system complies with NENA 08-003 which in itself is based upon IETF RFCs such as SIP (RFC 3261), LoST (RFC 5222), PIDF-LO (RFC 4119 and successive updates), and IETF ECRIT best practices documents and ANSI standards. The AT&T ESInet™ solution network architecture adheres to the guidelines and recommendations of the NENA ESInD (ESInet Network Design) The AT&T ESInet™ meets the security criteria as defined in the NENA NG-SEC specifications for NG9-1-1 security. AT&T ESInet™ service adheres to the NENA i3 standards for NG9-1-1 models and offers customers transition strategies to an NG9-1-1 end state while maximizing investment and leveraging existing network assets. As standards are ratified and there is a market demand for new capability, AT&T will work with industry providers to develop and test, to the new standards. At this time we cannot determine what, if any, additional costs would be associated to future capabilities.

AT&T actively participates in developing new standards and we are familiar with the recently released NENA STA-010.2, the NENA Detailed Functional and Interface Standards for the NENA i3 solution (formerly NENA 08-003). Any time NENA documents conflict, an evaluation is done as to the direction of the industry and intent of the most recent standards documents. AT&T is committed to continued participation in the active NENA workgroups as well as in the annual NENA meetings where conflicts within NENA (and other) documents are discussed and resolved. Typically, the most recently issued documents or working drafts will take precedence over older NENA documents when determining a roadmap that will keep AT&T systems NENA i3-compliant.



Response from Negotiation Issues dated April 18, 2017

20. In Section 4.2, please define "market demand" with regards to timely implementation and feature availability based on future standards ratification.

AT&T Response:

AT&T defines market demand as the prevailing, standardized features and functionalities that are desired by the market place.

AT&T anticipates that the ESInet Services will evolve and be supplemented, modified, enhanced or replaced over time to keep pace with technological advancements and improvements in the methods of delivering Services and as generally accepted industry standards (like NENA) evolve ("Service Evolutions"). AT&T acknowledge that the evaluation and implementation of Service Evolutions is a necessary component of providing the Service.

AT&T will support customer communication of ESInet Services Enhancements with regular solution roadmap reviews. The solution roadmap reviews will be conducted by the dedicated AT&T Service Manager assigned to the National Capital Region.

4.3. NETWORK

Please see Sections 1.6, 2.2, and 2.5 of the AT&T Emergency Service IP (ESInet) Service Guide.

1. Respondent must include in its proposal the fully functional ESInet services capable of supporting the NCR's primary, backup, and secondary locations, including interconnectivity with West, the ESInet provider to the District of Columbia OUC and the Loudoun County ECC. Contractor will have to interconnect with other regional and state-level ESInets in the future, at which time scope and costs will be assessed.

☒ Understood

2. As defined in NENA 08-003, "An ESInet is a managed IP network that is used for emergency services communications, and which can be shared by all Public Safety agencies. It provides the IP transport infrastructure upon which independent application platforms and core functional processes can be deployed, including but not limited to, those necessary for providing NG9-1-1 services. ESInets may be constructed from a mix of dedicated and shared facilities. ESInets may be interconnected at local, regional, state, federal, national and international levels to form an IP-based internetwork (network of networks)."



The NCR's desire is to implement a redundant, resilient, public safety-grade (99.999 percent uptime), managed, IP-based ESInet. Contractor shall design such a network to provide the infrastructure for NENA i3 core services and processes (NGCS), while interconnecting and providing interoperability for all of the NCR's primary, backup, and secondary locations as shown in Attachment A.

☒ Understood

3. The network shall be designed with diverse entrances (e.g., "east-west" entrances) into each facility that is a part of the NCR ESInet, including data centers, PSAPs, and other locations. Primary and redundant links shall not share common routes, trenches, or poles.

If facility construction is required, Respondent shall so indicate. In the event that this is not possible at a given location, Respondent shall indicate how it intends to provide redundant and resilient connectivity to that location. The NCR is open to proposals that provide nonterrestrial transport if priced as an option.

☒ Understood

4. All network equipment shall be new and of current manufacture. All servers, systems, routers, switches, and other network equipment shall support IPv4 and IPv6, and be capable of running dual protocol stacks.

☒ Understood

5. The NCR's view of the network shall be at Layer 3 of the International Organization for Standardization (ISO) model, i.e., IP packets are routable between any two points on the ESInet. The network shall comply with Institute of Electrical and Electronics Engineers (IEEE) 802.3 Ethernet standards, as well as the Internet Engineering Task Force (IETF) requests for comments (RFC).

☒ Understood

6. Internal network routing shall be accomplished through use of the Open Shortest Path First (OSPF) protocol, as defined in RFC 2328 and RFC 5340. External network routing, such as that to service providers and other ESInets, shall be through the use of the Border Gateway Protocol (BGP) as defined in IETF RFC 4271. All routing protocols shall implement authentication between neighboring routers. Other standards-based protocols may be considered by the NCR, but the use of proprietary routing protocols is prohibited.

☒ Understood



7. Resiliency, or fast failover, may be achieved through the use of the Bidirectional Forwarding Detection (BFD) protocol as defined in IETF RFC 5880 and RFC 5881, or other standards-based, non-proprietary methods approved by the NCR.

☒ Understood

8. All routers and switches must support multicast routing and switching. The applicable base protocols are Internet Group Management Protocol (IGMP) and Protocol Independent Multicast (PIM). These protocols handle the routing of join and leave requests for the multicast streams across both local and wide-area networks. IGMP version 3 (IGMPv3) is the most current version and is defined in RFC 3376. This RFC was amended by RFC 4604, which added Multicast Listener Discovery (MLDv2), which provides the equivalent functionality for IPv6. There are four varieties of PIM: sparse mode (RFC 4601), dense mode (RFC 3973), bidirectional mode (RFC 5015), and source-specific mode (RFC 3569).

☒ Understood

9. The network equipment shall support Quality of Service (QoS) marking for prioritizing traffic in the network using the Differentiated Services Code Point (DSCP) protocol. While the network can change DSCP values through rules, the values typically are set by the system or functional element that originates the traffic. Network routers and switches shall not be configured in such a manner as to change DSCP values set by originating functional elements.

☒ Understood

10. The proposed ESInet shall be private, robust, scalable, secure, diverse, redundant, and sustainable. Respondent shall propose a network solution for all sites listed in Attachment A.

☒ Understood

11. Contractor is responsible for any third-party certification fees.

☒ Understood

AT&T Response:

AT&T provides a fully integrated solution approved for use by AT&T Labs. AT&T agrees to assume responsibility for mutually agreed upon third-party certification fees.

12. Respondent shall describe how its proposed solution meets each of the requirements outlined in Section 4.3.



- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

Item 1

The proposed solution is the AT&T ESInet™; a nation-wide next generation emergency network designed to meet the NENA 08-506 ESInD and NENA i3 08-003 standards and specifically built for emergency services communications. The AT&T ESInet™ emergency call delivery application and next generation core functional processes are deployed on a highly redundant IP transport infrastructure. This hardened mature solution can withstand the failure of individual components or the failure of core call processing sites and continue to successfully complete 9-1-1 calls 24x7x365.

The AT&T ESInet™ supports local, regional, state, federal, and national interconnections to other networks and ESInets. Seamless interworking between the AT&T ESInet™ and neighboring ESInets that serve their clients with either IPSR and/or i3 routing is accomplished by adhering to NENA standards. *The AT&T ESInet™ to ESInet Interconnection Specification v 1.0* in Annex A defines the SIP interface between an Upstream Emergency Services Routing Proxy (U-ESRP) and a Downstream ESRP (D-ESRP) residing in different Emergency Services IP networks (ESInets). This interface is based on requirements defined in the NENA i3 Functional and Interface Specification (08-003) and related RFCs.

AT&T's contractor, West Safety Services (WSS), provides NG 9-1-1 call routing services to Loudoun County, VA currently and anticipates providing the same to Washington, DC within the next 24 months.

AT&T ESInet services and WSS ESInet services are on-net with each other; thereby enabling efficient and economic transfers, conferences and hand-offs between different 9-1-1 jurisdictions.

There is no additional charge for this 'on-net' functionality.

Interoperability between PSAPs on the AT&T ESInet™ and WSS NG 9-1-1 call routing service is inherent in that both solutions use the same technology platforms and application code.



As required, AT&T will work directly with non-WSS neighboring ESInets to determine appropriate data centers for interconnection points with the AT&T ESInet™. Thorough non-live interoperability testing will be completed before live emergency calls are supported. One time fees to cover the cost of interoperability testing are included in the Cost Proposal related to this RFP.

Item 2

As defined in NENA 08-003, the AT&T ESInet™ is a managed IP network built specifically for emergency services communications. It is a highly available, highly redundant, fully meshed IP network with multiple paths available for delivery of an emergency call. It is designed with rigorous security and reliability service levels that exceed most other IP networks

AT&T's IP networks are known for their reliability, security and redundancy. Employing private, high-speed, MPLS IP backbones for transmission; the AT&T ESInet™ supports an availability target of 99.999%. Additionally, it has the following core capabilities:

- Is a secure TCP/IP virtual private network with PSAP to ESInet connections that are resilient, physically diverse when possible, and logically separate.
- Actively tests all network pathways for degradation and automatically re-routes traffic to healthy pathways.
- Operates on IPv4 or IPv6 network infrastructures.
- Manages and measures voice quality.

The AT&T ESInet™ is a shared tenant service designed to support all Public Safety agencies within the nation including regional authorities, such as the NCR, or in neighboring regional authorities. It can support independent application platforms and other core functional processes necessary for providing NG9-1-1 services. And, as a shared tenant solution, the AT&T ESInet™ interconnects at local, regional, state, federal, and national levels to form an IP-based internetwork (network of networks)."

The AT&T ESInet™ provides both the IP network and the infrastructure for NENA i3 core services and processes (NGCS), while interconnecting and providing interoperability for all of the NCR's primary, backup, and secondary locations as shown in Attachment A.



Item 3

The AT&T ESInet™ is designed with diverse entrances into each core call processing facility that is part of the NCR solution; e.g. data centers. Primary and redundant links do not share common routes or trenches.

PSAP connections to the ESInet are redundant, resilient, physically diverse when possible, and logically separate for delivery of 9-1-1 calls.

Item 4

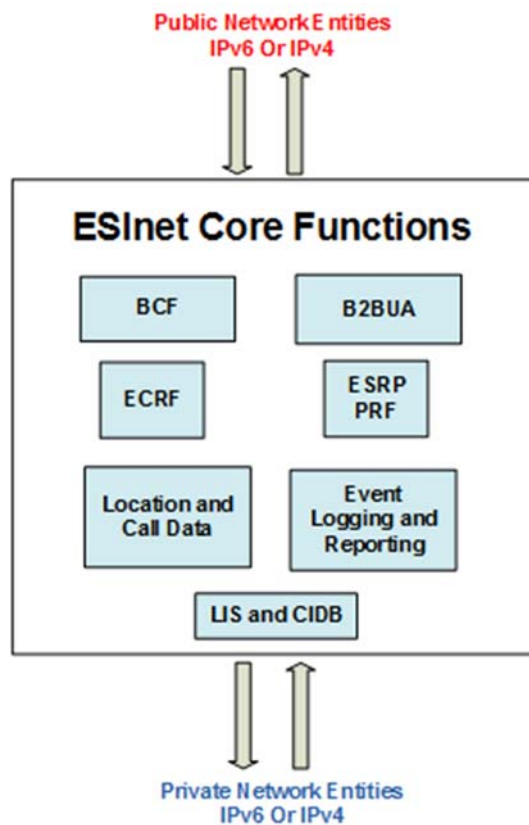
All equipment will be new and of current manufacture. Used, refurbished, or end-of-life equipment is not used.

The AT&T ESInet™ supports either an IPv6 or IPv4 interface to external entities as desired for ingress to and egress from the service. IPv6 interfaces are supported according to NENA i3 standards.

All network equipment has the capability to utilize IPv4 and IPv6 addresses and is configurable to support dual stack operation. Whereas some components of internal systems only support IPv4; this will not be a limitation for this solution. When an IPv6 external device sends a request packet to an internal IPv4 device, the ESInet Core strips down the IPv6 packet, removes the IPv6 header and adds the IPv4 header and passes it through. The reverse happens when the response comes back from the IPv4 device to the IPv6 device. The IPv4 network and IPv6 interfaces are continuously monitored for availability and performance.

This is accomplished with the use of a back-to-back user agent session border controller, rather than Network Address Translations (NATs). All devices within the network shall be assigned static addresses.





Item 5

The AT&T ESInet™ solution is built on an open standards-based platform. The system complies with SIP (RFC 3261), LoST (RFC 5222), PIDF-LO (RFC 4119 and successive updates), NENA 08-003, IETF ECRIT best practices, and ANSI standards.

IP packets are routable between any two points on the ESInet. The solution is deployed over IP-based Layer 3 VPN services that are used to provide connectivity between endpoint sites (LNGs and PSAPs) and core call processing sites. This provides a scalable point-to-multipoint WAN configuration. Any endpoint attached to a given IP VPN instance can be configured to reach any other endpoint due to the use of dynamic routing protocols that allow precise policy control over routing. Typically, individual endpoint sites use at least two IP instances for redundant connectivity to the six Core sites



Item 6

The AT&T ESInet™ is built as a highly-redundant multi-tenant service provider network. This network supports NENA i3 and ESInD standards. Specific attributes of the AT&T ESInet™ IP routing structure and associated operational processes include:

- Intermediate System-to-Intermediate System (IS-IS) is used as an interior gateway protocol (IGP) within the AT&T ESInet™ (see NENA ESInD section 3.3.2.3). Border Gateway Protocol (BGP) is used within the ESInet to facilitate multi-protocol label switching (MPLS) and as an exterior gateway protocol (EGP) for use in interfacing with external networks.
- Dynamic routing protocols are configured to quickly re-converge around network failures. Path failure re-convergence between AT&T ESInet™ datacenters occurs in under one second.
- The AT&T ESInet™ provides automatic rerouting and failover to alternate routes, supporting '99.999' service availability.
- QoS is implemented within the ESInet to ensure that routing protocol traffic is prioritized. Routing protocol traffic which exceeds pre-defined queues will not preempt 9-1-1 application traffic.
- All IP-enabled elements within the ESInet are statically-addressed. The IP address schema allows for sub-netting and is deployed in a hierarchical manner. All subnets are reachable end-to-end. Note, network reachability between security zones is contingent upon configured firewall policies.

Item 7

AT&T leverages the use of BFD on all network backbone links for fast failover purposes

Item 8

The AT&T ESInet™ is capable of supporting multicast routing and switching. If multicast is enabled for an NCR application, the AT&T ESInet™ solution will use the following base protocols; Internet Group Management Protocol (IGMP) and Protocol Independent Multicast (PIM).



Item 9

The proposed ESInet is a Quality of Service (QoS)-managed private IP network which can prioritize any type of IP traffic; voice, data, and multi-media. The solution uses QoS and VLANs between data centers and PSAPs to prioritize and protect the data/traffic.

Quality of Service in the AT&T ESInet™ network is performed through packet marking with Differentiated Services Code Point (DSCP) on ingress to the ESInet switch ports. In some cases, the voice equipment manages its own marking, and the router/switch honors these QoS settings. In others, the router/switch will override the DSCP marking with a more appropriate setting.

The audio stream Real Time Protocol (RTP) is marked with “Expedited Forwarding”, the highest class of service available, so that it is treated like real-time media (e.g., voice). This is typically mapped to a priority queue. Signaling packets (SIP or Media Gateway Control Protocol (MGCP)) are placed in another queue, which will typically have a small but firmly-reserved portion of bandwidth.

Item 10

The proposed AT&T ESInet™ is a private, robust, scalable, secure, diverse, redundant, and sustainable solution and will support all sites listed in Attachment A.

Capacity

The AT&T ESInet™ is built with significantly more capacity than necessary to allow for component failures and/or maintenance that will not impact customer call processing. According to NENA 9-1-1 Statistics (<http://www.nena.org/?page=911Statistics>) approximately 290 million 9-1-1 calls occur annually in the United States which equate to approximately 7.7 emergency calls originating every second. A “busy hour” call rate can be estimated at ten times the average call rate or approximately 77 calls per second.

The AT&T ESInet™ can successfully process all NCR 9-1-1 calls even under severe loads that may occur during unusual events such as extreme weather.

Available and Redundant

The AT&T ESInet™ geographically distributed solution ensures high availability in the event of regional service impacting events or disasters. The solution consists of the following high availability components:



- Six core call processing sites located across the U.S.
- Local and redundant Aggregation Sites for TDM call ingress and egress.
- Flexible and redundant points of interface for IP ingress.
- Ethernet Private WAN for “any-to-any” Ethernet networking between Core and Aggregation Sites.
- Redundant and logically diverse connection facilities from the ESInet to the Public Safety Answering Point (PSAP) for delivery 9-1-1 calls.
- Redundant Common Support Services (CSS) for management, monitoring, and reporting with a web-based Customer Management Portal that delivers real-time CDRs, call trace and solution testing.

Diverse

The geographically diverse AT&T data centers have been certified as Tier IV facilities with multiple active power and cooling distribution paths, redundant components and proven fault-tolerance.

Core Sites work in an active-active mode; calls are distributed across all Core Sites. The six Core Site architecture is more than capable of processing all the 9-1-1 calls in the United States; therefore, there is no need for NGCS capacity supplementation as PSAPs on-board to the AT&T ESInet™ service.

The failure of any given component at a Core Site will not prevent that Core Site from processing 9-1-1 calls. If a dual failure occurs at a Core Site, or a Core Site somehow becomes unavailable, calls will be processed at another Core Site. A geographic disaster will not mitigate the ability for the AT&T ESInet™ to deliver 9-1-1 calls to NCR PSAPs, assuming telecommunication transport services for the impacted region are operable.

Secure

Core Site and Aggregation Site physical facilities are hardened with resilient power infrastructures and environmental systems designed such that a commercial power failure does not result in an interruption of service. These facilities are equipped with environmental monitoring of HVAC, power systems with battery backup, as well as generators permanently located at each site. Each facility is required to have priority fuel contracts in place, guaranteeing constant fuel supplies during extended outages for the power generators. Regular maintenance and full load testing is performed at each site to provide reliability. The facilities have documented fire plans, smoke and/or fire detection devices, sprinklers or other approved fire suppression systems as required by



best practices and local code. Core Site data centers address requirements for physical access, security, diversity, and redundancy as defined in the Telecommunications Infrastructure Standard for Data Centers (TIA), TIA-942. Concerns addressed in data center selection include:

- Cabling infrastructure.
- Electrical systems (including UPS, battery, and utility).
- Environmental systems.
- Lighting systems.
- Floor loading limitations.
- Seismic considerations.
- Physical security.
- Fire suppression.
- Network access.

Core Sites include redundant network transport and redundant network interfacing elements to ensure optimal operation and availability. Network interfacing elements include switches, routers, SBCs, Firewalls and other security devices.

Data Center facility requirements address 24x7x365 secured physical access, secured floor space or locked equipment cabinets with controlled access and monitoring and alarming for all facility elements, such as electrical, heating, cooling, etc. Data Centers include redundancy and diversity in electrical, to include Power Feeds and Uninterruptible Power Supplies (UPS). Data Center cabinet and physical floor space requirements are addressed within the pre-existing Core Sites. All equipment is mounted in four-post lockable cabinets.

Sustainable and Expandable

The AT&T ESInet™ solution shall be maintained in its entirety for the initial contract duration without the need to totally replace or upgrade the applications, appliances or CPE. The system is designed to be expandable, with the capability for expansion on an incremental basis, not a wholesale replacement of major platform(s).

Co-location of additional equipment and capabilities at the existing Data Centers is negotiable on an individual basis.



Item 11

AT&T provides a fully integrated solution approved for use by AT&T Labs. AT&T agrees to assume responsibility for mutually agreed upon third-party certification fees.

Summary

The AT&T ESInet™ is designed to achieve highly available service through an active-active processing methodology, geographic diverse and distributed components, highly available component architecture, and redundant IP transport. The AT&T ESInet™ achieves 99.999% service availability for call processing and has no single point of failure that will disrupt the ability to provide on-going call processing. All functions necessary for call processing are deployed in a highly available configuration and duplicated across Core and LNG Aggregation Sites. Transactions or call traffic divert to available components upon failure or degradation of a given functional component or a loss of a physical site. IP transport paths for critical service components are redundant and designed for multipath IP packet delivery so the failure of a given IP transport mechanism will not affect overall service availability. The AT&T ESInet™ components are designed and configured for continuous operation as referenced in the NENA i3 Standard.08-003 Version 1.0.

All redundancy mechanisms for Core applications and network elements that support delivery of emergency 9-1-1 calls across the AT&T ESInet™ solution (Routing LNG, ESRP, and ESInet components, LIS, ECRF, ADR, and ALI) employ “failover” procedures which are automatic and do not require human intervention.

The AT&T ESInet™ uses a fully redundant, multi-path, multi-protocol network linking all ESInet Routing elements. Within each redundant node, there are redundant network elements.

Transport

The AT&T ESInet™ network quickly detects impairment (packet loss, jitter, etc.) and soft failures; e.g., a loss of transit across an IP L3VPN instance with no detectable circuit loss or BGP route withdrawals at the edge. Immediately upon detection, traffic is moved to another unimpaired network resource without interrupting existing data flows or voice RTP streams.



Routing

All ESInet edge routers advertise a single IP address into the AT&T ESInet™ IP Core. The edge routers use these single endpoint addresses to build stateful tunnels across the Core and then peer directly over those tunnels using BGP with the Core routers located at the data centers. The BGP timers are set to an extremely low value for the sessions occurring over the tunnels, which causes the peering relationship across the tunnel to fail quickly if there is any type of failed condition. This forces traffic between the two affected sites to prefer a tunnel across an alternate network path. Failover between networks occurs seamlessly and typically occurs within 500 to 2000ms.

Diverse connectivity provides fault tolerance for site connectivity. The network routing infrastructure is designed and deployed in an N+1 model. N+1 redundancy provides a minimum of one additional unit, module, path, or system in addition to the minimum required to satisfy the base connectivity so that a failure of any single component at a given diverse site will not render the location inoperative.

13. Using the information provided in Attachment A, Respondent shall provide the proposed bandwidth for each PSAP. The bandwidth calculations for PSAPs served by hosted callhandling systems should be included in the host site's bandwidth. If the PSAP's current trunking, position count and call volume places its proposed bandwidth within 80 percent of being fully utilized, then Respondent shall provide an indication of the next-higher tier of bandwidth and include a corresponding line item in the optional pricing table.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

Recommend bandwidth below incorporates 80% or more capacity and a growth of 25%.

Part A ESInet & NGCS	Primary	Redundant
City of Alexandria, VA - POLICE	3MB	3MB
Arlington County, VA	3MB	3MB

Part A ESInet & NGCS	Primary	Redundant
Fairfax County, VA	6MB	6MB
Fauquier County, VA	3MB	3MB
City of Manassas, VA (Secondary)	3MB	3MB
Manassas Park, VA (Secondary)	3MB	3MB
Metropolitan Washington Airport Authority, VA	3MB	3MB
Prince William County, VA	3MB	3MB
Stafford County, VA	3MB	3MB
Part B ESInet & NGCS		
Calvert County, MD	3MB	3MB
Charles County, MD	3MB	3MB
Frederick County, MD	3MB	3MB
Montgomery County, MD	3MB	3MB
Prince George's County, MD	10MB	10MB
St. Mary's County, MD	3MB	3MB

Table 1: Primary and Redundant PSAP Bandwidth Calculations

4.4. INTERCONNECTION TO LEGACY SELECTIVE ROUTERS

Please see Sections 1.1 (paragraph 2), 1.3, and 2.1 of the AT&T Emergency Service IP (ESInet) Service Guide.

- Contractor must provide redundant, resilient Legacy Network Gateways (LNGs) with Legacy Selective Router Gateway (LSRG) functionality to allow the legacy selective routers to transfer calls with Automatic Number Identification (ANI) and Automatic Location Identification (ALI) information to the NCR's NGCS and vice versa. LSRG functionality shall allow for legacy PSAPs served by legacy selective routers to serve as the abandonment route for NCR PSAPs served by the Contractor's ESInet and NGCS.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:



AT&T Response:

The AT&T ESInet™ solution will interconnect to legacy selective routers as defined per NENA standards².

AT&T will interconnect to Legacy Selective Routers to transfer and/or receive calls with Automatic Number Identification (ANI) and Automatic Location Identification (ALI) information to the NCR's NGCS via legacy means through the LSRG provided as part of this solution. Interconnections will also allow legacy PSAPs served by legacy selective routers to serve as the abandonment route for NCR PSAPs served by the AT&T ESInet™ solution.

Connectivity extends beyond the internal ESInet transport to external network and OSP interfaces. The AT&T ESInet™ supports both TDM and IP OSP ingress at geographically distributed POIs. The AT&T ESInet™ supports standards based protocol interfaces to external ESInets for call hand-off and call transfers. Given pre-established connectivity capability, PSAPs on the AT&T ESInet™ have the ability to transfer calls to PSAPs on other ESInets or PSAPs that have not yet transitioned off legacy selective routers.

2. Respondent shall explain how it has worked with Legacy Selective Router providers with similar solutions on similar projects, and shall provide specific plans for working with the NCR's legacy 9-1-1 service provider, Verizon.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

AT&T's proposal provides NCR with a comprehensive solution for an Emergency Services IP Network (ESInet) with NENA i3 core functional elements, interoperability with neighboring regional ESInets, and interoperability with legacy selective routers. The proposed solution will provide standards-based interfaces to provide a network-to-network interface that interoperates with other ESInets via secure and highly reliable

² NENA-03-005 January 2004 (Original Issue) Generic Requirements for an Enhanced 9-1-1 Selective Routing Switch specifications; NENA 03-003 Original, February 1st, 2000 Recommendation for Inter-Networking, E9-1-1 Tandem to Tandem Specifications



facilities. AT&T participates and monitors standards activities to ensure that the solution evolves with national industry standards. AT&T has always been, and intends to continue to be, a leader in the public safety solution and technology domain without compromising the quality and integrity of the 9-1-1 infrastructure.

Verizon plays a central role in transitioning service to the ESInet. Recognizing the imperative for PSAP operations to continue uninterrupted during the implementation process, AT&T's coordination methodology approach proscribes the communications and activities necessary to ensure a safe and timely migration of services while paying special attention to identifying and implementing the network arrangements necessary to support all aspects of ongoing PSAP interoperations with the legacy 9-1-1 service provider.

Prior to implementation, AT&T will work with Verizon to arrange inter-tandem trunking that is intended to initially deliver all 9-1-1 calls from the legacy selective routers to the ESInet on a rolling basis as PSAPs transition to the new system.

AT&T and its contractors have worked with Verizon as an ILEC legacy selective router provider in multiple deployments throughout the country. Interconnection agreements, design and procedures for planning and implementing handoffs between the legacy and NGCS infrastructures are well documented and tested.

During the implementation process, the inter-tandem trunks will be used to

- Deliver all 9-1-1 calls intended for the PSAP transitioning to the ESInet
- Interoperate with the legacy selective routers to support E9-1-1 call transfers and hand-offs for PSAPs that are not yet migrated to the new system
- Ensure delivery of calls originating from split rate centers to the correct PSAP

The inter-tandem capacity will remain in-service until the majority of OSP traffic has been re-homed directly to the ESInet so that some proportion of the inter-tandem trunks can be disconnected or re-used for subsequent PSAP migrations.

Major activities and milestones achieved in the course of arranging legacy 9-1-1 service provider interconnectivity with the ESInet include all steps executed for other OSPs described above, plus the following:

- Determine PSAP interoperations requiring E9-1-1 transfers and hand-offs
- Conduct legacy 9-1-1 service provider planning calls
- Create legacy 9-1-1 service provider interconnection architecture
- Order circuits, create and exchange legacy 9-1-1 service provider trunk orders



- Test and turn-up legacy 9-1-1 service provider connectivity
- Conduct non-live PSAP interoperations testing
- Create and execute legacy 9-1-1 service provider cut-over plan

During the coordination phase, the joint AT&T and Customer team members verify legacy and existing service installations to include in the system application and implementation requirements, and refine the solution architecture to include and accommodate those existing systems, and finalize the plan for end-to-end solution deployment.

Working closely with stakeholder groups, the project team designs customized provisioning plans including incoming trunk route plans, bridge lists, and dialing plans. Additionally, the documentation and training developers customize the user and process documents and various training courseware, if needed, to meet the needs of the customer.

4.5. INTERCONNECTION TO OTHER ESI_nETS

Please see Sections 1.2 and 1.4 of the AT&T Emergency Service IP (ESInet) Service Guide.

Two of the NCR's jurisdictions, D.C. and Loudoun County, have deployed, or are in the process of deploying, NG9-1-1 call-routing services from West. Specifically, both jurisdictions have independently deployed, or are in the process of deploying, IPSR services and it is anticipated that both eventually will migrate to geospatial routing using NENA i3 protocols during the initial term of the NCR's NGCS services. Similar to the need for legacy selective routers to interoperate, the NCR requires interoperability on Day 1 between neighboring ESI_nets that may provide IPSR services or NGCS to their PSAPs. Respondent shall describe how its proposed solution will seamlessly interwork with West and other neighboring ESI_nets that serve their clients with IPSR and/or NGCS. Respondents shall assume that interconnection with West will require multiprotocol label switching (MPLS) handoff at West's Miami, Florida, and Englewood, Colorado, data centers with thorough non-live interoperability testing. Respondents shall provide costs for interoperating with D.C. and Loudoun County, as expressed as a One Time Fee in the Cost Proposal.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability



☐ Does Not Comply

Details to support the answer:

AT&T Response:

AT&T's contractor, West Safety Services (WSS), provides NG 9-1-1 call routing services to Loudoun County, VA currently and anticipates providing the same to Washington, DC within the next 24 months. Interoperability between PSAPs on the AT&T ESInet™ and

AT&T ESInet services and WSS ESInet services are on-net with each other; thereby enabling efficient and economic transfers, conferences and hand-offs between different 9-1-1 jurisdictions.

There is no additional charge for this 'on-net' functionality.

WSS NG 9-1-1 call routing services is inherent to both solutions in that both use the same technology platforms and application code design.

Additionally, seamless interwork with the AT&T ESInet™ and other neighboring ESInets that serve their clients with either IPSR and/or NGCS is accomplished by adhering to NENA standards. The AT&T ESInet™ to ESInet Interconnection Specification v 1.0 in Annex A

defines the external SIP interface between the Upstream Emergency Services Routing Proxy (U-ESRP) and Downstream ESRPs (D-ESRPs) in another Emergency Services IP network (ESInet). This interface is based on the requirements defined in the NENA i3 Functional and Interface Specification (08-003) and related RFCs. Variations and exclusions from the NENA i3 specification are identified in the document. The ESInet to ESInet Interconnection Specification is the same technical interface used by the WSS NG9-1-1 and is the technical protocol that will exchange calls between the instances of the AT&T NGCS elements and the WSS NGCS elements.

As required, AT&T will work directly with non-WSS neighboring ESInets to determine appropriate data centers for interconnection points with the AT&T ESInet™. Thorough non-live interoperability testing will be completed before live emergency calls are supported. One time fees to cover the cost of interoperability testing are included in the Cost Proposal related to this RFP.

4.6. INTEROPERABILITY WITH STATE POLICE, MILITARY BASES, AND OTHER FEDERAL ENTITIES

1. The NCR contains several military bases and other federal institutions that have special security and first responder operations. In many cases, the federal entity has Centralized Automated Message Accounting (CAMA) trunks from the legacy



selective routers and is able to bid ALI, providing for the ability to receive call transfers with ANI and ALI information. Meanwhile, state police PSAPs send and receive all transfers via 10-digit lines without ANI and ALI information. A sample of required 10-digit transfers may be viewed in Attachment D.

Respondent shall describe how it can provide the same or improved capability for these special secondary PSAPs. Optional pricing is requested for potential future addition of these entities. Respondents shall assume that these sites have legacy CPE, fewer than 10 CAMA trunks, and fewer than 10 positions.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

Military and Federal entities will be able to accept and transfer calls using the existing connectivity via the Legacy Selective Router (LSR) and the End-office trunking that they have today. Access to the AT&T ESInet will be through connections from the LSR's and the PSTN at strategically placed Aggregation points (AGC's). The existing trunking between the ESInet and the LSR will need to be augmented to allow routing of calls to the PSAPs.

Use of an existing LSR for two way communications between AT&T and the other entities will have little to no effect on their current operational methods. Those entities which have ANI and or ALI will stay the same as they are today. Calls arriving on the PSAP CAMA trunks will receive ANI as normal and the local CPE will be able to request ALI.

AT&T has deployed ESInet services in support of the US Navy 9-1-1 call centers and can leverage this proven experience to support the often unique challenges associated with military installations when needed.

4.7. DATA CENTERS

The network and NGCS are provided by an array of firewalls, routers, gateways, and servers. The servers may include Storage Area Network (SAN) or Network Attached



Storage (NAS) devices, which are high-capacity, redundant, resilient hard-disk storage systems. These are the types of devices that will be housed in multiple regional data centers. If the decision is made to co-locate a hosted call-handling system in these centers, those systems also will be comprised of similar equipment. These devices typically are mounted in four-post lockable cabinets, rather than open racks.

Respondent shall provide descriptions of previous data center implementations for similar solutions, along with specific details for the Respondent-recommended solution.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The AT&T ESInet™ provides a market-leading deployment architecture based on a foundation of six strategically located data centers, also known as Core Sites, with NGCS functions. The Core Sites combined with regional Aggregation Sites, for example LNG locations, and AT&T's robust broadband transport network create a high quality NG9-1-1 product offering. Any 9-1-1 call can be processed at any of the AT&T Core Sites; each Core Site contains highly available architecture with multiple levels of redundancy as well as focused operations and management for self-sufficiency. The AT&T ESInet™ is an infrastructure that is public safety grade in terms of capacity, reliability, scalability and redundancy, and does not require an individual 9-1-1 Authority to invest in stand-alone Core Sites.

The AT&T ESInet™ provides a shared processing environment where individual 9-1-1 Authorities perceive a dedicated ESInet deployment, but benefit from the investment possible by a common environment. This shared Core Site strategy has produced a highly available solution with redundancy upon redundancy and extremely high service availability. The shared environment provides straightforward integration and enhanced



interoperability between all PSAPs served by the AT&T ESInet™ offering, whether they are neighboring PSAPs or PSAPs across the county. Integration with other ESInet providers is achieved through industry standard interfaces.

The geographically diverse AT&T data centers have been designed to meet Tier IV industry standards only earned by facilities with multiple active power and cooling distribution paths, redundant components and proven fault-tolerance.

The shared environment provides straightforward integration and enhanced interoperability between all PSAPs served by the AT&T ESInet offering, whether they are neighboring PSAPs or PSAPs across the county. Integration with other ESInet providers is achieved through industry standard interfaces

Core Sites work in an active-active mode; calls are distributed across Core Sites. The six Core Site architecture is more than capable of processing all the 9-1-1 calls in the United States; therefore, there is no need for NGCS capacity supplementation required as PSAPs join the AT&T ESInet™ infrastructure. The Core Site NGCS functions are simply configured to support additional PSAPs, substantially reducing complexity and PSAP deployment timeframes. The failure of any given component at a Core Site will not prevent that Core Site from processing 9-1-1 calls; if a NGCS function dual failure does occur at a Core Site, or a Core Site somehow becomes unavailable, calls are processed at another Core Site. A geographic disaster will not remove the ability for the AT&T ESInet™ to process 9-1-1 calls, assuming telecommunication transport services for the impacted region are operable. A regional event that impacts telecommunication transport services will mostly like also impact local Core Sites and having Core Sites geographically diverse will result in faster service restoration.

Core Site and Aggregation Site physical facilities are hardened with resilient power infrastructures and environmental systems designed such that that a commercial power failure does not result in an interruption of service. These facilities are equipped with environmental monitoring of HVAC, power systems with battery backup, as well as generators permanently located at each site. Each facility is required to have priority fuel contracts in place, guaranteeing constant fuel supplies during extended outages for the power generators. Regular maintenance and full load testing is required at each site to provide reliability. The facilities have documented fire plans, smoke and/or fire detection devices, sprinklers or other approved fire suppression systems as required by best practices and local code. Core Site data centers address requirements for physical access, security, diversity, and redundancy as defined in the Telecommunications Infrastructure Standard for Data Centers (TIA), TIA-942. Concerns addressed in data center selection include:

- Cabling infrastructure.



- Electrical systems (including UPS, battery, and utility).
- Environmental systems.
- Lighting systems.
- Floor loading limitations.
- Seismic considerations.
- Physical security.
- Fire suppression.
- Network access.

Core Sites include redundant network transport and redundant network interfacing elements to ensure optimal operation and availability. Network interfacing elements include switches, routers, SBCs, Firewalls and other security devices. Data Centers include the ability to expand network bandwidth as required for service growth and feature expansion.

Data Center facility requirements address 24x7x365 secured physical access, secured floor space or locked equipment cabinets with controlled access and monitoring and alarming for all facility elements, such as electrical, heating, cooling, etc. Data Centers include redundancy and diversity in electrical, to include Power Feeds and Uninterruptible Power Supplies (UPS). Data Center cabinet and physical floor space requirements are addressed within the pre-existing Core Sites. All equipment is mounted in four-post lockable cabinets.

Co-location of additional equipment and capabilities at the existing Data Centers is negotiable on an individual basis.

Provision of additional Core Sites, such as establishing a Core Site at a local regional data center is possible, but is unnecessary for availability and capacity concerns and would be much more expensive than adding PSAPs to the pre-existing AT&T ESInet™ infrastructure addressed in this proposal.

4.7.1. Data Center Locations

1. The host data centers must provide sufficient geodiversity to provide physical diversity in case of a widespread disaster. The NCR desires that at least one of the proposed data centers be within a 50 mile radius of the NCR footprint, but it is not required. The proposed solution should include at least two data center locations for hosting NGCS. Additional data centers may be required for hosting LNGs serving the



region. A value proposition for implementing or not implementing a third data center, which could be taken off-line for testing software, is desirable. Each data center shall be able to support 100 percent of the expected 9-1-1 communications, in a failover mode.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

AT&T core Data Center locations are regionally located, and geographically separated within our current 21 state footprint. These six (6) core Data Center processing systems are all redundant and reside in AT&T strategic Tier IV facilities located in the West, Southwest, Southeast and Midwest regions. AT&T also provides regional and redundant Aggregation Sites in AT&T Central Office locations driven by customer demand. Legacy Network Gateways, and other Network equipment reside in these Aggregation Site locations and convert Local Legacy TDM 9-1-1 calls to IP.

AT&T would plan to build one (1) new Aggregation Site within a 50 mile radius of the NCR footprint.

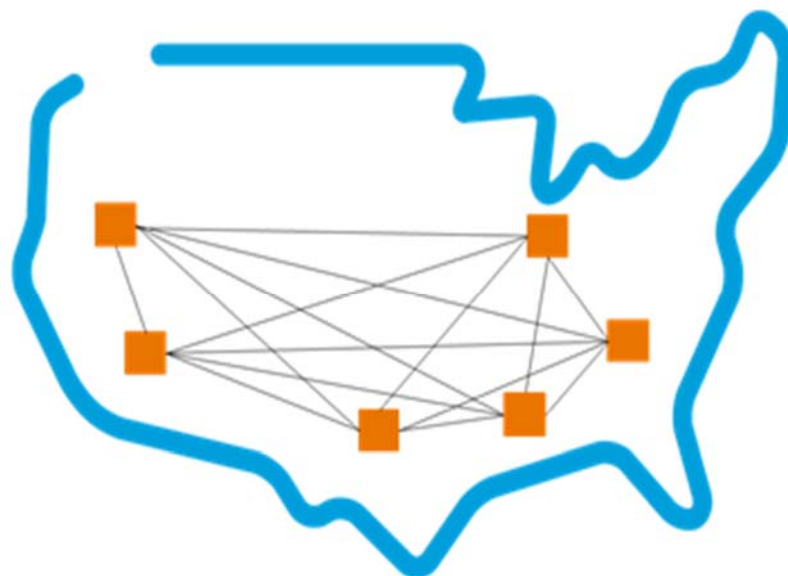


Figure 1. AT&T ESInet™ National Core Site Locations



AT&T also provides regional and redundant Aggregation Sites in AT&T Central Office locations driven by customer demand. AT&T would plan to build one (1) new Aggregation Site within a 50 mile radius of the NCR footprint. Legacy Network Gateways, and other Network equipment reside in these Aggregation Site locations and convert Local Legacy TDM 9-1-1 calls to IP.

All software deployed to the AT&T ESInet™ next generation service is thoroughly vetted by exhaustive regression testing in settings that emulate the production environment. The code base, hardware, operating systems, network and monitoring equipment, and related firmware used to test new software are of the same make, model and version as is deployed in production. There is no requirement to take a production component out of service for testing new software.

AT&T labs that emulate the ESInet production service are available should NCR have a requirement to test third party software. A quote for time and material specific to each test request will be provided at the time the request is presented.

2. The Respondent shall provide examples of its implementation of NGCS in multiple data centers similar to the proposed solutions. Details, including sample drawings, shall be provided supporting the proposed data center solution.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The AT&T ESInet™ solution is based on West Safety Services' existing Next Generation (NG 9-1-1) i3 compliant emergency call routing service. Supporting more than 400 PSAPs across 17 states, the West solution has been in service for more than 6 years. The service supports individual PSAPs as well as county and state wide regional deployments.

Like the AT&T ESInet™, this solution employs a multi-tenant, highly redundant, geographically diverse architecture as illustrated in the figure below.



AT&T ESInet™ Solution Architecture

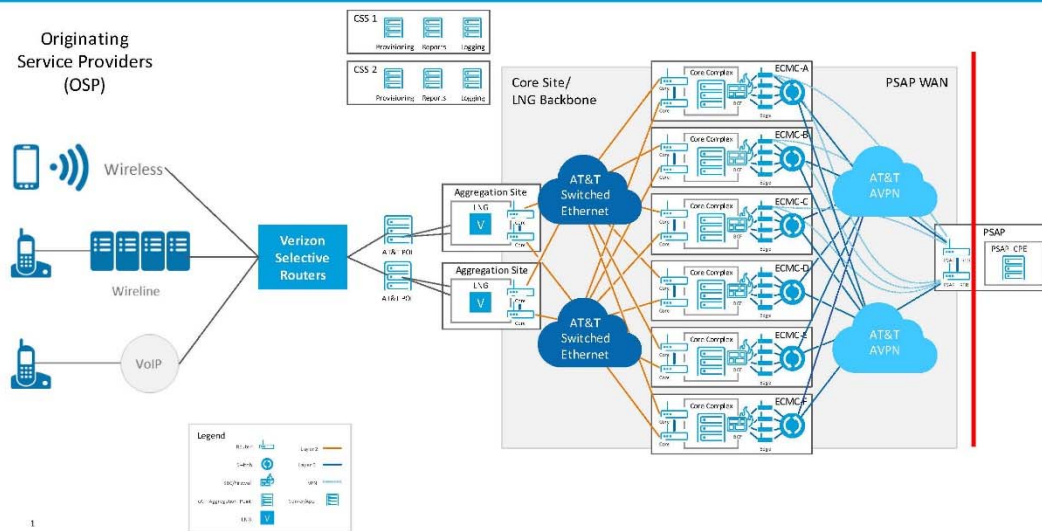


Figure 2. AT&T ESInet™

Each core call processing complex depicted below is also designed with redundant components.

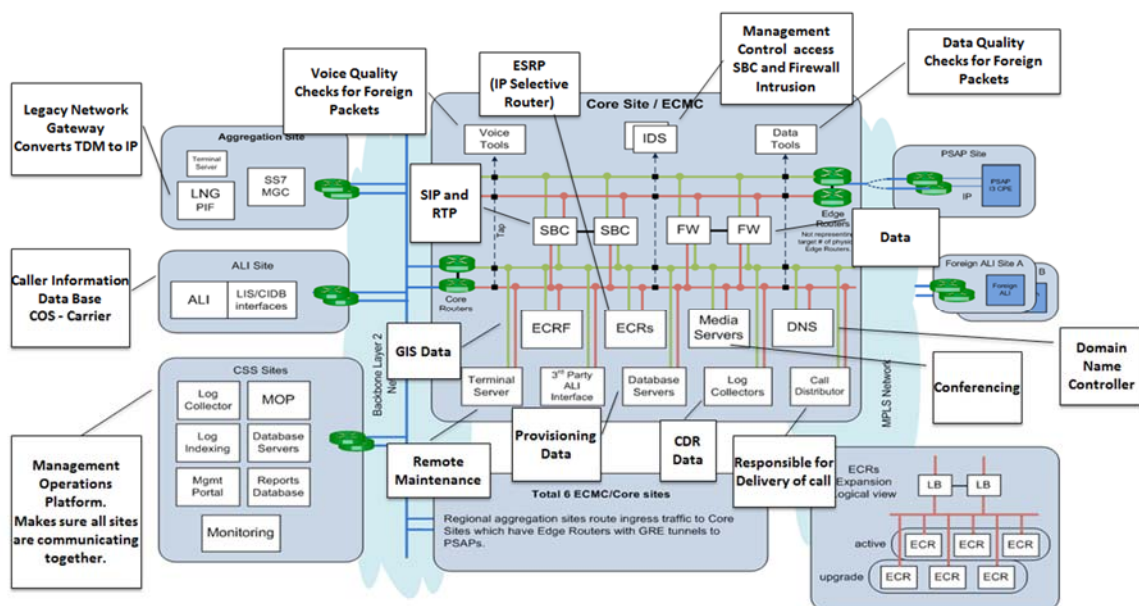


Figure 3. Core Call Processing Architecture

Response from Oral Presentation Dated March 17, 2017

Q11. Please confirm the physical location where the Protocol Interworking Function (PIF) will be performed. Will redundant and physically diverse PIFs be located within the NCR? Please discuss the benefits, risks, and decision-making process for determining the locations of your PIFs.

AT&T Response:

AT&T has engineered a solution keeping in mind both the requirements laid out by the RFP as well as keeping the costs reasonable for the individual PSAPs. The proposed physical architecture includes 2 points of interface (POIs). Both would be established locally, so that the mileage and connectivity costs for the carriers will be affordable and available.

In order to establish core infrastructure within the region, one POI will be the LNG, where the PIF will be performed at the actual sites where the OSPs will terminate traffic. AT&T plans to deploy the LNG in an existing AT&T facility located within a 50-mile radius. Once converted the traffic will travel via AT&T ESInet™ core connectivity to be available for the 6 core architecture to make next step i3 routing decisions.

In order to provide diversity, both through physical location as well as connectivity type, the second POI will be a TDM aggregation site located locally in an AT&T facility within a 50-mile radius. This second POI will then backhaul traffic to an existing AT&T LNG. Once it arrives at the pre-established LNG, the PIF conversion will occur and be sent to one of the 6 core sites.

The above methodology not only establishes a regional LNG to NCR, but also creates another local point of interconnect which diversifies location, hardware and network and also allows AT&T to use their robust TDM network to save the customers cost by using AT&T's existing LNG infrastructure.

4.7.2. Data Center Requirements

The data centers should meet Tier 4 design standards as detailed in Telecommunications Industry Association (TIA) 942, Data Center Standards, but at a minimum must meet Tier 3 standards to be considered as a viable location. Design standards include, but are not limited to the following:

- Redundant commercial power (supplied from separate grids if possible)
- Redundant backup generators
- Redundant uninterruptible power supplies (UPS)



- Redundant heating, ventilation, and air-conditioning (HVAC) systems
- Fire suppression systems
- Physical access security
- Physically separate communication service provider entry points

American National Standards Institute (ANSI)/TIA-606-B governs the operation and administration of data centers. It covers such topics as space and equipment labeling, cable labeling and color coding, cable classes, and grounding and bonding. This standard lays out a complete marking standard for data centers using a 2-foot grid of the room and designating each square with letters and numbers starting at AA01. All cabinets, racks, patch panels, and devices within said cabinets and racks should be identified and labeled front and rear.

All NCR systems and network equipment shall be housed either in a locked and monitored cage within a secure data center, or in its own locked and monitored room within a secure data center. Simply providing space in a common area is not acceptable.

The Respondent shall provide detail regarding how its proposed solution meets these requirements. These details will include specifics regarding certifications that confirm these requirements are met.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The AT&T ESInet™ presented to the NCR is part of our nationwide 9-1-1 solution. As such some elements reside in secure shared AT&T infrastructure space. Elements of the ESInet being deployed for the NCR are secured in monitored, caged space. AT&T Data Centers with Core Processing Node equipment are also regionally located. Security Requirements used within the AT&T Data Centers include Security Detection and Security Access Control, including restricted badge access to the equipment.

AT&T utilizes best practices and adheres to industry standards for installation of all equipment and cabling. Installation procedures will be comprised of best practices



typically used in the installation of information technology networks. This includes, but is not limited to:

- AT&T has dedicated, dual commercial power feeds for all of our data center facilities.
- AT&T utilizes redundant backup generators at our data centers.
- AT&T utilizes redundant uninterruptible power supplies (UPS) connected to a common distribution and isolation bus. Each data center has its own battery bank with sufficient capacity to sustain the critical bus for 20 minutes at full load and for periods in excess of eight hours without the addition of power from utility or generator sources. We equip UPS systems with static bypass switches, which allow them to switch between power sources, in case of emergency or scheduled maintenance, without power interruption. The maintenance and static bypasses receive power feeds from alternate distribution buses (separate switchgear). This measure ensures that the same distribution bus doesn't feed both a UPS system that is being tested and the bypassed critical load. Electricity backup capabilities at data center facilities are essentially unlimited.
- Redundant HVAC
- The fire suppression system used at AT&T Data Centers is built around the VESDA early detection system - a state-of-the art "sniffer" system that detects smoke from the earliest stages of combustion. This detection system is augmented by heat detection and dry pipe sprinkler systems.
- AT&T restricts and monitors physical access to its Data Centers via numerous security measures. We further control access via thorough ingress and egress sign-in procedures, managed key and access card plans, hand bio scanners and mantraps, various managed access permissions and access request methods, and controlled access and egress doors. In addition, we use closed-circuit TV (CCTV) cameras to monitor access, egress, and infrastructure.
- AT&T separates communication service provider entry points
- All interface connections and visible cables are standard EIA connectors.
- Any cables used are plenum rated where required by local building or fire codes.
- All devices proposed for the system are provided with any and all necessary connecting cords and cables conforming to National Electrical Manufacturers Association (NEMA) codes.
- Minimum standards used in the installations include, but are not limited to, the following:



- ANSI/TIA/EIA-568 - Commercial Building Telecommunications Wiring Standard
 - ANSI/TIA/EIA-569 - Commercial Building Standard for Telecommunications Pathways and Spaces
 - ANSI/TIA/EIA-606 - Administration Standard for the Telecommunications Infrastructure of Commercial Buildings
 - ANSI/TIA/EIA-607 - Commercial Building Grounding and Bonding Requirements for Telecommunications
 - Building Industry Consulting Service International, Telecommunications Distribution Methods Manual
 - National Electrical Code (NFPA-70)
 - FCC Rules and Regulations, Parts 68 and 15
 - ANSI/BICSI 002-2011 – Data Center Design and Implementation Best Practices
 - ANSI/TIA-942-2005 – Telecommunications Infrastructure Standard for Data Centers
- Cabling, communications outlets, power wiring, system grounding, conduit facilities, and equipment rooms are installed in accordance with national standards and applicable local codes.
 - All devices proposed for the system are provided with any and all necessary connecting cords and cables conforming to National Electrical Manufacturers Association (NEMA) codes.
 - AT&T requires dedicated A&B 20amp 120v circuits. Included are NEMA L5-20R (twists lock) for any power cable connection beyond the enclosure/rack.
 - AT&T requires dedicated power be supported by facility-based UPS and generator backup.
 - All cables are clearly marked and/or numbered in a manner that reflects a unique identifier of the cable at both ends.
 - Any change to structured cabling, port assignment, or device name change requires new labels and updated drawings with version control as our standard practice. As-built drawings and photos are part of the installation package.

Best practices always require separation of Cat 5 Ethernet to the fullest extent possible. Fiber is also separated to the fullest extent possible. When this is not possible, protective sleeves are used to protect fiber mixed in the cable pathway. On overhead ladder racks, separation is performed using tiered ladder rack when available.



Any change to structured cabling, port assignment, or device name change requires new labels and updated drawings with version control as our standard practice. As-built drawings and photos are part of the installation package.

AT&T Aggregation Sites with the Legacy Network Gateway and other equipment that handles and converts inbound calls to IP are regionally located in AT&T Central Offices in a designated and secured caged room. As mentioned in Section 4.7.1, AT&T would plan to build one (1) new Aggregation Site within a 50 mile radius of the NCR footprint.

4.7.3. Cabinets and Power Distribution

1. Cabinets shall be fully enclosed and lockable. The front and rear doors may be vented or solid. If the doors are solid, adequate ventilation must be provided to remove the heat from the cabinet.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The AT&T solution uses CHATSWORTH GF-1A420-EA cabinets which meet the requirements of vented doors, fully enclosed, and combination locking doors.

2. Many options are available for power distribution units (PDUs) that provide power inside the cabinets. At a minimum, the PDU should be remotely manageable via the Simple Network Management Protocol (SNMP), and provide load information back to the network management system. Given the wide geographic dispersion of the data centers, it is advisable to consider PDUs that have individually controllable outlets, in order to remotely power-cycle equipment that otherwise may be unresponsive. This ability should be coupled with remotely accessible console servers to allow console access into devices in the data centers.

- ☒ Complies
- ☐ Complies Partially



☐ Complies with Future Capability

☐ Does Not Comply

Details to support the answer:

AT&T Response:

The AT&T solution uses Server Technology model CW-16HF1A452 power distribution units (PDU) which meet the requirements of remote management, switchable, and metered PDU. The AT&T solution also uses independent terminal servers for console access.

4.7.4. Support Maintenance

1. Respondent shall describe in detail its 24 x 7 x 365 maintenance support for the life of the service-based solution. Respondent shall describe its understanding of public safety maintenance windows and associated notification processes. Respondent shall describe its problem and change management processes and supporting systems, and its adherence to best practices, such as those described in Information Technology Infrastructure Library (ITIL) version 3.

☒ Complies

☐ Complies Partially

☐ Complies with Future Capability

☐ Does Not Comply

Details to support the answer:

AT&T Response:

AT&T utilizes industry standard processes, including adherence to Information Technology Infrastructure Library (ITIL) framework as well best-in-class tools for Change Management, including the use of BMC Remedy Change Management Module. Depending on the type of change, changes are submitted to a Change Advisory Board (CAB) for approval. The CAB is a committee that makes decisions regarding whether or not a change should be implemented. The Change Advisory Board consists of executive stakeholders or their representatives. We manage all aspects of change management through the Change process including availability, capacity, configuration, incident, problem, release, service-level and IT Service continuity management.



There are five categories of changes.

Change Category	Description
STANDARD	This change indicates a low risk and repeatable change that occurs frequently. Once it is deemed appropriate (3 successful) Change plans / MOPs are in place, a template will be built so the change can be entered as a Standard Change for future usage negating the need for a normal change. This change type does not require CAB approval.
NORMAL	Normal changes are often categorized according to risk and impact to the organization. By definition a normal change will proceed through all steps of the change management process, including the CAB for approval.
LATENT	This change should be utilized for unplanned work, resulting from a critical incident ticket &/or Major Incident.
EXPEDITED	By definition an expedited change will proceed through all steps of the change management process and will be reviewed by the executive CAB. There is a valid business reason to bypass the 48 hour advance submittal time frame.
EMERGENCY	Utilized for a change that resolves a problem deemed critical to business continuity and for which a workaround is not sufficient. Examples are a router that could put voice delivery at risk and has a potential for an immediate threat to the production environment and /or to be a major impact to Business or Customer. Emergency changes are approved at an Emergency Executive CAB.

Table 2. Change Management Change Categories

For Normal, Emergency, and Expedited changes, a change request is submitted to the CAB. The request must include a step-by-step guide of changes being made and clearly state the impact of the change. These changes must also include a detailed validation plan and back-out plan in compliance with implementation plan standards. All event resources are clearly listed and verified ahead of time. New application code is never to be loaded without it being officially released by QA and validated in our test environment. We will provide written notification and release content (when applicable) to the NCR.

The result of each change is tracked and available for future reference in our Remedy Change Management Module whether it was successful or unsuccessful. If the change is closed as unsuccessful and the back-out plan was enacted, the issues which caused the event to be unsuccessful are documented. A change plan and request must be submitted for re-approval by the CAB. If the change was successful with deviation, this is also tracked with the deviations documented.



AT&T also utilizes the Incident and Problem Management modules of Remedy, which allows for tracking of break/fix issues as well as any resulting Problem Management requests.

Configuration Management

The following highlights our Configuration Management processes.

- AT&T utilizes the above referenced framework for network configuration management tools perform the following functions:
- Detect and report on configuration policy violations to provide compliance with corporate standards
- Utilize configuration templates and command templates, custom scripts, and configuration changes to provide consistent implementation of network configurations across similar site types
- Simultaneously modify configurations, change community strings, update ACLs, and block MAC addresses across many devices
- Compare start-up and running configuration files to troubleshoot device configurations issues
- Automatically check all network elements for changes and perform backup for all changed network device configurations on a daily basis

Root Cause Analysis

In addition to tracking planned and emergent events, we maintain a problem management system for tracking and reporting trouble. We provide a state-of-the-art CRM trouble ticket system with a service portal for opening trouble tickets, submitting change requests, and checking status of existing items. We can also provide monthly trouble reports showing tickets opened, resolved, and unresolved.

We will prepare and submit a preliminary root cause analysis (RCA) within 1 business days for a Sev 1 or Sev 2 event. The preliminary report will provide an overview of all information known at that time. A final report will also be provided that describes the cause, resolution and any preventative steps that can be taken to eliminate future events.



Outage Mitigation

In the event of an outage AT&T applies immediate and sustained effort, 7x24, until a final resolution is in place. We use all reasonable efforts to provide a temporary workaround within an agreed upon time frame of the issue being detected. If a temporary workaround solution is provided, we provide an action plan to be mutually agreed upon for the final resolution. We continue resolution activity until full service is restored. The primary objective of an incident is to mitigate impact. The Incident Commander and Incident Administrator are able to call upon whatever resources are required to identify and restore functionality.

Incident Management

In case of a service interruption and/or outage, our team has instituted Incident Management processes and procedures for dealing with various severity levels during the course of an incident. Our incident response tools include use of the Incident Command System (ICS), which is housed within our Ticketing System. The ICS is modeled directly from the Federal Emergency Management Agency (FEMA) Emergency Management Institute for major incidents. The ICS processes include resolution, documentation of any incident, communications, and post- event analysis. Incidents overall, regardless of level of severity, are tracked within our ticketing system, which also provides broadcast messaging available for real-time updates and status of ongoing service affecting issues that may impact the AT&T proposed solution.

Incident Management personnel are trained in incident command with courses provided by the Emergency Management Institute, a FEMA-sponsored Emergency Management Course as well as ITIL framework. Incident Management is available 24 hours a day, 7 days a week.

Public Safety Maintenance Windows

The AT&T ESInet™ Maintenance Window is 12AM-6AM per time zone (Tuesday-Thursday). In special cases where NCR PSAPs may require maintenance at the PSAP to be done outside of the Maintenance Window, the AT&T will work with NCR PSAPs to mutually agree on the appropriate time to perform maintenance.



Notifications

For planned non-emergency releases, AT&T agrees to notify the NCR 45 days in advance, and will use good faith efforts to notify NCR 60 days in advance, of any change to be made that affects NCR PSAP platforms (servers or devices) and applications.

4.8. SECURITY

Please see Sections 1.8 and 2.2 of the AT&T Emergency Service IP (ESInet) Service Guide.

1. The security requirements apply equally to all elements of the system requested in this RFP, including but not limited to the following:
 - Data centers
 - PSAPs
 - ESInets
 - NGCS elements
 - Other facilities housing any element or device that is a part of the overall system

The proposed solution's security program is required to utilize the latest NENA specifications and incorporate the intentions of the Communications Security, Reliability and Interoperability Council (CSRIC) "Best Practices."³ All applicable rules and regulations of the Federal Communications Commission (FCC), in addition to those specified herein, shall apply.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

³ As found at <http://transition.fcc.gov/pshs/advisory/csric>: WG1A, WG2A, WG2B, WG4A, WG4B, WG4C, WG5A, WG6, WG7 and WG8



AT&T Response:

The AT&T ESInet™ solution utilizes the NENA specifications and incorporates the intentions of the Communications Security, Reliability and Interoperability Council (CSRIC) "Best Practices."

AT&T Public Safety Security Philosophy

The following outlines our public safety security philosophy.

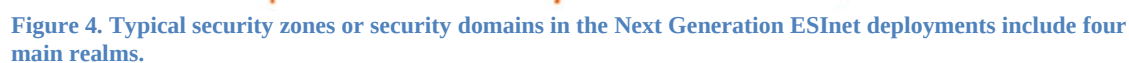
- AT&T ESInet™ Security Architecture deploys a "Defense In-Depth" approach and a multi-layered secure environment with a building block approach.
- AT&T ESInet™ implements secured and controlled Zones/Domains strategy to achieve appropriate separation and risk management.
- Zones/Domains are managed according to characteristics of Trusted or Untrusted Realms.
- Trusted Realms include areas of the network where AT&T has control or influence of traffic and access mechanisms, to minimize and mitigate the risk of unwanted activities.

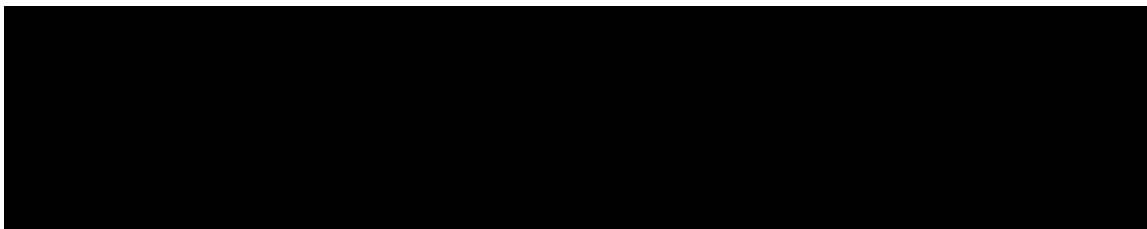
Domains, Zones and Realms

Typical security zones or security domains in the Next Generation ESInet deployments include four (4) main realms and can be defined as:

- Call Routing or Core Realm (ESInet).
- Call Handling or Host Realm (Customer Host).
- PSAPs Realm (Customer).
- Other ESInet Core Realm (such as another Carrier connecting to the Core ESInet).







AT&T also adopts stringent security practices in our network as well as our solutions offering and welcomes any further discussions with the NCR regarding adherence to these policies.

The AT&T ESInet™ solution is configured to integrate with other security solutions (e.g., patch management), depending on the specifics of what needs to be accomplished. Servers in the solution come equipped with anti-virus and malware protection. AT&T employs an Incident Handling process modeled on FEMA's Incident Command System. Notifications are built into this process.

The AT&T system adheres to NENA 75-001 (NENA Security for Next-Generation 9-1-1 Standard [NG-SEC]) and NENA 04-503 (PSAP Security), as applicable. Our solution provides for the centralized management of user permissions, rights, and security settings by designated administrators. The system administrators can use the application to manage user roles and privileges, including granular authentication, user profiles, and other security rights.

The system can be configured so that wherever an authenticated user logs in, without regard to which workstation or which PSAP, all the user's rights, permissions and configurations follow that user. Appropriate AT&T personnel hold a CCNA Security certification.

The proposed system is password-protected, so only properly credentialed, authorized users can use it. Security options can be configured according to user group. Administrators can create groups of user-assigned roles with associated user settings to be automatically applied when users are authenticated during log-in.

Protecting against potential network-level threats, including DOS and DDoS attacks, is managed through traffic control mechanisms and cooperation with the various ingress network carriers.

2. Respondent shall provide a compliance matrix, as outlined in NENA 75-502, NENA NG-SEC Audit Checklist, which identifies whether its proposed solution Complies (C), Does Not Comply (No), or Not Applicable (N/A) to the identified requirement(s) for each audit question, using the instructions provided in Section 3 of NENA 75-502. If N/A is provided, Respondent shall provide an explanation as to why the question is not applicable to the proposed solution.



- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

Please see Annex B for more information.

3. Respondent shall describe its capabilities to provide predictive analysis and modeling to combat security threats.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The AT&T solution provides predictive analysis and modeling to combat security threats as described below.

Security Information and Event Management (SIEM) analysis is a daily task of our Security Operations Center. We have deployed a SIEM tool for log aggregation and consolidation from multiple machines and for log correlation and analysis. Info security personnel have devised profiles of common events from given systems so that they can tune detection to focus on unusual activity, avoid false positives, more rapidly identify anomalies, and prevent overwhelming analysts with insignificant alerts.

We deploy heuristic analysis, a method employed to detect previously unknown computer viruses, as well as new variants of viruses. Heuristic analysis is an expert based analysis that determines the susceptibility of a system towards particular threat/risk using various decision rules or weighing methods.



We perform annual external and internal penetration testing of our critical systems and infrastructure. We maintain in-house tools and expertise in order to conduct penetration testing and work with nationally recognized penetration test providers to achieve third party assurance.

4. The Respondent's proposed solution shall provide a process so that devices and carriers outside the ESInet shall not have credentials, per NENA-08-003 or its successor document. The Respondent shall provide details regarding how its proposed solution ensures that devices and carriers outside the ESInet are not provided credentials.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The sharing or distributing of credentials is prohibited by policy.

The ESInet system provides three main interfaces for the CPE: LoST, HELD and ADR. These interfaces are accessed through the use of certificates processed across an authentication appliance, which performs the function of an IP-based SBC. This eliminates the need for the distribution of credentials, and places the control of identification and vetting under a trusted third-party – the Certificate Authority.

A Customer Management Portal (CMP) is implemented using 2-factor authentication (Entrust token), mitigating the impact if a login username to that system were compromised.

The majority of traffic received and processed by the ESInet system (i.e., its run-time state) originates as TDM traffic (e.g., via a Legacy Network Gateway or a Legacy PSAP Gateway). TDM traffic does not include credentials, and so does not represent a pathway for compromise.

5. Contractor shall allow for annual third-party security audits at the request and cost of the NCR.



- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

Security audits are performed internally and by third-party vendors on a regular (yearly) basis. Audits specifically requested and initiated by NCR shall be added to this schedule upon request.

6. A comprehensive security plan is a critical component of the NCR's NGCS solution. The Respondent shall describe its security plan, monitoring processes, and incident response processes.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

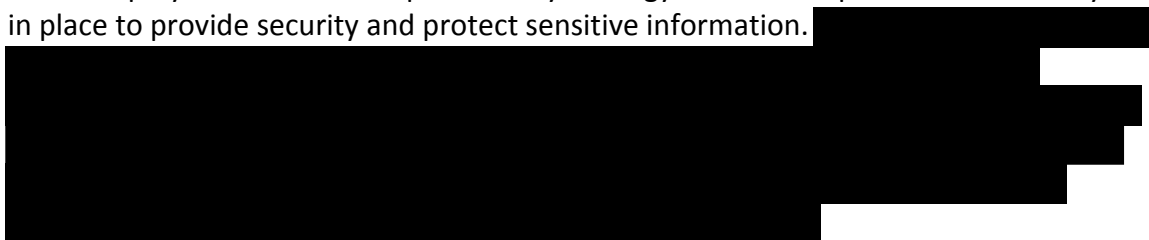
Policies and procedures are used to manage the operating environment and overall security plan. Policies are crafted according to industry requirements and best practices including CSRIC best practices and compliance with the vast majority of the NENA NG-SEC standard.

Policies exist that govern ESInet establishment and operation, including but not limited to: Facilities General Security Requirements, Access Control Process, Badge Control Process, Ethics policies, and Information Security Policy Safe Work Environment Policy and Infrastructure and Information Policy. Policy and procedure training is documented and training completion is recorded. Policy and Procedures are owned and managed by specific line organizations responsible for the relative area of concern. Information security incidents are reported, escalated and managed with the Incident Management



Procedure. An appropriate log and audit trail of each security incident is created and maintained.

AT&T's cyber security policies, standards, and guidelines are compliant with industry best practices as defined by International Organization for Standardization and Control Objectives for Information and related Technology. The AT&T ESInet™ infrastructure is built to withstand sophisticated attacks. AT&T ESInet™ is a secured and private IP managed network. All inbound and outbound traffic interactions are with pre-vetted entities, utilize well defined protocols and traverses controlled access points. Call processing and real-time data delivery are implemented through specialized subnets. AT&T employs a defense-in-depth security strategy where multiple levels of security are in place to provide security and protect sensitive information.



Sensitive data is housed in data centers with logical and physical access controls. All hardware and software elements deployed in a production environment go through stringent release management processes that incorporate thorough testing and scans. Development environments are separate from production and production data is not used in development and system test environments. Inter-zone traffic is restricted to only the necessary protocols/destination and data that transits un-trusted networks (leaves AT&T custody) pass through applications or communication channels with encryption to safeguard confidentiality and integrity.

AT&T ESInet™ network segments are capable of processing all traffic, but administratively deny protocols identified as a threat or that otherwise fall outside of pre-defined parameters. These mechanisms include routing tables and/or Access Control Lists (ACLs). A combination of route paths, IP address recognition, limited protocols, VPNs, session border controllers, and firewalls secure the various communication elements of the proposed solution.

Monitoring

AT&T will provide 24x7x365 monitoring of the NCR 9-1-1 network and equipment. For security purposes, AT&T does not allow outside vendor/customer access to monitoring equipment. AT&T will provide real-time reporting capabilities as well as access to the NOC for real-time updates on network and equipment health. AT&T provides 24x7x365 monitoring and Denial of Service mitigation tools



AT&T monitors the core network for traffic anomalies and shared resource consumption thresholds to protect the core network and assure that traffic storms do not impact the performance of other customers.

Incident Response

In the event of an unplanned outage, or intermittent outage of a system, network component, or application that has the potential to cause an adverse impact to production services, AT&T immediately engages the AT&T ESInet™ Incident Command System (ICS), which is based on the FEMA Incident Command Structure. The incident team, led by a qualified incident commander and supported by AT&T technical and operations resources, evaluates the information received, determines the problem statement, categorizes the problem severity level, and manages/works the incident until the incident objectives are met.

Incident Management personnel are trained in incident command with courses provided by the Emergency Management Institute, a FEMA-sponsored Emergency Management Course as well as ITIL framework. Incident Management is available 24x7x365.

AT&T implements and tests its Incident Management Plan on a regular basis and conducts audits and reviews and/or walk through exercises of its continuity plans at least annually. Information gathered feeds into a continuous improvement cycle as part of the maintenance and review process.

Response from Oral Presentation Dated March 17, 2017

Q4. Please include detailed description of Intrusion Detection Systems (IDS) and Intrusion Prevention Systems (IPS) and/or additional behavior based security products your solution might use that bolster security in depth.

Provide implementation strategy for IDS/IPS. Who configures, manages, and monitors them?

AT&T Response:

The enterprise posture is a combination of IDS and IPS functionality.

The IPS/IDS devices are configured and managed by a dedicated InfoSec Operations team (further supported by a Network Security team) who monitor system findings 24 x 7 x 365.



Provide customer example of dynamic real-time or after action threat mitigation to internal threats.

AT&T Response:

 The Information Security Operations team monitors the management console, and receives automated alerts, for notifications that traffic of a potentially malicious nature has been detected. Such notifications regularly lead to further investigation by trained security personnel. Findings of a sever nature can lead to a device being removed from the network pending forensic investigation of the system.

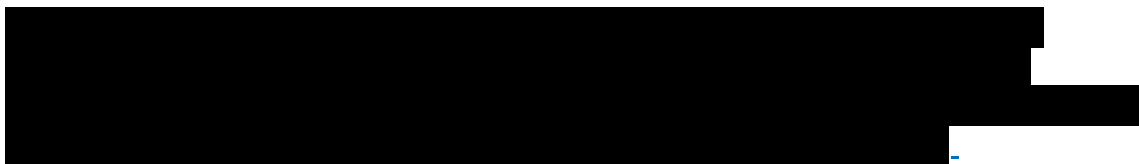
Describe any partner relationships with experience tuning and configuring IPS/IDS.

AT&T Response:

The AT&T Information Security Operations team is trained to configure the IPS/IDS, as well as on how to tune the devices to deliver the most accurate findings possible. Such tuning is an ongoing effort, as more threats are defined by the industry, and the nature of the traffic on the network changes. The regular review of reports from the IPS/IDS enables such tuning and maintains constant awareness of network traffic. Prior to new functionality, software or hardware upgrades, the Information security team goes through extensive training. If additional functionality is deemed beneficial, the AT&T labs group will fully vet the new configurations, software and hardware in the AT&T labs environment to verify full functionality and interoperability within the architecture prior to production deployment.

Are the IDS/IPS and or behavior based security products appliance based, inline/out of band, client residing, etc.?

AT&T Response:





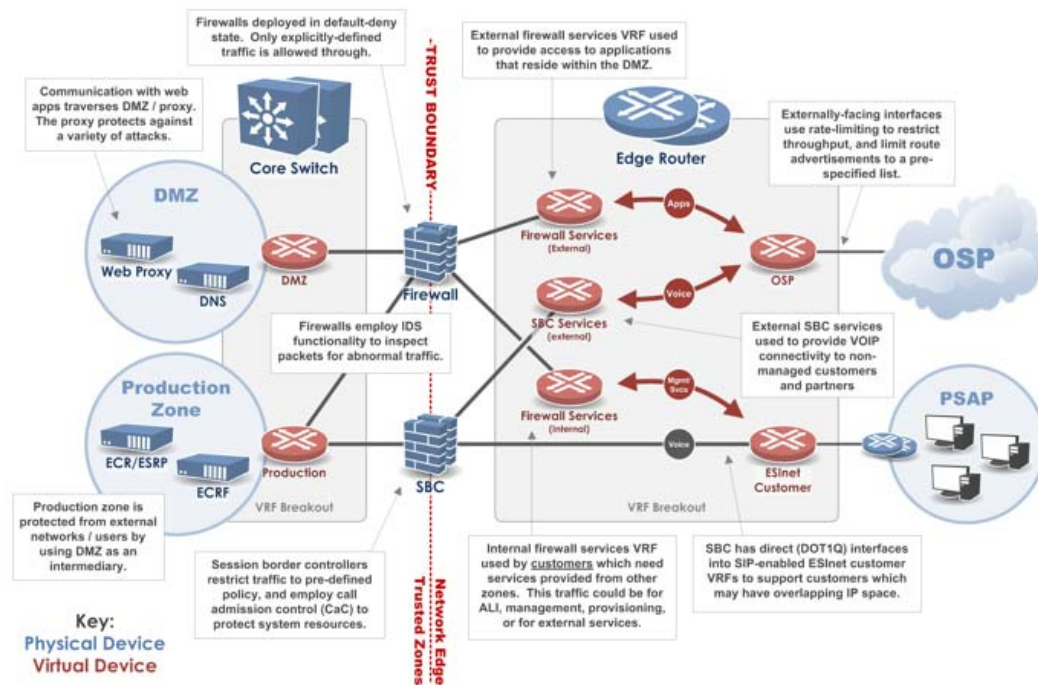


Figure 1: Edge Network Topology Diagram

Response from Oral Presentation Dated March 17, 2017

Q5. What measures are going to be implemented to address DDOS/oversubscription of future media capabilities of NG911? Will media be routed, segmented, rate-limited, QoS'ed differently?

AT&T Response:

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



[REDACTED]

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

[REDACTED]

4.8.1. Physical Security

1. All facilities housing components of the NCR ESInet and NGCS shall have security and access control systems that ensure only duly authorized individuals can access the areas housing the NCR's systems and network equipment. Any workstations or other PSAP equipment connected to the ESInet shall be housed in secured, access-controlled areas. Any devices, power distribution, and cross-connect panels feeding the cages or rooms housing the NCR's systems shall be similarly protected.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

AT&T uses various procedures to help ensure physical security in our data centers, including controlling, monitoring, and recording physical access to facilities where client servers and other equipment reside. We provide complete physical security for our locations, with a special emphasis on security of the data centers and other sensitive areas.

[REDACTED]

- [REDACTED]
- [REDACTED]





Our automated access control system uses electronic badge readers, biometric hand scanners, and PIN keypads to control and monitor access to AT&T buildings and data centers. Security guards monitor the facilities and maintain a 24X7 physical presence at each data center, and the system logs access and sends alerts if entrances are left ajar.

We limit access to the data center and GCSC to only those employees who require access to perform their job functions. We lock the data center server racks and allow access only to persons who have proper authorization.

Access to other buildings, including lobby entrances, also requires an electronic access badge. As an additional measure, we use strategically located video cameras to record and monitor activity.

2. Contractor, upon request, shall furnish monthly reports on physical access to the NCR ESInet and NGCS facilities, including failed attempts.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:



AT&T Response:

Information regarding the security status of AT&T's infrastructure and services is managed and communicated on a need-to-know basis. Results of security health checking and vulnerability testing are tracked and reported by the security programs responsible for compliance management of those activities. Security status, as well as progress on security initiatives, is combined with threat intelligence gathered through trend analysis and reported to security organization executives.

Security program managers share security status information to promote alignment of program objectives and prioritization of efforts. This disciplined sharing of security status information and reporting enables AT&T to achieve synergy and cooperation among security teams and appropriate management attention to AT&T's overall security posture.

AT&T Corporate Real Estate, Asset Protection & Security teams are happy to work with the NCR on any request related to physical access to facilities that are part of the ESInet solution. In addition, AT&T will proactively contact the NCR and communicate any relevant security concerns as they are identified.

4.9. NETWORK OPERATIONS CENTER (NOC)/SECURITY OPERATIONS CENTER (SOC)

Please see Section 1.8 of the AT&T Emergency Service IP (ESInet) Service Guide.

1. All components of the proposed solution shall be monitored 24 x 7 x 365 by a centralized Network Operations Center (NOC) and Security Operations Center (SOC). These functions may be in separate facilities or combined in a single facility.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:



AT&T Response:

The AT&T ESInet™ Network Operations Center (NOC) is staffed 24 hours a day, seven days a week, 365 days a year to actively monitor and manage the AT&T ESInet™ associated services and connectivity. When a potential or actual Customer-affecting issue is defined and determined to be an incident, the Incident Administration team is engaged by the NOC. The team uses established processes that are ISO 9001:2008-compliant for immediate escalation, notification, resolution, and reporting.

Multiple network management components monitor network elements, IP paths, packet rates, packet loss, retransmission, and other IP network metrics. These components generate alarms to system operators if the reliable delivery of calls or data is threatened. Traditional network management is complemented by active application monitoring and alerting. The AT&T ESInet™ application elements also report network failures as detected by their application messaging activity, some of which is specific to managing the availability and integrity of the solution.

All network elements are monitored with SNMP at the NOC. This includes LNGs, ESRPs, ECRFs, BCFs, and PSAP site equipment.

The NOC monitors and tracks net flow statistics and performs packet level capture and forensics at the AT&T ESInet™ Core sites. There are currently two varieties of monitoring systems in use at the NOC. One provides a “single pane of glass” for network and system status. This provides SNMP trap and syslog receiver capabilities. These systems also provide ICMP and SNMP trending and threshold alarming. The second type of system provides packet capture, display, and troubleshooting capabilities. The second type of system provides packet capture, display and troubleshooting capabilities.

Security Operations Center (SOC)

AT&T’s MPLS core network is supported from eight security operations centers (SOCs) in North America, Latin America, Europe and Asia Pacific. AT&T also brings deep security expertise and methodologies across a number of disciplines to customer engagements, with a support team of more than 9,000 AT&T badged sales personnel who are trained in security as well as 1,500+ dedicated security experts. AT&T’s security portfolio capabilities are used to protect our data centers and networks that carrier more than 100.4 Petabytes of data traffic on an average business day. The SOC team also performs vulnerability assessment on our network to continually assess our systems security posture.

2. Respondent shall describe its NOC/SOC operations model, continuity of operations plan (COOP), problem and change management systems, reporting systems,



escalation plan, and conformance with best practices for service delivery management.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

AT&T has a 24x7x365 NOC dedicated to 911 call delivery services. The NOC is comprised of Tier 2 and Tier 3 Technicians responsible for identification, isolation, and mitigation in the event of an incident. An escalation matrix is in place to ensure that AT&T utilizes industry standard processes, including adherence to the Information Technology Infrastructure Library (ITIL) and Federal Emergency Management incident management practices (FEMA). Should a disaster occur that prevents NOC staff from inhabiting the corporate facility, a Business Continuity Plan (BCP) is in place. A full BCP exercise is executed at least twice each calendar year by the NOC, Incident Management, and Problem Management.

AT&T utilizes industry standard processes, including adherence to Information Technology Infrastructure Library (ITIL) framework as well as best-in-class tools for Change Management, including the use of the BMC Remedy Change Management Module. Change Requests vary widely in terms of scope and complexity, dependent upon the type of change, Change Requests with largest potential impact are submitted to a Change Advisory Board (CAB) for approval. The CAB is a committee that makes decisions regarding whether or not a change should be implemented. The Change Advisory Board consists of executive stakeholders or their representatives. AT&T manages all aspects of Change Management through the Change Management Process including availability, capacity, configuration, incident, problem, release, service-level and IT Service continuity management.



There are five categories of changes.

Change Category	Description
STANDARD	This change indicates a low risk and repeatable change that occurs frequently. Once it is deemed appropriate (3 successful) Change plans / MOPs are in place, a template will be built so the change can be entered as a Standard Change for future usage negating the need for a normal change. This change type does not require CAB approval.
NORMAL	Normal changes are often categorized according to risk and impact to the organization. By definition a normal change will proceed through all steps of the change management process, including the CAB for approval.
LATENT	This change should be utilized for unplanned work, resulting from a critical incident ticket &/or Major Incident.
EXPEDITED	By definition an expedited change will proceed through all steps of the change management process and will be reviewed by the executive CAB. There is a valid business reason to bypass the 48 hour advance submittal time frame.
EMERGENCY	Utilized for a change that resolves a problem deemed critical to business continuity and for which a workaround is not sufficient. Examples are a router that could put voice delivery at risk and has a potential for an immediate threat to the production environment and /or to be a major impact to Business or Customer. Emergency changes are approved at an Emergency Executive CAB.

Table 3. Change Management Change Categories

For Normal, Emergency, and Expedited changes, a change request is submitted to the CAB. The request must include a step-by-step explanation of the purposed changes being made and clearly state the impact of the change. These changes must also include a detailed validation plan and back-out plan in compliance with implementation plan standards. All event resources are clearly listed and verified ahead of time. A new application code is never to be loaded without it being officially released by QA and validated in our test environment.

The result of each change is tracked and available for future reference in our Remedy Change Management Module whether it was successful or unsuccessful. If the change is closed as unsuccessful and the back-out plan was enacted, the issues that caused the event to be unsuccessful are documented. A change plan and request must be submitted for re-approval by the CAB. If the change was successful with deviation, this is also tracked with the deviations documented.



AT&T is offering the following escalation intervals.

Escalation Intervals	Level	Responsibility
First Escalation SEV 1 - 2 Hours SEV 2 – 4 Hours SEV 3 – 6 Hours	Resolution Manager	- Review Customer Request and keep customer updated - Escalate as needed to the appropriate partner center
Second Escalation Customer Discretion	Area Manager Or Delegate	- Review status of ticket - Monitor ticket progress - Notify Director - when appropriate
Third Escalation Customer Discretion	Director	- Status Customer - Escalate as needed to partner centers - Monitor ticket Progress/ documentation - Notify AVP when appropriate
Fourth Escalation	AVP	- Insure adequate resources are available and engaged for prompt resolution - Update customer as appropriate - Escalate as needed to appropriate levels

Table 4. Change Management Change Categories

4.9.1. Security Monitoring and Management

- The Contractor's security management solution shall control access to network resources according to public safety network security guidelines to prevent sabotage (intentional or unintentional) and the compromise of sensitive information. Security management shall use public safety network security standards to monitor users logging into network resources and refuse access to those who enter inappropriate access codes. The proposed IP- enabled network shall support standard security policies that may include the use of firewall rules, access control lists (ACLs), virtual local-area networks (VLANs), virtual private networks (VPNs), and Secure Sockets Layer (SSL) protocols to control network traffic and access. The systems and servers shall support the use of software to detect and mitigate viruses, malware, and other attack vectors.

☒ Complies

☐ Complies Partially



☐ Complies with Future Capability☐ Does Not Comply

Details to support the answer:

AT&T Response:

The AT&T system adheres to NENA 75-001 (NENA Security for Next-Generation 9-1-1 Standard [NG-SEC]) and NENA 04-503 (PSAP Security), as applicable. Our solution provides for the centralized management of user permissions, rights, and security settings by designated administrators. The system administrators can use the application to manage user roles and privileges, including granular authentication, user profiles, and other security rights.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]





2. Furthermore, any system that connects to an IP-enabled network shall be required to comply with applicable standards, including security standards, and demonstrate compliance through an initial and recurring audit.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The AT&T IP network is known for its reliability, security and redundancy. It uses a private, high-speed, MPLS IP backbone, not the public Internet, for transmission; and it has an availability target of 99.999%. We accomplish this through problem detection, prevention, redundancy, and restoration offers to ensure that the network is always up and running.

In keeping with the robust security employed through all AT&T's network infrastructures, the AT&T Chief Security Office (CSO) has developed a VoIP Security Architecture that strengthens the service at potentially vulnerable points. This Security Architecture deploys a "Defense In-Depth" approach to provide a multi-layered secure environment. Security mechanisms are deployed throughout the service in addition to the multi-layered security provided by the network itself, in order to provide seamless and effective security. AT&T's world-class experience in both IP and Telephony Security provides the following key security differentiation.

- Availability of the VoIP Service: Stop denial or deterioration of service functionality
- Integrity of the VoIP environment: Prevent system functions or data from being corrupted
- Confidentiality and Data Privacy in VoIP: Keep information secure and private



The AT&T IP/MPLS Converged Network deploys the same attention to state-of-the-art security measures as have been provided on traditional PSTN networks:

- AT&T Security Policy and Requirements (ASPR) and AT&T OneProcess provide the security foundation.
- AT&T Internet Protect helps protect against worm/virus attacks and will offer DDoS (denial of service) protection.
- A 24x7 Security Network Operations Center (SNOC) is available.
- AT&T MPLS Voice Aware Network provides security and QoS.
- AT&T Global Fraud Management System protects AT&T VoIP against fraud.
- AT&T hub-and-spoke MPLS VoIP VPN for customer access helps to provide security and QoS for AT&T.

In the AT&T MPLS network, customer services are provisioned on specific interfaces of an MPLS VPN by using known IP addresses. This approach enables us to authenticate users and traffic. Rather than supporting signaling or voice encryption, we rely on the MPLS security and secured IP tunnels to provide confidentiality for signaling and voice.



The AT&T security culture assures that these architectural protections are enforced by audits, employee awareness training, penetration testing and enforcement of architectural principles and policy.



In addition, AT&T MPLS VPN service is a transport only service, with the data integrity and data privacy protection as described above. AT&T monitors the core network for traffic anomalies and shared resource consumption thresholds to protect the core network and assure that traffic storms do not impact the performance of other customers. AT&T network management and service management systems are hardened, require authentication and authorization control, and are instrumented with intrusion detection to assure that they are not compromised, and cannot serve as a vector to attack the network or customers.

3. Contractor shall provide security reports on a monthly basis, including, but not limited to: incidents and incident response, and updates or changes to security systems and software.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

AT&T will provide security reports on a monthly basis, including, but not limited to: incidents and incident response, and updates or changes to security systems and software.

4. Respondent shall provide details concerning how its proposed solution will provide for security monitoring and management. Respondent shall provide details, including drawings, which explain how its proposed solution meets or exceeds the above requirements.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:



AT&T Response:

AT&T's cyber security policies, standards, and guidelines are compliant with industry best practices as defined by International Organization for Standardization and Control Objectives for Information and related Technology (COBIT). AT&T's next generation emergency services network is a secured and private IP managed network. All inbound and outbound traffic is through well-defined and controlled access points. Call processing and real-time data delivery are implemented through specialized subnets.

[REDACTED]

[REDACTED]

[REDACTED]



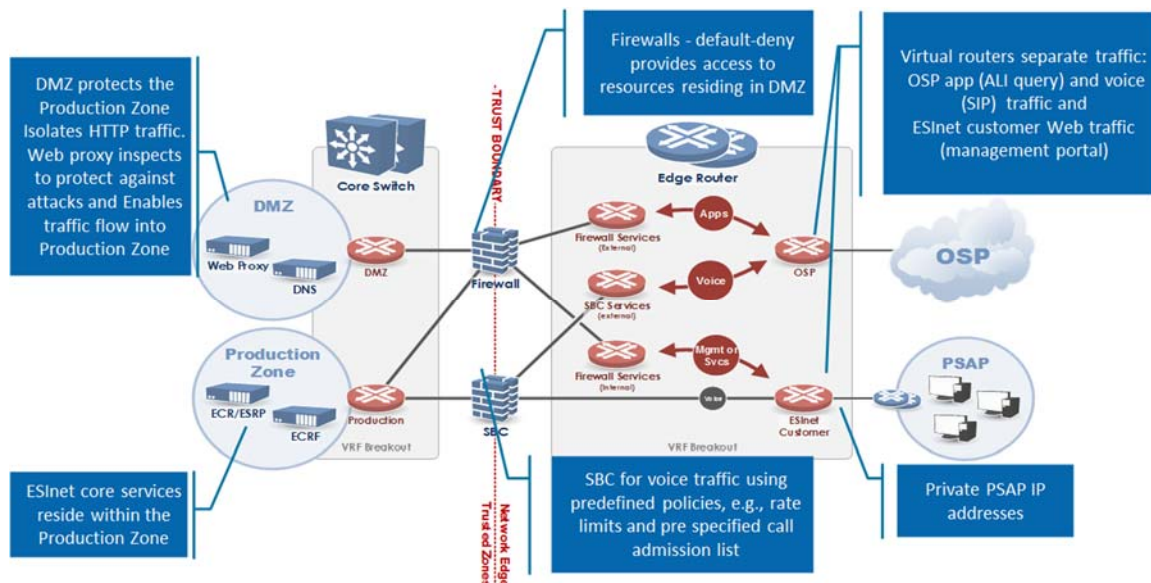


Figure 5. Defense in-depth Security Architecture

[REDACTED]

[REDACTED]

All development environments are fully separate from production environments. All hardware and software elements deployed in a production environment go through stringent release management processes that incorporate thorough testing and scans.



AT&T employs an Incident Handling process modeled on FEMA's Incident Command System, with notifications built into this process.

4.9.2. Incident Management System

The Contractor's incident management system shall log all support requests, both from users and those automatically generated. The Respondent shall provide examples of monthly reports detailing tickets opened, resolved, and pending.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

AT&T utilizes the Incident and Problem Management modules of Remedy, which allows for tracking of break/fix issues as well as any resulting Problem Management requests. All support requests from users and those automatically generated are logged. Samples of monthly ticket reports can be found in Annex C: AT&T Monthly August 2016 Trouble Ticket Sample 1 and Annex D AT&T Monthly August 2016 Trouble Ticket Sample 2.

4.9.3. Change Management System

1. The change management system shall log all change requests, both from users and those automatically generated. The system shall interface with the incident management system for correlation of changes and outages. The Respondent shall describe its change management process and its ability to provide the NCR Program Manager with the ability to review proposed change requests and the client approval process. The Contractor shall provide monthly reports detailing change tickets opened, resolved, and pending.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability



☐ Does Not Comply

Details to support the answer:

AT&T Response:

AT&T will conduct major and minor planned and critical un-planned events for all AT&T ESInet™ system maintenance or upgrades that may impact customers. The AT&T ESInet™ utilizes AT&T's One Tracking System—Change Management (AOTS-CM) service management suite for managing changes to the service including Aggregation Sites, core call routing complexes, PSAP equipment maintenance, circuit maintenance, and software upgrade events. AT&T will manage and complete these events with a trained ESInet event management team facilitating the change implementation, monitoring, and communication through the length of the event. AT&T adheres to stringent internal event plan processes and procedures which include step-by-step execution procedures with the associated time frames, back-out procedures, and baseline and validation testing. AT&T will include the required back-out time within the scheduled maintenance time-frame.

The AOTS-CM module tracks changes in system hardware and software versions. Upgrade events can also be tracked via the Change Management module to establish a full version history of the system. Our AOTS system has been enhanced with specific templates created exclusively for AT&T ESInet™ to make entering data easier and to ensure change management tickets are routed efficiently. The AOTS-CM meets industry standards and is tailored to our work centers, e.g., ESInet Moves, Add, Changes, Deletes, etc.

Depending on the type of change, changes are submitted to a Change Advisory Board (CAB) for approval. The CAB is a committee that makes decisions regarding whether or not a change should be implemented. The Change Advisory Board consists of executive stakeholders or their representatives. We manage all aspects of change management through the Change process including availability, capacity, configuration, incident, problem, release, service-level and IT Service continuity management. Generally speaking, there are two classes of ESInet maintenance e.g., standard and emergency.

1. **Standard.** AT&T will provide a schedule of standard maintenance windows for activities defined below as: level 4 standard and level 3 normal.
2. **Emergency.** Where reasonably practicable, AT&T will give Customer 24-hours notice of the need for the maintenance and a summary of the potential impact. Emergency maintenance may occur at any time.



Change Event Type	Definition	Notification
Level 4 - Standard	A planned maintenance event that is a low risk and repeatable change that occurs frequently. Repeatable Change plans / MOPs have been established. Example: PSAP Network failover testing (pre-production), replace a failed disk drive within an array.	Courtesy notification will be provided for standard changes directly affecting the AT&T ESInet™. These notifications will not require customer approval.
Level 3 - Normal	A planned maintenance event or upgrade, potentially partial- or full-service impacting. Normal changes are categorized according to risk and impact. Change Plans for events requiring AT&T support will be reviewed with AT&T prior to the scheduled date. Example: Router replacement, PSAP activation, AT&T ESInet™ software upgrade.	Target timeframe to be provided minimum of 45 days in advance to NCR. Detailed schedule with date, time, and duration to be provided a minimum of 30 days in advance.
Emergent - Emergency	A change that resolves a problem deemed critical to business continuity and for which a workaround is not sufficient. An issue considered high risk and has a potential for an immediate threat to the production environment. Example: A router issue that has the potential to affect voice delivery.	The risk posed by the issue may not allow AT&T to provide advance PSAP notification for this type of event. AT&T shall notify PSAP customers as soon as a need for maintenance is identified. Every effort will be made to provide as much advanced notification as possible for issues anticipated to result in a Sev 1 or Sev 2 service disruption. For issues not anticipated to result in a Sev 1 or Sev 2 service disruption, notification shall be no less than twenty-four (24) hours.

Table 5. Change Management Categories

For a Planned or Emergent Event to receive approval there must be an event plan submitted to the CAB. The event plan must include a step-by-step guide of changes being made and clearly state the impact of the change. All event plans must also include a detailed validation plan and back-out plan in compliance with implementation plan standards and approved by the CAB Stakeholders. All event resources are clearly listed and verified ahead of time. New application code is never to be loaded without it being



officially released by QA. AT&T will provide written notification and release content (when applicable) to the jurisdiction(s).

If the event is closed as unsuccessful and the back-out plan was enacted, the issues which caused the event to be unsuccessful are documented. A new event plan and subsequent change must be submitted for re-approval by the CAB.

The CAB also documents and stores each event for tracking and reporting purposes. The CAB logs all planned and emergent event change requests on events that are both approved and declined. We also review and issue Reason for Outage (RFO) reports when outages occur.

We have scheduled maintenance time frames for non-emergency events. If we have an emergency item, we will alert the customer using a standard process. The customer has options on the modality of this communication (i.e. text, email, etc.)

The AT&T Service Manager will provide advance notice of maintenance events. For questions during the maintenance window, the customer should contact the AT&T 9-1-1 Resolution Center.

The AT&T ESInet™ maintenance window is 12AM-6AM per time zone (Tuesday-Thursday), unless otherwise agreed to in order to resolve service impacting issues. Changes affecting multiple time zones will be completed between 12AM-6AM CT. AT&T Customer PSAPs may require maintenance at the PSAP to be done outside of this maintenance window, in which case AT&T will coordinate an appropriate time to perform maintenance at the PSAP.

In addition to managing planned and emergent events, we maintain a problem management system for tracking and reporting trouble. AT&T provides a service portal [AT&T Express Portal](https://expressticketing.acss.att.com/expressticketing) (<https://expressticketing.acss.att.com/expressticketing>) for opening trouble tickets, change requests and checking status of existing items e.g., tickets opened, resolved and pending.

2. The Respondent shall provide detailed descriptions of any other tools it intends to use in order to provide access to the change management system, such as Web portals and client software.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability



☐ Does Not Comply

Details to support the answer:

AT&T Response:

NCR PSAP customers can access the AOTS-CM information via the AT&T BusinessDirect Portal.

AT&T BusinessDirect® is a suite of online tools that you can use 24x7 to manage your AT&T account and your contracted services.

With its XML interface and electronic bonding (eBonding) capabilities, the BusinessDirect portal can automate many tasks by enabling your internal systems to interact directly with ours.

As a result, you can

- Save time—Manage your AT&T services conveniently and securely anytime, and minimize the need to make phone calls and to wait for return calls.
- Improve transaction accuracy—Reduce or eliminate data entry errors.
- Reduce costs—Make your business more efficient and productive by redirecting your resources more effectively.

In addition to an intuitive, easy-to-use interface, the tools provide

- Extensive online support—The site includes traditional help functions, FAQs, a technical glossary, videos, tutorials, and archived virtual seminars.
- Industry-standard security—We use Secure Socket Layer (SSL) encryption and validate every transaction to protect your information. In addition, we house the servers in state-of-the-art data centers and maintain a mirror-image production site for disaster recovery.
- Alerts—Occasional, non-promotional messages will alert you to important information such as planned system maintenance activities.

Depending on your contracted services, your BusinessDirect tools may include

- eOrder—Submit and track service orders and help us process your orders faster.
- eMaintenance—Place and track trouble reports, view your inventory, test circuits, and re-route toll-free calls.
- eBill—Pay your bill and handle all of your other billing tasks.



- BusinessDirect Map—Monitor and manage your network using an intuitive map interface.

We offer many other tools via BusinessDirect. Your account representative can provide you with complete information about the tools available for your contracted services.

When you use AT&T BusinessDirect, you can efficiently manage your network and account.

4.9.4. Management Software

1. Much is said about SNMP in network and server management discussions, but it is only the underlying protocol for transporting management information across the network. Software packages are widely available for capturing, analyzing, and reporting the network's health based on the SNMP traffic it receives. Several commercial packages are available, such as SolarWinds, Monolith, and OpenView, as well as many full-featured open source packages, such as OpenNMS, Nagios, and Network Management Information System (NMIS).

Respondent shall provide the name and description of the management software it has implemented, including all functional modules associated with it (e.g., reporting, backup, and IP address management).

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

AT&T uses multiple tools to track performance and fault management activities. All tools are used to collect KPIs for their respective systems/servers which in turn are forwarded to HP Openview, which is used to present a single pane of glass to the AT&T 9-1-1 NOC. OpenView utilizes the HP Operations Manager (OM) module, which monitors systems and applications using agents, and the HP Network Node Manager (NNMi) network monitoring software module based on SNMP. Visual alerts are available 24x7x365 to the AT&T 9-1-1 NOC.



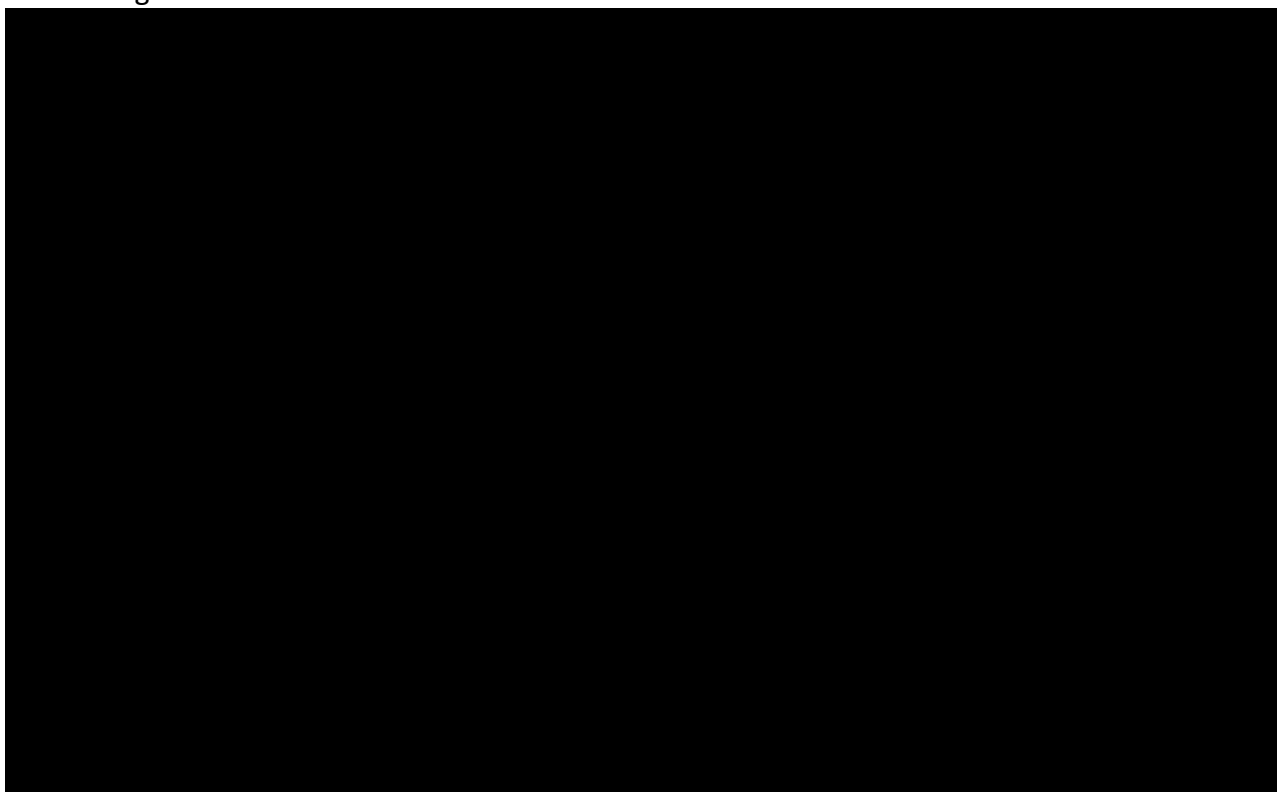
2. Respondent shall provide a detailed explanation and associated drawings explaining how its proposed solution interworks with all of the various elements and services of the total NCR NG9-1-1 solution, and meets or exceeds the above requirements.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The AT&T ESInet™ utilizes many mechanisms for event tracking and alerting. Systems leverage syslog and SNMP traps for event / fault notifications. Application hosts also utilize embedded agents which communicate directly with our monitoring platforms. Systems are monitored by use of SNMP polling and application health-checks. All systems are provisioned for fault, performance and configuration monitoring / management.



4.9.5. Network and System Event Logging

1. The IP network and the NGCS shall allow historical tracking of network and system events, as well as event resolution. This is for logging errors and statistical information related to the health of the network and the NGCS.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



[REDACTED]

2. It is preferable that this system be part of, or interfaced with, the various Contractor and supplier trouble ticketing systems, or contain cross-reference abilities. Contractor shall maintain historical information for the term of the contract, and provide copies of the data to the NCR at the end of the contract.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

[REDACTED]

3. Respondent shall provide a detailed explanation and associated drawings explaining its processes and procedures for interfacing with the Respondent and supplier solutions. Respondent shall provide details regarding how its proposed solution meets or exceeds the above requirements.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

[REDACTED]





[REDACTED]

[REDACTED]

[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
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Step #	Description	Responsibility
■	[REDACTED]	[REDACTED]
■	[REDACTED]	[REDACTED] [REDACTED] [REDACTED] [REDACTED]

4.9.6. Physical Access Monitoring and Management

1. Contractor shall track and log all attempts to access the cabinets, data center cage, or rooms housing the NGCS components serving the NCR. Reports may be requested and shall be made available for review as part of problem management reporting.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

AT&T uses multi-tiered security measures to restrict access to our Data Centers

We allow access only to authorized people. Security measures include continuous closed circuit video monitoring, 24-hour on-premises live security, electronic key card access, individual, personal access codes, and biometric hand scans.

We further protect our operations and equipment by using controlled entrance and exit doors, security breach alarms, secured cage and cabinet environment, mantraps, and discrete buildings (no signage).

AT&T will contact Fairfax County and communicate any relevant security concerns as they are identified.

2. Respondent shall provide a detailed explanation of its processes and procedures for logging physical access to the NGCS components, and how it generates the required reports.



- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

Data center security includes controlled access and egress doors, controlled access permissions and access request methods, and managed key and /or access card plans for access control.

CCTV cameras are used to monitor access, egress, and infrastructure. Common infrastructure areas are secured areas.

AT&T actively maintains an access list. All additions to this list must be submitted in advance and in writing. Access is limited areas designated in the access list. Only individuals identified on this list will have access.

As discussed in section 4.8.1 (Physical Security), information regarding the security status of AT&T's infrastructure and services is managed and communicated on a need-to-know basis. Results of security health checking and vulnerability testing are tracked and reported by the security programs responsible for compliance management of those activities. Security status, as well as progress on security initiatives, is combined with threat intelligence gathered through trend analysis and reported to security organization executives.

Security program managers share security status information to promote alignment of program objectives and prioritization of efforts. This disciplined sharing of security status information and reporting enables AT&T to achieve synergy and cooperation among security teams and appropriate management attention to AT&T's overall security posture. AT&T Corporate Real Estate, Asset Protection & Security teams are happy to work with the NCR on any request related to physical access to facilities that are part of the ESInet solution. In addition, AT&T will proactively contact the NCR and communicate any relevant security concerns as they are identified.



4.9.7. Access to Technical Staff

The Contractor shall detail the procedures by which it communicates with technical personnel from participating suppliers and the NCR entities. The Respondent shall specify the level of assistance expected from such technical personnel to resolve service-related issues. Security personnel are expected to recommend solutions to various malicious network activities. Respondent shall provide a detailed explanation and associated graphical presentations explaining how its proposed solution meets or exceeds the above requirements.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The AT&T Resolution Center will communicate with our technical personnel from our participating suppliers and NCR entities through phone calls and ticketing system applications. A dedicated AT&T Toll Free number has been established for both NCR and our participating suppliers to utilize for reporting and obtaining/providing status on ESInet issues. West has also established a dedicated Toll Free number for use by the AT&T Resolution Center for ESInet issues. AT&T provides a Web Based ticketing system for use by our customers as well and a ticketing interface tool between AT&T and or participating supplier.

4.9.8. Notification

Respondent shall specify how its NOC informs participating jurisdictions or their designee of problems with the network, scheduled outages, and upgrades. Tickets related to the services delivered to Contractor suppliers shall be forwarded automatically. Notification shall be provided via multiple communications means to NCR entities. Entities requiring notification may change, depending on the alarm or incident. Respondent shall provide a detailed explanation explaining how its proposed solution meets or exceeds the above requirements.

- ☒ Complies



- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

In case of a service interruption and/or outage, we have instituted Incident Management processes and procedures for dealing with various severity levels during the course of an event. Our incident response tools include use of the Incident Command System (ICS modeled directly from the Federal Emergency Management Agency (FEMA) Emergency Management Institute. The ICS processes include resolution, documentation of any incident, communications, and post- event analysis. We manages incident and provide customers with up to the minute notification and status of ongoing service affecting issues that may impact the AT&T ESInet™ solution.

AT&T has elected to use the Everbridge system as a way of providing written and verbal mass notification to PSAPs of outages/issues that may be 9-1-1 service affecting in order to meet the FCC mandate. Communication will be supplied to all parties provided to AT&T by NCR and its entities. We provide notification by email and SMS.

The Incident Command team will prepare and submit a root cause analysis (RCA) of a Priority Level 1 or Level 2 event describing the impact of the event, the cause, resolution and any preventative steps that can be taken to eliminate future events.

4.9.9. Escalation Procedures

Respondent shall outline a detailed jurisdiction-level escalation process to be used during incidents that affect service, particularly those that result in critical service outages. Respondent shall describe how discrepancies in the perception of service level agreement (SLA) incident levels may be escalated and addressed. It is preferable that these procedures be maintained and accessible via an online portal. This notification shall be integrated with the notification processes described above, based on alarm or incident. Respondent shall provide a detailed explanation explaining how its proposed solution meets or exceeds the above requirements.

- ☒ Complies
- ☐ Complies Partially



☐ Complies with Future Capability

☐ Does Not Comply

Details to support the answer:

AT&T Response:

We will notify the customer's single point of contact in writing concerning scheduled release installations. Acknowledgement of notification is required from the customer. AT&T will send an email notification to the customer at the start and end of the pre-arranged maintenance interval. Listed below are the current AT&T 9-1-1 escalation procedures.

Escalation Intervals	Level	Responsibility
First Escalation SEV 1 - 2 Hours SEV 2 – 4 Hours SEV 3 – 6 Hours	Resolution Manager	- Review Customer Request and keep customer updated - Escalate as needed to the appropriate partner center
Second Escalation Customer Discretion	Area Manager Or Delegate	- Review status of ticket - Monitor ticket progress - Notify Director - when appropriate
Third Escalation Customer Discretion	Director	- Status Customer - Escalate as needed to partner centers - Monitor ticket Progress/ documentation - Notify AVP when appropriate
Fourth Escalation	AVP	- Insure adequate resources are available and engaged for prompt resolution - Update customer as appropriate - Escalate as needed to appropriate levels

Table 6. AT&T 9-1-1 Escalation Procedures

When escalating a problem, it is important to provide the following information:

- Customer's name and telephone number
- Active WFA ticket number(s)
- Trouble Location
- Trouble description (e.g., out of service, service degraded, etc.)
- The action or resolution requested



AT&T understands the requirement for integration and information sharing to the NCR for service management support. AT&T will work with NCR to develop an appropriate integration design, plan and MOP for information sharing.

4.9.10. Change Management Processes and Procedures

Respondent shall outline a detailed change management process. The ITIL change management standards are preferred, but not required. Respondent shall include explanation of its fault, configuration, accounting, performance, and security (FCAPS) procedures. Respondent shall provide a detailed explanation explaining how its proposed solution meets or exceeds the requirements for the ITIL and FCAPS processes.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

AT&T utilizes industry standard processes, including adherence to Information Technology Infrastructure Library (ITIL) framework as well as best-in-class tools for Change Management, including the use of the BMC Remedy Change Management Module. Depending on the type of change, changes are submitted to a Change Advisory Board (CAB) for approval. The CAB is a committee that makes decisions regarding whether or not a change should be implemented. The Change Advisory Board consists of executive stakeholders or their representatives. We manage all aspects of change management through the Change process including availability, capacity, configuration, incident, problem, release, service-level and IT Service continuity management.

There are five categories of changes.

Change Category	Description
STANDARD	This change indicates a low risk and repeatable change that occurs frequently. Once it is deemed appropriate (3 successful) Change plans / MOPs are in place, a template will be built so the change can be entered as a Standard Change for future usage negating the need for a normal change. This change type does not require CAB approval.



Change Category	Description
NORMAL	Normal changes are often categorized according to risk and impact to the organization. By definition a normal change will proceed through all steps of the change management process, including the CAB for approval.
LATENT	This change should be utilized for unplanned work, resulting from a critical incident ticket &/or Major Incident.
EXPEDITED	By definition an expedited change will proceed through all steps of the change management process and will be reviewed by the executive CAB. There is a valid business reason to bypass the 48 hour advance submittal time frame.
EMERGENCY	Utilized for a change that resolves a problem deemed critical to business continuity and for which a workaround is not sufficient. Examples are a router that could put voice delivery at risk and has a potential for an immediate threat to the production environment and /or to be a major impact to Business or Customer. Emergency changes are approved at an Emergency Executive CAB.

Table 7. Change Management Change Categories

For Normal, Emergency, and Expedited changes, a change request is submitted to the CAB. The request must include a step-by-step guide of changes being made and clearly state the impact of the change. These changes must also include a detailed validation plan and back-out plan in compliance with implementation plan standards. All event resources are clearly listed and verified ahead of time. New application code is never to be loaded without it being officially released by QA and validated in our test environment. We will provide written notification and release content (when applicable) to the NCR.

The result of each change is tracked and available for future reference in our Remedy Change Management Module whether it was successful or unsuccessful. If the change is closed as unsuccessful and the back-out plan was enacted, the issues which caused the event to be unsuccessful are documented. A change plan and request must be submitted for re-approval by the CAB. If the change was successful with deviation, this is also tracked with the deviations documented.

AT&T also utilizes the Incident and Problem Management modules of Remedy, which allows for tracking of break/fix issues as well as any resulting Problem Management requests. Utilizing the BMC Remedy Change Management module and the built-in ITIL best practices enables us to understand and minimize risk while making IT changes, as well as allowing the environment to be stable, reliable, and predictable. This aligns us with ITIL and FCAPs processes by allowing changes to be evaluated for their benefits and risks and considering all impacts.



4.9.11. Statement on Standards for Attestation Engagement Number 16

Contractor shall demonstrate compliance with the Statement on Standards for Attestation Engagements Number 16 (SSAE 16). This replaced the Statement on Accounting Standards 70 (SAS 70) in 2011. The applicable report from an SSAE 16 engagement is the Service Organization Controls 1 (SOC 1) report.

Respondent shall provide a detailed explanation of how it has complied with SSAE 16 for similar solutions and how this would be implemented with the NCR NG9-1-1 implementation. The Respondent shall provide with its detailed explanation a graphical representation explaining how its proposed solution meets or exceeds the above requirement.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

As of June 15, 2011, AT&T has adopted the new Statement on Standards for Attestations Engagements (SSAE 16) in conjunction with the International Standard on Assurance Engagements (ISAE 3402). SSAE 16/ISAE 3402 replaced the Statement on Auditing Standards No. 70 (SAS 70) standard as the professional standard for service organizations to obtain an independent assessment about the effectiveness of internal controls that are relevant to their customer's financial statements. SSAE 16/ISAE 3402 is based heavily on the preceding SAS 70 audit standard.

An examination under this standard signifies that a service organization has had its control objectives and control activities, including controls over information technology and related processes, examined by an independent accounting and auditing firm. A formal report containing the auditor's opinion, detailed control descriptions, and test results is issued to the service organization at the conclusion of the examination. This formal report is now referred to as a Service Organization Control (SOC) Report 1 or simply "SOC 1".

AT&T sponsors several Type II examinations which are managed by GCSS in the areas of



Application Services, Enterprise Hosting Services, Managed Services, and Outsourced Network Management. It also sponsors SOC 1 Type I and Type II reports for Synaptic Compute as a Service and Synaptic Storage as a Service.

4.9.12. Configuration Backup and Restoration

The Contractor and various suppliers shall deploy the capability to automatically or routinely back up configuration data, and define the conditions under which it will restore the configuration of network elements, such as routers or switches, and the process it will use should the need arise.

In addition to automatic, regular backups, Contractor and the various suppliers shall describe their ability to perform on-demand backups, such as at the end of a successful configuration change.

The Respondent shall provide a detailed explanation and any associated drawings explaining how its proposed processes and procedures provide the ability to manage these configuration backup and restoration processes in a manner that has no negative impact on the total NCR NG9-1-1 solution.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The AT&T ESInet™ network configuration tools provide version control and “rollback” functionality to all network elements. This allows the restoration of previously “known good” configurations or timely restoration of stored configurations in the event of equipment failure or disaster recovery.

Our network configuration management tools perform the following functions:

- Detect and report on configuration policy violations to provide compliance with corporate standards



- Utilize configuration templates and command templates, custom scripts, and configuration changes to provide consistent implementation of network configurations across similar site types
- Simultaneously modify configurations, change community strings, update ACLs, and block MAC addresses across many devices
- Compare start-up and running configuration files to troubleshoot device configurations issues
- Automatically check all network elements for changes and perform backup for all changed network device configurations on a daily basis
- Network configuration management tools have been implement with geo diversity in place

4.9.13. Third-Party Management

The NCR desires the optimum value provided by best-of-class products and services integrated as part of its total NG9-1-1 solution. This may present a situation where no single manufacturer or supplier can provide a public safety-grade unified NOC/SOC accountability for all components, products and services that comprise the NCR's total NG9-1-1 solution. Consequently, the NCR may find it beneficial to have a third party provide that overarching NOC/SOC service.

A third-party NOC/SOC provider may be responsible for functioning as an umbrella for monitoring all of the Contractor's products and services, including collaboration with the Contractor's NOC/SOC. To facilitate that capability, the third-party NOC/SOC must have a view into all elements that are under SLAs.

In support of the NCR's consideration of such an option, Respondent shall indicate the compliance level of its experience in providing access to third-party NOC/SOC overarching support, as related to the requirements identified in the following table:

Requirement	Complies	Complies Partially	Complies with Future Capability	Does Not Comply
4.9.13.1 Change management processes	✓			
4.9.13.2 Coordinating and managing trouble tickets to resolution from Contractor and multiple suppliers	✓			



Requirement	Complies	Complies Partially	Complies with Future Capability	Does Not Comply
4.9.13.3 Trouble ticket report management (reports may be daily, weekly, monthly, quarterly, or yearly)	✓			
4.9.13.4 Notification processes for Contractor and suppliers, and any other entities or people designated by the NCR	✓			
4.9.13.5 System alarm access in the form of SNMP or syslog data	✓			
4.9.13.6 Experience and processes for interworking of multiple public safety voice and data system suppliers	✓			

Table 8. Third-Party NOC/SOC Support

4.9.14. Operational Scenarios

The NCR recognizes that no system or staff is perfect, however, safeguards may be established to minimize the impact of human or system error. Respondent shall describe its risk mitigation and issue resolution strategies for the following hypothetical scenarios:

1. At 0300 hours, a series of session border controller alarms previously unseen by the NOC staff on duty begin to increase in volume and frequency. At 0330, multiple critical alarms are received. At 0345, a few PSAPs start reporting garbled audio while others report an inability to obtain location information. At 0600, some NCR PSAPs are reporting that have not received a call in the last 15 minutes.

Response to hypothetical scenario:

AT&T Response:

AT&T would designate this as a Severity 1 (service impacting) issue.

AT&T actions would be as follows.



Restoration and Resolution Timeframes

AT&T and its subcontractors will apply immediate and sustained effort, 7x24, until a final resolution is in place. All reasonable efforts will be made to provide a temporary workaround within two (2) hours and permanent resolution with a target of twenty-four (24) hours of the issue being detected.

Severity Code	Description	Response Time	Customer Resolution Time	Status
Critical*	Any outage or condition that results in: - Loss of 911 call processing - End office or Remote Switch isolation from 911 network for 10 or more minutes - Loss of end office to 911 tandem circuits - Loss of ANI / ALI to a PSAP for 15 or more minutes (excludes CPE or customer PSAP issues) - PSAP isolation for 10 or more minutes. Excluding troubles at PSAP and reroute successful with both ANI/ALI. - Any fault condition meeting FCC reportable criteria	Immediate	30 min-2 hrs	15 min
Major	Client is able to access the TCS system, or ancillary products, but is experiencing a partial loss of critical functionality due to software or network problems and has no acceptable work around.	15 min	4 hrs	30 min
Minor	Client is able to access TCS system, or ancillary products, but is experiencing a loss of non-critical functionality and has an acceptable work around.	30 min	8 hrs	60 min
Intermittent	Client has an informational request or questions of a general nature concerning the overall product suite functionality, or is experiencing an operator inconvenience.	4 hours	24 hrs	2 hours
Informational	ORT Testing, SMOP Events, non-customer impacting problems or informational types of trouble	N/A	N/A	N/A

Table 9. Restoration and Resolution Timeframes

Root Cause Analysis Report

Root Cause Analysis (RCA) report for Severity Level 1 or 2 service disruptions will be available within eight (8) Business Days following the resolution of a Severity Level 1 or 2 Service Disruption outlining the conditions that caused the trouble, the corrective action taken, and any corrective action plans to prevent future occurrences of the trouble. This report will include the following:

- Date/Time of the start of the service disruption.



- Date/Time of service restoration.
- Date/Time of service resolution.
- Date/Time service disruption was detected.
- Associated Ticket Number (s).
- Number of NCR customers impacted.
- Actual number of calls impacted.
- Functionality lost during the service disruption.
- Corrective action(s) (completed and future as applicable).
- City(ies) and state(s) where failed equipment is located.
- City(ies) and/or county(ies) and state(s) impacted, as applicable.

Severity Code	Description	Response Time	Customer Resolution Time	Status
Critical*	Any outage or condition that results in: - Loss of 911 call processing - End office or Remote Switch isolation from 911 network for 10 or more minutes -Loss of end office to 911 tandem circuits -Loss of ANI / ALI to a PSAP for 15 or more minutes (excludes CPE or customer PSAP issues) -PSAP isolation for 10 or more minutes. Excluding troubles at PSAP and reroute successful with both ANI/ALI. -Any fault condition meeting FCC reportable criteria	Immediate	30 min-2 hrs	15 min
Major	Client is able to access the TCS system, or ancillary products, but is experiencing a partial loss of critical functionality due to software or network problems and has no acceptable work around.	15 min	4 hrs	30 min
Minor	Client is able to access TCS system, or ancillary products, but is experiencing a loss of non-critical functionality and has an acceptable work around.	30 min	8 hrs	60 min
Intermittent	Client has an informational request or questions of a general nature concerning the overall product suite functionality, or is experiencing an operator inconvenience.	4 hours	24 hrs	2 hours
Informational	ORT Testing, SMOP Events, non-customer impacting problems or informational types of trouble	N/A	N/A	N/A

Table 10: Restoration and Resolution Timeframes

2. All originating service providers in the NCR are directly connected via SS7 to the Respondent's two LNGs that are dedicated to the NCR. Each LNG consistently



processes about 10,000 calls per day, but each is capable of processing in excess of 100,000 calls per day. On Monday at 12:17 A.M., one of the LNGs experiences a catastrophic failure and is unable to process any calls. In a review of Monday's logs, it is found that the surviving LNG processed only 14,000 calls.

Response to hypothetical scenario:

AT&T Response:

AT&T would designate this as a Severity 1 (service impacting) issue.

AT&T actions would be as follows.

Restoration and Resolution Timeframes

AT&T and its subcontractors will apply immediate and sustained effort, 7x24, until a final resolution is in place. All reasonable efforts will be made to provide a temporary workaround within two (2) hours and permanent resolution with a target of twenty-four (24) hours of the issue being detected.

Severity Code	Description	Response Time	Customer Resolution Time	Status
Critical*	Any outage or condition that results in: - Loss of 911 call processing - End office or Remote Switch isolation from 911 network for 10 or more minutes - Loss of end office to 911 tandem circuits - Loss of ANI / ALI to a PSAP for 15 or more minutes (excludes CPE or customer PSAP issues) - PSAP isolation for 10 or more minutes. Excluding troubles at PSAP and reroute successful with both ANI/ALI. - Any fault condition meeting FCC reportable criteria	Immediate	30 min-2 hrs	15 min
Major	Client is able to access the TCS system, or ancillary products, but is experiencing a partial loss of critical functionality due to software or network problems and has no acceptable work around.	15 min	4 hrs	30 min
Minor	Client is able to access TCS system, or ancillary products, but is experiencing a loss of non-critical functionality and has an acceptable work around.	30 min	8 hrs	60 min
Intermittent	Client has an informational request or questions of a general nature concerning the overall product suite functionality, or is experiencing an operator inconvenience.	4 hours	24 hrs	2 hours
Informational	ORT Testing, SMOP Events, non-customer impacting problems or informational types of trouble	N/A	N/A	N/A

Table 11. Restoration and Resolution Timeframes



Root Cause Analysis Report

A Root Cause Analysis (RCA) for Severity Level 1 or 2 service disruptions will be available within eight (8) Business Days following the resolution of a Severity Level 1 or 2 Service Disruption outlining the conditions that caused the trouble, the corrective action taken, and any corrective action plans to prevent future occurrences of the trouble. This report will include the following:

- Date/Time of the start of the service disruption.
- Date/Time of service restoration.
- Date/Time of service resolution.
- Date/Time service disruption was detected.
- Associated Ticket Number (s)
- Number of NCR customers impacted.
- Actual number of calls impacted.
- Functionality lost during the service disruption.
- Corrective action(s) (completed and future as applicable).
- City(ies) and state(s) where failed equipment is located.
- City(ies) and/or county(ies) and state(s) impacted, as applicable.

Severity Code	Description	Response Time	Customer Resolution Time	Status
Critical*	Any outage or condition that results in: - Loss of 911 call processing - End office or Remote Switch isolation from 911 network for 10 or more minutes -Loss of end office to 911 tandem circuits -Loss of ANI / ALI to a PSAP for 15 or more minutes (excludes CPE or customer PSAP issues) -PSAP isolation for 10 or more minutes. Excluding troubles at PSAP and reroute successful with both ANI/ALI. -Any fault condition meeting FCC reportable criteria	Immediate	30 min-2 hrs	15 min
Major	Client is able to access the TCS system, or ancillary products, but is experiencing a partial loss of critical functionality due to software or network problems and has no acceptable work around.	15 min	4 hrs	30 min



Severity Code	Description	Response Time	Customer Resolution Time	Status
Minor	Client is able to access TCS system, or ancillary products, but is experiencing a loss of non-critical functionality and has an acceptable work around.	30 min	8 hrs	60 min
Intermittent	Client has an informational request or questions of a general nature concerning the overall product suite functionality, or is experiencing an operator inconvenience.	4 hours	24 hrs	2 hours
Informational	ORT Testing, SMOP Events, non-customer impacting problems or informational types of trouble	N/A	N/A	N/A

Table 12. Restoration and Resolution Timeframes

- As part of normal data maintenance procedures, an NCR jurisdiction has uploaded six minor recent changes to its road centerline data. The Respondent's SI's QA/QC process provides a discrepancy report detailing 15,000 errors resulting from the updated file. The NCR GIS professional is confused and concerned that they've impacted live call routing.

Response to hypothetical scenario:

AT&T Response:

The AT&T SI is built to deal with this exact scenario. Specific features are built within the interface to detect and prevent ECRF updates for errors exceeding a certain tolerance level. These levels are based on the specific layer: street, fire, ESX, etc.

For the above scenario, call routing would never be affected, since the SI is designed to know when there is a problem and stops the changes from being committed to the ECRF.

4.10. NG9-1-1 CORE SERVICES (NGCS) ELEMENTS

Please see Sections 1.1(paragraph 1), 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, and 2.4 of the AT&T Emergency Service IP (ESInet) Service Guide.

Respondent shall provide a network or solution diagram that clearly depicts the Respondent's proposed transitional and end state for the ESInet and the NGCS, taking into account the jurisdictions listed in Attachment A. The diagram should depict the Option A scenario initially and then a second diagram should layer in Option B PSAPs. The following functional elements and services shall be included:

- Legacy Network Gateway (LNG)



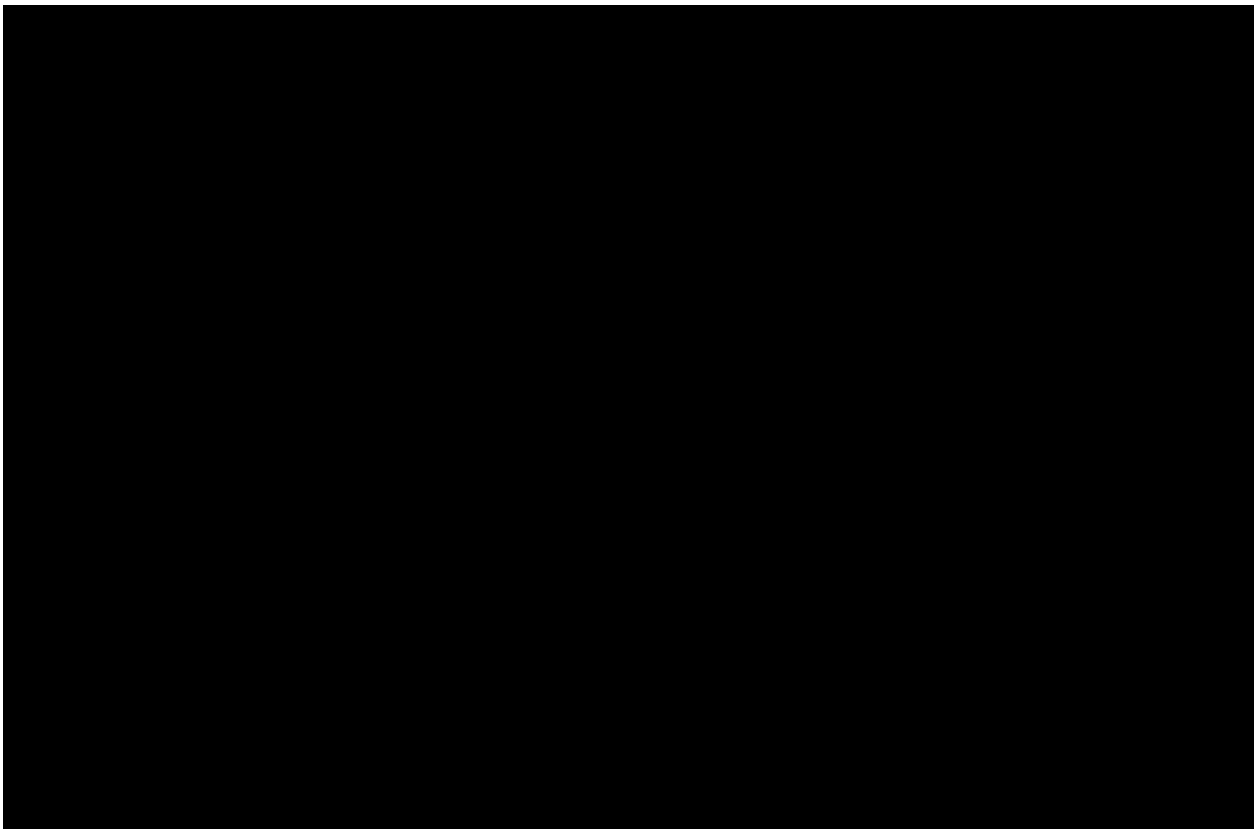
- Legacy PSAP Gateway (LPG)
- Border Control Function (BCF)
- Emergency Services Routing Proxy (ESRP)
- Policy Routing Function (PRF)
- Emergency Call Routing Function (ECRF)
- Location Validation Function (LVF)
- Spatial Interface (SI)
- Location Database (LDB)
- Discrepancy Reporting
- Logging and Recording
- Time Server

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:



AT&T Response:



The AT&T ESInet™™ provides an end-to-end network i3-capable 9-1-1 service, based on an IP infrastructure. The AT&T ESInet™™ includes redundant applications and systems operated and managed in regional data center facilities. The service includes points of interconnection for ingress 9-1-1 voice traffic from AT&T and third party networks and egress of 9-1-1 voice and data traffic. The figure above shows the representative architecture for the AT&T ESInet™™.



OSP Migration Approach – Phase 1

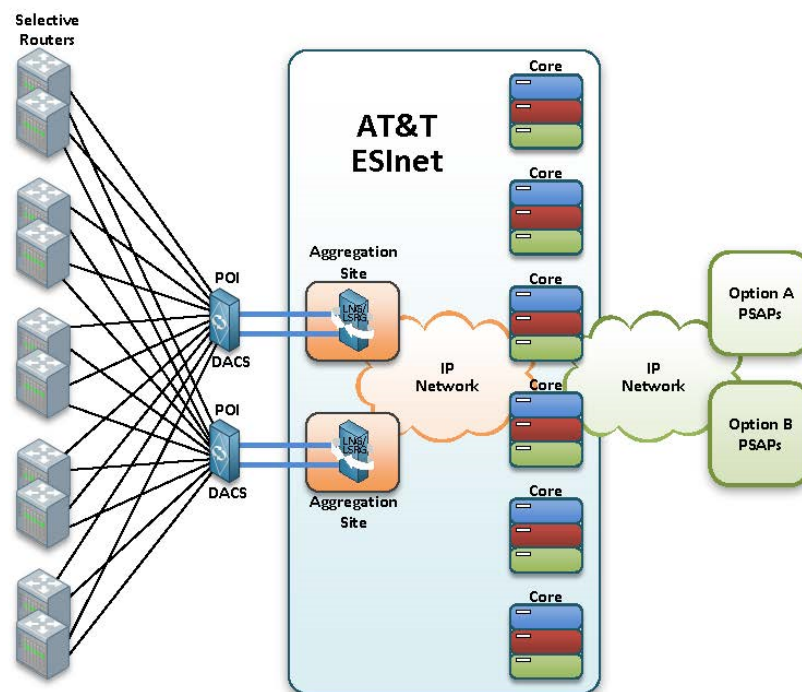


Figure 8. OSP Migration Approach – Phase 1

In Phase 1 of the AT&T ESInet™ implementation, the PSAPs begin receiving all calls from the ESInet via the IP network. Legacy selective router and network providers are directly connected to the ESInet and direct calls to the ESInet based on PSAP ESN.



OSP Migration Approach – Phase 2

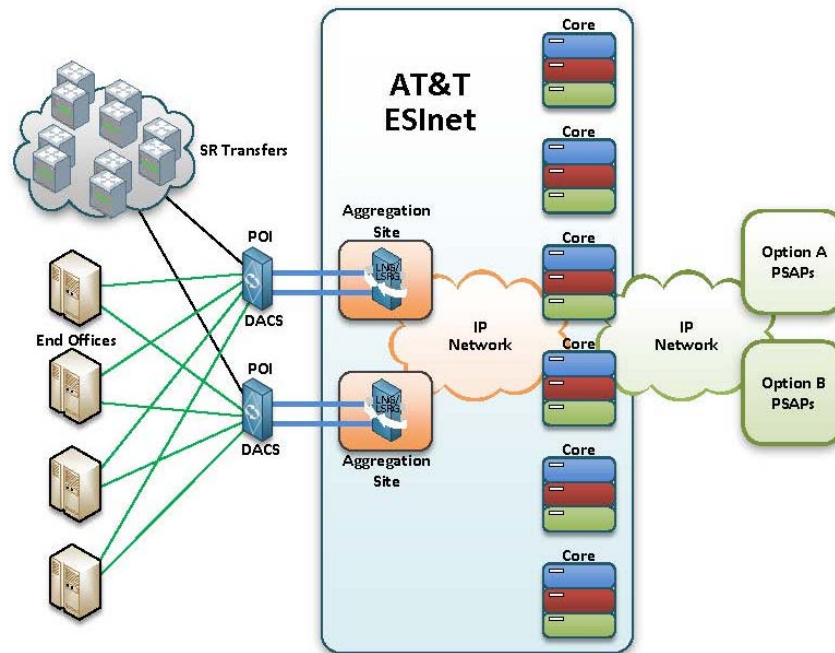


Figure 9: OSP Migration Approach – Phase 2

In Phase 2 of the AT&T ESInet™ implementation, the OSPs migrate to a direct connectivity model with the ESInet, bypassing the legacy selective routers and network providers. Connectivity to the legacy selective routers and network providers is maintained only to support ingress and egress call transfers.

Response from Oral Presentation Dated March 17, 2017

Q8. The NCR seeks to deploy NGCS with geospatial call routing on Day 1. Please describe the methodology in which wireless and nomadic VoIP calls could be geospatially routed given the current limitations of carriers delivering location at the time of call delivery

AT&T Response:

The AT&T ESInet™ solution supports the NENA i3 protocols. This allows for all carriers to provide location information at the time of the call in the proper i3 format which would include either CIVIC address and/or Latitude and longitude. In the end state i3 vision, this responsibility lies solely on the OSP to pre-validate their addressing with the AT&T

provided LVF and then sending that information to the ESInet core Services platform during the time of the call. Until the carriers are ready to do that, the AT&T ESInet™ will use transitional services to query the appropriate carrier location databases (MPC/VPC) for location information. In the wireless environment the phase 2 location is acquired from outside equipment and therefore the wireless calls will route based on phase 1 information using the ESRK as a routing key. For VoIP, if the information is already available in the location database of the carrier, the actual location information of the caller will be used to route the call.

As an optional additional service AT&T can provide Enhanced Wireless routing. This service, in essence, will pre bid the MPC of the wireless prior to the routing of a call. This solution will add a configurable amount of time prior to routing (typically 2 or 3 rings cycles) to use legacy means to bid the carriers location system for a latitude and longitude. If the Lat/Long is provided within the designated timeframe, the AT&T ESInet™ will plot that Lat/Long within the ECRF which will allow for routing based on the actual location of the caller, rather than "PSAP" based phase 1 location.

Response from Negotiation Issues dated April 18, 2017

19. Please confirm that the MSAG Conversion Service is included in the proposed fees and that no additional fees are required for data analysts to correct discrepancies in the tabular MSAG when compared to the authoritative GIS dataset.

AT&T Response:

The AT&T ESInet™ service includes an initial set of GIS services to assist Fairfax County with importing of their GIS data set. AT&T will work with Fairfax during implementation to provide GIS data import services to generate a report listing any discrepancies between the Master Street Address Guide (MSAG) and GIS data sets. Fairfax County will ultimately be responsible for remediation of data issues necessary to create the authoritative GIS dataset. AT&T recommends following the NENA i3 guideline to achieve a 98% match rate between MSAG and GIS data prior to production cutover.

Alternatively, Fairfax County can elect to purchase the optional NG9-1-1 Transitional Data Management service (see Attachment 2 Appendix D) and AT&T data analysts can assist in creating the initial GIS authoritative data set. The GIS – NG9-1-1 Transitional Data Management Service includes a GeoMSAG Replacement Service with an initial Customer GIS data load, GIS to MSAG and GIS to ALI data match rate verification and GIS validation report, tabular MSAG replacement, and initial geocoding of ALI records.

The NG9-1-1 Transitional Data Management also includes on-going MSAG Conversion Services:



- [GIS to ALI Synchronization – 9-1-1 address validation and management against Customer’s GIS data. GIS data becomes the master data set and tabular MSAGs are derived from the GIS data.](#)
- [Geocoding – ongoing geocoding of ALI database records based on GIS data.](#)

[This service requires certain roles and responsibilities by the respective PSAP or 9-1-1 Authority providing data and using the service. Please reference the attached “AT&T ESInet™ GIS Data Roles and Expectations” .pdf document that is provided with the service.](#)



4.10.1. Legacy Network Gateway (LNG)

1. The LNG is a signaling and media interconnection point between callers in legacy call- originating networks (E9-1-1) and the NENA NG9-1-1 i3 architecture. The LNG shall log all calls it receives and processes and shall permit the uploading of daily log files to a network monitoring and management system for analysis. The LNG shall allow for ad hoc uploads of log files for troubleshooting and incident response. All call activity on both the legacy side (Time-Division Multiplexing, or TDM) and the IP side of the LNG shall be logged. The LNG shall have intrusion detection system (IDS)/intrusion prevention system (IPS) functionality to detect and mitigate distributed denial of service (DDoS) attacks from both the TDM side and the IP side.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The LNG collects full detail on all calls received on TDM interfaces and transmitted to upstream IP interfaces. LNG call detail is transmitted real time to the AT&T ESInet™ management system for reporting and analysis. This system allows for ad hoc uploads of log files for troubleshooting and incident response.



The AT&T ESInet™ is built to withstand sophisticated attacks, including DDoS. AT&T's security architecture employs defenses that include, but are not limited to, stateful packet inspection firewalls, IDS/IPS, multi-factor authentication, strong encryption, anti-virus/anti-malware, and vulnerability/patch management solutions. All inter-zone traffic is restricted to only necessary protocols/destinations, for both ingress and egress.

The network is capable of processing all traffic, but administratively denies protocols identified as a threat, or that otherwise fall outside of pre-defined parameters. This is partially managed via routing tables and/or Access Control Lists (ACLs). AT&T continually investigates and upgrades new advances in protective technology with tools such as Intrusion Detection Systems (IDS).

The solution incorporates physical, network, and application security principals. Traffic between Core processing sites and distributed sites, such as LNGs, is route and protocol-secure. A combination of route paths, IP address recognition, limited protocols, VPNs, session border controllers, and firewalls secure the various communication elements of the proposed solution.

2. The LNG shall provide the capability to obtain location information in order to define, create, populate and send the correct PIDF-LO parameter to the correct ESRP or terminating PSAP.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The AT&T ESInet™ solution complies with NENA 08-003 which itself is based upon IETF RFCs such as SIP (RFC 3261), HELD (RFC 5985/6155), PIDF-LO (RFC 4119 and successive updates), and IETF ECRIT best practices documents and ANSI standards.

The ESRP processes ingress calls received using Session Initiation Protocol (SIP) signaling with location embedded in the PIDF-LO from i3 compliant carrier networks, from legacy carriers, or selective routers via the LNG/LSRG or from an upstream i3-compliant ESInet.

The HELD interface into the AT&T ESInet™ Location Database (LDB) is leveraged by the LNG to retrieve PIDF-LO, either by value or reference, to be delivered to the PSAP within





the SIP messaging. The HELD interface is also presented to the PSAP CPE to provide dereferencing services and/or provide location updates for wireless calls.

3. The LNG shall obtain location information and create the correct Presence Information Data Format Location Object (PIDF-LO) message to pass on to the ESRP, as described within NENA 08-003.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The AT&T ESInet™ solution complies with NENA 08-003 which itself is based upon IETF RFCs such as SIP (RFC 3261), HELD (RFC 5985/6155), PIDF-LO (RFC 4119 and successive updates), and IETF ECRIT best practices documents and ANSI standards.

The ESRP processes ingress calls received using Session Initiation Protocol (SIP) signaling with location embedded in the PIDF-LO from i3 compliant carrier networks, from legacy carriers, or selective routers via the LNG/LSRG or from an upstream i3 compliant ESInet.

4. The LNG shall convert all incoming 9-1-1 calls to Session Initiation Protocol (SIP) calls in accordance with the SIP requirements of NENA 08-003. Any Respondent variations and/or non-compliance with the SIP requirements of NENA 08-003 must be identified and noted.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:



AT&T Response:

The AT&T ESInet™ Solution converts all incoming 9-1-1 calls to SIP in accordance with SIP requirements of NENA 08-003. Additionally, the solution supports both i3 SIP as identified in NENA standards 08-003, RFAI SIP as ATIS-compliant, and conversion to CAMA at the PSAP's location for PSAPs with CPE that is not yet SIP-compliant. In this way, the AT&T ESInet™ Solution provides full transition support from the PSAP's current state to full NENA i3 compliancy.

5. The LNG external interfaces shall comply with respective NENA requirements.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The Service supports TDM SS7 calls from Originating Service Providers (OSP) as the standard ingress signaling configuration. Other signaling options such as PRI and CAMA can be supported upon request.

The ESInet standard interfaces supported are listed below.

- 9-1-1 Call Signaling Type
- SS7 Wireline/NCAS (10 digits)
- PRI/NI-2 (wireline, NCAS)
- Analog CAMA I+7 (I always = 0)
- DS1 CAMA I+7 (I always = 0)
- DS1 CAMA 7 (No I digit)

6. The LNG shall support obtaining the callback number associated with any pseudo ANI data that does not include the callback number. This may require the Contractor to obtain the callback number from the wireless or Voice over Internet Protocol (VoIP) provider, and may include additional recurring and non-recurring costs that are independent of this RFP. The Contractor shall be responsible for all recurring and non-recurring costs associated with this requirement.





- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

AT&T will provide the jurisdiction with a list of all 9-1-1 calls that could not be delivered to a PSAP (i.e., failed calls). The list shall contain:

- PSAP for call destination (if determinable)
- ANI/pANI
- Call Back (wireless/VoIP) Number
- Carrier (from which the call originated)
- Start time of call MM/DD/YYYY, hh.mm.ss.s PTZ
- End time of call MM/DD/YYYY, hh.mm.ss.s PTZ

Lists shall be provided in a format that can be sorted based on

- County
- PSAP
- Carrier

7. The LNG must facilitate logging of all significant events and 9-1-1 calls received and processed. Each call log shall contain all relevant parameters defined in Section 5.11.3 of NENA 08-003.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:



AT&T Response:

The LNG facilitates logging of all significant events and 9-1-1 calls received and processed. Each call log shall contains all relevant parameters as defined in Section 5.12.1.1 of NENA 08-003.

8. All LNG logs files shall be capable of being extracted in near real-time, and shall be in a format suitable for importing into a spreadsheet or word processing program.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

LNG log files are capable of being extracted in near real-time and are available in a format suitable for importing into a spreadsheet or word processing program.

9. The LNG solution must be deployed with the resiliency and redundancy to provide a minimum of 99.999 percent availability.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The AT&T ESInet™ achieves 99.999% service availability 24x7x365 for call processing and has no single point of failure that will disrupt the ability to provide on-going call processing. All functions necessary for call processing are deployed in a highly available configuration and duplicated across Core sites and LNGs. Transactions or call traffic divert to available components on failure or degradation of Service of a given functional



component or a loss of a physical site. IP transport paths for critical service components are redundant and designed for multipath IP packet delivery so the failure of a given IP transport mechanism does not affect overall service availability.

The AT&T ESInet™ components are designed and configured for continuous operation. AT&T ESInet™ availability is calculated from the time an outage begins that impacts call processing ability, until such time that the AT&T ESInet™ call processing ability is restored.

All network routing infrastructure is designed and deployed in an N+1 model. N+1 redundancy provides a minimum of one additional unit, module, path, or system in addition to the minimum required to satisfy the base connectivity, ensuring that a failure of any single component at a given diverse site, such as an LNG, will not render the location inoperative. All network connectivity is established via dynamic routing protocols. The use of dynamic routing protocols allows the routers to automatically discover each connected network and adapt to changes in the network topology.

10. The Legacy Selective Router Gateway (LSRG) shall support star code transfers made by legacy PSAPs for calls destined for NCR PSAPs or to neighboring legacy PSAPs outside of the Contractor's ESInet.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

Two or three digit star codes are supported for ESN based routing with AT&T's IP Selective Routing option. The AT&T ESInet™ supports star code transfers made by legacy PSAPs for calls destined for PSAPs on the ESInet or to neighboring legacy PSAPs outside of the ESInet.

A call taker can use a single button on the call taker's display to complete either a transfer or three-way conference. They can transfer an incoming 9-1-1 call to another agency by pressing a button labeled with the type of agency; for example "Fire"-on the PSAP premises equipment. These transfers utilize pre-provisioned codes on a per-PSAP basis.



While star codes are not required for i3 routing, the AT&T ESInet™ can support star codes (2- or 3-digit) for i3 routing upon request for an additional charge.

11. Respondent shall describe how its LNG solution provides for Legacy Selective Router Gateway (LSRG) functionality.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The LNG and LSRG are signaling and media interconnection points between callers in the legacy originating networks and AT&T ESInet™. The LNG converts calls from TDM to SIP signaling for ingress to the ESInet. The LSRG converts calls from SIP to TDM signaling for egress from the ESInet to the Legacy Selective Routers.

The LSRG provides an interface between a 9-1-1 selective router and the ESInet, enabling calls to be routed and/or transferred and/or handed-off between legacy and AT&T's next generation emergency network. A call hand-off may be required when the ESInet receives a call that it deems should be rerouted to a legacy foreign selective router.

12. Respondent shall provide the proposed locations for hosting the primary LNGs for serving the NCR, including the data center tier level for the host sites.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:



AT&T Response:

AT&T provides regional and redundant Aggregation Sites in AT&T Central Office locations driven by customer demand. AT&T would plan to build one (1) new Aggregation Site within a 50 mile radius of the NCR footprint. Legacy Network Gateways, and other Network equipment reside in these Aggregation Site locations and convert Local Legacy TDM 9-1-1 calls to IP.

AT&T Data Center locations with Core Processing Node equipment are regionally located, and geographically separated within our current 21 state footprint. These six core Data Center processing systems are all redundant and reside in AT&T strategic Tier IV facilities located in the West, Southwest, Southeast and Midwest regions.

4.10.2. Legacy PSAP Gateway (LPG)

1. The LPG is a signaling and media interconnection point between legacy PSAP customer premises equipment (CPE) and the NGCS. The LPG allows for the transfer of calls from the ESInet to a PSAP that may not have upgraded its CPE to an i3-capable call-handling system. The LPG also allows the legacy PSAP to transfer or alternately route legacy TDM calls to another PSAP on the ESInet.

The LPG shall log all calls it receives and processes, and shall permit the uploading of daily log files to a network monitoring and management system for analysis. The LPG shall allow for ad hoc uploads of log files for troubleshooting and incident response in real-time or near real-time. All call activity on both the legacy (TDM) side and the IP side of the LPG shall be logged. The LPG shall have IDS/IPS functionality to detect and mitigate DDoS attacks from the IP side.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The LPG logs all calls it receives and processes and permits the uploading of daily log files to a network monitoring and management system for analysis.



The AT&T ESInet™ supports LPG functions. A customer management portal is available for PSAP administrators to view end-to-end CDRs in real time. CDRs include the start time of the call as it enters the ESInet, answer time, end time, digits for ANI and any errors encountered.

Additionally; i3 logs from all ESInet i3 components will be available and per the NENA STA-010.2 specification, AT&T will support near real-time log delivery and web service interfaces for log retrieval from authorized clients.

The AT&T ESInet™ is built to withstand sophisticated attacks, including DDoS. AT&T's security architecture employs defenses that include, but are not limited to, stateful packet inspection firewalls, IDS/IPS, multi-factor authentication, strong encryption, anti-virus/anti-malware, and vulnerability/patch management solutions. All inter-zone traffic is restricted to only the necessary protocols/destinations, both ingress and egress.

The network is capable of processing all traffic, but administratively denies protocols identified as a threat, or that otherwise fall outside of pre-defined parameters. This is partially managed via routing tables and/or Access Control Lists (ACLs). AT&T continually investigates and upgrades with new advances in protective technology with tools such as Intrusion Detection System (IDS).

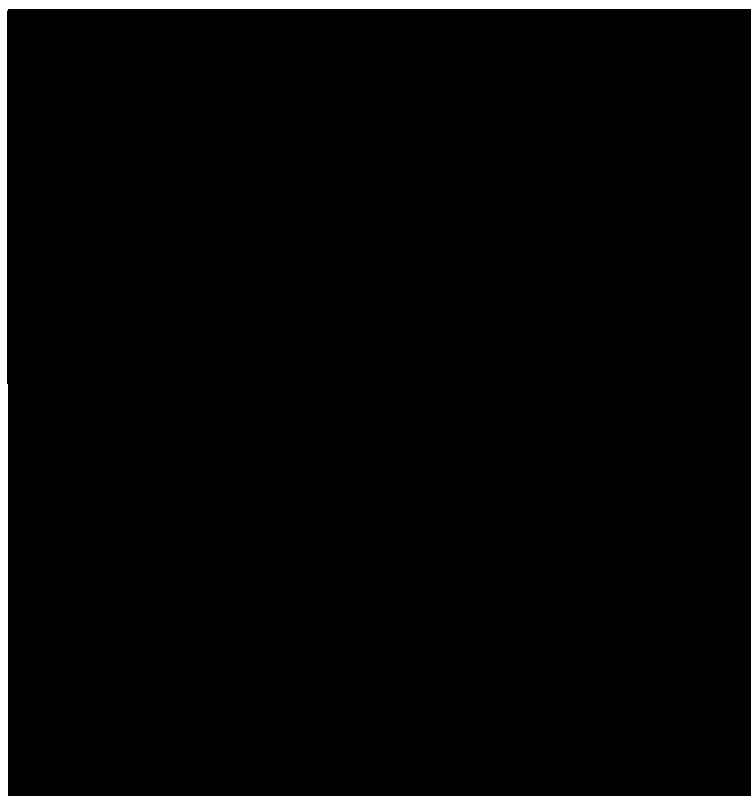
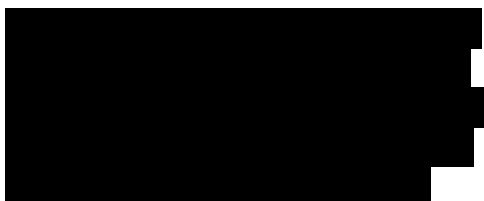
The solution incorporates physical, network, and application security principals. Traffic between Core processing sites and PSAPs is route- and protocol-secure. A combination of route paths, IP address recognition, limited protocols, VPNs, session border controllers, and firewalls secure the various communication elements of the proposed solution.

2. The LPG solution must be deployed with the resiliency and redundancy to provide a minimum of 99.999 percent availability.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:



AT&T Response:

3. The LPG shall support a SIP interface toward the ESInet, as defined within NENA 08-003.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The AT&T ESInet™ LPG supports a SIP interface toward the ESInet in accordance with the requirements of NENA 08-003.

4. The LPG shall support both CAMA and ALI interfaces toward the PSAP CPE that are compliant with the requirements of NENA 08-003.



- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The AT&T LPG supports both CAMA and ALI interfaces toward the PSAP CPE that are compliant with the requirements of NENA 08-003.

5. The LPG shall convert outbound call transfers to SIP in accordance with the requirements of NENA 08-003.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The LPG will convert all incoming 9-1-1 calls to the PSAP to SIP in accordance with the requirements of NENA 08-003.

6. The LPG shall support star codes as defined in NENA 08-003, with the exception that the star codes may be up to three digits in length.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:



AT&T Response:

The LPG supports two and three digit star codes.

7. The LPG must facilitate logging of all significant events and 9-1-1 calls received and processed. Each call log shall contain all relevant parameters given in Section 5.11.3 of NENA 08-003.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The LPG facilitates logging of all significant events and 9-1-1 calls received and processed. Each call log will contain all relevant parameters as defined in Section 5.12.1.1 of NENA 08-003.

4.10.3. Border Control Function (BCF)

1. The BCF shall provide logical network security functions between external networks and the ESInet, and between the ESInet and NCR agency networks. The BCF is responsible for numerous functions, including the following:
 - Border firewall
 - VPN
 - IDS/IPS
 - Session Border Control (SBC)
 - Opening and closing of pinholes
 - Limiting access to critical components through the use of VLANs
 - Call admission control
 - Transcoding
 - Signaling protocol normalization and interworking
 - Network Address Translation (NAT)



- Codec negotiation
- Support for QoS and priority markings
- Media proxy

The Respondent shall provide details, including drawings depicting how its proposed BCF meets or exceeds all functions listed above and the requirements described in NENA 08003, as well as additional firewall requirements described in NENA 04-503 and NENA 75001, or the next subsequent version of the NENA documents listed that are publically available at the proposal release date.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

As part of the AT&T ESInet™ solution, AT&T provides a Border Control Function to interface with any non-trusted network components. AT&T's (BCF) provides session border control and border firewall functionality in accordance with the National Emergency Number Association (NENA) 08-003 specification. The BCF inspects, modifies and controls SIP signaling and associated media where Emergency Services IP Networks (ESInet) and agency networks interconnect and where the ESInet connects with service provider networks. The BCF mitigates security threats, resolves interoperability problems, and ensures reliable SIP-based communications. It is designed to protect and control real-time voice, video, and text NG9-1-1 sessions as they traverse IP networks between callers and Public Safety Answering Points (PSAPs).

The core functionality provided by the ESInet BCF under this proposed solution is in alignment with the requirements of the NENA i3 document 08-003. Highlights of the key functions provided are:

- Border Firewall.
- Session Border Control functions.
- Media Anchoring
- Stateful Network Firewall (as described in NENA 08-003 and 04-503)



- VPN
- IDS
- Limiting access to critical components through the use of VLANs
- Call admission control
- Signaling protocol interworking
- NAT
- Support for QoS and priority markings
- Media proxy
- Codec negotiation
- XML Gateway (Authentication and Authorization of XML transactions to the LIS, ADR, and ECRF in lieu of establishment of the PSAP Credentialing Agency (PCA) as described in NENA STA-010.2

Each core emergency call processing site includes border control and security functions including firewalls, intrusion detection systems, and intrusion protection systems. Security management personnel specialize in managing and operating these facilities and validate their operation.

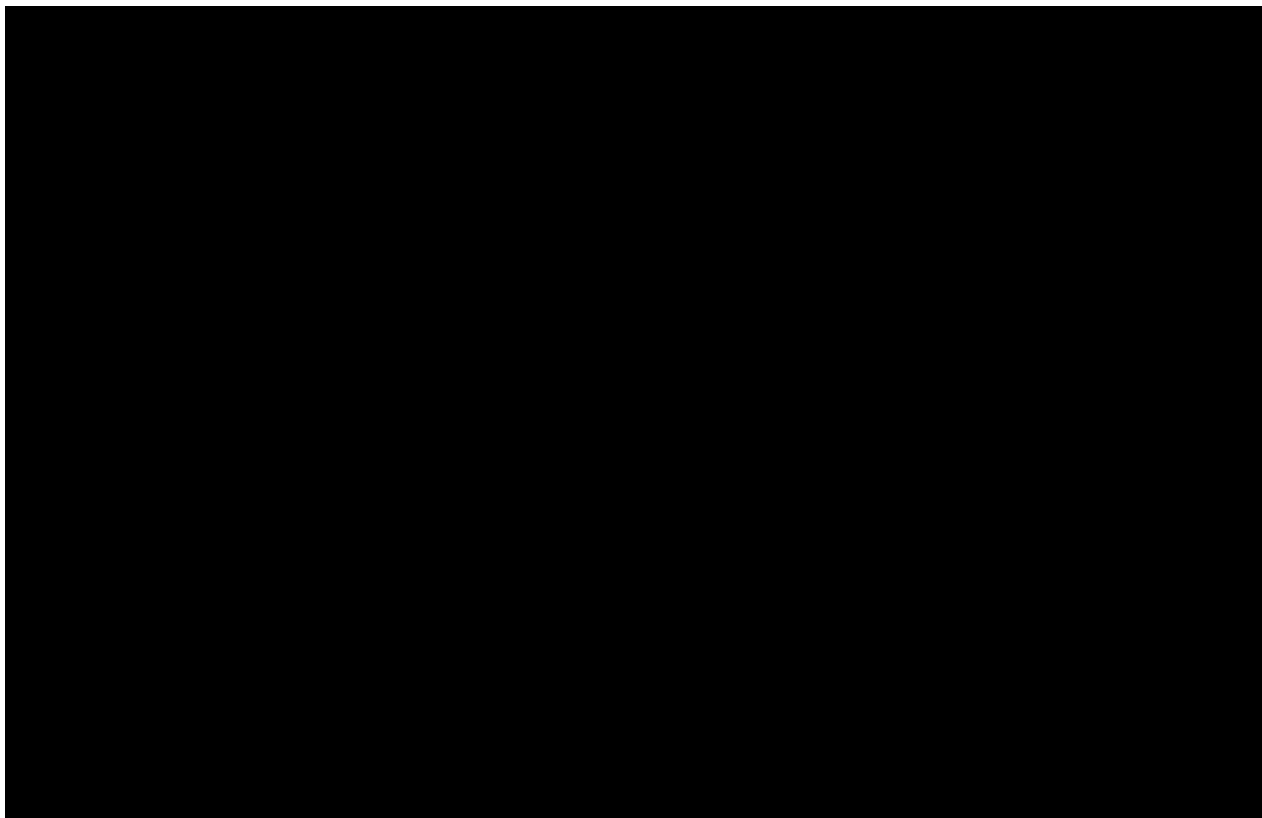
AT&T's security architecture employs defenses that include, but are not limited to, stateful packet inspection firewalls, IDS/IPS, multi-factor authentication, strong encryption, anti-virus/anti-malware, and vulnerability/patch management solutions. All inter-zone traffic is restricted to only the necessary protocols/destinations, for both ingress and egress.

The network is capable of processing all traffic, but administratively denies protocols identified as a threat, or that otherwise fall outside of pre-defined parameters. This is partially managed via routing tables and/or Access Control Lists (ACLs). AT&T continually investigates and upgrades with new advances in protective technology with tools such as Intrusion Detection System (IDS).

The solution incorporates physical, network, and application security principals. Traffic between Core emergency call processing sites and distributed sites (e.g., ingress call traffic, PSAPs, management capabilities) is route- and protocol-secure. A combination of route paths, IP address recognition, limited protocols, VPNs, session border controllers, and firewalls secures the various communication elements of the proposed solution.

The following diagram depicts how the ESInet BCF is deployed.





While the AT&T ESInet™ complies with the vast majority of the NG-SEC standard (75-001), there are a few items where the recommendation is not implemented due to feasibility and enforceability. Specifically, those items include;

- “Minimum password age shall be 3 days or greater”
Windows Active Directory account password age is 1 day.
- “Maximum password age requirement 60 days or less”
Requirement exceeded with compensating controls such as two-factor authentication and account lockout after successive failed attempts.
- “Passwords should not contain sequences of three (3) or more characters from the user's login ID or the system name.”
This requirement is not enforceable on all systems.
- “Passwords should not contain sequences of three (3) or more characters from previous chosen or given passwords.”
This requirement is not enforceable on all systems.
- “Passwords should not contain a sequence of two (2) or more characters more than once, e.g., a12x12.”
This requirement is not enforceable on all systems.



- “When Passphrases are used they shall not use repeating words, or sequential characters or numbers.”
This requirement is not enforceable on all systems.
- “Does the software scan all files when opened and/or executed (including files on network shares)?”
Performance impact makes this currently not a feasible requirement.
- “User access to devices supporting multiple virtual networks should utilize an industry standard authentication and access control protocol such as TACACS or RADIUS.”
Local authentication must be available as a fallback for cases that the remote authentication server is inaccessible.
- “Media Access Control (MAC) address filters are enabled and MAC Filter List is reviewed at least monthly and immediately after a machine is retired from the network?”
MAC Filter List is reviewed on an as-needed basis.

2. The BCF solution shall be deployed in a manner to achieve 99.999 percent availability.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

Each of the six AT&T Core sites have redundant BCFs. The redundant BCF design and the overall six-Core architecture of the AT&T ESInet™ solution allows for availability to meet or exceed 99.999%.

3. Management of the BCF shall include auditing of system log files for anomalies, and processes for responding to and managing security incidents.

- ☒ Complies
- ☐ Complies Partially



☐ Complies with Future Capability

☐ Does Not Comply

Details to support the answer:

AT&T Response:

AT&T monitors and audits all aspects of the network for threats from a variety of sources. Net flow statistics and packet level capture and forensics are continuously performed. This capability assists in troubleshooting and anomaly resolution as well as providing assurance of reliable performance.

4. The BCF must be capable of: detecting when silence suppression is present in the 9-1-1 call; continuing to use silent suppression if detected; and not enabling silence suppression if it is not detected in the call.

☐ Complies

☒ Complies Partially

☐ Complies with Future Capability

☐ Does Not Comply

Details to support the answer:

AT&T Response:

Typically for 9-1-1 calls, an industry best practice is to preserve as much call detail as possible. Techniques such as voice activity detection (VAD) may not be sensitive enough to activate during low audio activity, and important background sounds may be missed. Additionally, some voice detection algorithms may not react in an expedient manner and may cut off the beginning of a word.

The following comment is from NENA TID 08-501 in reference to silence suppression: "However, these techniques may not be appropriate for emergency calls in which "background noise" can be an important part of the call (both for the call taker and for logging recording purposes)."

To that end the AT&T ESInet™ does not enable silence suppression for any calls that use the AT&T service. Currently, when the AT&T ESInet™ receives an emergency call with silence suppression requested, the ingress BCF answers with silence suppression disabled. Since we don't know if silence suppression was active or inactive for the



upstream links, disabling silence suppression on the link into the AT&T ESInet™ prevents us from potentially being the only link with silence suppression active and dropping potentially important low-level background sounds.

5. The BCF shall mediate all incoming 9-1-1 calls from VoIP providers to SIP calls in accordance with NENA 08-003. Any specific variations or non-compliance with this requirement must be identified and documented.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The AT&T ESInet™ BCF mediates all incoming 9-1-1 calls from VoIP providers to SIP calls in accordance with NENA 08-003 and the ATIS 0700015 standards. The AT&T ESInet™ ingress specification that supports these standards is the *AT&T Originating Service Provider (OSP) Network SIP Interconnection Specification v1.4*, attached as Annex E.

The AT&T ESInet™ specification is not only compliant with the NENA and ATIS standards, but also supports a transitional approach to accommodate the period until OSPs conform to the prerequisites identified in these standards. This transitional option is referred to as Selective Router Interface using SIP and it emulates SS7.

The OSP Network SIP Interconnection option accepts emergency ingress calls to the ESInet via the BCF using SIP and then processes the call according to the routing logic determined by the 9-1-1 Public Safety Authority. Calls are routed either in conformance with the i3 specification or by equivalent legacy Selective Router logic.

Calls from i3 compliant OSP networks interact with the ESRP and are processed in conformance with the i3 specification. Ingress SIP calls may only include the TN or pANI (ESRK or ESQK), or may include Location by Value or Location by Reference. The AT&T ESInet™ will process these calls accordingly.

6. The BCF must provide the functionality to maintain logs of all 9-1-1 sessions and all additional BCF logging and recording requirements, as specified in NENA 08-003.

- ☒ Complies



- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The BCF maintains logs of all 9-1-1 sessions and all additional BCF logging and recording requirements, as specified in NENA 08-003.

A customer management portal is available for PSAP administrators to view end-to-end CDRs in real time. CDRs include the start time of the call as it enters the ESInet, answer time, end time, digits for ANI and any errors encountered.

Additionally, i3 logs from all ESInet i3 components will be available per the NENA STA-010.2 specification. AT&T will support near real-time log delivery and web service interfaces for log retrieval from authorized clients.

7. The Contractor's BCF solution shall support transcoding of Baudot tones to real-time text, as described in IETF RFC 4103.

- ☐ Complies
- ☐ Complies Partially
- ☒ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

Support for transcoding Baudot tones to real-time text (RTT) is road mapped. AT&T is closely monitoring the ATIS standards, NENA standards, and FCC policies related to this capability. Once standards and market demand are solidified, AT&T will work closely with Originating Service Providers, ESInet functional component vendors, and PSAP CPE vendors to proactively support end-to-end interoperability.

8. The Respondent shall provide details on how its proposed SBC will recognize that a NAT or Network Address and Port Translation (NAPT) has been performed on Open



Systems Interconnection (OSI) Layer 3, but not above, and correct the signaling message for SIP.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The AT&T ESInet™ uses a set of Header Manipulation Rules (HMR) in the SBC to NAT SIP headers in the messages. When the SBC receives a message the rules are applied, and the IP addresses in the headers are changed to correspond to the egress SBC interface and network. When messages are returned to the ingress (caller side), the SBC will NAT the headers back to the original IP addresses that were used in the originating message.

9. The Respondent shall provide details on how its proposed SBC shall enable interworking between networks utilizing IPv4 and IPv6 through the use of dual stacks, selectable for each SBC interface, based on NENA 08-003. All valid IPv4 addresses and parameters shall be translated to/from the equivalent IPv6 values.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

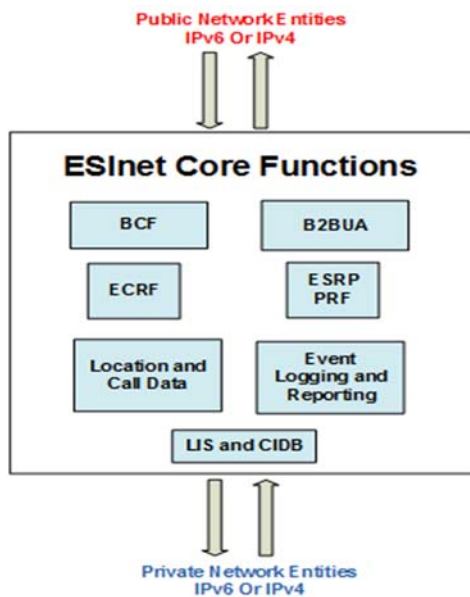
Details to support the answer:

AT&T Response:

The AT&T ESInet™ will provide either an IPv6 or IPv4 interface to external entities as desired for ingress to and egress from the service. IPv6 interfaces are supported according to NENA i3 standards.



All network equipment has the capability to utilize IPv4 and IPv6 addresses and is configurable to support dual stack operation. Whereas some components of internal



systems only support IPv4; this will not be a limitation for this solution. When an IPv6 external device sends a request packet to an internal IPv4 device, the ESInet Core strips down the IPv6 packet, removes the IPv6 header and adds the IPv4 header and passes it through. The reverse happens when the response comes back from the IPv4 device to the IPv6 device. The IPv4 network and IPv6 interfaces are continuously monitored for availability and performance.

This is accomplished with the use of a back-to-back user agent session border controller, rather than Network Address Translations (NATs). All devices within the network shall be assigned static addresses.

Figure 12. IPv4 and IPv6 Support Model

10. The Respondent shall provide details on how its proposed SBC shall support SIP over the following protocols: Transmission Control Protocol (TCP), User Datagram Protocol (UDP), Transport Layer Security over TCP (TLS-over-TCP), and Stream Control Transmission Protocol (SCTP). Protocols supported must be selectable for each SBC interface to external systems. These transport layer protocols are generated and terminated at each interface to external systems.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

AT&T uses Transmission Control Protocol (TCP) within the ESInet and highly recommends that PSAP call handling solutions support TCP. If the size of the SIP INVITE is within 200 bytes of the maximum transmission unit (MTU) of an Ethernet frame,



fragmentation is likely to occur. Fragmentation may have impacts ranging from call setup delays of unknown duration and quantity, to blocked or abandoned calls. In some instances, fragmentation has no discernible impact to the call. Packet fragmentation is not unexpected, and it can be handled appropriately with the use of Transmission Control Protocol (TCP). Another protocol, User Datagram Protocol (UDP), is commonly used in VoIP implementations. This protocol differs from TCP, and its mechanisms for handling packet fragmentation are weaker.

While AT&T's ESInet solution can support both UDP and TCP, AT&T recommends that TCP be used. This recommendation is based upon the packet size experienced within AT&T's ESInet solution, the anticipated growth of such packet sizes with forward-looking NG9-1-1 message sets, and applicable standards including the NENA i3 specification and IETF RFC 3261.

Transport Layer Security over TCP (TLS-over-TCP), and Stream Control Transmission Protocol (SCTP) are supported and selectable for each SBC interface to external systems.

11. The Respondent shall provide details on how its proposed SBC shall be capable of populating the Layer 3 headers, based on call/session type (e.g., 9-1-1 calls) in order to facilitate priority routing of the packets.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

Details on how the AT&T ESInet™ SBC populates the Layer 3 headers, based on call/session type (e.g., 9-1-1 calls) in order to facilitate priority routing of the packets is outlined in the *AT&T ESInet™ Originating Service Provider (OSP) Network SIP Interconnection Specification v1.4* attached as Annex E.

12. The Respondent shall provide details on how its proposed SBC supports encryption for calls that are not protected entering the ESInet, based on NENA 08-003.

- ☒ Complies
- ☐ Complies Partially



- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

AT&T provides a Border Control Function for encryption and interface with any non-trusted network components. AT&T's Border Control Function (BCF) provides session border control and border firewall functionality in accordance with the National Emergency Number Association (NENA) 08-003 specification. The BCF inspects, modifies and controls SIP signaling and associated media where Emergency Services IP Networks (ESInet) and agency networks interconnect and where the ESInet connects with service provider networks.

The solution for border control functions includes both security functions for the ESInet as well as the applications that ride the ESInet which include but are not limited to the SIP traffic on the ESInet.

AT&T employs encryption-in-transit where possible on networks not under direct AT&T control. Encryption is achieved either using SSL/TLS or IPSEC VPN. AT&T does not encrypt data-at-rest at the database level; as a compensating control, database servers are hardened at the operating system and application level and employ Principle of Least Privilege when assigning access for users and applications to database tables. Tunnels are encrypted for security with IPSEC tunnel protection.

13. Respondent shall describe the functionality of the proposed BCF solution in sufficient detail to address the requirements outlined, with particular attention to the user interface and features, and the security aspects.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:



AT&T Response:

The BCF inspects, modifies, and controls SIP signaling and associated media where Emergency Services IP Networks (ESInet) and agency networks interconnect and where the ESInet connects with service provider networks. The BCF mitigates security threats, resolves interoperability problems and ensures reliable SIP-based communications. It is designed to protect and control real-time voice, video, and text sessions as they traverse IP networks between callers and Public Safety Answering Points (PSAPs).

BCFs are included in the solution and interface to external components traversing through redundant BCF components. Each of the six AT&T Core sites will have redundant BCFs. The redundant BCF components are market leading products that provide high reliability and high availability. The BCFs work so that only authorized traffic to authorized end points are allowed. The redundant BCF design and the overall 6-Core architecture of the AT&T ESInet™ solution allows for availability to meet or exceed 99.999%.

As part of the AT&T ESInet™ solution, AT&T provides a Border Control Function to interface with any non-trusted network components. AT&T's Border Control Function provides session border control and border firewall functionality in accordance with the National Emergency Number Association (NENA) 08-003 specification. Customer access to the BCF is provided via the Customer Management Portal allowing for review of real-time CDR data.

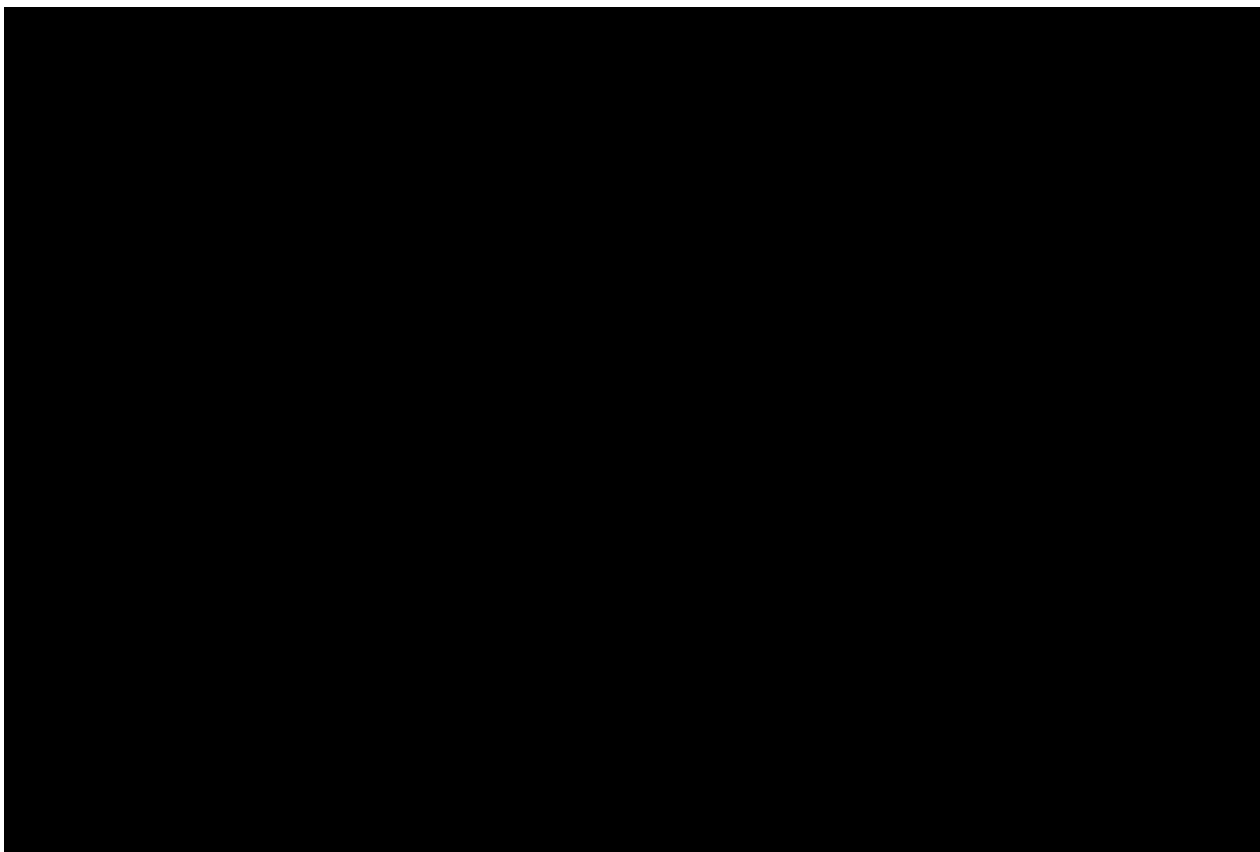
14. The Respondent shall provide details, including drawings, depicting the different BCF elements that its proposed solution comprises. As part of the details, the Respondent shall provide all of the expected elements and/or interfaces to be provided by the NCR PSAPs to the Contractor.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:



AT&T Response:



I3 PSAP

An i3 PSAP connects using IP and implements the i3 protocols including SIP, HELD, LoST, and HTTP.



I3 PSAP Diagram

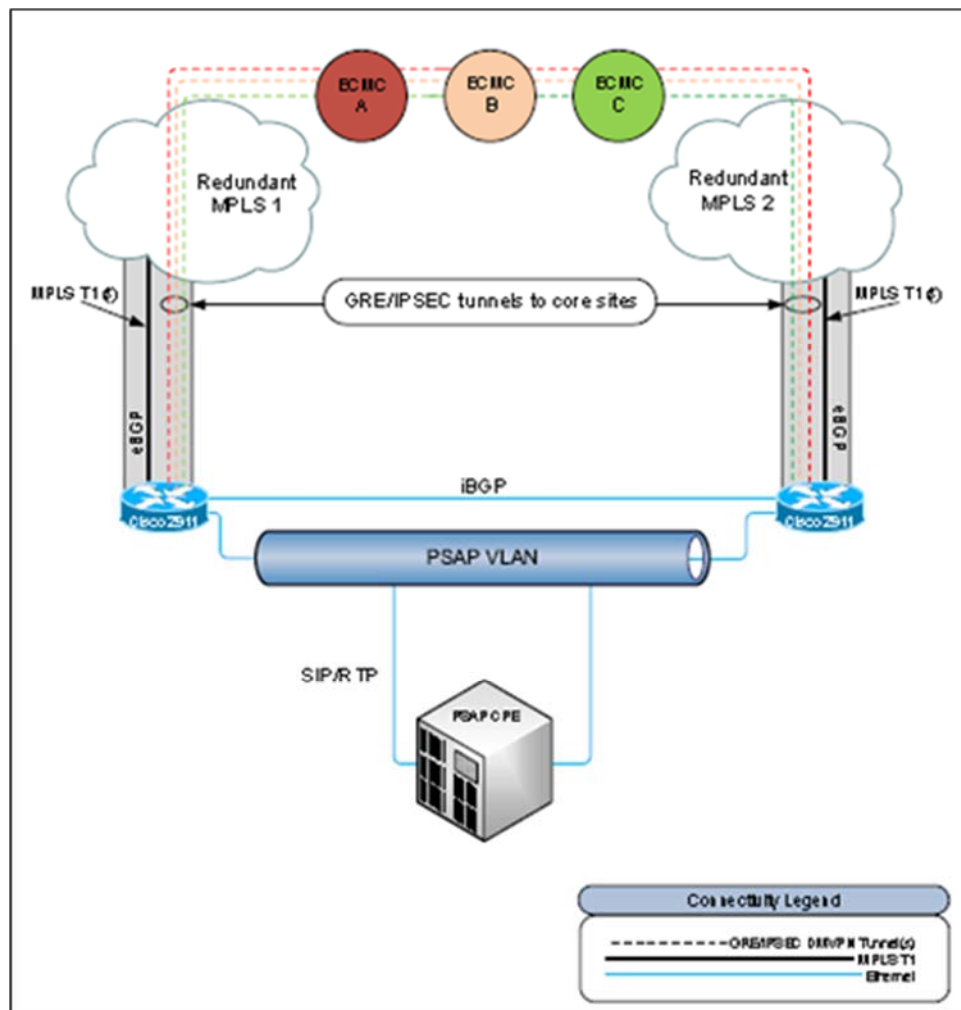


Figure 14 i3 PSAP

Elements of the i3 based PSAP include:

- **IP Router:** The IP Router terminates IP network links between the PSAP and the core call processing sites. Additionally, it is used to establish, track, and proactively maintain packet routing adjacencies between IP-routed end points. The IP Router also serves as the source for all IP/SLA test requests.
- **IP Ethernet Switch:** The IP Ethernet Switch is used to connect to all Ethernet based devices external to the IP Router.

Legacy PSAP with LPG

The LPG devices are the IP gateways to the PSAP's CAMA equipment and are located at each of the CAMA PSAP interface locations. There are a minimum of two LPGs at each PSAP, both serving a set of CAMA trunks. Each LPG consists of a chassis with a minimum of one FXS and two FXO cards. The LPG converts IP calls to CAMA to access the PSAP CPE.

Legacy PSAP with LPG Diagram

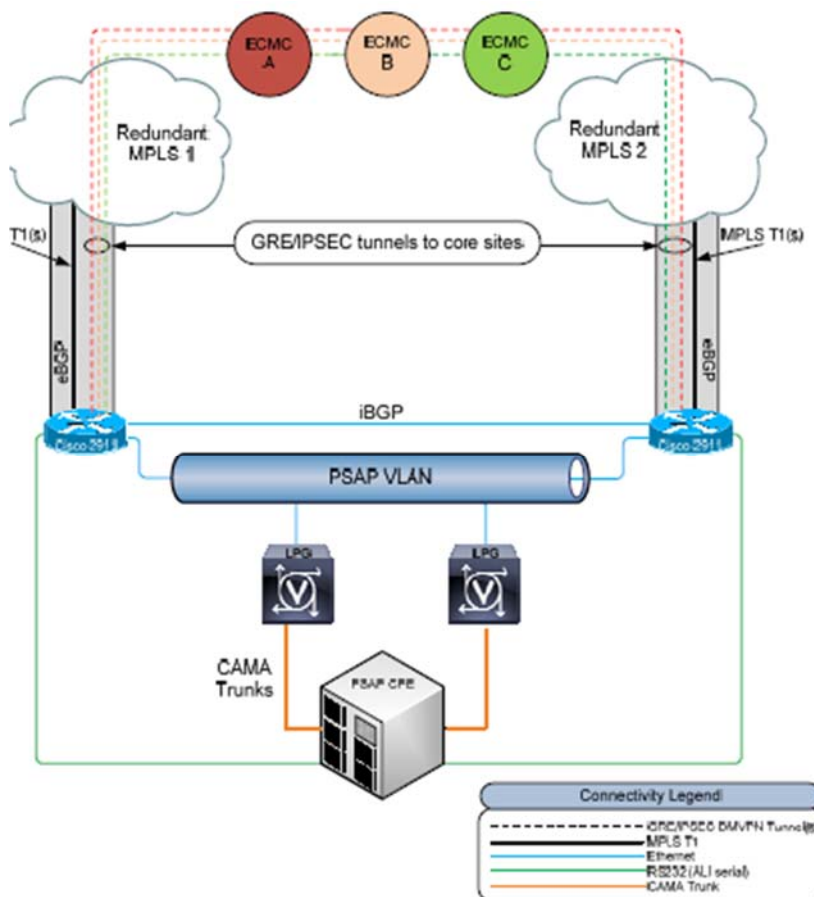


Figure 15 Legacy PSAP with LPG

Elements of CAMA-based PSAPs include:

- **IP Router:** The IP router terminates IP network links between the PSAP and the core call processing sites. Additionally, it is used to establish, track, and proactively maintain packet routing adjacencies between IP-routed end points. The IP router also serves as the source for all IP/SLA test requests.

- **LPG:** LPGs are used for the transformation of IP-based voice calls to CAMA-based TDM voice calls.
- **IP Ethernet Switch:** The IP Ethernet Switch is used to connect to all Ethernet-based devices external to the IP router, such as LPGs.
- **Console/Power Server:** The Console/Power Server is used to provide out-of-band system access to all ancillary devices external of the IP router. In addition, it provides remote power cycling capability to all devices located at the PSAP.
- **LPG Patch Panel:** the Patch Panel terminates all copper-based TDM circuits that are established between the LPG and the Backboard 66 Block.
- **Backboard 66 Termination Block:** the Backboard 66 Block is used to provide a bridged interface between the LPG patch panel and the customer CPE.

4.10.4. Emergency Service Routing Proxy (ESRP) and Policy Routing Function (PRF)

1. The ESRP routes a call to the next hop. It also evaluates the originating policy rules set for the queue the call arrives on, extracts the location of the caller from the SIP signaling, queries the ESRP for the nominal next hop route, evaluates the route based on policy rules and queue states of the downstream entity queues, and then forwards the call to the resulting next hop.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

[REDACTED]

[REDACTED]





[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

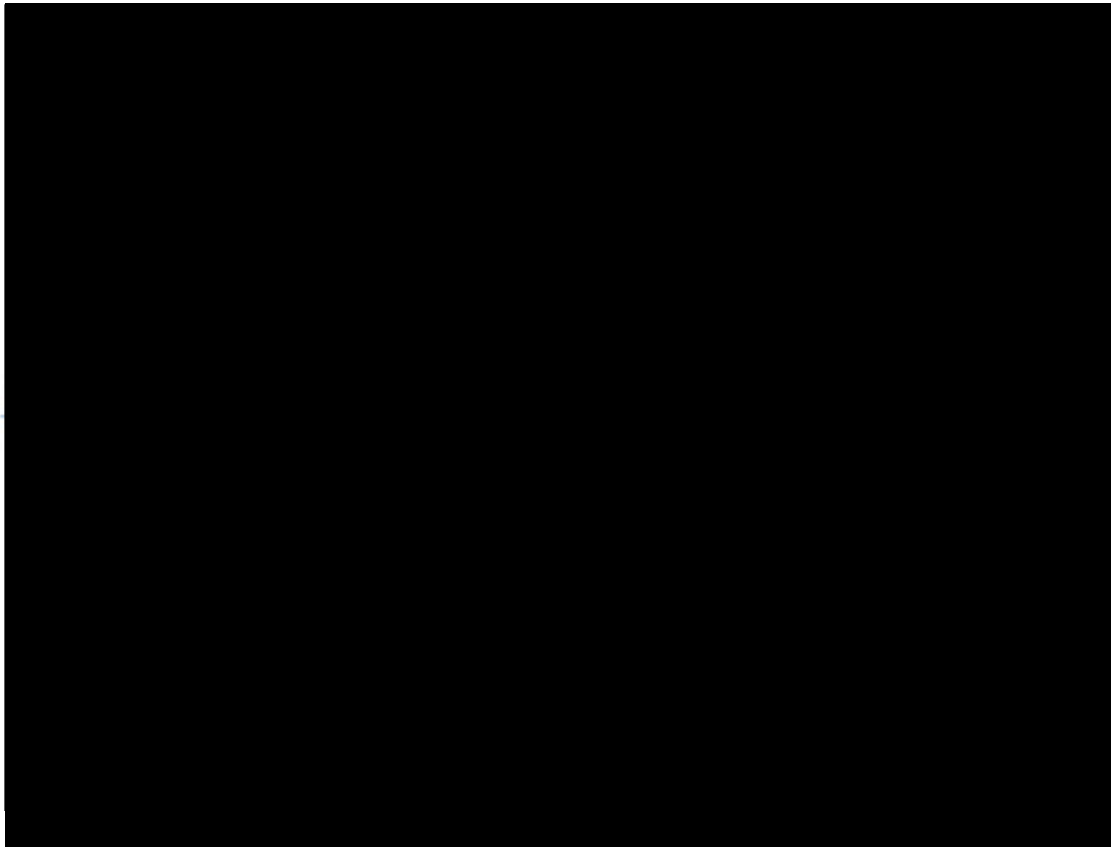
[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]





[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]





2. The PRF is a required function of the ESRP. The ECRF interacts with the PRF to determine the next hop of a call or event. Before the ESRP sends the call to the next hop, it first queries the PRF to check the status of the next hop to determine if a unique routing rule, or policy, is in place that would direct the call to another location. The destination of the next hop is typically a queue. The PRF monitors the downstream queues of ESRPs for active understanding of the entity's queue status.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

Using the location-determined URI retrieved from the ECRF via the LoST protocol, the ESRP interacts with the Policy Routing Function to determine call routing.

The PRF accounts for the operational status of any downstream ESRP in the evaluation of any policy. This ensures that an ESRP is in an operational state before any message is sent to that ESRP's queue.

3. The PRF shall allow defining policy rules for distributing a wide range of calls in an efficient manner. Respondent shall describe their solution's Policy Store and the PSAP's ability to affect change to the PRF. Please describe the user interface, the



authentication process, and the types of policy rules available at the time of proposal submission, as well as those on the product roadmap. Roadmap items should include an estimated time of feature availability.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]





4. A next-hop queue may be a uniform resource identifier (URI) that routes the call to an interactive multimedia response system (as described in IETF RFC 4240) that plays an announcement (in the media negotiated by the caller) and potentially accepts responses via Dual-Tone Multi-Frequency DTMF signaling, or other interaction protocols.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability



☐ Does Not Comply

Details to support the answer:

AT&T Response:

A next-hop queue that is a uniform resource identifier (URI) that routes a call to an interactive multimedia response system that plays a voice announcement and accepts responses via Dual-Tone Multi-Frequency (DTMF). DTMF signaling is supported. AT&T is happy to work with NCR to assess and support use cases for when an announcement is negotiated by the caller to be played in a media format other than voice.

5. The ESRP/PRF solution must be designed with resiliency and redundancy to provide a minimum of 99.999 percent availability.

☒ Complies

☐ Complies Partially

☐ Complies with Future Capability

☐ Does Not Comply

Details to support the answer:

AT&T Response:

The redundant ESRP/PRF design and the overall 6-Core architecture of the AT&T ESInet™ solution allows for availability to meet or exceed 99.999%.

ESRP high availability is achieved through an application processing complex consisting of multiple application servers, each of which operates independently of the others so that a single application processor failure does not disrupt the processing of the complex. There are six application processing complexes that operate independently of each other and are geographically distributed. Each component at an application processing complex has redundancy and high availability within its own domain. The ESRP application is highly redundant within each of the geographically separate sites. There are multiple computers running the ESRP application and the failure of any one or two of those computers do not affect calls in progress. Failure of a data center results in all future calls being processed by another geographically diverse data center and will still provide the total required call processing capacity requirement.



6. The Respondent shall provide an explanation of how its proposed ESRPs use the "options" transactions for maintaining "keep alive" between ESRPs, LNGs, LPGs and session recording services.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

[REDACTED]

[REDACTED]

7. The upstream interface on the proposed non-originating ESRPs shall implement Transmission Control Protocol/Transmission Layer Security (TCP/TLS), but must be capable of fallback to UDP, as described in NENA-08-003. SCTP support is optional. The ESRP shall maintain persistent TCP and TLS connections to the downstream ESRPs or user agents (UA) that it serves.

The Respondent shall provide detailed documentation describing how the non-originating ESRP interface supports TCP/TLS with fallback to UDP.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:



AT&T Response:

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

8. The Respondent shall provide a description of how its ESRPs meet or exceed all functional requirements as defined in NENA 08-003, which are listed in the following table.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

[REDACTED]					
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]









4.10.5. Emergency Call Routing Function (ECRF)

1. The ECRF shall be designed according to NENA 08-003 and be implemented using diverse, reliable and secure IP connections.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:



AT&T Response:

The AT&T ESInet™ ECRF provides full i3 compliancy and contains the geographic boundaries provided by the customer for 9-1-1 call routing and responder determination. The ECRF LoST protocol interface meets RFC 5222 and NENA STA-010.2 (formerly NENA 08-003) requirements. Where applicable, the ECRF also meets NENA 01-014 and NENA 01-010, though there are transitional considerations and conflicts between these documents, NENA STA-010.2, and the draft NG9-1-1 GIS Data Model. There are also different considerations associated with transitional i3 deployments within NENA STA-010.2. AT&T will work with the customer to establish a consistent means to handle the transitional it deployment until such time that legacy data stores are no longer required and carriers within the region are compliant with the NENA i3 standards. Note that the NG9-1-1 Data Model document is still in draft form. That said, it will take precedence over older NENA documents describing GIS data models. The ECRF has been supporting production Next Generation 9-1-1 call routing solutions since 2009, and the technology Core has been supporting wireless and VoIP 9-1-1 call routing since 2003. The ECRF LoST interface was tested during the NENA Industry Collaboration Event (ICE 4).

At least two ECRF servers will exist at up to six geographically diverse locations, all with redundant and secure IP connections. Even if one server or even one location has a failure, the workload will be distributed to the other ECRF servers within the system. The system is designed such that standard maintenance and upgrades will never leave the ECRF system single sided.

2. Contractor shall supply an ECRF function that meets a minimum of 99.999 percent availability.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

[REDACTED]





[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

3. Contractor providing an ECRF must ensure that it is accessible from outside the ESInet and that the ECRF permits querying by an IP client/endpoint, an LNG, an ESRP in a next- generation emergency services network, or by some combination of these functions.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

[REDACTED]



[REDACTED]

[REDACTED]

[REDACTED]

4. An ECRF accessible inside an ESInet must permit querying from any entity inside the ESInet. ECRFs provided by other entities may have their own policies regarding who may query them.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

Any system secured within the AT&T ESInet™ is considered safe, so the ECRF does allow LoST queries from any entity inside the ESInet.

It is understood that ECRFs provided by other entities may have their own policies regarding who may query them and as such there is no guarantee that a query to another ECRF will provide a useful result. As a matter of practice, the AT&T ESInet™ ECRF should only be provisioned with coverage area for external ECRFs for which interoperability agreements and associated digital certificates for authentication have been provisioned for access into the different systems.

Once the National Forest Guide and the PSAP Credentialing Agency (PCA) have been established, the need for A&T to manage the digital certificates will, in theory, go away.



5. An origination network may use an ECRF, or a similar function within its own network and at its own cost, to determine an appropriate route—equivalent to what would be determined by the authoritative ECRF—to the correct ESInet for the emergency call. Respondent shall describe the functionality of such an ECRF equivalent and document where this functional element resides. The Contractor shall provide a Spatial Interface to authorized entities, such as Origination Networks, to provide for replication of the ECRF for Origination Networks to determine the appropriate ESInet to route calls.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The origination network ECRF would typically reside within its own network and at its own cost, as noted. AT&T can optionally provide an “external” ECRF available for LoST queries by authorized origination network providers to be used to determine emergency call routing to the correct ESInet. This function is dependent on the NCR’s ability to negotiate receipt of the authoritative boundaries for any non-AT&T ESInet™s within the region.

AT&T will provide the Spatial Interface. Since there is not yet an established standard for the Spatial Interface to provision ECRFs with GIS data, internal or external, the mechanism for provisioning must be negotiated between AT&T, as the Spatial Interface provider, and non-AT&T ECRF providers.

6. The ECRF shall support a routing query interface that can be used by an endpoint, ESRP, or PSAP to request location-based routing information from the ECRF. Additionally, it must support both iterative and recursive queries to external ECRF sources.

- ☒ Complies
- ☐ Complies Partially



- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The ECRF supports a routing query interface that can be used by an endpoint, ESRP, or PSAP to request location-based routing information from the ECRF.

Additionally, the ECRF supports both iterative and recursive queries to other LoST servers, such as an external ECRF or National Forest Guide, once available.

7. The ECRF must interface with the LoST protocol (as described in IETF RFC 5222) and support LoST queries via the ESRP, PSAP CPE, or any other permitted IP host.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

In compliance with NENA i3 specifications, the ECRF supports the LoST protocol as defined in RFC 5222, with receipt of civic addresses, geo-coordinates, or both location elements as input.

All queries from outside the AT&T ESInet™ must be authenticated.

8. The proposed ECRF must allow for rate-limiting queries from sources other than the proposed ESRP(s), and provide logging of all connections, connection attempts, and LoST transactions.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability



☐ Does Not Comply

Details to support the answer:

AT&T Response:

All transactions are logged. Errors are logged for reporting and analysis and directed to the NOC when immediate action is required. Additionally, transaction and error information is available to the customer on a daily basis through the management and reporting suite.

The ECRF has been designed to handle extreme query loads. The ECRF tested to support a minimum of 100 queries per second for five (5) minutes, even if one node is down and can easily support this rate in all up conditions.

Rate limiting of queries from sources other than the proposed ESRP(s) is a supported function. For obvious reasons, rate limiting any “call path” requests will not be allowed.

Logging of all connections, connection attempts and the LoST transactions themselves is standard.

9. The ECRF must support:

- Logging of all connections, connection attempts, data updates, ECRF query results and LoST transactions
- Updates from the SI in near real-time with no degradation of LoST services
- Routing of calls based on geographic coordinates, geodetic shapes and civic addresses
- Utilization of common GIS boundaries, including, but not limited to, PSAP, law enforcement, fire and emergency medical services (EMS)
- Permitting of LoST queries for find service request association with each layer
- Compliance with NENA 02-010 and NENA 02-014
- Dynamic updates to GIS without disruption of the ECRF
- Validation of GIS updates before they are provisioned into the ECRF

☐ Complies

☒ Complies Partially

☐ Complies with Future Capability

☐ Does Not Comply





Details to support the answer:

AT&T Response:

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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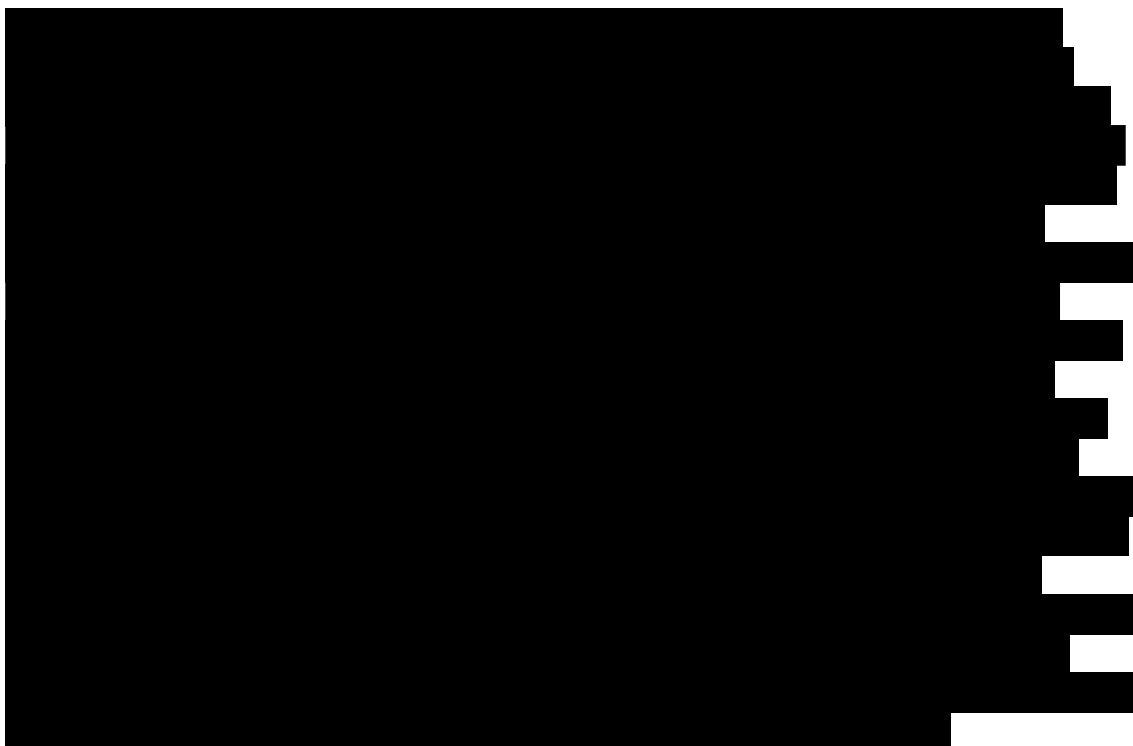


10. Respondent shall define its method for: provisioning the ECRF; updating the ECRF (including the frequency of updates); validating data provisioning; performing error logging; performing gap and overlap analysis; and supporting LoST queries from ESRPs, the PSAP CPE, and other authorized hosts within the ESInet. The Respondent shall provide a clear description of the functionality of the ECRF, list features and capabilities, describe its error handling, default mechanisms and logging, and provide an overview of deployment recommendations to achieve 99.999 percent reliability.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:





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11. The NCR acknowledges that its ESInet will be part of an overall hierarchical plan that includes interconnectivity to other regions and state-level ECRFs. The Respondent shall provide details regarding its vision for how this interconnection will include replicas of ECRF/LVF at different levels of the hierarchy, as well as access/origination networks.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

At the NCR's discretion, the AT&T ESInet™ ECRFs and LVFs can operate in various deployment models. There are two deployment models described in the current draft of NENA STA-005, NENA Standards for the Provisioning and Maintenance of GIS data to ECRFs and LVFs:

- “Coordinated, Intergovernmental Approach: Planned and coordinated deployments of NG9-1-1 capabilities that are governed by statewide 9-1-1 Authorities, regional Authorities, or informal mechanisms that enable a cooperative deployment.
- Independent, Unilateral Approach: Decentralized deployments of NG9-1-1 capabilities by local jurisdictions through independent initiatives.”

AT&T ESInet™ ECRFs and LVFs can be deployed to support both approaches.

Using the coordinated, intergovernmental approach, coverage areas for any other ECRFs or LVFs would be provisioned into the AT&T ESInet™ ECRF and LVF, and the AT&T ESInet™ ECRF and LVF coverage areas would be provisioned into other ECRFs and/or LVFs in the area. This allows the local ECRF to recursively query other known ECRFs when a location falls within the neighboring ECRF or LVF's region. Access to a National Forest Guide, when available, is not necessary using this approach unless the location falls outside of all of the ECRF/LVF known regions.

Using the Independent, unilateral approach, utilization of the National Forest Guide or a parent ECRF (statewide or multi-state) would be required to discover the correct ECRF



or LVF to query for a response. The AT&T ESInet™ ECRF and LVF can potentially be utilized as a statewide or multi-state parent system to support this task.

It is up to the access/origination networks to know how to direct 9-1-1 calls across a given region. As an optional service, AT&T can work with the NCR to explore the feasibility to provide an ECRF to direct access/origination network providers to the correct ESInet, assuming there may be multiple serving a multi-state region.

AT&T looks forward to working with the NCR to develop a complete set of requirements and scope of work necessary for ESInet interconnection with regional and state level ECRFs. Pricing and lead time for implementation is to be determined pending future completion of engineering requirements discovery.

12. Respondent shall provide explanations of any tradeoffs between aggregations of data at higher-level ECRFs versus the use of Forest Guides to refer requests between ECRFs that possess different levels of data. As part of that explanation, the Respondent shall provide details on how the appropriate ECR/LVF data should be provisioned for use in overload and backup-routing scenarios, and any dependencies that might impact provisioning.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

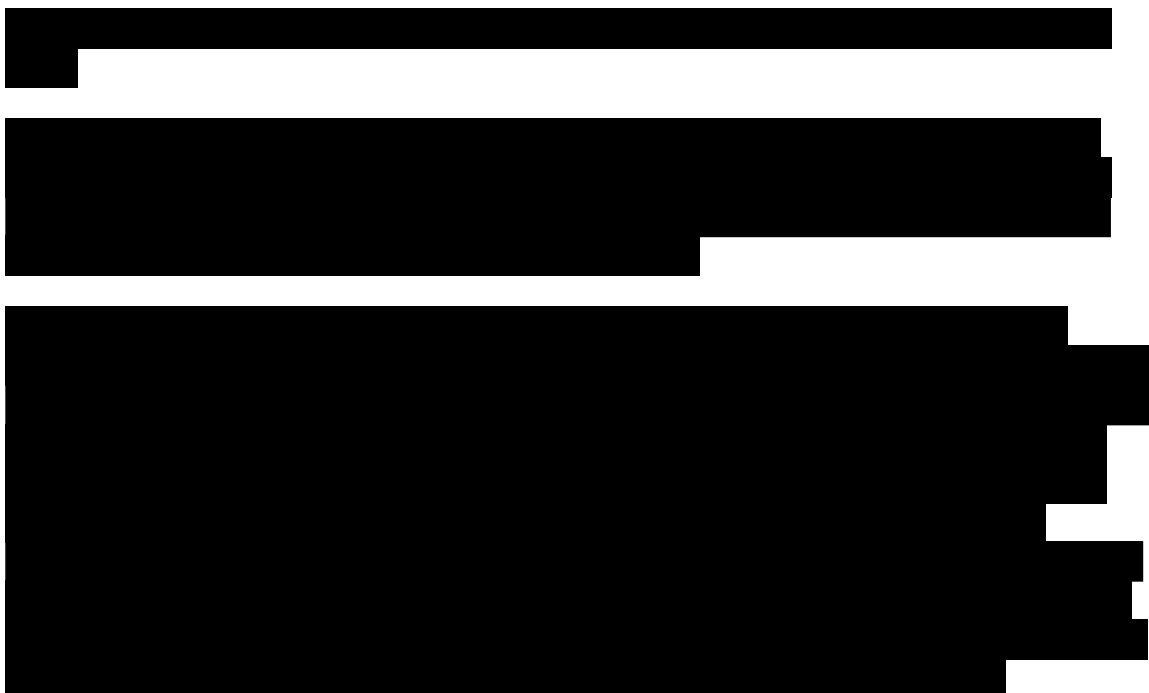
Details to support the answer:

AT&T Response:

[REDACTED]

[REDACTED]





4.10.6. Location Validation Function (LVF)

1. An LVF is a LoST protocol server where civic location information for every call originating endpoint is validated against the SI-provisioned GIS data. The SI is responsible for provisioning and updating the information used for location validation in the LVF, which shall contain a standardized interface to the SI.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

As part of the AT&T ESInet™ i3 solution, the Location Validation Function (LVF) is available to TSPs operating in the region via the LoST protocol (RFC 5222). This will allow them to pre-validate customer records against the GIS data to ensure that the civic addresses are 9-1-1 valid and will route and plot properly.



The LVF is functionally almost identical to the ECRF, but implemented 100% independently from the ECRF as to not interfere with the critical call path functions of the ECRF.

Since the ECRF and LVF share a common code base, the customer is ensured that a location that has passed LVF validation will also route properly when the civic location element is presented to the ECRF because the exact same logic is used for both purposes. This assumes the LIS operator properly provisions their LIS with the subscriber's location.

Functionally, the address elements that are presented in the LoST request are validated against the GIS data provisioned to the LVF. The LVF can be configured to look at the Address Point layer followed by the Road Centerline layer to locate a match *OR* to only look at the Address Points.

It is anticipated that when carriers first attempt to communicate with the LVF, problems may occur, even though the LVF fully meets the requirements defined in RFC 5222. As such, AT&T has developed a LoST interworking specification which identifies the specifics of AT&T's implementation along with LoST Request and Response examples to aid the carriers with their LVF client implementations.

The AT&T ESInet™ LVF is secure. In lieu of the NENA PSAP Credentialing Agency (PCA), which does not exist at this time, AT&T will issue digital certificates to LVF clients for authenticated access to the LVF.

Provisioning of the LVF is identical to the ECRF provisioning. It is simply another provisioning target of the Spatial Interface. As such, it will always contain the same GIS data as the ECRF.

Note that any User Interface or LoST client required to interact with the LVF will be the responsibility of the Carrier making the LVF LoST requests.

2. The LVF must be available to validate civic locations at the time a wireline device is ordered (Service Order Interface [SOI] validation), when a nomadic device is connected to the network, and when a PSAP or other authorized entity makes a civic location validation request. The LIS/LDB shall be allowed to periodically revalidate the civic location information against the GIS data contained within the LVF.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability



☐ Does Not Comply

Details to support the answer:

AT&T Response:

The LVF is available for civic location validations and subsequent revalidations for authorized LVF clients.

It is the responsibility of the LIS / LDB operators to validate and periodically revalidate their subscriber records using the LVF.

3. The LVF shall support all functionality as defined in NENA 08-003, shall be designed with resiliency and redundancy to provide a minimum of 99.999 percent availability, and shall be provisioned with the same data as the ECRF.

☒ Complies

☐ Complies Partially

☐ Complies with Future Capability

☐ Does Not Comply

Details to support the answer:

AT&T Response:

The standard LVF utilized for service provider validation of their subscriber records is provided in a 99.9+% environment due to the provisioning nature of the LVF, as opposed to the 99.999+% requirement of the ECRF due to it being in the call path. It is implemented the same way the ECRF is, but is only available from a single location with redundant processing elements. Optionally and at an additional price, the public-facing LVF can be implemented in an environment mirroring the ECRF implementation to provide 5-9s of availability.

For PSAP CPE utilization, they can be pointed at the ECRF if 5-9s availability is a requirement. In no cases would non-PSAP CPE queries be directed towards the ECRFs handling 9-1-1 call traffic.

Provisioning of the LVF is identical to the ECRF provisioning. It is simply another provisioning target of the Spatial Interface. As such, it will always contain the same GIS data as the ECRF.



4. The Respondent should outline options for a public-facing LVF provisioned for use by service providers outside the ESInet.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The AT&T ESInet™ LVF will be a public-facing LVF provisioned for use by service providers outside the ESInet. Since PSAP access to validate locations will be limited, the PSAP CPE can be pointed to the public-facing LVF or optionally, the ESInet ECRF, which can be configured to respond to LVF queries as well as ECRF. This choice will be left to the NCR.

5. Respondent shall describe the functionality of the proposed LVF solution in sufficient detail to address the requirements outlined, with particular attention to the arrangement of the proposed components, user interface and features, and security aspects.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

As part of the AT&T ESInet™ i3 solution, the Location Validation Function (LVF) is available to TSPs operating in the NCR region. It utilizes the LoST protocol (RFC 5222), which is a machine-to-machine interface that will allow service providers to pre-validate customer records against the NCR's GIS data to ensure that the civic addresses are 9-1-1 valid and will route and plot properly.



Since the ECRF and LVF share a common code base, the customer is ensured that a location that has passed LVF validation will also route properly when the civic location element is presented to the ECRF because the exact same logic is used for both purposes.

Functionally, the address elements that are presented in the LoST request are validated against the GIS data provisioned to the LVF. The LVF can be configured to look at the Address Point layer followed by the Road Centerline layer to locate a match *OR* to only look at the Address Points.

The LoST findService transaction with validateLocation set to “true” only supports civic location validation, as there is no concept of validating geodetic locations per NENA STA-010.2.

It is anticipated that when carriers first attempt to communicate with the LVF, problems may occur, even though the LVF fully meets the requirements defined in RFC 5222. As such, AT&T has developed a LoST interworking specification which identifies the specifics of AT&T’s implementation along with LoST Request and Response examples to aid the carriers with their LVF client implementations.

The AT&T ESInet™ LVF is secure. In lieu of the NENA PSAP Credentialing Agency (PCA), which does not exist at this time, AT&T will issue digital certificates to LVF clients for authenticated access to the LVF.

Provisioning of the LVF is also identical to the ECRF provisioning. It is simply another provisioning target of the SI. As such, it will always contain the same GIS data as the ECRF.

Note that any User Interface required to interact with the LVF will be the responsibility of the service provider making the LVF LoST requests.

4.10.7. Spatial Interface (SI)

1. The SI is responsible for provisioning and updating authoritative GIS data to the ECRF and LVF. It is anticipated that, in the future, the NCR will require the PSAP tactical map display, computer-aided dispatch (CAD) systems, and similar applications that consume GIS data will also receive updates via the SI. However, SI updates to these systems are not required at this time and this capability should not be priced in Respondent’s cost proposal. GIS data provisioned by the SI must undergo data quality and data integrity checks to ensure that the data complies with all applicable requirements of NENA 02-010, NENA 02-014, and Attachment B of NENA 08-003.



- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

AT&T provides the NENA Spatial Interface (SI) as a function of the 9-1-1 Enterprise Geospatial Database Management System (9-1-1EGDMS). The SI is a fully-hosted, managed service that encompasses all necessary processes to receive GIS data from a single source. Data can be submitted in a GIS database managed by a vendor or by the NCR itself. The SI provides data validation, error reporting, and provisioning to the Emergency Services Network (ESInet) functional elements including Emergency Call Routing Function (ECRF) and Location Validation Function (LVF). The SI provides:

- NG9-1-1 GIS data compliancy checks
- Ongoing GIS data accuracy validation (QA/QC)
- GIS data error reporting
- Provisioning to i3 systems (ECRF/LVF)

The SI undergoes data quality and data integrity checks that ensures that the data complies with all applicable requirements of NENA 02-010, NENA 02-014 and Attachment B of NENA 08-003. Where these requirements conflict with STA-010.2 and the NG9-1-1 GIS Data Model (draft), the newer requirements documents will be utilized.

There are currently no NENA guidelines describing any protocols for the SI updates to external systems. The original 08-003 defined use of a Web Feature Service (WFS) to do such, but it has been removed in the current version of the specification (STA-010.2). Section 4.6 of STA-010.2 states the following:

“Note: OGC 10-069r2 is an OGC Public Engineering Report, not a standard. OGC 10-069r2 is not believed to be definitive enough to enable multiple interoperable implementations. A future OGC specification or a future revision of this document is needed to describe the protocol definitively. As with any standardized interface in this document; implementations may provide alternatives to the SI interface in addition to the standard interface defined in this section. A standard NENA schema for WFS as used



in the i3 SI layer replication protocol will be provided in a future revision of this document.”

While the SI provides a consistent means to update the ECRF and LVF, a means to update other vendor’s systems must be collaboratively decided upon (e.g., furnish the third party systems with full data extracts) until such time that the NENA requirements have been created to describe these provisioning functions.

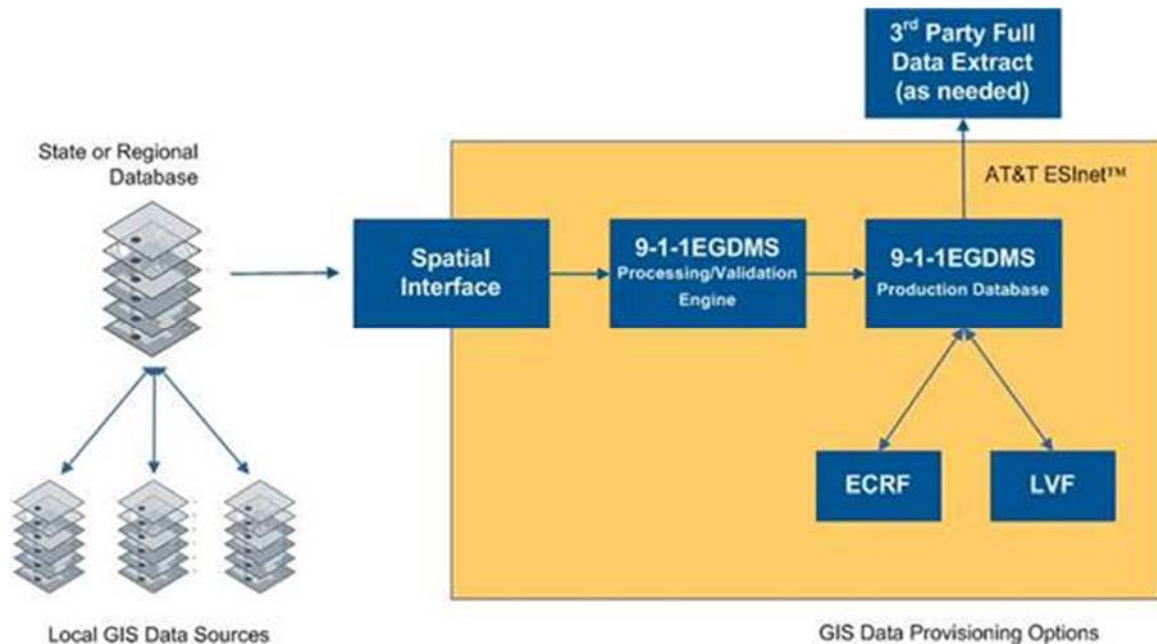


Figure 18. Spatial Interface

GIS updates are provisioned through the Spatial Interface which performs GIS validations, including validations to ensure routing integrity. The QA/QC processes provided during validation steps in the SI will prevent any unwanted gaps or overlaps from being provisioned in the ECRF. A change control system is established to monitor and manage data discrepancies and to track data change requirements.

Validated GIS updates are normalized, re-projected, if necessary to WGS84 and applied to the ECRF production instances in a manner that preserves availability and coordinates with other ESInet scheduled updates and activities. Each ECRF element maintains two copies of each map layer, an active one that processes the LoST queries and an inactive one. New updates are applied to the inactive directory. Once processing is complete for all ECRF computing elements (two per geographically diverse location), the ECRF system will notify the Spatial Interface that the load was successful and make the inactive map layer active. If for some reason the load was unsuccessful, the ECRF system will pass that result along to the Spatial Interface which will send out alarm notifications. If this occurs the previously active map layer will remain active. It is recommended that new



updates not be sent until the notification has been received from the Spatial Interface that the previous update has finished processing. This timing can vary greatly depending on the feature sets updated and the number of changes within the feature sets.

[Additional GIS dialogue is included in the Supplemental Response Section of this document.](#)

2. The SI shall convert the GIS data meeting these requirements into the format (data structure and projection) used by the ECRF and LVF. The SI shall provision the formatted data and perform incremental updates, in real-time or near real-time, using a Web feature service. The SI shall be able to provision and perform incremental updates, in near real-time, to the ECRF, LVF, the map viewer service, the PSAP tactical map display and similar applications that consume GIS data.

- ☐ Complies
- ☒ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The SI will normalize the GIS data, converting it into a consistent format, which will meet the STA-010.2 standard. This format and content meet the ECRF/LVF Lost protocol requirements.

There are currently no NENA guidelines describing any protocols for the SI updates to external systems. The original 08-003 defined use of a Web Feature Service (WFS) to do such, but it has been removed in the current version of the specification (STA-010.2). Section 4.6 of STA-010.2 states the following:

“Note: OGC 10-069r2 is an OGC Public Engineering Report, not a standard. OGC 10-069r2 is not believed to be definitive enough to enable multiple interoperable implementations. A future OGC specification or a future revision of this document is needed to describe the protocol definitively. As with any standardized interface in this document; implementations may provide alternatives to the SI interface in addition to the standard interface defined in this section. A standard NENA schema for WFS as used in the i3 SI layer replication protocol will be provided in a future revision of this document.”



While the SI provides a consistent means to update the ECRF and LVF, a means to update other vendor's systems must either be collaboratively decided upon (e.g. furnish the third party systems with full data extracts) until such time that the NENA requirements have been created to describe these provisioning functions.

Timing of updates is dependent on the data being updated. Validation of polygon feature sets occurs very quickly and subsequent provisioning to the ECRF system is near real-time. It is always recommended that "urgent" updates to one or more polygon layers be provisioned without the Site Structure Address Points (SSAPs) or Road Centerlines (RCLs) as validation and provisioning of the SSAPs and RCLs can take a few or many minutes, depending on the size of the feature set being loaded. It is possible to reduce the number of validations performed on the data updates to decrease provisioning speed, but that is balanced by the increased risks of not performing all available validations.

3. Respondent shall describe the functionality of the proposed SI solution in sufficient detail to describe the validation of GIS data and data updates prior to their provisioning into the ECRF and LVF, along with the means of real-time or near real-time provisioning of incremental updates to the GIS data provisioned to the ECRF and LVF.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The GIS updates are provisioned through the Spatial Interface (SI) which performs GIS validations, including validations to ensure routing integrity. The QA/QC processes provided during validation steps in the SI will prevent any unwanted data being provisioned in the ECRF that may introduce ambiguity in the data that would prevent the ECRF from being able to make a definitive response to certain requests. A change control system is established to monitor and manage data discrepancies and to track data change requirements. Validated GIS updates are normalized and applied to the ECRF production instances in a manner that preserves availability and coordinates with other ESInet scheduled updates and activities. Each ECRF element maintains two copies of each map layer, an active one that processes the LoST queries and an inactive one.



New updates are applied to the inactive directory. Once processing is complete for all ECRF computing elements (two per geographically diverse location), the ECRF system will notify the Spatial Interface that the load was successful and make the inactive map layer active. If for some reason the load was unsuccessful, the ECRF system will pass that result along to the Spatial Interface which will send out alarm notifications. If this occurs the previously active map layer will remain active. It is recommended that new updates not be sent until the notification has been received from the Spatial Interface that the previous update has finished processing. This timing can vary greatly depending on the feature sets updated and the number of changes within the feature sets.

The SI validation engine refers errors back to the originating 9-1-1 Authority in comprehensive reports that are retrieved in the 9-1-1EGDMS portal. Validation errors must be corrected by the 9-1-1 Authority within their own GIS database. Updates are submitted and processed on an on-going basis. Ongoing 9-1-1EGDMS validations include road centerline, address point, and polygon for each data upload.

Features with critical errors cannot be loaded into the AT&T ESInet™ systems due to incompatibility or addressing errors that would result in inaccurate call routing. All critical errors should be resolved prior to switching to geospatial call routing.

Critical Error Description

Any features with critical errors will not be provisioned. Errors must be corrected and resubmitted to load to production ECRF and LVF and avoid default routes or failed validation.

- **Unique ID Duplicate:** The feature's Unique ID is duplicated within the agency's layer
- **Geometry Error:** A record exists in the attribute table that is not associated with a geographic feature or the geometry of a feature is in error.
- **Attribute Duplicate:** The feature's attributes are duplicated in multiple features, but each feature has a unique location
- **Address Range Overlap:** An overlap exists in one or both sides of the address ranges between two connected and identically named road centerline segments.
- **Field Constraint:** An attribute value is incompatible with the EGDMS database schema and cannot be loaded into the database.
- **Outside Authoritative Boundary:** All or part of the feature falls outside the Authoritative Boundary.



- Boundary - Neighbor – Gap: A gap exists between the boundary polygon and an adjacent data source's boundary polygon.
- Boundary - Internal – Gap: A gap exists between the boundary polygon and another boundary polygon within the database.
- Boundary - Neighbor – Overlap: The boundary polygon feature overlaps an adjacent data source's boundary polygon.
- Boundary - Internal – Overlap: The boundary polygon feature overlaps another boundary polygon within the database.
- Routing URI: The routing Uniform Resource Identifier (URI) is either missing or invalid within the service response boundary polygon.

Timing of updates is dependent on the data being updated. Validation of polygon feature sets occurs very quickly and subsequent provisioning to the ECRF system is near real-time. It is always recommended that “urgent” updates to one or more polygon layers be provisioned without the Site Structure Address Points (SSAPs) or Road Centerlines (RCLs) as validation and provisioning of the SSAPs and RCLs can take a few or many minutes, depending on the size of the feature set being loaded. It is possible to reduce the number of validations performed on the data updates to decrease provisioning speed, but that is balanced by the increased risks of not performing all available validations.

4. Respondent shall describe how it will use the region’s GIS data model (Attachment B) and align with the region’s data maintenance processes with minimal impact to existing data maintenance operations. Respondent shall define its processes and methods to receive and incorporate the SI datasets that have been prepared by the region as previously described and as defined in Attachment B. Respondent shall describe its proposed workflow for receiving GIS updates from jurisdictions, to allow for a smooth transition from the existing processes that have been implemented during the preparation of the region’s NG9-1-1 data by the jurisdictions. Respondent also must describe all security and monitoring aspects, and any additional features supported by the proposed SI.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:



AT&T Response:

AT&T provides the NENA Spatial Interface (SI) as a function of the 9-1-1 Enterprise Geospatial Database Management System (9-1-1EGDMS). The SI is a fully-hosted, managed service that encompasses all necessary processes to receive GIS data from single or multiple data sources. Data can be submitted in a GIS database managed by a vendor or by the NCR itself. Updates are made via a secured portal that requires two factor authentication for access. The SI provides data validation, error reporting, and provisioning to the Emergency Services Network (ESInet) functional elements including Emergency Call Routing Function (ECRF) and Location Validation Function (LVF). The SI provides:

- NG9-1-1 GIS data compliancy checks
- Ongoing GIS data accuracy validation (QA/QC)
- GIS data error reporting
- Provisioning to i3 systems (ECRF/LVF)

GIS updates are provisioned through the SI. The SI provides a field mapping service which allows the NCR's data model to be mapped to the corresponding fields in the AT&T ESInet™ GIS data model, without any adjustment to the NCR data model. Unless the local data model changes, this is a one-time operation. Data can be loaded by full feature set or can optionally be updated via delta updates. Shapefile and File Geodatabase are the current supported formats. The SI performs GIS validations, including validations to ensure routing integrity. The QA/QC processes provided during validation steps in the SI will prevent any unwanted gaps or overlaps from being provisioned in the ECRF. A change control system is established to monitor and manage data discrepancies and to track data change requirements. Validated GIS updates are normalized and applied to the ECRF production instances in a manner that preserves availability and coordinates with other ESInet scheduled updates and activities. A change control model is implemented to track changes between the GIS provisioning platform and the production ECRF instances.

4.10.8. Location Database (LDB)

1. A Location Database (LDB) serves as both a legacy ALI database and as an LIS in an i3 NG9-1-1 environment. The LDB retains all of the current information, functionality, and interfaces of today's ALI, but also can utilize the new protocols required in an NG9-1-1 deployment. The LDB supports the protocols for legacy ALI query and ALI query service, the protocols required to obtain information for wireless calls by querying the mobile positioning center (MPC) or gateway mobile location center (GMLC), and the protocols required for i3 location information retrieval and



conveyance, such as HTTP-Enabled Location Delivery (HELD) or other proprietary protocols.

The LDB must meet the following requirements:

- Shall support all relevant sections of NENA 02-010, 02-011, 02-015, 04-005, 08-501 and 08-502 related to ALI DBMS
- Shall be capable of assuming the role of a location DBMS as defined in the NENA NG9-1-1 Transition Plan Considerations (NENA-INF-008.2-2013)
- Shall support NENA standards (J-036, E2, E2+, NCAS, CAS)
- Shall be able to provide LIS functionality and interfaces as defined in NENA 08-003
- Shall be able to seamlessly interact with a NENA i3 ECRF, as described in NENA 08-003
- Shall be able to dereference a location by reference, as defined in NENA 08-003
- Shall be able to dereference requests for additional information, as defined in NENA 08-003
- Shall be able to interface simultaneously with multiple wireless callers
- Shall be able to interface simultaneously with multiple remote ALI databases
- Shall automatically detect, import and validate customer records (SOI records)
- Shall have the ability to be used simultaneously by both NG9-1-1-capable and E9-1-1-capable PSAPs
- Shall allow different PSAPs to use different ALI formats based on individual needs
- Shall utilize LVFs to validate civic addresses
- Shall support location data formatting as defined in the NENA Civic Location Data Exchange Format (CLDXF)
- Shall periodically reevaluate the location information using LVF functions within the system
- Shall be able to communicate with NG9-1-1 functional elements using the HELD protocol
- Shall be able to provide a PIDF-LO based on both the wireless and VoIP E2 response
- Shall be able to dereference additional data request
- Shall consistently respond to all requests within 400 ms



Respondent shall describe the functionality of the proposed LDB, including additional features and capabilities, error handling, logging and deployment recommendations in sufficient detail to address the requirements outlined, with particular attention to the arrangement of the proposed components, user interface and features, and security aspects.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]





[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

2. The LDB shall support the integration of private ALI databases. The Metropolitan Washington Airports Authority (MWAA) provides 9-1-1 call-taking and dispatch services for Dulles International Airport, Reagan National Airport, and the Dulles Toll Road. The MWAA PSAP handles wireline calls that originate in its jurisdictions directly, and receives transfers from neighboring NCR PSAPs for wireless and VoIP calls. The PSAP's call-handling equipment initially bids two onsite private ALI databases and if no record is found, it will bid the Verizon ALI nodes. As part of this migration, Contractor shall be responsible for migrating approximately 7,500 records from the MWAA private ALI databases to the LDB.



Respondent shall provide details on the database migration process and the user interface for MWAA staff to manage these private ALI records.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

West and AT&T have worked together on the migration of many private ALI databases into the LDB. Collectively, we have extensive experience performing the necessary data analysis to ensure that the user experience is not impacted by the transition activities. Shared rate center analysis, overlapping jurisdictional boundary identification and resolution, identification and mitigation of call routing ESNs conflict and identification and transition of Private Switch ALI data are among the numerous data related activities encompassed in transitions of this type.

AT&T and West have extensive experience successfully transitioning these datasets in both large and small jurisdictional areas.

Following contract award, AT&T and West will work with MWAA to migrate records from the MWAA private ALI databases into the AT&T ESInet™ LDB. As part of the migration, AT&T will load or create MSAG records to support ongoing database validations and perform data validations against an initial load file of the private ALI records provided by MWAA in advance the production load into the LDB. Any records that error during the pre-validation process will be proactively resolved or referred back to MWAA for correction.

For ongoing management, AT&T will provide a feature rich, highly configurable web-based data management system (9-1-1 NET) that will allow MWAA to fully self-manage their private ALI DB records including detailed location information and to resolve any error fallout. Users can query for records, select one or a group of records to make changes to and submit updates. The system allows configured users to insert, change or delete TN records. When a user submits a TN record update, the system validates the update and provides the user with a near-immediate confirmation or descriptive error response. The user can then make corrections as appropriate and re-submit. 9-1-1 NET is accessed via a web-based portal following secure sign-on. Outside of system



maintenance windows, TN records without errors are generally processed and posted to the LDB typically within 10-minutes.

The screenshot shows the '9-1-1 NET' interface with the 'TN' tab selected. The 'TN Query' section is active, displaying a form with various input fields for searching TN records. Fields include Telephone #, Pilot #, Customer Name, House #, Dir, Community, Location, Entity, Exchange, ESN, MSAG System, SOI #, TN Comment, MSAG Comment, Last Updated (From/To), Last Updated By, Service: Class, Type, COID 1, COID 2, and File ID. There are 'Reset' and 'Submit' buttons at the bottom.

Figure 20 TN Query Screen

The screenshot shows the '9-1-1 NET' interface with the 'TN' tab selected. The 'TN Query Results - 1563 Records' section is active, displaying a form for updating a specific TN record. The form includes fields for Telephone #, Pilot #, Customer Name, House #, Dir, Community, Location, Latitude, Longitude, Entity, Exchange, ESN, MSAG System, Completion Date, TN Comment, MSAG Comment, Last Updated (On/By), Service: Class, Type, COID 1, COID 2, and File ID. There are 'Reset', 'LNP Unlock', 'Delete', and 'Change' buttons at the bottom.

Figure 21. Direct TN Management Interface

4.10.9. Discrepancy Reporting

The Respondent shall provide details regarding its proposed solution's report functions for notifying agencies any time a discrepancy is detected with the BCF, ESRP, PRF, ECRF, LVF, and SI. As part of the detail, the Respondent shall explain how a report will be sent for the purpose of reporting the discrepancy to multiple responding agencies, as determined by the NCR.

Discrepancy reporting is outlined in Section 4.9 of NENA 08-003. Respondent shall describe the functionality of the proposed discrepancy reporting function in sufficient detail to address the requirements outlined, with particular attention to the user interface and features, and the security aspects.

- ☐ Complies
- ☐ Complies Partially
- ☒ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

Discrepancy reporting as outlined in Section 4.9 of NENA 08-003 is currently incomplete. AT&T has a full featured solution for Discrepancy reporting for legacy and Next Generation PSAPs. Once the NENA requirements are addressed and/or XML schemas for discrepancy reporting are published by NENA, AT&T will review for buildability and market demand. It is expected that i3 compliant discrepancy reporting will be a future development.

Until such time, the AT&T ESInet™ supports equivalent discrepancy reporting using a combination of 9-1-1 NET for the reporting of ALI Discrepancies (DRs) and MSAG Change Requests (CRs) and EGDMS for the reporting of GIS related validation errors. Misroutes, Policy Routing discrepancies, incomplete/incorrect PIDF-LO, and incomplete/incorrect Additional Data are reported via ALI DRs.

Because of the integrated nature of the BCF, ESRP, and PRF, discrepancies are identified in logs and the logs are actively monitored. Alarms are programmatically set to identify specific discrepancies and automatically provide notifications when the specified events occur. Further, the AT&T ESInet™ ESRP and PRF provide safeguards around how routing policies are entered to help ensure that only valid policies are configured to prevent the



need for discrepancy reporting. Policies and rules are tested prior to enabling in production. Fall-back routing (e.g., default trunk group routing) due to policy rules inaccurate data such as no record found is reported via a 9-1-1 NET ALI DR for research and correction.

ECRF, LVF, and SI discrepancies are handled via data validation reports each time GIS data is provisioned via the SI. Routing discrepancies are reported via an ALI DR using 9-1-1 NET. Any misroutes are individually investigated as the cause may be in one of several places: incorrect GIS provisioned to the ECRF/LVF, incorrect policy routing rules, etc.

Access to 9-1-1 NET requires two factor authentication for all users.

The following list, as provided in STA-010.2, lists the types of discrepancies that will need to be addressed in i3. Note that almost all discrepancies begin with a human; very few can be automatically generated. The list also includes how the discrepancies would be initiated using current applications as noted above.

- The LIS needs to file a Discrepancy Report on the LVF.
 - Customers with AT&T ALI Location Data Management services would create a MSAG CR through 9-1-1 NET.
- The ECRF/LVF may be receiving data from another ECRF/LVF and thus will file a DR on its upstream provider.
 - When talking about receiving coverage area data, that would allow one ECRF to recurse to another ECRF; that coverage area would be provisioned through the SI, which will generate any reports regarding discrepancies in the data.
- The ECRF/LVF needs to file a DR on the GIS.
 - At the time of provisioning via the SI, error reporting would identify these discrepancies.
- The ESRP needs to file a DR on the owner of a routing policy (PSAP, ESRP) that has a problem.
 - The AT&T ESInet™ ESRP and PRF are integrated and safeguards exist on how routing policies are entered to help ensure only valid policies can be configured.
- The PSAP needs to file a DR on an ESRP if a call is misrouted.
 - ALI Location Data Management customers would create an ALI DR through 9-1-1 NET to be investigated by an analyst. As with any misroute, the cause of the misroute could be in multiple places.



- The PSAP needs to file a DR on the GIS when issues are found in a map display.
 - Not applicable for the services requested in this RFP.
- Any client of an ECRF needs to file a DR on the routing data.
 - ALI Location Data Management customers would create an ALI DR through 9-1-1 NET to be investigated by an analyst. As with any misroute, the cause of the misroute could be in multiple places.
- A PSAP or ESRP needs to file a DR on a LIS.
 - Customers with AT&T ALI Location Data Management services would create an ALI DR through 9-1-1 NET.
- A PSAP or ESRP needs to file a DR on an ADR/IS-ADR.
 - Customers with West ALI Location Data Management services would create an ALI DR through 9-1-1 NET.
- A BCF, ESRP, or PSAP needs to file a DR on an originating network sending it a malformed call.
 - Future capability.
- Any client may need to file a DR on the ESInet operator.
 - This requirement will require further explanation in a future release of NENA STA-010.
- One PSAP needs to file a DR on another PSAP that transferred a call to it.
 - Not applicable for the services requested in this RFP.
- A data user may need to file a DR on a data owner due to rights management issues.
 - This requirement will require further explanation in a future release of NENA STA-010.
- A log client (logging entry or query) may need to file a DR on the Logging Service
 - Future capability.
- Any entity may have to file a DR on another entity due to authentication issues.
 - These discrepancies would currently be reported by opening a trouble ticket.
- An ESRP or PSAP may need to file a DR on a Border Control Function.
 - This requirement will require further explanation in a future release of NENA STA-010. Interactions between the ESRP and BCF would be logged and alarmed upon if discrepancies cause interoperability issues. A PSAP may file a suspected DR using a trouble ticket.



- Any Policy Enforcement Point may need to file a DR on a Policy owner due to formatting, syntax, or other errors in the policy.
 - This requirement will require further explanation in a future release of NENA STA-010. Depending on where an error takes place, it would typically be via an ALI DR in 9-1-1 NET or a trouble ticket.

4.10.10. Event Logging and Management Information System (MIS)

Please see Section 1.9 of the AT&T Emergency Service IP (ESInet) Service Guide.

1. Extensive logging of NG9-1-1-related events, transactions, media and operations is required. Logging includes all elements in the call flow including logging of events within ESInets, the NGCS, the PSAP and related operations, and is a standardized function used throughout ESInets, NG9-1-1 functional elements and PSAPs. Logged events include ingress and egress to an ESInet, ingress and egress to a PSAP, all steps involved in call processing, and processing of all forms of media.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The AT&T ESInet™ solution logs hundreds of data points for each call that traverses the system to assist in tracking and troubleshooting calls. Logged events include ingress and egress to an ESInet, ingress and egress to a PSAP, all steps involved in call processing, and processing of all forms of media.

The Customer Management Portal provides participating PSAPs and approved personnel 24x7 access to call detail records through a secure, web-based portal. The call detail records provide the user with all of the pertinent information for each call.

A standard reporting suite provides reports through a web-based interface

Users have a predetermined PSAP or set of PSAPs for which they are able to view statistics. For example, some users will only be able to view their own PSAP's statistics,



while another user may be provided authorization to view all PSAPs in a county, region, state, or other appropriate grouping.

Event data is time stamped upon ingress of payload entry through the LNG or BCF and at the time of answer and disconnect at the PSAP. Event data also tracks the time for each functional element to perform routing and PSAP assignment, by tracking the time it takes to traverse from the selective router to be delivered to the PSAP. This event data tracking by functional element allows for call diagnostics.

AT&T's standard reporting suite provides the following reports through a web-based interface.

- Event Count Reports per Hour– provides metrics for total calls by hour for a day, week or month.
 - Event Count by Routing Reason and Destination – Provides metrics for total calls in which the Customer PSAP participated as the Primary versus Alternate route per route type, broken out by hour for day, week, or month.
 - Event Count by Type – Provides metrics for total calls by call type (wireless, wireline, VoIP) broken out by hour for day, week, or month.
 - Event Count by Incoming Trunk Group – Provides metrics for total calls by trunk group with an hourly breakout.
 - Bridge Call Summary – Provides metrics for calls bridged in or out by bridge type (fixed, selective, manual). Call detail is available for each bridged call.
 - Routing Database Processing – provides a breakout of initial calls where the Customer PSAP was Primary by selectively routed versus default routed with a No Record Found (NRF) breakout.
 - Event Setup Time – provides statistics on the time to route and deliver calls where the Customer PSAP is Primary, including the minimum, maximum, median and average times
 - Event Count Reports per Hour– provides metrics for total calls in which Customer's PSAP participated by hour for a day, week or month
2. Respondent shall describe how its event logging solution may integrate with each PSAP's call-handling equipment to provide a complete, end-to-end view of a call and/or describe how a PSAP can gain access to information in the event logging solution. Respondent shall describe requirements of the PSAP's call-handling equipment, software license agreements, software licensing costs, and interfaces required to support integration with the Respondent's event-logging solution.



- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The AT&T ESInet™ service provides an i3 logging capability per the NENA STA-010.2 specification. AT&T can support near real-time log delivery and web service interfaces for log retrieval from authorized clients. AT&T has included optional pricing for ESInet integration with ECaTS reporting solution. The ECaTS solution is capable of collecting inputs from PSAP call handling equipment with i3 logger inputs.

Note: upon request, AT&T can assist the NCR in obtaining ECaTS pricing information to address PSAP call handling standalone reporting needs.

3. Respondent shall describe how a PSAP can gain access to the event-logging solution to review recordings and run statistical and other MIS reports. Respondent shall describe retention periods associated with all logging records.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

i3 logs from all ESInet i3 components will be available, and per the NENA STA-010.2 specification AT&T will support near real-time log delivery and web service interfaces for log retrieval from authorized clients.

Data used to generate these logs is typically archived for three years, unless otherwise specified.



The Customer Management Portal (CMP) provides participating PSAPs and approved personnel 24x7x365 access to a reporting suite including call detail records through a secure, web-based portal. Call detail records provide the user with all of the pertinent information for each call.

The AT&T web-based reporting suite is a business intelligence reporting tool for metrics reporting supplies authorized users with AT&T ESInet™ Routing and Location Data Management reports.

Our Web-based reporting tool provides the following reports.

- AT&T ESInet™ Routing
 - Call Counts Metrics
 - Trunk Busy Metrics
 - Call Detail Metrics
 - SR Database Results Metrics
- ALI Management
 - Primary Metrics Summary Reports
 - TSS Error Reports
 - Monthly TN Census Report
 - SOI Reports
 - Monthly ALI Retrieval Report
 - Monthly ANI Failure Report
 - NRF Reports
 - System Performance Reports

Users can view summary data for a "big picture" view, and in many cases, drill down to the detail for a more "granular" view. Users can also download a report as a comma-delimited file, which can be imported into Excel or another database application.

The AT&T tool gives users the ability to drill down and capture additional contextual information that can be used to more efficiently manage ongoing 9-1-1 operations. A secure web portal in a standardized HTML format, customized to each authorized user's profile, access level, and preferences, provides access to more than 270 compliance reports and other existing reports.

Users can create customized reports and perform real-time data and trend analysis, including graphing, based on daily data updates. AT&T gives 9-1-1 officials the ability to convert static data into actionable information anywhere and at any time.



As shown in the following sample screenshots of the reporting tool, hyperlinks allow the user to easily drill down to further levels of detail. For example, clicking on the Company A link in the example below, allows the user to see further detail on Service Order processing. The results are typically returned within one second.

Monthly ALI Retrieval Report
July 2025
Region: Region Total

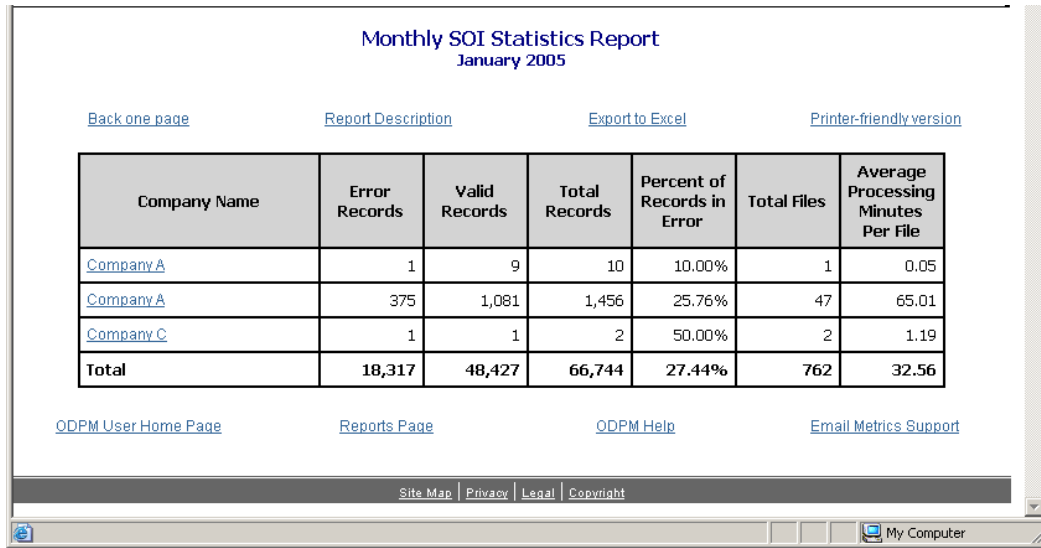
[Back one page](#)[Report Description](#)[Export to Excel](#)[Printer-friendly version](#)

Hourly Distribution				Special Case Retrievals				
Hour	ALI Retrievals	Base Retrievals	Manual Retrievals	Description	ALI Retrievals	% ALI Retrievals	Base Retrievals	% Base Retrievals
0:00	56,512	41,618	4,521	Anonymous Calls 911-0000	50,255	2.72%	n/a	n/a
1:00	48,061	35,249	4,124	Seizure with no ANI 000-0000	14,240	0.77%	n/a	n/a
2:00	40,780	29,552	3,446	ESCO Calls 911-0000	9,909	0.54%	n/a	n/a
3:00	32,989	23,837	2,610	Single Link Retrievals	50,092	2.71%	30,794	2.29%
4:00	26,876	19,404	2,294	No Records Found	125,095	6.77%	110,696	8.22%
5:00	27,863	20,286	2,315	Selectively Routed	1,674,243	90.67%	1,233,608	91.59%
6:00	38,166	27,542	3,229	Correctly Routed	1,653,401	89.55%	1,212,766	90.04%
7:00	52,753	38,625	5,135	Misrouted	20,842	1.13%	20,842	1.13%
8:00	66,718	49,335	6,549	Non-selectively Routed	172,182	9.33%	113,293	8.41%
9:00	76,106	56,769	7,811	Class of Service Breakout				
10:00	84,985	62,815	8,409	Class Description	ALI Retrievals	% ALI Retrievals	Base Retrievals	% Base Retrievals
11:00	91,946	67,658	8,580	0 Business with off premise ext	4,922	0.27%	3,104	0.23%
12:00	97,949	71,091	8,818	1 Residence	488,681	26.47%	378,492	28.10%
13:00	102,265	74,747	9,006	2 Business	236,833	12.83%	181,247	13.46%
14:00	108,013	78,901	9,897	3 Residence PBX	1,079	0.06%	830	0.06%
15:00	116,440	84,929	10,443	4 Business PBX	104,021	5.63%	57,733	4.29%
16:00	120,959	87,466	10,438	5 Centrex	43,003	2.33%	35,592	2.64%
17:00	122,115	87,798	9,425	6 Coin (out-going only)	14,890	0.81%	10,684	0.79%
18:00	116,916	83,752	9,645	7 Coin (two way)	45,693	2.47%	32,842	2.44%
19:00	103,451	74,832	8,316	8 Wireless/Mobile	203,111	11.00%	107,616	7.99%
20:00	94,838	68,992	7,855	9 Residence with off premise ext	1,166	0.06%	1,005	0.07%
21:00	84,514	62,147	7,582	W Wireless	120,487	6.53%	100,198	7.44%
22:00	74,020	54,573	6,100	X Wireless	44,145	2.39%	37,889	2.81%
23:00	61,190	44,983	5,366	G Wireless Phase I	288,784	15.64%	247,467	18.37%
				H Wireless Phase II	108,292	5.86%	41,506	3.08%
				NRF	125,095	6.77%	110,696	8.22%
				Other	16,223	0.88%	0	0.00%
Total	1,846,425	1,346,901	161,914	Total	1,846,425		1,346,901	

[ODPM User Home Page](#)[Reports Page](#)[ODPM Help](#)[Email Metrics Support](#)

Site Map | Privacy | Legal | Copyright

Figure 22. Table Title and Descriptive Text



Company Name	Error Records	Valid Records	Total Records	Percent of Records in Error	Total Files	Average Processing Minutes Per File
Company A	1	9	10	10.00%	1	0.05
Company A	375	1,081	1,456	25.76%	47	65.01
Company C	1	1	2	50.00%	2	1.19
Total	18,317	48,427	66,744	27.44%	762	32.56

Figure 23. Sample AT&T tool Reports

At every level of each report the user can:

- Click on the “Export to Excel” hyperlink to produce an Excel version of the data displayed on the screen.
 - Click on the “Printer-friendly version” hyperlink to produce an HTML version of the data as displayed on the screen without headers and footers for printing simplicity.
4. Because logs may be subpoenaed and used as a source of information in legal proceedings, the logging systems shall be designed, proposed, and operated with legal defensibility of logged information taken into careful account. All log entries shall be accurately time stamped.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

Event data is time stamped upon ingress of payload entry through the LNG or BCF and at the time of answer and disconnect at the PSAP. Event data also tracks the time for

each functional element to perform routing and PSAP assignment, by tracking the time it takes to traverse from the selective router to be delivered to the PSAP.

5. The Contractor's proposed logging solution must meet the requirements set forth in NENA 08-003.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The AT&T ESInet™ logging solution meets the requirements set forth in NENA 08-003. Additionally, i3 logs from all ESInet i3 components will be available per the NENA STA-010.2 specification. AT&T will support near real-time log delivery and web service interfaces for log retrieval from authorized clients.

6. Contractor is responsible for any third-party software licensing costs and any other associated costs.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The AT&T ESInet™ service includes third-party licensing and associated costs.

7. Respondent shall describe the reports, MIS tools, and performance metrics made available to each PSAP, the user interface for retrieving or receiving reports, and the ability to customize reports based on individual PSAP needs. The NCR desires reports and metrics that include but are not limited to:

- Timing



- Call delivery time
 - Call processing time between elements
- Volumes
 - Call volumes by call type
 - Alternate-routed calls
 - Text-to-9-1-1
 - All NGCS element usage volumes
- Bandwidth/trunk utilization
 - Calls per trunk
 - Trunk utilization
 - Circuit utilization
- Call Flows and Agent Activity
 - Call transfers
 - Call conferences
 - End-to-end call-flow analysis

☐ Complies

☒ Complies Partially

☐ Complies with Future Capability

☐ Does Not Comply

Details to support the answer:

AT&T Response:

AT&T's standard reporting suite provides the following reports through a web-based interface.

- Event Count Reports per Hour– provides metrics for total calls by hour for a day, week or month.
- Event Count by Routing Reason and Destination – Provides metrics for total calls in which the Customer PSAP participated as the Primary versus Alternate route per route type, broken out by hour for day, week, or month.
- Event Count by Type – Provides metrics for total calls by call type (wireless, wireline, VoIP) broken out by hour for day, week, or month.



- Event Count by Incoming Trunk Group – Provides metrics for total calls by trunk group with an hourly breakout.
- Bridge Call Summary – Provides metrics for calls bridged in or out by bridge type (fixed, selective, manual). Call detail is available for each bridged call.
- Routing Database Processing – provides a breakout of initial calls where the Customer PSAP was Primary by selectively routed versus default routed with a No Record Found (NRF) breakout.
- Event Setup Time – provides statistics on the time to route and deliver calls where the Customer PSAP is Primary, including the minimum, maximum, median and average times
- Event Count Reports per Hour– provides metrics for total calls in which Customer’s PSAP participated by hour for a day, week or month

Users will access the web-based report interface via a landing page where they will authenticate and have access to launch the report interface.

AT&T can work with the NCR to develop customized PSAP reporting based upon engineering requirements discovery. Customized reporting development costs are priced separately.

4.10.11. Network Time Protocol (NTP) & Time Source

1. Contractor shall provide redundant, resilient network-attached time sources ("master clocks") capable of supplying standard time to all systems, network devices, and functional elements that comprise the ESInet and the NGCS.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

AT&T ESInet™ processing elements achieve time synchronization via Network Time Protocol (NTP) from redundant and geographically distributed sources within the AT&T ESInet™ domain. Time stamps are included in logs, system traces, and user reports.



2. The master clock time source(s) shall be accessible to the PSAPs for synchronizing their call-handling systems and other related systems. All systems, network devices, and functional elements shall support the use of the Network Time Protocol (NTP) for maintaining system clock accuracy.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

PSAPs will be offered use of the NTP service to synchronize the clocks on their 9-1-1 CPE, workstations, etc.

4.10.12. NG9-1-1 Applications and Alarm Integration

1. NG9-1-1 provides for the capability to have alarm companies integrate directly with the ESInet and use the NGCS for routing of the alarm and its associated data. The NCR is interested in implementing such capabilities. As an optional service and priced separately, Respondent may describe its experience in integrating alarm and sensor data with its NGCS solution.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

AT&T and its partners have had experience integrating multiple “non-traditional” systems into the NGCS infrastructure. These include, but are not limited to, Telematics, VoIP Services, Text, Multimedia, and Gunshot detection.



With the information available today, it seems as though alarm data and call center support would fit the NG mold well. In order to fully understand the support (and therefore financial) impacts, AT&T would need to know the interoperability requirements from the Alarm Provider, as well as the expectation for the end result from the PSAP.

If the alarm companies provide either legacy TDM/ALI or i3 standard protocols, the integration would be seamless, and the call flow should be identical to that of a typical legacy and/or i3 call. If for some reason, the alarm company is unable to provide the voice and location information in an industry-standard format, additional resources would need to be expended to design, test and implement a non-standard solution.

AT&T is excited to have the opportunity to fully understand and implement additional lifesaving technologies within its NGCS Infrastructure. AT&T looks forward to working with NCR and the OSPs on how to deploy those technologies within a redundant and reliable next generation solution.

AT&T can work through engineering requirements discovery with the NCR to develop a mutually agreed upon scope of work that would be priced separately upon completion of functional requirements analysis.

2. As an optional service and priced separately, Respondent may describe other NG9-1-1 applications, Additional Data integrations, and personal safety applications that may be integrated with its NGCS solution.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

AT&T and its partners have tested and deployed multiple non-traditional additional data technologies within its NGCS. These include, but are not limited to, Telematics, VoIP Services, Text, Multimedia, and Gunshot detection. If the participating technologies can use traditional TDM/ALI protocols or NENA standard i3 protocols to connect and provide address information to the NGCS infrastructure, then the solution and interoperation should be seamless.



If there is an expectation to provide functionalities or capabilities that are not currently supported by the legacy and/or NENA i3 model, AT&T would need to fully understand the requirements from both the OSP in question as well as NCR to establish a support model to satisfy the end user's needs.

AT&T can work through engineering requirements discovery with the NCR to develop a mutually agreed upon scope of work that would be priced separately upon completion of functional requirements analysis.

4.10.13. Message Session Relay Protocol (MSRP) Text Integration

Multiple NCR PSAPs have deployed short messaging service (SMS) to 9-1-1 service, with several others planning to do so in the next year. The text control centers (TCC) of both West and Comtech TCS are serving the region through a variety of direct MPLS network connectivity and Internet-based access. Respondent shall describe its ability to integrate existing Web-based and MSRP-integrated SMS to 9-1-1 and future RTT into its ESInet. Respondent shall explain whether its solution supports location-by-reference and/or location-by-value. This requirement is for integration of text messaging with MSRP and not a requirement for procuring text services. Respondents shall provide costs for MSRP integration with the NGCS in the Optional Costs Pricing table.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The AT&T ESInet™ supports TCC interfaces to deliver “SMS to 9-1-1” services to NCR PSAPs. The three industry-defined methods of SMS delivery to PSAPs are supported. Existing PSAP TCC services can co-exist with the AT&T NCR ESInet implementation and can transition to utilize the ESInet IP transport and/or NGCS services as individual PSAPs are deployed on the ESInet. As a PSAP's CPE provides support, PSAPs can have their “SMS to 9-1-1” SIP signaling, or call control messaging, pass through the ESInet ESRP functions and benefit from a common and centrally controlled set of PSAP routing policies, such as PSAP Abandonment/Evacuation routing.



The AT&T/West managed TCC has interconnections to all current TCC providers and their respective customers. As NCR ESInet deployment progresses, Carrier initiated emergency text messages can be aggregated at the AT&T/West managed TCC and integrated with ESInet transport and NGCS. At that time, any ancillary transport provided to PSAP CPE demarcation sites just for the purpose of “SMS to 9-1-1” service delivery can be retired in lieu of utilizing ESInet transport.

“SMS to 9-1-1” industry defined service delivery mechanisms are:

- **Text Over TTY** – The text will be converted to Baudot by the AT&T/West managed TCC. This TTY call will then be sent into the AT&T ESInet™ and handed off to the PSAP CPE from the Legacy PSAP Gateway (LPG). The PSAP CPE needs to support TTY in order to have a text conversation through this method.
- **Web Browser** – The Web Browser provides a GUI interface which allows the end PSAP user to communicate with the text initiator over the public internet. Since this workstation is connected to the public internet, it is typically a standalone workstation and uses the “swivel chair” approach.
- **MSRP** – AT&T will establish redundant connections between the AT&T/West managed TCC and the AT&T ESInet™. When a text is initiated, the text will traverse the ESInet infrastructure. The ESRP/ECRF will be used to determine and route any text traffic. All PRF rules will be applied when routing to the PSAP. The message will traverse the established ESInet redundant paths and be handed off to the Terminating ESRP/CPE. It will be the PSAP’s responsibility to procure a solution with their CPE vendor. Protocol specifications can be provided upon request.

The service includes the following elements.

- Redundant interconnection with TCC
- Redundant, secure IP connectivity between the end user PSAP and AT&T ESInet™
- The ability to transfer a text session to another PSAP on the network
- SIP-based communication protocol compliant to existing standards, NENA i3 and ATIS J-STD-110 MSRP protocol
- Ability to display Request Initiator (RI) cell sector location and Carrier Identifier as an in-band message
- Log retention of text dialogues
- The following diagram illustrates “SMS to 9-1-1” interconnection between TCC, AT&T ESInet™ and each of the three “SMS to 9-1-1” service delivery types.



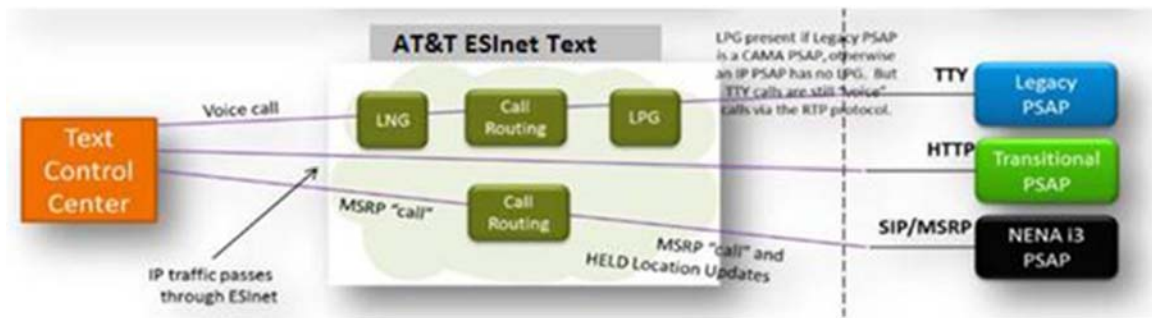


Figure 24. AT&T ESInet™ Text to 9-1-1 High Level Diagram

Response from Clarification Questions dated March 27, 2017

5. For clarification, on page 214 of your proposal, how does the statement that “any ancillary transport provided to CPE demarcation sites for ‘SMS to 9-1-1’ service can be retired in lieu of utilizing ESInet transport” affect Fairfax County or any non-West based CPE in the Part B jurisdictions? In the case of Fairfax County, Comtech is the current TCC and dedicated carrier diverse T-1 circuits are currently in place from Comtech to PSTOC and Pine Ridge with MSRP integration into a VESTA 9-1-1, Release 6.1 implementation. Does your statement mean those circuits are no longer required immediately when Fairfax transitions onto the AT&T ESInet? Are there changes necessary for Fairfax to make to maintain end-to-end connectivity for text-to-9-1-1 messages when Fairfax County transitions onto the AT&T ESInet (e.g., remove the dedicated MSRP based circuits)? If changes are required, would it require Fairfax County to select West as the TCC in order to have, per your stated service, “the ability to transfer a text session to another PSAP on the network”? If such a change is necessary, please provide an understanding of the changes that would be necessary to eliminate the current circuits and to gain the ability to transfer texts using the ESInet and VESTA 9-1-1. Other jurisdictions in the area with Comtech as their current TCC include Arlington and the City of Alexandria (both of which are currently using a web browser connection to the Comtech TCC).

AT&T Response:

The AT&T ESInet™ includes the capability to use the ESInet established network as transport for text to 9-1-1.

When a text to 9-1-1 is initiated, it is the responsibility of the TCC vendor supporting the wireless carrier to determine which TCC is responsible for sending the text to the proper PSAP. In the case of Fairfax County using the AT&T ESInet™, Comtech would relay that text message to the West TCC infrastructure through already established connectivity. This “handoff” occurs every day across the country due to the fact that, although PSAPs choose only one solution for communication with the end user, multiple wireless carriers are deployed. Since wireless carriers utilize different TCC vendors, one TCC is used as an aggregation point in order to keep the end solution consistent with the PSAP.



Once processed by the West TCC, the text message (via i3 SIP/MSRP standards/protocols) would be sent to the AT&T ESInet™. The AT&T ESInet™ would look for any additional Policy routing for the destination PSAP, and then relay that text to the proper terminating ESRP (CPE) over the established AT&T ESInet™ circuits.

Since (in the above example) the PSAP is being served by the West TCC service, calls could be transferred to any PSAP currently accepting text to 9-1-1 traffic. That is true whether the solution is being provided by the West TCC or Comtech TCC. If text is transferred to a PSAP using the Comtech TCC aggregation/PSAP solution, then further functionality would be determined by the Comtech platform.

The AT&T ESInet™ infrastructure establishes IP links into each PSAP. From an AT&T perspective, the existing TCC links into the Fairfax County PSAP could be eliminated once the ESInet is up and operational. There are typically costs from the CPE vendors and their partners that still may apply for the ongoing management of the text to 9-1-1 service, but it should not include physical connectivity into the PSAP once the AT&T ESInet™ solution is deployed.

AT&T recommends that all traffic (text and voice) use the same connectivity. This would reduce costs and resource efforts, as well as create consistency for operational support.

Sample Message Flow

1. An RI sends a text message to 9-1-1.
2. The text request is routed through the wireless carrier's network to the TCC.
3. TCC determines location of the RI via a Mobile Location Protocol (MLP).
4. TCC determines the ESInet by using the cell sector or caller's latitude and longitude and sends the call to the AT&T ESInet™ or PSAP Web Browser interface.
5. If using a TTY or Integrated solution, the AT&T ESInet™ determines PSAP by querying the ECRF. The AT&T ESInet™ sends the call to the PSAP where tones are recognized and converted into displayable characters.



4.11. SERVICE LEVEL AGREEMENTS (SLA)

4.11.1. System Capacities and Performance

Respondent shall provide capacity levels of each element of the ESInet and the NGCS. This may be in terms of busy-hour calls, network bandwidth, or any other applicable measure. The proposed solution must be capable of handling current call volume plus 25 percent growth over the term of the contract. Respondent shall provide the incremental cost to handle 125% of current call volume in the Optional Pricing Table. Respondent shall specify lead times required to increase capacities on each element of the ESInet and the NGCS.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The AT&T ESInet™ core call routing centers are capable of processing more than twice the estimated busy hour rate for all 9-1-1 calls across the nation. The AT&T ESInet™ can successfully process 9-1-1 calls in the NCR even under severe loads that may result from unplanned events such as natural or man-made disasters.

AT&T has included 25% growth as part of our solution. Additional network bandwidth can be added to accommodate 125% growth in call volumes. AT&T will work with the NCR for capacity planning and to mutually agree on ordering timeframes. This methodology provides the NCR with a cost effective solution in the near term and allows for growth based on coordinated agreements.

4.11.2. System Performance

1. *Network Latency*—Respondent shall specify the guaranteed maximum latency across its backbone network under a full-load condition, and include how that information will be gathered, calculated and provided to the NCR.

- ☒ Complies



- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The AT&T ESInet™ Network Latency Guarantee will be a monthly network-wide average roundtrip transmission of fifty (50) milliseconds or less between the data centers and the PSAP end points.

2. *Point of Presence (POP) to POP*—Respondent shall specify the guaranteed maximum latency from interconnection facility (aka, point of presence, or POP) to interconnection facility, and include how that information will be gathered, calculated and provided to the NCR.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The maximum acceptable delay for packets traversing the ESInet should be less than or equal to 37 mS. It is a best practice to design ESInets to operate with less than 15 to 20 mS of latency. This allows the original encode and decode and a conference bridge in the middle of the path and still achieves the maximum 37mS or less packet delay.

3. *POP to Endpoints*—Respondent shall specify the guaranteed maximum latency from interconnection facilities to the network interface device located at the entrance to the customer's premises, and include how that information will be gathered, calculated and provided to the NCR.

- ☒ Complies
- ☐ Complies Partially



- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The maximum acceptable delay for packets traversing the ESInet should be less than or equal to 37 mS. It is a best practice to design ESInets to operate with less than 15 to 20 mS of latency. This allows the original encode and decode and a conference bridge in the middle of the path and still achieves the maximum 37mS or less packet delay.

4. *Packet Loss*—Respondent shall specify the guaranteed maximum end-to-end packet loss across its network. This specification also shall include any loss characteristics associated with another carrier's network or any applicable wireless links, including how that information will be gathered, calculated and provided to the NCR.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

It is a best practice to engineer ESInets to keep the packet loss budget under 2.5 percent. ESInets should be designed without oversubscription. Packet loss of less than 1 percent should be achievable.

5. *Network Traffic Convergence*—Respondent shall specify convergence protocols and the estimated or guaranteed network convergence time (<54 milliseconds [ms]) of IP traffic at any point within the proposed solution, including how convergence information will be gathered, calculated and provided to the NCR.

- ☐ Complies
- ☒ Complies Partially
- ☐ Complies with Future Capability



☐ Does Not Comply

Details to support the answer:

AT&T Response:

The AT&T ESInet™ service utilizes AT&T's MPLS private IP network that may include use of third party network providers that provide the local access and path diversity. These networks are comprised of different components, multiple technical solutions, and various types of interfaces. Due to the nature of MPLS-based transport, WAN failures (within the carrier network or last-mile) may not be immediately detected by NGCS network equipment at the physical layer. Knowing this, the AT&T solution employs a more robust means of end-to-end failure detection to ensure the reliable delivery of 9-1-1 traffic. These methods include creating a tunnel overlay through the MPLS-based carrier networks, as well as running heartbeats from the NGCS Core equipment to the PSAP. All of this, combined with additional accounting for false positives/network degradation, creates a backbone convergence time of less than 500 ms.

In today's environment it would be extremely challenging to create an effective and affordable means to support IP network convergence times of less than 54ms. Technologies such as MPLS fast-reroute, which can re-converge in ~50ms in specific conditions rely on immediate detection of end-to-end circuit failures at the physical layer (optical/electrical), which is not possible when using L2VPN/L3VPN carrier services such as MPLS products for WAN transport. As a result, a <54ms requirement not only implies the exclusive use of point-to-point circuits, but also that the circuits not be virtual in nature, such as L2VPN pseudowires. A full-mesh of leased copper/fiber pathways would raise cost to the point where the solution would be cost prohibitive, or in the absence of a full-mesh, would result in reduced reliability and redundancy within the NGCS network.

6. *Mean Time to Repair*— Respondent shall specify the mean time to repair (MTTR) characteristics of its proposed solution. These specifications shall reflect the end-to-end solution, as well as components or subsystems that are subject to failure. Respondent shall include how MTTR information will be gathered, calculated and provided to the NCR.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply



Details to support the answer:

AT&T Response:

MTTR characteristics are commensurate with the appropriate level of service at which the ESInet system is functioning (i.e., system components in the call path are Life and Mission Critical Services (LCMS) while, peripheral systems are considered Business Critical Services (BCS). The MTTR characteristics are listed in the table below.

- Life and Mission Critical Services (LCMS)
- Business Critical Services (BCS)
- Business Essential Services (BES)
- Business Support Services (BSS)
- Unsupported Business Services (UBS)

Service Class	MTBF (Service)	MTTR (Service)
LMCS	>5 years	<2 minutes
BCS	>1 year	<4 hours
BES	>3 months	<40 hours
BSS	>1month	<3 days
UBS	Unspecified	Unspecified

Table 14: MTBF and MTTR

MTTR information is gathered as part of the process for responding to Severity Level 1, 2, 3 and 4 incidents. The time to repair would be based upon the time from the beginning of the incident (“beginning” of the incident should be the “point of detection/discovery” as defined by the FCC) to the time in which the service became functional again. Reporting is provided on a monthly basis.

7. *Mean Time Between Failures*—Respondent shall specify the mean time between failures (MTBF) characteristics of its proposed solution. These specifications shall reflect the end- to-end solution, as well as components or subsystems that are subject to failure. Respondent shall include how MTBF information will be gathered, calculated and provided to the NCR.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability



☐ Does Not Comply

Details to support the answer:

AT&T Response:

MTBF characteristics are commensurate with the appropriate level of service at which the system is functioning i.e., systems in the call path are Life and Mission Critical Services (LCMS) while peripheral systems are considered Business Critical Services (BCS). The MTBF characteristics are listed in Table 15 above.

8. *System Availability*—Respondent shall specify the service level offered as a percentage of time when the service is available, and the maximum period of total outage before remedies are activated. Availability is defined as $MTBF/(MTBF+MTTR)$. Respondent shall include how system availability information will be gathered, calculated and provided to the NCR.

☒ Complies

☐ Complies Partially

☐ Complies with Future Capability

☐ Does Not Comply

Details to support the answer:

AT&T Response:

The AT&T ESInet™ Service availability SLA measures the availability requirement of 99.999% for Call Processing (“Service Availability”). Call Processing is the ability of the Service to deliver calls from the inbound Service demarcation point into the Core Call Processing Nodes and from the Service demarcation point to a Valid Destination (for example a PSAP). The Service Availability is calculated from the time an issue is reported that impacts Call Processing ability, until such time that the Service Call Processing ability is restored. The Service Availability downtime will not exceed 26.3 seconds per month. Customers are eligible for remedies and service credits when the Service Availability SLA is not achieved.

Based on our public safety experience, AT&T has found that measuring Service Availability from a call processing perspective is more applicable and relevant to 9-1-1 service vs. traditional methods of calculating availability thru MTBF and MTTR measures. AT&T believes that the most relevant measure of service availability is evidenced by uninterrupted, reliable 9-1-1 call routing and delivery to the PSAPs.



9. *End-of-Support Equipment*—Contractor shall proactively replace any hardware that has reached end of support (EOS) no later than 90 days prior to the manufacturer's EOS date.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

It is AT&T's goal to replace any and all equipment prior to the EOS date from the vendor(s). Understanding that point, it is, above all, a responsibility of AT&T to provide a redundant and reliable service to NCR. AT&T commits to deploying only fully tested equipment throughout its infrastructure, which may impact the 90-day timeline requested by NCR. As an example there may be cases within the lifetime of the agreement, that an EOS date comes up on hardware that does not only affect that particular piece of equipment, but also impacts other equipment, processes, procedures, protocols, and software within the NGCS Solution. In this example, additional equipment installation and testing may be required which could impact the 90-day timeline request. AT&T will create a plan with NCR to address the EOS equipment while ensuring the overall integrity of the solution.

10. *Remedies*—Respondent shall define the financial and operational remedies to the NCR and its respective specified agencies for each event in which the above system performance service levels are not maintained.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:



AT&T Response:

The AT&T ESInet™ service include SLAs that come standard with our offer, at no additional charge and are unmatched in today's marketplace. AT&T's approach to provide ESInet service assurance is to combine 9-1-1 performance measures into meaningful service level agreements that reflect end to end operation of Next Generation Core Services (NGCS). The AT&T ESInet™ standard SLAs for Service Availability, Voice Quality, and PSAP Call Delivery encompass support of the system performance requirements specified above. AT&T offers an additional standard SLA for on-time provisioning of PSAP deployments. Each of these SLAs are further described in the paragraphs below.

Service Availability SLA

The AT&T ESInet™ Service availability SLA measures the availability requirement of 99.999% for Call Processing ("Service Availability"). Call Processing is the ability of the Service to deliver calls from the inbound Service demarcation point into the Core Call Processing Nodes and from the Service demarcation point to a Valid Destination (for example a PSAP). The Service Availability is calculated from the time an issue is reported that impacts Call Processing ability, until such time that the Service Call Processing ability is restored. The Service Availability downtime will not exceed 26.3 seconds per month.

Remedies: If the Service Availability falls below the target of 99.999% in a calendar month then a Service Availability SLA credit of 5% of the monthly recurring charge for the ESInet Network Call Routing shall apply.

Voice Quality SLA

AT&T supports a Voice Quality SLA by monitoring the IP audio packets from Aggregation sites (from the AT&T ESInet™ demarcation point) into the Core Call Processing Nodes and from the PSAP (from the Customer demarcation point) into the Core Call Processing Nodes. The SLA objective, based on the industry standard Mean Opinion Score (MOS), measures a Daily Predicted Mean Opinion Score (PMOS) value per PSAP to not be less than a 3.5 threshold for G.711 codec as measured by AT&T, where the ideal PMOS score for the G.711 codec is 4.3 as measured by AT&T. The Daily PSAP PMOS value will be based on an average of the per call PMOS scores over a 24 hour calendar day. A per call PMOS score is defined as the lowest score of the three (3) call legs defined as:

- a) Ingress Call Leg A: Aggregation site LNG to IP network termination at Emergency Call Management Core (ECMC)



- b) Core Call Leg B: Between the media server and the SBC at an ECMC
- c) Egress Call Leg C: PSAP edge router to the SBC

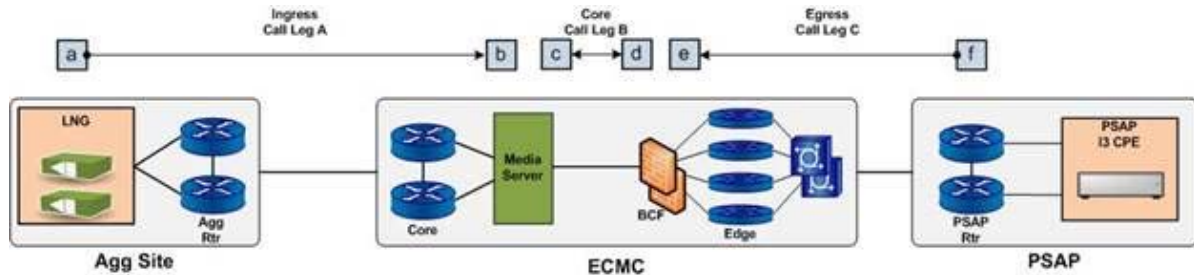


Figure 25. Voice Quality

Voice quality for each leg is measured via Predicted MOS calculation by way of evaluation of Real-Time Transport Protocol (RTP) IP packet network characteristics (jitter, latency, packet loss). Per call Predicted MOS will be measured for leg A (a – b), B (c – d), and C (e – f).

Remedies: If the Voice Quality SLA falls below the target for three consecutive days in a calendar month and AT&T is unable to restore Service to the SLA target within 30 days, a 5% credit of the ESInet Call Routing for the impacted PSAP (s) shall apply.

PSAP Call Delivery SLA

AT&T supports a PSAP Call Delivery SLA that all calls received into the Service in any given calendar month are delivered to a Valid Destination according to the service levels set forth below.

- (i) if fewer than 100,000 calls are presented in a calendar month, no more than one (1) call to the Service cannot be delivered to a Valid Destination; or
- (ii) if 100,000 or more calls are presented in a calendar month, no more than 0.001% of the total calls to the Service cannot be delivered to a Valid Destination.

If the PSAP Call Delivery performance objective is not met in a given month (the “Failure Month”) and AT&T fails to remedy the issues within one (1) month following the Failure Month, the Customer may be eligible for a PSAP Call Delivery SLA credit. “Valid Destination” means correct primary or alternative PSAP, PSTN, or tone/treatment.



Remedies: If the PSAP Call Delivery performance objective for a PSAP is not met in a given calendar month, then a PSAP call Delivery SLA credit of 5% for the monthly recurring charge for the ESInet Network Call Routing for the impacted PSAP (s) shall apply.

On Time Provisioning SLA - PSAP Deployment

AT&T supports an on time provisioning SLA and will activate a new PSAP or Host location for the Service no later than the agreed upon Service Activation Committed Date.

Remedies: If AT&T does not meet this performance objective for On-Time Provisioning PSAP Deployment, Customer may be entitled to a one time SLA credit equal to 100% of monthly recurring charge for the applicable AT&T ESInet™ Service site, after the installation is completed.

As required by the RFP, AT&T has furnished a soft copy of the complete AT&T ESInet™ SLAs that can be found in Section X of our proposal. The complete SLA document also includes applicable exclusions and service level credit eligibility requirements.

4.11.3. SLAs for Incident Management

It is expected that the Contractor will have processes and procedures for supporting a NOC/SOC that can rapidly triage calls. In the absence of reasonably proposed processes, the Contractor shall meet, at a minimum, the following requirements for tracking, responding to, and reporting on network and system outages or failures:

- Severity Level 1 incidents responded to within 30 minutes and resolved within four hours of detection
- Severity Level 2 incidents responded to within 30 minutes and resolved within eight hours of detection
- Severity Level 3 incidents responded to within eight hours and resolved within 48 hours
- Severity Level 4 incidents responded to within 16 hours and resolved within 96 hours

These severity levels are defined as follows:

Severity 1 Incident



An incident shall be categorized as a “Severity 1 Incident” if the incident is characterized by the following attributes: the incident (a) renders a business-critical system, service, software, equipment or network component unavailable or substantially unavailable, or seriously impacts normal business operations, in each case prohibiting the execution of productive work, and (b) affects either (i) a group or groups of people, or (ii) a single individual performing a critical business function.

Severity 2 Incident

An incident shall be categorized as a “Severity 2 Incident” if the incident is characterized by the following attributes: the incident (a) does not render a business-critical system, service, software, equipment or network component unavailable or substantially unavailable, but a function or functions are not available, substantially available, or functioning as they should, in each case prohibiting the execution of productive work, and (b) affects either (i) a group or groups of people, or (ii) a single individual performing a critical business function.

Severity 3 Incident

An incident shall be categorized as a “Severity 3 Incident” if the incident is characterized by the following attributes: the incident causes a group or individual to experience an incident with accessing or using a system, service, software, equipment or network component or a key feature thereof and a reasonable workaround is not available, but does not prohibit the execution of productive work.

Severity 4 Incident

An incident shall be categorized as a “Severity 4 Incident” if the incident is characterized by the following attributes: the incident may require an extended resolution time, but does not prohibit the execution of productive work and a reasonable workaround is available.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:



AT&T Response:

As an industry leading provider of 9-1-1 and public safety services for over thirty years, AT&T has successfully implemented mature, proven processes and operational procedures for supporting a NOC/SOC that can rapidly triage calls. The AT&T ESInet™ service supports an Incident Restoration service level objectives (SLO), designed specifically for ESInet Next Generation Core Services, to measure the responsiveness of operations resources to restore Severity Level 1 and Severity Level 2 issues defined below.

Severity Level 1 is defined as an incident whereby the Service or its components are completely inoperative or severely impacted:

Examples: (including but not limited to)

- PSAP not receiving calls
- All network down to a PSAP
- Total Service failure
- Loss of ANI / ALI to a PSAP for 15 or more minutes

For Severity Level 1 issues, AT&T will respond within 30 minutes and restore Service within two (2) hours of opening a trouble ticket by Customer in the BusinessDirect portal.

Severity Level 2 is defined as an incident whereby the Service is functioning at a limited capacity or critical functions are no longer redundant.

Examples: (including but not limited to)

- PSAP reported line noise or interference
- Intermittent non delivery of voice
- Network to the PSAP one-sided (ESInet Network Connections)

For Severity Level 2 issues, AT&T will responds within 30 minutes and restore Service within four (4) hours of opening a trouble ticket by Customer in BusinessDirect portal.

Additionally, AT&T defines other incident levels that are non-critical in support of ESInet.

Severity Level 3 is defined as a reported problem disabling specific non-essential functions or resulting in operator inconvenience; error condition is not critical to



continuing operation and/or AT&T has determined a work-around for the error condition.

Examples: (including but not limited to)

- a. Loss of non-critical system component
- b. Legacy PSAP Gateway port loss
- c. Intermittent poor voice quality

For Severity Level 3 issues, AT&T will respond within eight hours and will restore service within 48 hours of opening a trouble ticket by Customer in BusinessDirect portal.

Severity Level 4 is defined as an incident where the services are impaired and some functions are not operating, but the impairments are considered minor or cosmetic and have only a minor impact on usability.

An informational request or questions of a general nature concerning the overall product suite functionality,

Examples: (including but not limited to)

- d. Report creation and formatting issues
- e. Loss of delivery of the CDR and provisioning data feed
- f. Non - Service affecting system anomalies that only occur once
- g. Non - Critical User Interface errors

For Severity Level 4 issues, AT&T will respond within 16 hours and will restore service within 96 hours of opening a trouble ticket by Customer in BusinessDirect portal.

AT&T ESInet™ Standard SLA for Incident Management is summarized in the table below:

	Fairfax RFP		AT&T ESInet™ Standard SLA	
Incident	Respond	Restore	Respond	Restore
Severity Level 1	30 mins	4 hrs.	30 mins	2 hrs.



	Fairfax RFP		AT&T ESInet™ Standard SLA	
Severity Level 2	30 mins	8 hrs.	30 mins	4 hrs.
Severity Level 3	8 hrs.	48 hrs.	8 hrs.	48 hrs.
Severity Level 4	16 hrs.	96 hrs.	16 hrs.	96 hrs.

The incident response service level objectives, for all incident severity levels are measured by comparing the time of opening the trouble ticket to the time the Service was restored.

The AT&T ESInet™ Standard SLA for Incident Management provides restoration of Severity Level 1 and Severity Level 2 incidents 50% faster than the required time durations specified in the RFP.

4.11.4. Outage Notification and Reason for Outage (RFO) Report

1. Contractor shall comply with all applicable FCC rules throughout the term of the services contract.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

AT&T complies with applicable FCC rules regarding outage notification and Reason for Outage (RFO) reporting. In case of a service interruption and/or outage, our team has



instituted Incident Management processes and procedures for dealing with various severity levels during the course of an incident. Our incident response tools include use of the Incident Command System (ICS), which is housed within our Ticketing System. The ICS is modeled directly from the Federal Emergency Management Agency (FEMA) Emergency Management Institute for major incidents. The ICS processes include resolution, documentation of any incident, communications, and post- event analysis. Incidents overall, regardless of level of severity, are tracked within our ticketing system, which also provides broadcast messaging available for real-time updates and status of ongoing service affecting issues that may impact the AT&T proposed solution.

2. Contractor shall notify the NCR jurisdictions and/or its designee within 30 minutes of discovering an outage that may impact 9-1-1 services. At the time of initial notification, the Contractor shall convey all available information that may be useful in mitigating the effects of the outage, as well as a name, telephone number, ticket or reference number, and email address at which the service provider can be reached for follow-up. The Contractor is responsible for coordinating data gathering, troubleshooting and reporting on behalf of its suppliers.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The AT&T ESInet™ provides an advanced 9-1-1 support center and network monitoring facility dedicated solely to monitoring and managing 9-1-1 processes and system elements. The NOC operates 24x7x365 and provides proactive, real time monitoring of the solution. The NOC leverages highly sophisticated monitoring tools to make sure the systems and networks are maintained to the highest quality and availability.

Remote monitoring of network and computer performance is conducted to provide statistical data on the number of alarms received and reported based on severity. The NOC uses the monitoring tools to capture the elements of a complex end-to-end service environment, such as network elements, computer systems, databases, and the applications themselves. NOC staff can monitor the complex dependencies among these managed elements and alert the appropriate group for interpretation. This provides a method to immediately notify designated personnel of any system failures.



In addition, the NOC provides continuous system support and monitoring 24x7 to each ALI node and to the database management system. The NOC also monitors all PSAP connections into the ALI nodes at the application level. Staffing in the NOC is second to none in the industry with Tier 0 through Tier 2 support staff on duty 24x7x365.

The following are key highlights for the notification system:

- The five state levels are as indicated: Critical, Major, Minor, Warning, and Normal
- We provide notification to the 24x7x365 NOC
- We provide notification by email and SMS
- Notification levels are defined by the supporting entity
- We are capable of alarm suppression by time, quantity, and a combination for reducing alarm notifications. For example we can say “no more of a certain alarm for the next 30 minutes” or we can say “send me duplicate alarms every 5 minutes”

We will notify Fairfax County’s single point of contact in writing concerning scheduled release installations. Acknowledgement of notification is required from the customer. AT&T will send an email notification to Fairfax County at the start and end of the pre-arranged maintenance interval. Listed below are the current AT&T 9-1-1 escalation procedures.

Escalation Intervals	Level	Responsibility
First Escalation SEV 1 - 2 Hours SEV 2 – 4 Hours SEV 3 – 6 Hours	Resolution Manager	• Review Customer Request and keep customer updated • Escalate as needed to the appropriate partner center
Second Escalation Customer Discretion	Area Manager Or Delegate	• Review status of ticket • Monitor ticket progress • Notify Director - when appropriate
Third Escalation Customer Discretion	Director	• Status Customer • Escalate as needed to partner centers • Monitor ticket Progress/ documentation • Notify AVP when appropriate
Fourth Escalation	AVP	• Insure adequate resources are available and engaged for prompt resolution



Escalation Intervals	Level	Responsibility
		• Update customer as appropriate • Escalate as needed to appropriate levels

Table 15: Escalation Intervals

3. Contractor shall communicate any additional material information to the NCR or its designee no later than two hours after the initial contact, and at intervals no greater than two hours thereafter until normal 9-1-1 service is restored. This information shall include the nature of the outage, its best-known cause, the geographic scope of the outage, the estimated time for repairs, and any other information that may be useful to the management of the affected facility.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

In the event of an outage AT&T applies immediate and sustained effort, 7x24, until a final resolution is in place. We use all reasonable efforts to provide a temporary workaround within an agreed upon time frame of the issue being detected. If a temporary workaround solution is provided, we provide an action plan to be mutually agreed upon for the final resolution. We continue resolution activity until full service is restored. The primary objective of an incident is to mitigate impact. The Incident Commander and Incident Administrator are able to call upon whatever resources are required to identify and restore functionality.

4. Following the restoration of normal 9-1-1 service, Contractor shall provide a Reason for Outage (RFO) Report/Root Cause Analysis to the NCR jurisdictions and/or its designee, no later than 30 days after discovering the outage. Respondent shall describe its compliance with the notification and reporting requirements stated above. Respondent shall describe the NOC/SOC tools and techniques at its disposal to ensure that its various suppliers perform troubleshooting and post-event analysis, and provide associated reports.

- ☒ Complies



- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

In addition to tracking planned and emergent events, AT&T maintains a problem management system for tracking and reporting trouble. We provide a state-of-the-art CRM trouble ticket system with a service portal for opening trouble tickets, submitting change requests, and checking status of existing items. We can also provide monthly trouble reports showing tickets opened, resolved, and unresolved.

AT&T will prepare and submit a preliminary root cause analysis (RCA) within 1 business day for a Severity Level 1 or Severity Level 2 event. The preliminary report will provide an overview of all information known at that time. A final report will also be provided that describes the cause, resolution and any preventative steps that can be taken to eliminate future events.

5. Outage notifications are a critical element to understanding overall system health. Having awareness of issues that exist in a neighboring NCR PSAP provides valuable insight to potential issues that may begin impacting another PSAP's operations. For example, if PSAP A's trunk capacity is impaired and PSAP B is PSAP A's first defined alternate route, then having insight to the impaired capacity issue will assist PSAP B in preparing staff for managing the potential influx of calls from PSAP A.

As such, the NCR is interested in an outage notification service that allows for each PSAP to elect the outage notification types and PSAPs for which it will receive outage notifications, outage updates and RFO reports. A Web portal for authorized users to select/deselect outage notifications is preferable.

Respondent shall provide a detailed description of how it may be able to support such an outage notification service.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply



Details to support the answer:

Today the AT&T 9-1-1 Resolution Center uses a web based application that utilizes a pre-populated template and distribution list per customer, to communicate potential or actual FCC significant events to the PSAP communities. The notification can be sent to a PSAP, District, or other, depending on the requirements/needs of the customer and their capabilities. Presently, the system is not accessible to the PSAP community to select/deselect outage notification. AT&T welcomes the opportunity to further explore the notification and customization requirements by the the PSAPs.

4.11.5. SLA Reporting

Respondent shall provide a detailed description of how it measures and reports incidents, including immediate notifications and regularly scheduled reports. The mechanism shall deliver SLA results to the NCR and its designees on a monthly basis. The report shall include all performance items identified in the Contractor's proposal and documented in contract negotiations.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

The AT&T ESInet™ SLAs are measured continuously using monitoring tools operated by our NOC. SLA report processing is done on a regularly scheduled basis made available each month. Customer notifications for performance impacting issues are consistent with the Severity Level incident definitions with escalation intervals as defined below.

Escalation Intervals	Level	Responsibility
First Escalation SEV 1 - 2 Hours SEV 2 – 4 Hours SEV 3 – 6 Hours	Resolution Manager	- Review Customer Request and keep customer updated - Escalate as needed to the appropriate partner center
Second Escalation Customer Discretion	Area Manager Or Delegate	- Review status of ticket - Monitor ticket progress - Notify Director - when appropriate



Escalation Intervals	Level	Responsibility
Third Escalation Customer Discretion	Director	• Status Customer • Escalate as needed to partner centers • Monitor ticket Progress/ documentation • Notify AVP when appropriate
Fourth Escalation	AVP	• Insure adequate resources are available and engaged for prompt resolution • Update customer as appropriate • Escalate as needed to appropriate levels

Table 16. Incident Escalation

AT&T ESInet™ provides the following SLA reporting information:

SLA	Description	Report(s)
On Time Provisioning	Delivery of fully operational PSAP no more than 30 days later than agreed time.	Discussion included as part of the project status meetings.
PSAP Call Delivery	Achieve 99.999 percent that all calls received by Aggregation Site or direct IP connection for an OSP in a calendar month are delivered to valid destination.	Monthly report for each PSAP on the network comparing the number of ingress calls to the number of calls delivered to Valid Destination for each primary PSAP. Summary exception report covering all PSAPs active on AT&T ESInet™ Service that provides the call details per PSAP that did not go to a Valid Destination.
Voice Quality	Daily predicted MOS (PMOS) value per AT&T Customer PSAP to not be less than a 3.50 threshold.	Report is to show 3 legs of call. Monthly report for each customer PSAP covering the average daily PMOS value for each day of the month. Exception report showing Customer PSAP that had one or more Daily PMOS value below the degradation threshold and responsible party.
Service Availability	AT&T ESInet™ Service downtime will not exceed 5.26 minutes per year, calculated monthly at 26.3 seconds per month.	Monthly report showing the number of minutes of downtime during a rolling 12 month period.
Restoration and Resolution Times	Measured by comparing the time the trouble ticket was created with the time that the temporary workaround was completed and service restored.	Monthly report indicating new Severity 1 and Severity 2 trouble tickets and their corresponding response time intervals as measured by mutually agreed upon time stamp information.

Table 17. SLA Reporting



4.11.6. SLA Violations

An SLA violation shall have occurred whenever:

- The Contractor fails to meet any single performance level
- The average of any single performance item over the preceding two-month period fails to meet the service level. This is an "early warning" of an unacceptable trend.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

AT&T offers industry leading SLAs as a standard component of our service unmatched within the industry. AT&T ESInet™ standard SLAs provide remedies for failing to achieve service assurance measures. AT&T looks forward to working with Fairfax County to gain a deeper understanding of the early warning requirement to explore methods of achieving this objective.

4.11.7. Incident Severity Level 1 and 2 Credits

Contractor shall provide a monetary credit of the monthly recurring fee (MRF) to the NCR and its respective specified agencies, as applicable, for each event in which service levels are not maintained. The NCR expects that all of the Contractor's network devices and services will perform at a level equal to 99.999 percent uptime measured on a rolling, 12-month calendar. Failure to meet service levels shall be measured per service-affecting outage. Respondent shall include how uptime information will be gathered, analyzed and provided to NCR.

Contractor shall meet the following requirements for tracking, responding to, and reporting on network and system outages or failures:

- Severity Level 1 incidents responded to within 30 minutes and resolved within four hours of detection.





- Severity Level 2 incidents responded to within 30 minutes and resolved within eight hours of detection.

The following severity levels are defined as follows:

Severity Level 1 Incident

An incident shall be categorized as a “Severity 1 Incident” if the incident is characterized by the following attributes: the incident (a) renders a business-critical system, service, software, equipment or network component unavailable or substantially unavailable, or seriously impacts normal business operations, in each case prohibiting the execution of productive work, and (b) affects either (i) a group or groups of people, or (ii) a single individual performing a critical business function.

Severity Level 2 Incident

An incident shall be categorized as a “Severity 2 Incident” if the incident is characterized by the following attributes: the incident (a) does not render a business-critical system, service, software, equipment or network component unavailable or substantially unavailable, but a function or functions are not available, substantially available, or functioning as they should, in each case prohibiting the execution of productive work, and (b) affects either (i) a group or groups of people, or (ii) a single individual performing a critical business function.

For Severity Level 1 and 2 incidents, a 10-percent credit of the monthly recurring fee (MRF) shall be due to the NCR and its respective agencies, as applicable when the initial period of resolution is exceeded. If the resolution period length of time doubles, then the credit shall increase to 20 percent of the MRF. If the resolution period length of time quadruples the initial period, then 50 percent of the MRF shall be credited. The credited amount shall be included on the invoice of each affected NCR jurisdiction the month immediately following the violation.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:



AT&T Response:

As an industry leading provider of 9-1-1 and public safety services for over thirty years, AT&T has successfully implemented mature, proven processes and operational procedures for providing service assurance. AT&T has established service levels for AT&T ESInet™ Service. While AT&T does not guarantee the service levels. AT&T will provide credits to an eligible Customer when a service levels not met, subject to the terms, definitions and any potential exclusions that may apply. Customer may not receive credits totaling more than 100% of the monthly charge for any affected PSAP for a given calendar month.

AT&T complies with the Incident Severity Level 1 and 2 Credits specified above as they apply in efforts to restore Severity Level 1 and Severity Level 2 issues defined below.

Severity Level 1 is defined as an incident whereby the Service or its components are completely inoperative or severely impacted:

Examples: (including but not limited to)

- PSAP not receiving calls
- All network down to a PSAP
- Total Service failure
- Loss of ANI / ALI to a PSAP for 15 or more minutes

For Severity Level 1 issues, AT&T will respond within 30 minutes and restore Service within two (2) hours of opening a trouble ticket by Customer in the BusinessDirect portal.

Severity Level 2 is defined as an incident whereby the Service is functioning at a limited capacity or critical functions are no longer redundant.

Examples: (including but not limited to)

- PSAP reported line noise or interference
- Intermittent non delivery of voice
- Network to the PSAP one-sided (ESInet Network Connections)



For Severity Level 2 issues, AT&T will respond within 30 minutes and restore Service within four (4) hours of opening a trouble ticket by Customer in BusinessDirect portal.

AT&T ESInet™ Standard SLA for Incident Management is summarized in the table below:

Incident	Fairfax RFP		AT&T ESInet™ Standard SLA	
	Respond	Restore	Respond	Restore
Severity Level 1	30 mins	4 hrs.	30 mins	2 hrs.
Severity Level 2	30 mins	8 hrs.	30 mins	4 hrs.
Severity Level 3	8 hrs.	48 hrs.	8 hrs.	48 hrs.
Severity Level 4	16 hrs.	96 hrs.	16 hrs.	96 hrs.

Table 18. Incident Respond and Restore Intervals.

The incident response service level objectives, for all incident severity levels are measured by comparing the time of opening the trouble ticket to the time the Service was restored.

The AT&T ESInet™ Standard SLA for Incident Management provides restoration of Severity Level 1 and Severity Level 2 incidents 50% faster than the required time durations specified in the RFP.

AT&T looks forward to future discussions with the NCR to review our AT&T ESInet™ SLAs and service credits.

4.12. PSAP INTERFACES AND BACKROOM EQUIPMENT REQUIREMENTS

Please see Section 2.3 of the AT&T Emergency Service IP (ESInet) Service Guide.

1. The PSAP call interface is a SIP call interface as described in NENA 08-003. The geolocation header, call information headers and other headers shall be the same as described in NENA 08-003. The call will be routed, using normal RFC 3261



procedures, to the URI obtained from the ESRP's PRF. See NENA 08-003, Section 5.6 for other information on the PSAP interface.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The PSAP call interface is a SIP call interface as described in NENA 08-003. The geolocation header, call information headers, and other headers are the same as described in NENA 08-003. The call is routed, using normal procedures, to the URI obtained from the ESRP's PRF. RFC 3261 is supported.

2. Contractor's solution shall support PSAP interfaces specified in NENA 08-003, Section 4.1, including the following:
 - SIP call interface
 - SIP subscribe and notify
 - Support for Web services
 - Support for HELD and LoST queries and responses
 - Support for placing abandoned call return
 - Support of SIP call transfer, call bridging, and call conferencing
 - Support for all baseline media and multimedia as described in NENA 08-003, Section 4.1
 - Support for ad hoc location validation
 - Support for queries to and responses from additional data repositories
 - Support for NTP time services interface, accurate to 1 millisecond
 - Support for logging of all calls, queues, upstream element states, and incoming calls and their associated media
 - Support for Transport Layer Security
 - Support for the NENA/ APCO Emergency Incident Data Document (EIDD)



- Support for Short Message Service (SMS), instant messaging and star code equivalent transfers
- Support for test calls

Respondent shall describe the functionality of the PSAP interfaces in sufficient detail to address the requirements outlined, with particular attention to the user interface, additional features, and security aspects.

- ☐ Complies
- ☐ Complies Partially
- ☒ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The AT&T ESInet™ solution supports PSAP interfaces specified in NENA 08-003, Section 4.1, including the following:

- SIP call interface
- Support for Web services
- Support for HELD and LoST queries and responses
- Support for placing abandoned call return
- Support of SIP call transfer, call bridging, and call conferencing
- Support for all baseline media and multimedia as described in NENA 08-003, Section 4.1
- Support for ad hoc location validation
- Support for queries to and responses from additional data repositories
- Support for logging of all calls, upstream element states, and incoming calls and their associated media
- Support for Transport Layer Security
- Support for the NENA/ APCO Emergency Incident Data Document (EIDD)
- Support for Short Message Service (SMS), instant messaging and star code equivalent transfers



- Support for test calls

SIP subscribe and notify is used to support transfers and conference bridging. AT&T also uses the concept of a “ping” to validate that the downstream ESRP is available. Specifically, the ESRP initiates a ping and expects the downstream ESRP to respond within a programmable time limit. The AT&T ESRP will retry the ping and if it still fails AT&T will create an alarm and apply alternate routing procedures. This is functionally equivalent to the subscription process.

Please see *AT&T ESRP – Terminating ESRP Interface for ESInet Specification v1.2* in Annex F for a detailed description of the functionality of the PSAP interfaces, specifically including the user interface, additional features, and security aspects.

3. Based on the CPE listed in Attachment A, Respondent shall provide a list of CPE platforms for which it has successfully implemented the interfaces listed above in a live production environment, noting any interfaces that have not yet been tested with each CPE vendor/model. Where interfaces with CPE vendors/models have yet to be deployed and/or tested, please describe the integration testing process that the Respondent will perform prior to acceptance testing of the solution. Please note the expected physical interface handoff at the PSAP CPE demarcation point.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

In today’s ESInet environment, a full i3 deployment has not yet been completed anywhere within the United States. The current status of PSAP readiness has not allowed for a full i3 end-to-end solution to be deployed. AT&T has tested multiple transitional solutions with multiple CPE vendors across the country. These include GIS-based routing solutions for West VIPER and Airbus CPE systems and transitional SIP-based IP delivery to the PSAPs. AT&T has also delivered ESN-based LPG solutions to all the listed CPE vendors.

AT&T and our partners have performed MSRP testing and deployment for i3 text for both VIPER and Airbus CPE platforms. AT&T and our partners have completed i3 functional testing in NENA ICE events. Additionally, AT&T and partners have completed



full i3 testing in the lab environments for VIPER CPE platforms and limited i3 testing with Airbus in a lab environment.

It is AT&T's goal to be fully transparent with NCR. AT&T's ESInet and NGCS solution is i3 compliant. AT&T is excited to deploy this life saving technology and is fully confident that there will be no issues with interoperability with Terminating ESRP platforms, assuming that the CPE vendor is following the i3 specifications. At this point in the industry, other than the instances above, there has not been a customer/industry push to deploy the full i3 end-to-end solution. Once that is initiated by NCR, AT&T will work with each individual vendor to prove out their interoperability in the AT&T lab environment. AT&T has developed full test plans and has designed and implemented a fully functional lab environment which will allow for all protocols, call flows, and functionalities to be verified. AT&T will provide this validation and verification of the CPE vendors prior to any new i3 PSAP deployment. NCR will be kept notified of all progress and test results. This process will be managed by AT&T project managers and will have the full support of the most qualified i3 engineers at AT&T.

4. The NCR anticipates that equipment such as routers, firewalls, network management consoles, and other equipment will be required to be housed at the PSAPs. Respondent shall describe each piece of equipment that is required at each location type by filling in the following tables. Respondent shall assume that they will provide the appropriate equipment cabinet to house the required equipment at each PSAP. Respondent shall describe the backroom footprint required for the solution equipment for the respective PSAP.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:



AT&T Response:

Equipment Type	Vendor/Model	Equipment Type	Function	Rack Units	Heat Load (BTU/hr.)	Relative Humidity	Power Requirements (VAC or VDC, amperes load)
IP and CAMA/LPG PSAP	Great Lakes/ GL 7201E-2432	Cabinet	Cabinet	37	n/a	n/a	n/a
IP and CAMA/LPG PSAP	Cisco 4321	router		1	102-280 BTU/hr.	5 – 85% RH	100-240 VAC
IP PSAP	Geist Power strip	PDU	PDU	1	n/a	n/a	85 - 125 VAC
CAMA/LPG PSAP	WTI RSM 8R8-1	PDU/Console	Remote site manager	2	34 BTU/hr.	10 - 90% RH	85-125 VAC
CAMA/LPG PSAP	AudioCodes	Media Gateway	Legacy PSAP Gateway	1	54 BTU/hr.	10 - 90% RH	90-260 VAC

Table 19: PSAP with CPE (including CPE host sites)

PSAP with CPE Footprint Description:

Footprint - **72.00"H x 24.00"W x 32.00"D**

Please note: Whether or not the remote PSAP (Table 19, below) needs any equipment depends on the CPE capability and existing or desired configuration.

- If PSAP deploys IP, then (typically) all equipment is located at the main site(s).
- If PSAP deploys a CAMA Legacy PSAP gateway, it depends on where the existing CAMA trunks currently terminate or where the PSAP would like them to terminate. CPE needs specialized equipment to receive the CAMA trunks. That equipment could be located at either the Main CPE location, or the Remote PSAP location.
- The table above indicates which equipment is required for each solution type.



Equipment Type	Vendor/Model	Equipment Type	Function	Rack Units	Heat Load (BTU/hr.)	Relative Humidity	Power Requirements (VAC or VDC, amperes load)

Table 20: Remote PSAPs (if applicable)

5. MIGRATION PLAN OPTIONS

- Respondent shall describe its proposed migration plan to the NG9-1-1 system from the existing E9-1-1 system, highlighting any potential disruption to existing operations at each PSAP, as well as any costs the Respondent is relying on the PSAP or NGCS project to cover. Also, any specific dependencies the Respondent has for a successful implementation that are seen as PSAP responsibilities should be explained clearly. The NCR seeks a migration plan that provides for the most cost-effective migration while ensuring the integrity of the region's mission-critical 9-1-1 services. Respondent shall describe how its solution minimizes reliance on legacy selective routers and ALI database services. This detail shall include ingress network design, ESInet design, data center build plans, a clear project schedule of activities (including Gantt charts), example test plans, process audits, risk mitigation plans, and staffing plans.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

AT&T ESInet™ employs a solution lifecycle implementation methodology (see description below) to ensure that all project areas of change are properly defined, designed, integrated, and deployed. The solution lifecycle implementation



methodology has been developed and refined based on experience and the lessons learned migrating hundreds of agency systems to next generation 9-1-1. The methodology provides a blueprint for managing system migration and includes a project plan, templates, examples, diagrams, forms, and project communications. These project tools are tailored during the project definition phase to address the specific attributes of each next generation system implementation, and then refined during the subsequent project phases.

The chart below provides a visual of the phased approach that will be used for the NCR region, with specifics that will be discussed in the following sections.

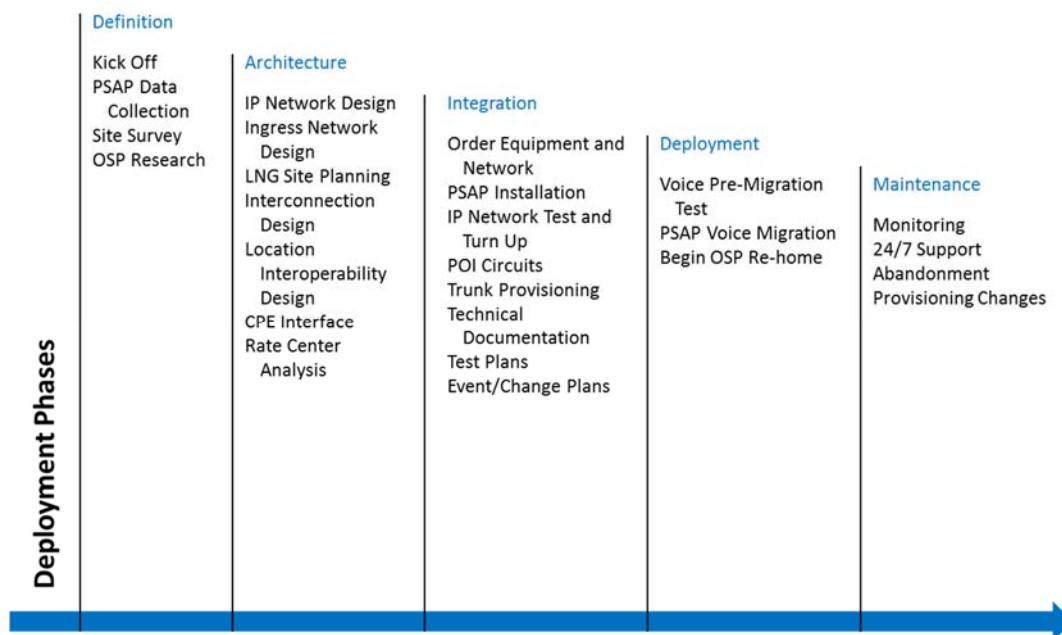


Figure 26. Sample PSAP Deployment process

Attached is a sample Master Project Plan for deploying an NCR PSAP. The Project Plan phases are described below.

Solution Definition

The first phase in the solution lifecycle is the Solution Definition phase, which begins with the kickoff and alignment process and is critical to the overall success of the next generation 9-1-1 initiative within the NCR. During this process, key members of the joint project team unite to identify roles, responsibilities, critical success factors, project challenges, elaborate on specific strategies and project options, confirm E9-1-1 project scope, and finalize plans to expedite solution delivery plans and resources. The



proposed solution is reviewed in order to align each primary stakeholder with a common vision and strategy for unified team design and planning.

The Solution Definition phase principally represents administrative, organization, and discovery tasks necessary to align the team's roles and responsibilities with project deliverables. During this phase, the team determines the aspects of the 9-1-1 system that are subject to change within the scope of the project. Much of this entails identifying and collecting information from project stakeholders such as the NCR, existing 9-1-1 service providers, public safety agencies, and Originating Service Providers (OSPs).

Prior to collecting detail information that will be used in the course of the project, it is important for the team to understand the overall project goals and the criteria that will govern their decision-making. Project "Principles and Constraints" represent beliefs that span and guide all phases of the project, and which will eventually determine the success of the project. The project principles and constraints are communicated to all team members so that all design, integrations, and deployment decisions can be assessed in their light. Guided by the project principles and constraints, more detail information is then collected during the Solution Definition phase. This includes conducting site visits and readiness assessments of Public Safety agency facilities. Information also may be obtained by telephone and email exchange. Where it is possible, the team provides information ahead of time for the agency personnel to validate. A high percentage of PSAP data can be verified in this manner rather than collected from scratch. Every effort is made to obtain the necessary data in a manner that is efficient, respectful, and does not interfere with PSAP operations.

Information collection methods include interviews, questionnaire forms, review of documentation developed by the NCR during earlier project phases, and research utilizing both public and proprietary data sources. The information is captured in Microsoft Office documents including Word, Excel, Project, and Visio. It is then organized, correlated, and stored in a secure project repository. Some of the information is plotted using geographic information systems (GIS) so that relationships between public safety agency jurisdictions and communication service provider networks can be more readily analyzed and communicated. The project Communications Plan guides the dissemination and sharing of this information based on a project RACI chart.

Information collected from or validated with PSAP representatives during the Solution Definition phase includes:

- PSAP Contact Information
- PSAP Jurisdiction Boundaries



- Existing 9-1-1 Service Provider and Legacy Selective Router Information
- PSAP Services and Trunk Types
- PSAP CPE and Positions
- PSAP Equipment Configuration; Power; HVAC
- PSAP ALI Information; Format
- PSAP GIS Layers
- PSAP Community; Back-Up; Alternate; E9-1-1 and PSTN Transfers

In parallel with the above PSAP data collection tasks, a corresponding research and data collection effort is conducted to gather Originating Service Provider (OSP) information. Again, much of this information is first obtained from public or proprietary industry data bases, and subsequently augmented and annotated with feedback from service provider representatives.

Information collected from or validated with OSP representatives during the Solution Definition phase includes:

- Comprehensive Inventory of OSPs serving the NCR; ILECs; Independent Operating Companies (ICOs); CLECs; Wireless; VoIP; Private Switch Customers
- OSP Contact Information; Network Planning; Trunk Ordering; ALI Data
- OSP Code Sets; CLLI Codes; Point Codes; ACNAs; OCN; NENA IDs
- OSP Switch Information; Type, CLLI Codes; Rate Centers Served
- OSP Trunk Information; Quantities; SS7; CAMA; PRI; SIP
- Embedded existing 9-1-1 service provider system interconnection
- Tariff Information
- Interconnection Agreements

Other general types of information collected or used during the Solution Definition phase includes:

- Candidate POI (point of interface) locations
- Site Surveys

Based upon the project principles and constraints, as well as information collected during the Solution Definition phase, the team begins to distribute “network change” notifications to communications service providers. Network change notifications



generally provide at least 6 months lead time for carriers to meet new trunking arrangements. Notifications may be issued on NCR or agency letterhead, and may be emailed as well as posted online. The initial notification to communications service providers may provide general information and time frames, with details to follow as additional instructions are developed during the architecture phase.

The “network change” notifications will be specifically tailored for OSPs. It likely also will be necessary to provision outbound circuits from the LNGs to the embedded existing 9-1-1 service provider systems and legacy selective routers to support interoperability of the legacy and next generation systems during the migration process.

Solution Architecture

During the Solution Architecture phase, the detailed solution design is finalized based on confirmed requirements. During this phase, the team analyzes the current systems, operations, and operational procedures, identifies the human factors needs, considers implementation options, and with the customer, commits the detailed solution design and implementation schedule.

The Solution Architecture phase represents the design and documentation of all solution components and interrelationships. The objective of the Solution Architecture phase is for all project stakeholders to understand the requirements for which they are responsible and have the information necessary to obtain approvals, procure equipment, submit trunk orders, and arrange connectivity during the Solution Integration phase. During this phase, the team creates and distributes more detailed communications to OSPs that provide trunk ordering instructions and due dates.

To achieve these objectives, Solution Architecture entails creating logical and physical network diagrams and spreadsheets that depict the entity relationships between all system components. Logical entities include the OSP end offices, legacy selective routers, other 9-1-1 service provider systems, data centers, legacy network gateways (LNGs), points of interface (POIs), next generation selective routers, etc. Additional dimensions considered during Solution Architecture are LATAs, rate centers, exchange boundaries, and PSAP jurisdiction boundaries. Using information collected during the Solution Definition phase, the team estimates the type and quantity of network capacity required to accommodate ingress trunks from all OSPs to the LNGs. The team designs and sizes egress trunk groups from the LNGs back to the legacy systems in accordance with interconnection agreements to support interoperability of the legacy 9-1-1 system with the next generation system during the system migration period. The team identifies service addresses where Common Line Location Identifier (CLLI) codes will be required from Telcordia.



Solution Integration

During the Solution Integration phase, the components of the solution, including processes, applications, servers, network components, and data flow, are engineered and readied for deployment. All network, regional, and customer premises components are delivered, and the equipment rooms and other facilities are readied.

Coordination with telephone service providers is an essential part of this stage to plan for the 9-1-1 services management transition. OSPs receive all necessary information and detail to order trunks to the LNGs.

Based on the due dates the project team provides, OSPs submit facility orders (usually DS1) to point of interface (POIs) to access the LNGs and trunk group orders (DSOs) to the next generation selective routers. The trunk types include CAMA, PRI, and SIP. If possible, some pre-provisioning may be performed to collapse time frames. An example of this might be the collection of OSP point code information necessary to begin ISUP orders to support pre-provisioning of the OSP SS7 signaling to facilitate trunk group builds. It may be determined that OSPs already connected to the AT&T ESInet™ to serve non-NCR PSAP jurisdictions may be able to leverage such connectivity to deliver traffic intended for the NCR. This would jump-start the connection process for some OSPs by allowing them to add trunk groups for PSAPs to existing facilities.

In general, most OSPs are likely to order trunk groups in quantities and configurations that replicate their existing connectivity to the legacy selective routers. OSPs may be able to aggregate more trunk groups on fewer overall facilities due to changes in the number and location of the LNGs. OSPs will be instructed to order diverse (primary and alternate) trunk groups to the next generation selective routers. OSPs will be instructed to configure their primary and alternate call paths so as to achieve a balance between the AT&T ESInet™ point codes in order to distribute the load between the pair.

The team coordinates with the NCR and OSPs to ensure that each trunk group is associated with the appropriate default PSAP. The default PSAP is the PSAP where calls received over the trunk group will be routed in the event that the ANI is missing or location information for routing is not found. Agencies generally determine the default PSAP based on the relationship between the OSP's originating rate center, the PSAP jurisdiction(s) boundaries, and the PSAP(s) call-taker capacity and ability to dispatch or transfer calls. A baseline for default PSAP determination may be the legacy system relationship between OSP trunk groups, rate centers, and PSAPs.

As trunk orders complete, OSPs contact the AT&T ESInet™ team to schedule call-through testing. Each trunk is tested as well as overflow and alternate call path logic. Depending on the timing relative to the planned in-service date, traffic may be cut-over to the new trunk groups or the trunks may be turned down until the PSAP(s) served by the groups are ready to receive calls from the new system.



In parallel with network provisioning, the project team implements the PSAP connectivity and works with the PSAP to ensure CPE configuration is complete. PSAPs are provisioned in the AT&T ESInet™ to support call transfers, star code lists, alternate, overflow, and abandonment routing. A common statewide PSAP directory may be utilized to enable 9-1-1 call transfers to any PSAP as authorized.

Working closely with the NCR and stakeholder groups, the project team designs customized provisioning plans (including incoming trunk route plans, bridge lists, alternate and backup policies and dialing plans). Additionally, the documentation developers customize the user and process documents to meet the needs of the NCR and PSAPs.

Solution Deployment

Site Cutover Approach

During the Solution Deployment phase, all network components and equipment connectivity is validated and acceptance tests are performed, and metrics tracking and reporting are initiated. After all non-live call testing is completed, a series of transition events are executed to cut-over live 9-1-1 traffic to the AT&T ESInet™.

In preparation for deployment and in partnership with the NCR, the AT&T ESInet™ Project Manager finalizes the cutover plan, including procedures for notification concerning schedule specifics. To minimize impact to the PSAPs, each PSAP is cutover by receiving traffic directly from the legacy selective routers as well as any OSP end offices that have completed pre-migration provisioning and testing prior to the date of the scheduled cut. The PSAP is flash cut using procedures outlined below, and then any additional OSP traffic and end offices are rehomed post-PSAP cut. Prior to the commencement of the cutover event for the legacy selective router and OSP switches, the project team members hold a cutover meeting, and OSPs are provided a set of methods and procedures for the switch transition. The purpose of this meeting is to discuss the progress of activities, cutover readiness, and the cutover plan.

During the scheduled cutover, all parties both on- and off-site join a bridge that will be managed by an AT&T ESInet™ Change Manager. Legacy selective router and end office migration of live traffic is performed on a switch by switch basis. At the scheduled time and in accordance with the 9-1-1 service transition plan, the OSP translations representative executes a predefined set of switch translations (script) to redirect calls from their legacy trunks to the new trunk groups to the AT&T ESInet™. Generally, the OSP will busy-out their primary legacy call path, thus sending all calls to the alternate legacy call path. The OSP then cuts over the primary trunk group to the AT&T ESInet™



and calls are validated. The OSP then repeats the procedure for the alternate call path. The actual switch transition event occurs smoothly and transparently to 9-1-1 callers as all systems have been previously tested with non-live calls.

After live traffic has been cut, the system will then undergo a system acceptance test and quality walkthrough, including re-validation of a subset of testing that had been performed prior to the migration, including call transfers. Once complete, and in agreement with the Customer, the service is accepted and the maintenance period begins.

In the event that the PSAP must revert back, this may be accomplished by the OSPs reversing the translations and directing traffic sent to the new LNGs back to the prior legacy network paths.

Solution Maintenance

The Solution Maintenance phase begins once live traffic is transferred onto any part of the system. During this phase, AT&T ESInet™ provides ongoing tiered support services to monitor service level performance, manage help desk requests, escalate support procedures, and support the Customer to reach the highest level of operational excellence. The solution support team is in place to receive, analyze, and rectify problems and information requests.

Ongoing OSP rehomes will occur during this phase as well. Any OSP traffic that continues to route to the PSAP through the legacy selective to the AT&T ESInet™ must be moved to direct connections to the AT&T ESInet™ LNGs. AT&T will continue to manage these individual migrations at no impact to the PSAPs.

Testing

The AT&T ESInet™ Acceptance Test Plan is customized and utilized to certify that each system component functions as required and all data is provisioned and configured properly. The plan is customized to include the customer's specific requirements as well as to support pre-cutover validation testing, acceptance testing, and pre-migration provisioning testing for each PSAP. The plan is designed to demonstrate that the individual components, when combined as described in the proposed solution, meet expectations.

The AT&T ESInet™ Non Live Test Plan provides a detailed list of test cases for the implementation of AT&T ESInet™ services. This plan will be customized to include the



customer's specific requirements as well as to support pre-cutover validation testing, acceptance testing, and pre-migration provisioning testing for each PSAP.

The Project Manager will participate in all testing and certification. The technical staff will vary based on the solution module being tested. The customer will be provided with copies of the acceptance test forms specifying what is being tested and the expected results.

We will manage the testing process and coordinate all test calls documented in the test plan. This testing is scheduled in accordance with the PSAP's availability. The PSAP is required to provide a resource to answer the test calls and provide documentation (i.e., screen prints and recordings) for certain calls. Once the System Acceptance Testing is completed the Site is officially accepted and standard warranty and maintenance services start.

We use a structured approach to migrate the customer into the new system. This is reflected on a cutover plan that serves as a checklist or guide to our cutover team to ensure that the system is ready to go live. The focus of the System Migration Strategy is on the activities, tasks, and timing of the days prior to going live on the new system.

All deployment steps are performed with well-defined and coordinated cutover plans and rollback contingency plans. Next Generation 9-1-1 capabilities are validated prior to moving live traffic to Next Generation 9-1-1 facilities. Equipment and network transport is validated prior and during Next Generation 9-1-1 capability deployment. Elements and transport are further validated on a continuous ongoing basis. Proven methods that we have successfully used in previous NG9-1-1 deployments are utilized.

In addition we will work with NCR to develop a joint communication to each provider outlining the scope of services to be implemented, a high-level implementation schedule, and key contact information for each entity. AT&T can distribute the communication on behalf of NCR.

Risk Management

The AT&T ESInet™ systems are highly robust and tested extensively prior to release. In any implementation and cutover, there are always risks. We have event plans that are used to mitigate the risks. In addition, we have checkpoints built into the event plan to ensure a smooth deployment. We utilize a risk register to identify, assess, and prioritize any potential risks to minimize the probability and/or impact of unfortunate events or maximize the realization of opportunity.



Process Audits

AT&T conducts process review sessions as part of the completion phase of every PSAP implementation project. The output from these process review sessions informs changes as needed to our baseline project and process plan templates. The baseline templates are used as a starting point for each new project, and are then customized to the individual needs of each project.

PSAP Responsibilities and Potential Costs

There are several PSAP responsibilities that are key to a successful implementation.

- A PSAP Technical resource is requested as a point of contact during project implementation to provide feedback and answer questions specific to the following:
 - PSAP Site Survey: The AT&T technician will complete a comprehensive Site Visit checklist while onsite with the assistance of the PSAP technical resource
 - Installation: AT&T Technician will coordinate AT&T ESInet™ PSAP Network Edge Equipment Installation activities with the assistance of the PSAP technical resource.
- A PSAP Project Manager is also requested to be assigned to the project to work with the AT&T project team and support project implementation and data collection activities. PSAP personnel will need to be available to work collaboratively with AT&T resources to perform pre-migration testing.

In addition to the responsibilities noted above, there may be some costs that will be the responsibility of the PSAP or NGCS project.

PSAP Remediation

- A Site Survey will be conducted by an AT&T technician to validate that the PSAP site and environmental meet the minimum requirements for the installation of the ESInet PSAP Network Edge Equipment. A report will be provided to the PSAP after the site survey has been reviewed identifying any remediation work required to be performed by the PSAP to meet the minimum requirements.

GIS

- To achieve NG9-1-1 processing models, jurisdictions must invest in GIS tools and the rigor to create and maintain their GIS information. This includes the level of attention that has gone into traditional MSAG data processing and management. MSAG type attributes are combined with GIS objects in a GIS data store. The ESN



is eventually replaced by GIS polygon objects and boundary management techniques but both must be maintained and synchronized for some period of time during a transition. GIS information may include coordinate points for every given address depending on the final envisioned operating model, possible sources of data, and the relative cost for establishing and maintaining detailed data.

- Various boundaries for routing, transfers, and dispatch must be created and maintained. Tools and criteria must be created to assess the accuracy and resulting processing that will occur when a complete transition from MSAG and ESN based processing is completed to GIS boundaries and GIS attribute data. GIS based call routing must consider the quality and format of available location information for each call type, currently: wireline, wireless, VoIP, and text. In addition, the structure of location data fields in ALI and the GIS information that will populate the ECRF must take into account field concatenation and application in location based call routing algorithms.
- Transitional data management includes the following steps:
 - Work to align the GIS data with the MSAG and ALI data until there is an agreeable match rate between the two data sets.
 - Replace the existing MSAG data with the GIS derived MSAG.
 - Process current TN information against the GIS derived MSAG.
 - Submit GIS data via the Spatial Interface (SI) to populate the ECRF for call routing.
 - The methodology to Transitional NG9-1-1 includes an evaluation of ALI data and existing ESN routing with NG9-1-1 GIS data and corresponding NG9-1-1 call processing algorithms.

ESInet Design/Data Center Builds

The AT&T ESInet™ solution is the most redundant, reliable, and available full services ESInet solution offered in today's marketplace. It has been designed solely for the purpose of completing every 9-1-1 call 24x7x365. The AT&T ESInet™ can withstand the failure of individual components or the failure of Core processing sites and continue to successfully process 9-1-1 calls. Each OSP will be connected to dual LNGs. If any single LNG fails, the carrier will have a redundant LNG available. Once the call reaches the LNG, the LNG has six Core i3 processing sites available located at AT&T Data Centers dispersed throughout the country. These data center builds have been completed as part of the build out of the core infrastructure for the AT&T ESInet™. No additional data center builds are expected to be needed for this project. Each Core i3 ESInet location is built with redundant hardware, software, and network connectivity. If a Core element



or location becomes unavailable, the LNG will present the call to an alternate Core site. If a PSAP becomes unavailable or busy, the AT&T ESInet™ alternate routes the call to another destination, such as an administrative line, another PSAP, a PSTN telephone number, or to fast busy.

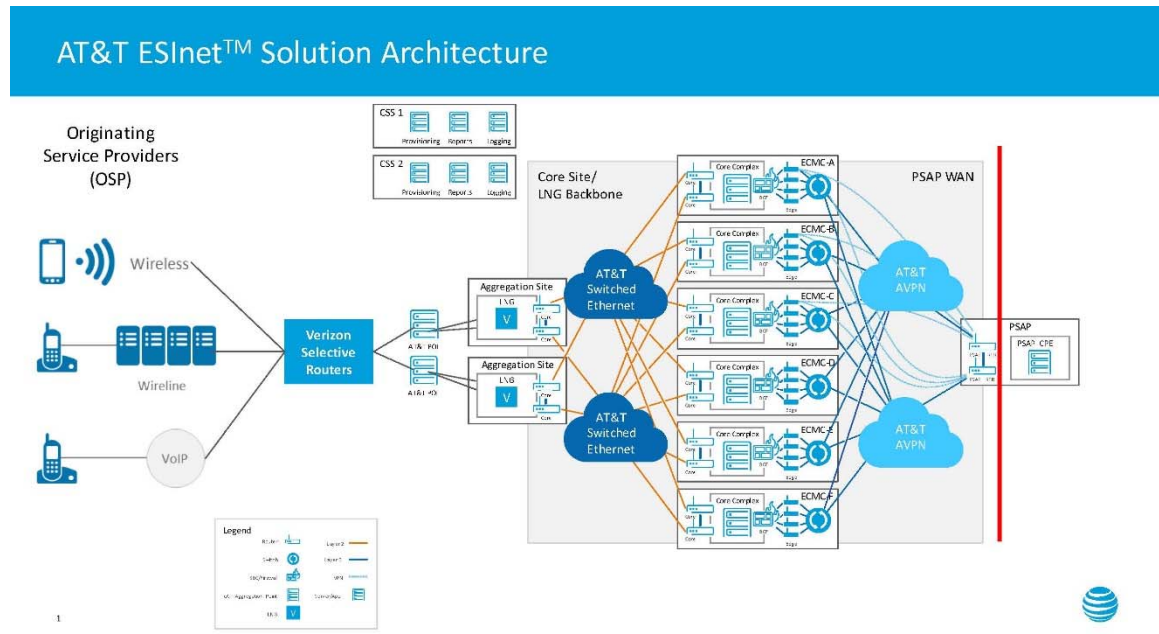


Figure 27. AT&T ESInet™ Solution

- The Respondent shall provide a Master Project Plan (MPP) that depicts the major sequencing of project activities and the timeline for each activity. Within 60 days of successful contract award, the Contractor shall develop an implementation plan for each jurisdiction's individual PSAPs, identifying any unique characteristics and tasks that are required for integration with each PSAP's call-handling system and the Contractor's NGCS solution, using aforementioned i3 protocols such as SIP, PIDF-LO, LoST, HELD, and HTTP GET.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:



Please see Annex G (PSAP Implementation) and Appendix H (Test Plan) for more information.

AT&T Response:

Attached is a sample Master Project Plan Annex I depicting the major sequencing of project activities and the timeline for each activity. Within 60 days of successful contract award, AT&T will develop an implementation plan for each jurisdiction's individual PSAPs, identifying any unique characteristics and tasks that are required for integration with each PSAP's call-handling system and AT&T's NGCS solution, using aforementioned i3 protocols such as SIP, PIDF-LO, LoST, HELD, and HTTP GET.

3. Respondent's migration plan shall describe its proposed specific sequence of PSAP migrations, considerations that may influence such sequencing, and if any PSAP sequences are mandatory.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

Attached is a sample Master Project Plan depicting the major sequencing of project activities and the timeline for each activity. Within 60 days of successful contract award, AT&T will develop an implementation plan for each jurisdiction's individual PSAPs, identifying any unique characteristics and tasks that are required for integration with each PSAP's call-handling system and AT&T's NGCS solution, using aforementioned i3 protocols such as SIP, PIDF-LO, LoST, HELD, and HTTP GET.

Well-defined and coordinated cutover plans and rollback contingency plans are created in preparation for each PSAP migration. The joint AT&T and Customer team members verify system application and implementation requirements, refine the solution architecture, and finalize the plan for a successful solution deployment. Sequencing is not mandatory, but AT&T recommends to initially migrate the NCR PSAPs starting with the primary PSAP jurisdiction containing the smallest population. The migration event would include all associated secondary and back-up PSAPs. The following migrations



would be scheduled based on population until the largest primary PSAP and associated secondary and back-up PSAPs were deployed.

4. Respondent shall provide examples of where this migration methodology has been successfully deployed in the past.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

This migration methodology has been utilized or is in the process of being utilized to deploy six statewide implementations, as well as individual PSAPs in eleven additional states.

5. Respondent shall describe any steps that the PSAPs should take to streamline the migration project, with descriptions of required resources and details regarding what is required versus optional.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

There are several required PSAP responsibilities that are critical for a streamlined deployment. Collaboration between AT&T and PSAP Technical Resources is required to complete a Site Visit checklist and ESInet PSAP Network Edge Equipment installation. A PSAP Project Manager is also requested to be assigned to the project to work with the AT&T project team and support project implementation and data collection activities. PSAP personnel will need to be available to work collaboratively with AT&T resources to



perform pre-migration testing. Additionally, accurate GIS information is critical to a successful i3 deployment.

6. PROJECT MANAGEMENT AND ON-GOING CLIENT MANAGEMENT SERVICES

1. Respondent shall describe its project management methodology and support structure. Please describe the daily, weekly, and monthly interactions during the migration.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

NCR will benefit from working with a skilled AT&T Global Project Manager from the AT&T Public Safety Group. The AT&T Project Manager is directly responsible for the project implementation and can reach out to other AT&T organizations to help smoothly transform NCR's service from its current environment to an AT&T i3 ESInet. NCR will benefit from the skills and experience of our Global Project Manager and Transformation Team.

The Project Manager will be guided by the principles established by the Project Management Institute (PMI®) in order to plan, schedule, and implement project activities, meeting industry recognized standards of quality, reporting frequency, and control. Nearly 75% of the Global Project Management (GPM) team is comprised of certified Project Management Professionals (PMP) as certified by the Project Management Institute. Experience includes both domestic and international components with project volumes ranging from 100 to 17,000 sites. The average On-time performance (OTP) on a GPM led project is 98%.

The AT&T Project Manager will be responsible for multiple complex projects from conception through implementation. Manage project team members including independent contractors. Develop and implement project plans, design schedules,



identify problems and alternate course of action to ensure projects are completed within corporate objectives exceeding customer expectations.

Upon contract award, the AT&T Project Manager will engage team members throughout the AT&T organization to help ensure their commitment and understanding of the project requirements. The PM will schedule a kickoff meeting with the relevant jurisdiction 9-1-1 group and other required AT&T organizations. During the kickoff meeting, we will establish roles and responsibilities and reach a mutual agreement with the the jurisdiction on strategic objectives, plan of approach, priorities and timelines.

Using the information gathered during the meeting, the PM and the customer will create an integrated master work plan that will be the implementation roadmap. Throughout the project, AT&T will focus on project planning and execution to help ensure a successful upgrade with minimal (if any) disruption to the customer's current wireless/VoIP ESInet service.

The AT&T Project Manager will conduct regular scheduled project status calls with NCR and key AT&T stakeholders. Normally, these status calls are held on a weekly basis and cover the following topics

- Overall Project Status – Red/Yellow/Green
- Project Timeline and Key Milestones
- Issues log review
- Key Deliverables status

AT&T's experienced Program Managers, Project Managers, Service Delivery Managers, Installation Technicians, Solutions Engineers and other supporting groups have worked together on many successful installations. We are determined to provide each customer with an installation that will exceed expectations.

The NG 9-1-1 ESInet solution is an IP-based system that employs proven technology to deliver excellent 9-1-1 services. Given the mission critical nature of the network, greater safeguards are taken during installation, but from a practical point of view it is a network installation, and AT&T is able to leverage Best Practices of network installations to ensure success.

AT&T Project Managers will use the Microsoft Suite of Products to manage all projects as a standard operating procedure. Products will include

- Microsoft Word
- Microsoft Excel



- Microsoft Project
- Microsoft Visio
- Microsoft Outlook

Project Management Methodology

The AT&T Worldwide Project Management Methodology is based upon the industry standard A Guide to the Project Management Body of Knowledge (PMBOK Guide®) Fourth Edition, produced by the Project Management Institute (PMI), as well as AT&T specific processes and procedures.

The characteristics of a project may be determined by many factors: strategic importance, size, scope, schedule, cost and duration, as well as many others. This methodology is scalable to accommodate all types of projects.

The Project Management Methodology utilizes a four-phase project life cycle:

- Project Start Phase
- Project Plan Phase
- Project Implementation Phase
- Project Completion Phase

These four phases of a project, plus the inputs and activities and deliverables key to the phases, comprise this methodology. Throughout each of the four distinct project phases, the five iterative process groups of Initiating, Planning, Executing, Monitoring and Controlling and Closing will be used. Each of the five processes is applied within each project phase. Many times changes occur within the life cycle of a project and process groups must be repeated.

The four project phases are briefly characterized by:

Project Start Phase

Recognition that a new project is being considered. During this phase, basic information is gathered, evaluated and based upon the information a decision is made to proceed with the project.



Project Plan Phase

Establishing the project's approach and planning how to achieve the desired results and baselines for the project in terms of scope, schedule and cost.

Project Implementation Phase

Implementing the Project Plan to produce the agreed upon deliverables, monitoring the project progress and ensuring that deliverables meet expectations.

Project Completion Phase

Completing the project. Ensuring that the project was delivered as expected and ensuring that there is final/formal acceptance in order to close out the project.

2. Respondent shall identify by name and provide resumes for the specific project team that will manage the migration.

- ☐ Complies
- ☒ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

AT&T will provide the appropriate level of skilled staff and sufficient skill-mix and job class to satisfy the performance terms and obligations of the agreement for services. In the interest of maintaining and enhancing the quality of our relationship, AT&T whenever reasonably possible will consult with Customer regarding the addition or changes in staffing. AT&T will take Customer's advice and consent into consideration in its efforts to maintain the best possible working relationship. Because the assignment(s) for specific tasks are not made until the contract is awarded, specific name(s) and biographical information for specific tasks cannot be supplied at this time. The required documentation will be furnished within the parameters of confidentiality limits if AT&T is your vendor of choice.



3. Respondent shall provide a description of each team member's role and their anticipated amount of time dedicated to the project. Respondent shall describe key team members' experience in managing and implementing projects of similar size and scope.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

AT&T Project Manager

- The AT&T Project Manager will oversee and manage all aspects of the project that enable a PSAP to transition to the AT&T ESInet platform. This will include many of the following activities
- Create PSAP Migration Timeline and manage/escalate any issue that may block an on-time deployment
- Maintain an Issues Log for review and resolution
- Ensure that all PSAP call flow and routing information has been provided and provisioned within the AT&T ESInet
- Scheduling of AT&T Field Technicians for site visits, network equipment installation, and the test and turn up of the new network.
- AT&T Project Manager will dedicate as much time as is needed for a successful PSAP migration onto the AT&T ESInet

AT&T Field Services provide the technicians for installing any network equipment at the PSAP to connect to the AT&T ESInet platform

AT&T OSP Project Manager will serve as a single point of contact for Originating Service Providers to place orders and test and turn up their network for 911 call delivery to the AT&T ESInet.

4. Contractor shall not change key staff during the course of the project without mutual agreement with the NCR and/or the Fairfax County Purchasing Agent. The



NCR desires for Respondents to bring key staff members to oral presentations, if invited.

- ☐ Complies
- ☒ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

AT&T will provide the appropriate level of skilled staff and sufficient skill-mix and job class to satisfy the performance terms and obligations of the agreement for services. In the interest of maintaining and enhancing the quality of our relationship, AT&T whenever reasonably possible will consult with Customer regarding the addition or changes in staffing. AT&T will take Customer's advice and consent into consideration in its efforts to maintain the best possible working relationship. Because the assignment(s) for specific tasks are not made until the contract is awarded, specific name(s) and biographical information for specific tasks cannot be supplied at this time. The required documentation will be furnished within the parameters of confidentiality limits if AT&T is your vendor of choice.

5. Respondent shall describe the post-deployment client management service, including client management reports, executive briefings and the fielding of ad hoc support requests.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

AT&T 9-1-1 Service Management will be responsible for AT&T Customer Day Two Support for the service. AT&T 9-1-1 Service Management will collaborate with all parties to manage the customer relationship and basic routing changes as part of ongoing



lifecycle management. The Service Manager is the single point of contact for escalation requests and performs the following tasks on a regular basis

- Lead monthly operations meetings.
- Provide upgrade and maintenance event notifications.
- Distribute software release notes, test cases, and test case results.
- Coordinate software release lab testing.
- Escalations.
- RCA reporting.
- Coordinate data center and aggregation site access for technical resources.
- Coordinate new user access to operational support tools e.g., customer web portal.
- Serve as Change Event Coordinators.
- Outage communications.

7. TRAINING

1. Contractor shall provide comprehensive training for the implementation process and ongoing maintenance of the NGCS and ESInet. Respondent shall describe its training program, including but not limited to the following topics: trouble reporting, help desk Web interface, PRF policy store interface, SI discrepancy reporting, LDB data management, and service monitoring tools.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

Training will be provided to the PSAPs for the proposed solution. The training will be comprehensive and will allow the PSAPs to understand the operational characteristics of the system and the tools available for overall system management. Training will include



Network Status Reports, Help Desk, Text to 9-1-1 operation, Trouble Ticketing and Root Cause Analysis/Review.

We provide extensive training packages to support the rollout of NG9-1-1 systems including comprehensive training on AT&T ESInet™ Routing, AT&T ESInet™ ALI Management, metrics tools, and database management service support tool training to customer-designated users. Through detailed analysis and review processes, the specifications and methodologies for technical and non-technical requirements have been selected so that training courses and materials are tailored to suit the specific customer system and minimize operational impact on the end users and staff. We also provide appropriate training to telephone service providers to supplement TSP support information available on line.

The training plan for the customer is progressive in nature. The sequence of courses leads the trainees from a generalized overview to a more comprehensive understanding of the components within the system, respective to each user's area of responsibility.

Training sessions are designed to allow trainees to understand and effectively interact with AT&T and the web-based tools to maximize benefits of the system and tools for the customer. This is achieved by integrating well-designed technical documentation, practice exercises, and instruction into the overall training experience. We will provide a comprehensive set of training materials for each trainee.

Standard Customer Training

AT&T ESInet™ training is provided to customer-designated users. These classes are offered in a web-conference style, allowing the attendees to receive the full benefits of an instructor-led program without the additional cost of travel and lodging. Optionally, we can provide on-site and/or customized training at an additional fee.

Supplemental Training

We are committed to maintaining current training activities and documentation and providing additional training as needed. As technology continues to develop over the duration of the contract, supplemental training is critical to introduce users to new and enhanced services. We view the NCR as a partner in overseeing the quality of the training and making ongoing recommendations for improvement.



Optional Training

We will work with the NCR to scope, design, develop, and deliver any additional AT&T ESInet™ training desired, including pertinent optional classes or training as it becomes available.

2. Respondent shall describe the types of attendees required to attend training, training curriculum, number of training attendees included in the proposed price, and the duration of the training program per attendee (expressed in hours per day and number of days), as well as the location of the training and whether such training is available online. Preference is given to training that can be conducted within the NCR. Examples of proposed training plans and training materials are desired.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

Response from Oral Presentation Dated March 17, 2017

Q6. Please describe any training that might be required for use of the proposed NGCS. Who would be trained from each PSAP (just administrators?), how long would the training be, and when and where would the training occur (would there be training spaced out over the implementation timeline or would it happen in one time and place?)?

AT&T Response:

AT&T would coordinate training upon request to Fairfax County to educate their administrative personnel on the operational characteristics of the system and the tools available for overall system management. The training sessions are held via the Web and consists of two sessions.

- Session One (2 hours) is an overview of the customer web portal with instructions for logging in and uploading data.
- Session Two (2 hours) is to review the data output once the GIS data has been analyzed with employees trained on the access and use of GIS data portal, with



specific training on data uploads and data reports. This is typically provided to the responsible party for maintaining the GIS data for the Customer.

Additionally, key contact information will be reviewed with each customer and summarized in the 9-1-1 Resolution Center sample reference guide. Please refer to Appendix A for a sample PSAP.

During the implementation phase, AT&T will work with Fairfax County and the NCR to scope, design, develop, and deliver any additional AT&T ESInet™ training desired, including pertinent optional classes or training as it becomes available.

8. SERVICE, REPAIR AND ADVANCE REPLACEMENT

As this is a service-based offering, the NCR shall not be responsible for the replacement and maintenance of hardware and software required to provide the ESInet and the NGCS. Contractor must resolve all faults or malfunctions at no additional cost to the NCR.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

As an “as-a-Service” model, AT&T’s solution minimizes the need to constantly maintain, upgrade, and administer a complex hardware and software solution and maximizes the ability to focus on public safety. This 9-1-1 network services model consistently renews key components to enable PSAPs to operate on the most modern communications technology and eliminates the service development and deployment bottlenecks present in legacy solutions. During the life of the contract, AT&T will maintain and monitor all equipment and software within the NGCS solution. AT&T will replace any faulty equipment (that wasn’t a direct cause of negligence of on-site PSAP personnel) at no additional cost to the jurisdiction.



Response from Negotiation Issues dated April 18, 2017

8. Please advise if a hardware refresh of any WAN connectivity equipment or other similar equipment provided by AT&T within the PSAP is included and when such a hardware refresh will occur over the life of the contract and any extension of the contract.

AT&T Response:

AT&T's ESInet solution is presented as a managed services offer and minimizes the need to constantly maintain, upgrade, and administer a complex hardware and software solution that maximizes the ability to focus on public safety. During the life of the contract, AT&T will maintain and monitor all equipment and software within the AT&T ESInet™ solution and as such AT&T will maintain hardware life cycles as per manufacturer requirements and replacement schedule. AT&T will replace any faulty equipment (that wasn't a direct cause of negligence of on-site PSAP personnel) at no additional cost to the jurisdiction.

Response from Second Round Negotiation Issues dated May 11, 2017

3. The AT&T ESInet solution, as indicated in the April 18, 2017 response will provide for the maintenance and monitoring of hardware life cycles per manufacturer requirements. Does this also apply to the ECaTS Host A and Host B RDDM servers?

AT&T Response:

The ECaTS Host A and Host B RDDM server monitoring, maintenance and hardware life cycle for the optional i3 logger is included.

9. SOFTWARE RELEASE POLICY

9.1. SCHEDULED RELEASES

1. Respondent shall describe the frequency of scheduled software releases, the feature release testing process, and the decision-making processes involved in deciding what features and defect resolutions to include in a scheduled release.

- ☒ Complies
- ☐ Complies Partially





☐ Complies with Future Capability

☐ Does Not Comply

Details to support the answer:

AT&T Response:

As software updates and service packs are released by manufacturer, AT&T Labs tests prior to releasing them into a live customer environment; this includes Approval for Use which certifies new software release upon successful completion of FOA soak period. This ensures that our vendor solutions will work in a real-world environment and not just in the vendor's labs.

As software updates and service packs are released by the call processing platform manufacturer, AT&T Labs tests them prior to releasing them into a live customer environment.

AT&T will make available to NCR all Product Bulletins associated with software updates or service packs in order to provide a complete description of the updates as well as the versions of the software affected.

The decision-making process for choosing what features and defect resolutions to include in a scheduled release is primarily driven by customer guidance, market demand, and maintaining compliance with NENA, ATIS, and other organizations that contribute to standards for emergency call services.

2. Respondent shall explain how it replicates the client environment for software release testing in order to provide assurances that future software releases will not negatively impact PSAP operations.

☒ Complies

☐ Complies Partially

☐ Complies with Future Capability

☐ Does Not Comply

Details to support the answer:



AT&T Response:

One of AT&T's distinctions compared to our competitors is that we employ rigorous steps to technically and operationally review all new software and patch releases end-to-end. All of the software releases are tested by AT&T Labs. The testing program includes the following elements.

- Test plans developed in conjunction with equipment and software vendors.
- Labs that mirror the production architecture and operating environment.
- Coordination with vendors to address any problems related to new product or software releases.
- Oversight of the First Office Application (FOA) of all newly introduced hardware or software releases.
- Provides Approval for Use and certifies new hardware or software release upon successful completion of FOA soak period.

9.2. MAINTENANCE RELEASES

1. Respondent shall describe the frequency of defect resolution software releases, as well as the decision-making processes involved in selecting which software defects to fix.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

The frequency of defect resolution software releases is driven to some extent by the nature of the defect. 'Must fix' defects (call delivery impacting) are normally rolled into the release immediately following the time of discovery. This will typically make the fix available within 6 months if not earlier. Defects characterized by the customer as minor will be prioritized in partnership with the customer.



The decision-making processes involved in selecting which software defects to fix is done in partnership with the customer. All defects are assessed, managed, and scheduled by the AT&T Change Control Board.

Once a defect has been assign to a release, we will communicate back to customer the timeline for defect resolution. Defects are reviewed on a periodic basis for changes in priority and coding/testing synergies. After a defect has installed in production we will follow up with the customer to make sure the issue has been resolved.

2. The Contractor shall provide the NCR with access to the Contractor's defect tracking system in order for the NCR to track the progress of defect resolutions.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

AT&T will provide monthly reports on defects to NCR.

3. The Contractor shall provide a detailed description of the software defect tracking process and provide training to NCR staff prior to Final Acceptance Testing.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

Upon discovery and communication by the customer, a ticket (change request) is created and reviewed by a cross-functional team with representatives from Engineering and Product and a West Customer Representative. A disposition is typically made within 3 weeks or sooner depending upon the severity of the issue. A disposition can range



from 'no-action' required to immediate resolution required. Once a disposition is made; the ticket is slated against a specific release.

Upon request AT&T can provide training to the NCR on the defect tracking process.

4. Respondent shall describe how software defects are aged. For example, a minor problem (from the Respondent's perspective) can become a major or critical problem if not resolved in a timely manner. For example, a column of numbers in an MIS report may not total properly. While this certainly is not a service-affecting problem, it does make the PSAP administrator's job more difficult if these totals have to be maintained separately and totaled manually. Using this example, the Respondent shall describe in detail how/when this minor problem gets scheduled or automatically escalated, and the feedback mechanism in place for keeping the NCR PSAPs informed.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

Critical and Major defects are managed as soon as discovered and communicated by the customer. The initial solution may be a manual process. A long-term solution will be with the next ESInet platform code release.

Minor defects are reviewed within three weeks of discovery and communication by the customer. The solution will be ranked against other defects and enhancements and road-mapped appropriately.

Once a defect has been assign to a release, we will communicate back to customer the timeline for defect resolution. Defects are reviewed on a periodic basis for changes in priority and coding/testing synergies. After a defect has been installed in production we will follow up with the customer to make sure the issue has been resolved.

AT&T will provide monthly reports on defects to NCR.



10. DOCUMENTATION

The Contractor shall provide each of the NCR PSAPs with pertinent documentation for the ESInet and NGCS, and update the NCR PSAPs as configurations change over the term of the contract. The required documentation shall include the following:

- Customized migration plan
- Escalation procedures
- Circuit identification
- Single points of failure
- Network path diversity drawings into each data center
- Network path diversity drawings into each PSAP
- PSAP backroom as-built drawings
- PSAP demarcation point drawings
- All user interface training and reference materials

The Contractor shall provide all documentation in agreed-upon soft copy format. Additionally, access to documentation on a Contractor-hosted Web-portal is desired.

- ☒ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:

AT&T Response:

AT&T will provide each of the NCR PSAPs with pertinent documentation for the ESInet and NGCS, and update the NCR PSAPs as configurations changes.

AT&T will author PSAP backroom as-built and PSAP demarcation point drawings. AT&T will provide customized migration plans for each PSAP that will be proactively utilized and managed by the AT&T Program Manager. Web-based, user interface reference materials will be provided along with a “leave behind” reference guide for each PSAP. AT&T will also provide user interface training on the web-based portal for accessing documentation and reviewing reports.





Attachment A: NCR PSAP Data for Proposed ESInet and NGCS

PSAP	PSAP Type*	Street Address	City	ST	ZIP	NPA-NXX	2014 Population	Annual Call 9-1-1 Volume	# of Concurrent Calls	Wire-line Trunks	Wire-less Trunks	# of Work-stations	SR	ALI	CPE
Alexandria Police Department	Pri	██████████ ██████████	██████████	██	██████	703-746	150,575	144,248	23	12	16	23	Verizon Fairfax/ Alexandria	Verizon Richardson / Longmont	Airbus DS Sentinel 3.1
Alexandria PD Backup PSAP	Bckp	██████████	██████████	██	██████	703-739	n/a		11	6	6	11	Verizon Fairfax/ Alexandria	Verizon Richardson / Longmont	
Arlington County Emergency Communications Center	Pri	██████████ ██████████	██████████	██	██████	703-228	229,164	115,991	30	32 (includes 16 VoIP)	16	30	Verizon Fairfax/ Alexandria	Verizon Richardson / Longmont	Airbus DS VESTA Meridian 2.2 (SP- 4)
Arlington County ECC Backup PSAP	Bckp	██████████ ██████████	██████████	██	██████	703-228	n/a		13	16 (includes 8 VoIP)	8	13	Verizon Fairfax/ Alexandria	Verizon Richardson / Longmont	Airbus DS VESTA 2.2 SP 4 1000E
Falls Church Police Communications (Associated with Arlington County)	Sec	██████████	██████████	██	██████	703-248	n/a	5,288	2	4		2	Verizon Fairfax/ Alexandria	Verizon Richardson / Longmont	Airbus VESTA 4.0
Fairfax County Public Safety Communications Center	Pri (Side A geodiversion)	██████████ ██████████	██████████	██	██████	571-350	1,137,538	414,065	39 (Includes Fairfax, Herndon, Vienna and Backup)	14 (includes 4 VoIP)	14	57	Verizon Fairfax/ Alexandria	Verizon Richardson / Longmont	Airbus VESTA 6.1
Fairfax County PSCC Alternate PSAP	Bckp (Side B geodiversion)	██████████ ██████████	██████████	██	██████	703-280	n/a		39 (Includes Fairfax, Herndon, Vienna and Primary)	14 (includes 4 VoIP)	14	21	Verizon Fairfax/ Alexandria	Verizon Richardson / Longmont	Airbus VESTA 6.1
Fairfax City Police Communications (Associated with Arlington County)	Sec	██████████ ██████████	██████████	██	██████	703-385	n/a	4,580		4		4	Verizon Fairfax/ Alexandria	Verizon Richardson / Longmont	Remote off Fairfax County





PSAP	PSAP Type*	Street Address	City	ST	ZIP	NPA-NXX	2014 Population	Annual Call 9-1-1 Volume	# of Concurrent Calls	Wire-line Trunks	Wire-less Trunks	# of Work-stations	SR	ALI	CPE
with Fairfax County)															
Herndon Police Communications (Associated with Fairfax County)	Sec					703-435	n/a	2,629		4		4	Verizon Fairfax/Alexandria	Verizon Richardson / Longmont	Remote off Fairfax County
Vienna Police Communications (Associated with Fairfax County)	Sec					703-255	n/a	1,337		4		3	Verizon Fairfax/Alexandria	Verizon Richardson / Longmont	Remote off Fairfax County
Fauquier County 9-1-1 Dispatch Center	Pri					540-347	68,248	25,380	7	8	6	7	Verizon Fairfax/Alexandria and Fredericksburg /Winchester	Verizon Richardson / Longmont	Airbus DS VESTA
Manassas City Police Communications (Associated with Prince William County)	Sec					703-257	42,081	7,855	5	5	0	5			
Manassas Park Police Communications (Associated with Prince William County)	Sec					703-361	15,174	21,974	3	4	0	3	Verizon Fairfax/Alexandria	Verizon Richardson / Longmont	Airbus DS VESTA 2.6
Metropolitan Washington Airport Authority	Pri					703-417	120,548	9,235	12	6		12	Verizon Fairfax/Alexandria	Private ALI and Verizon Richardson / Longmont	Airbus Vesta
Prince William County Public Safety	Pri					703-792	446,094	381,865	15	5	5	15	Verizon Fairfax/Alexandria	Verizon Richardson / Longmont	West VIPER A9C 4.0





PSAP	PSAP Type*	Street Address	City	ST	ZIP	NPA-NXX	2014 Population	Annual Call 9-1-1 Volume	# of Concurrent Calls	Wire-line Trunks	Wire-less Trunks	# of Work-stations	SR	ALI	CPE
Communication s															
Prince William County Public Safety Communication s Backup PSAP	Bckp	██████████	██████████	██	████	703-368	n/a		8	5	5	8	Verizon Fairfax/Alexandria	Verizon Richardson / Longmont	West VIPER A9C 4.0
Stafford County Sheriff's Communication s	Pri	██████████	██████████	██	████	540-659	139,992	50,447	18	8	10	25	Verizon Fairfax/Alexandria and Fredericksburg /Winchester	Verizon Richardson / Longmont	Emergency Call Works
Calvert County PSAP	Pri	██████████	██████████	██	████	410-535	90,613	34,072	15	6	6	15	Verizon Hyattsville/Rockville	Verizon Richardson / Longmont	Airbus DS VESTA
Calvert County Backup PSAP	Bckp	██████████	██████████	██	████	410-535			9	6	6	9	Verizon Hyattsville/Rockville	Verizon Richardson / Longmont	Airbus DS VESTA
Charles County 9-1-1 Communication s Center	Pri	██████████	██████████	██	████	301-609	154,747	35,607	8**	4	4	16	Verizon Hyattsville/Rockville	Verizon Richardson / Longmont	Airbus DS VESTA 2.2
Charles County 9-1-1 Communication s Backup PSAP	Bckp	██████████	██████████	██	████	301-934	n/a		4**	4	2	4	Verizon Hyattsville/Rockville	Verizon Richardson / Longmont	Airbus DS VESTA 2.2
Frederick County Emergency Operations Center	Pri	██████████	██████████	██	████	301-600	243,675	126,185	20	8	12	28	Verizon Pikesville/Ellicott City	Verizon Richardson / Longmont	Airbus VESTA 6.0
Frederick County Emergency Operations	Bckp	██████████	██████████	██	████	301-662	n/a		20	8	12	18	Verizon Pikesville/Ellicott City	Verizon Richardson / Longmont	





PSAP	PSAP Type*	Street Address	City	ST	ZIP	NPA-NXX	2014 Population	Annual Call 9-1-1 Volume	# of Concurrent Calls	Wire-line Trunks	Wire-less Trunks	# of Work-stations	SR	ALI	CPE
Center Backup PSAP															
Montgomery County Police Communication s Center	Pri					301-869	1,030,447	551,873	60	18	20	56	Verizon Hyattsville/ Rockville Verizon Southwest / Anacostia	Verizon Richardson / Longmont	Intrado VIPER ICC/ Power911
Montgomery County Police Communication s Center Backup PSAP	Bckp					301-217	n/a		60	19	20	39	Verizon Hyattsville/ Rockville Verizon Southwest / Anacostia	Verizon Richardson / Longmont	Intrado VIPER ICC/ Power911
Takoma Park Police (Associated with Montgomery County)	Sec					301-270	n/a		Incorporated in Montgomery number	4		3			Remote off Montgomery County
Prince George's County Emergency Communication s Center	Pri					301-333	904,430	1,367,591	37	17	20	77	Verizon Hyattsville/ Rockville	Verizon Richardson / Longmont	Airbus DS VESTA 6.0
Prince George's County Emergency Communication s Center Backup PSAP	Bckp					301-324	n/a		23	13	20	43	Verizon Hyattsville/ Rockville	Verizon Richardson / Longmont	Airbus DS VESTA 6.0
St. Mary's County	Pri					301-475	110,382	15,650	14	8**	8**	14	Verizon Hyattsville/ Rockville	Verizon Richardson / Longmont	VESTA 2.2
St. Mary's County Backup PSAP	Bckp					301-475			8	4**	4**	8**	Verizon Hyattsville/ Rockville	Verizon Richardson / Longmont	





SENSITIVE MATERIAL - LIMITED DISTRIBUTION

Respondents should take note that Secondary PSAPs with “Remote off [x] County” are served by CPE hosted by the named county. These secondary PSAPs would not be directly connected to the ESInet. Additionally, while listed as Secondary PSAPs, Manassas City and Manassas Park receive some wireline calls directly. These two PSAPs have wireless calls transferred to them by Fairfax County, Prince William County, and potentially others. Metropolitan Washington Airport Authority also only receives wireless 911 calls through transfers.





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Attachment B: NCR GIS Data Model

Table 5: Address Data Model

Name	Type	IsNullable	Length
OBJECTID	esrFiedTypeOID	FALSE	4
SHAPE	EsrFiedTypeGeometry	TRUE	0
SITE_UNIQUE_ID	esrFiedTypeString	TRUE	100
SOURCE_OF_DATA	esrFiedTypeString	TRUE	75
EFFECTIVE_DATE	esrFiedTypeDate	TRUE	8
EXPIRATION_DATE	esrFiedTypeDate	TRUE	8
DATE_UPDATED	esrFiedTypeDate	TRUE	8
ADDRESS_NUMBER_PREFIX	esrFiedTypeString	TRUE	15
ADDRESS_NUMBER	esrFiedTypeSmallInteger	TRUE	2
ADDRESS_NUMBER_SUFFIX	esrFiedTypeString	TRUE	15
unit	esrFiedTypeString	TRUE	75
BUILDING	esrFiedTypeString	TRUE	75
floor	esrFiedTypeString	TRUE	75
ROOM	esrFiedTypeString	TRUE	75
seat	esrFiedTypeString	TRUE	75
PLACE_TYPE	esrFiedTypeString	TRUE	150
COMPLETE_LANDMARK_NAME	esrFiedTypeString	TRUE	50
STREET_NAME_PRE_MODIFIER	esrFiedTypeString	TRUE	30
STREET_NAME_PRE_DIRECTIONAL	esrFiedTypeString	TRUE	12
STREET_NAME_PRE_TYPE	esrFiedTypeString	TRUE	30
STREET_NAME_PRE_TYPE_SEPARATOR	esrFiedTypeString	TRUE	30
STREET_NAME	esrFiedTypeString	TRUE	75
STREET_NAME_POST_TYPE	esrFiedTypeString	TRUE	30
STREET_NAME_POST_DIRECTIONAL	esrFiedTypeString	TRUE	12
STREET_NAME_POST_MODIFIER	esrFiedTypeString	TRUE	30
INCORPORATED_MUNICIPALITY	esrFiedTypeString	TRUE	100
UNINCORPORATED_COMMUNITY	esrFiedTypeString	TRUE	100
COUNTY	esriFieldTypeString	TRUE	24
STATE	esriFieldTypeString	TRUE	2
COUNTRY	esriFieldTypeString	TRUE	40
POSTAL_CODE	esriFieldTypeString	TRUE	10





Name	Type	IsNullable	Length
ZIP_PLUS_4	esriFieldTypeString	TRUE	4
POSTAL_COMMUNITY_NAME	esriFieldTypeString	TRUE	50
NEIGHBORHOOD_COMMUNITY	esriFieldTypeString	TRUE	100
MSAG_COMMUNITY_NAME	esriFieldTypeString	TRUE	50
ADDITIONAL_CODE	esriFieldTypeString	TRUE	6
ADDITIONAL_LOCATION_INFORMATION	esriFieldTypeString	TRUE	255
MILEPOST	esriFieldTypeString	TRUE	150
esn	esriFieldTypeString	TRUE	10
ADDITIONAL_DATA_URI	esriFieldTypeString	TRUE	254

Table 6: Alias Data Model

Name	Type	IsNullable	Length
objectid	esriFieldTypeOID	FALSE	4
SOURCE_OF_DATA	esriFieldTypeString	TRUE	75
DATE_UPDATED	esriFieldTypeDate	TRUE	8
EFFECTIVE_DATE	esriFieldTypeDate	TRUE	8
EXPIRATION_DATE	esriFieldTypeDate	TRUE	8
ALIAS_UNIQUE_ID	esriFieldTypeString	TRUE	100
ROAD_CENTERLINE_UNIQUE_ID	esriFieldTypeString	TRUE	100
ALIAS_STREET_NAME_PRE_MODIFIER	esriFieldTypeString	TRUE	15
ALIAS_STREET_NAME_PRE_DIRECTIONAL	esriFieldTypeString	TRUE	9
ALIAS_STREET_NAME_PRE_TYPE	esriFieldTypeString	TRUE	25
ALIAS_STREET_NAME_PRE_TYPE_SEPARATOR	esriFieldTypeString	TRUE	20
ALIAS_STREET_NAME	esriFieldTypeString	TRUE	75
ALIAS_STREET_NAME_POST_TYPE	esriFieldTypeString	TRUE	15
ALIAS_STREET_NAME_POST_DIRECTIONAL	esriFieldTypeString	TRUE	9
ALIAS_STREET_NAME_POST_MODIFIER	esriFieldTypeString	TRUE	25

Table 7: Boundary Data Model

Name	Type	IsNullable	Length
OBJECTID	esriFieldTypeOID	FALSE	4
SHAPE	esriFieldTypeGeometry	TRUE	0
SHAPE_Length	esriFieldTypeDouble	TRUE	8
SHAPE_Area	esriFieldTypeDouble	TRUE	8
SOURCE_OF_DATA	esriFieldTypeString	TRUE	75
EFFECTIVE_DATE	esriFieldTypeDate	TRUE	8





Name	Type	IsNullable	Length
EXPIRATION_DATE	esriFieldTypeDate	TRUE	8
DATE_UPDATED	esriFieldTypeDate	TRUE	8
EMERGENCY_SERVICE_UNIQUE_ID	esriFieldTypeString	TRUE	100
AGENCY_ID	esriFieldTypeString	TRUE	100
ROUTE_URI	esriFieldTypeString	TRUE	254
SERVICE_URN	esriFieldTypeString	TRUE	50
SERVICE_NUMBER	esriFieldTypeString	TRUE	50
AGENCY_VCARD_URI	esriFieldTypeString	TRUE	254
DISPLAY_NAME	esriFieldTypeString	TRUE	60

Table 8: Road Data Model

Name2	Type	IsNullable	Length	AliasName	ModelName
objectid	esriFieldTypeOID	FALSE	4	OBJECTID	OBJECTID
SHAPE	esriFieldTypeGeometry	TRUE	0		SHAPE
SHAPE_Length	esriFieldTypeDouble	TRUE	8		SHAPE_Length
SOURCE_OF_DATA	esriFieldTypeString	TRUE	50	SOURCE OF DATA EFFECTIVE DATE EXPIRATION DATE	SOURCE_OF_DATA
EFFECTIVE_DATE	esriFieldTypeDate	TRUE	8	DATE UPDATED	EFFECTIVE_DATE
EXPIRATION_DATE	esriFieldTypeDate	TRUE	8	EXPIRATION DATE	EXPIRATION_DATE
DATE_UPDATED	esriFieldTypeDate	TRUE	8	DATE UPDATED	DATE_UPDATED
ROAD_CENTERLINE_UNIQUE_ID	esriFieldTypeString	TRUE	100	ROAD CENTERLINE UNIQUE ID	ROAD_CENTERLINE_UNIQUE_ID
ROAD_CLASS	esriFieldTypeString	TRUE	15	ROAD CLASS	ROAD_CLASS
STREET_NAME_PRE_MODIFIER	esriFieldTypeString	TRUE	30	STREET NAME PRE MODIFIER	STREET_NAME_PRE_MODIFIER





Name2	Type	IsNullable	Length	AliasName	ModelName
STREET_NAME_PRE_DIRECTIONAL	esriFiedTypeString	TRUE	12	STREET NAME PRE DIRECTIONAL	STREET_NAME_PRE_DIRECTIONAL
STREET_NAME_PRE_TYPE	esriFiedTypeString	TRUE	30	STREET NAME PRE TYPE	STREET_NAME_PRE_TYPE
STREET NAME PRE TYPE SEPARATOR	esriFiedTypeString	TRUE	30	STREET NAME PRE TYPE SEPARATOR	STREET NAME PRE TYPE SEPARATOR
STREET_NAME	esriFiedTypeString	TRUE	75	STREET NAME	STREET_NAME
STREET_NAME_POST_TYPE	esriFiedTypeString	TRUE	30	STREET NAME POST TYPE	STREET_NAME_POST_TYPE
STREET_NAME_POST_DIRECTIONAL	esriFiedTypeString	TRUE	12	STREET NAME POST DIRECTIONAL	STREET_NAME_POST_DIRECTIONAL
STREET_NAME_POST_MODIFIER	esriFiedTypeString	TRUE	30	STREET NAME POST MODIFIER	STREET_NAME_POST_MODIFIER
LEFT_ADDRESS_NUMBER_PREFIX	esriFiedTypeString	TRUE	15	LEFT ADDRESS NUMBER PREFIX	LEFT_ADDRESS_NUMBER_PREFIX
LEFT_FROM_ADDRESS	esriFiedTypeInteger	TRUE	0	LEFT FROM ADDRESS	LEFT_FROM_ADDRESS
LEFT_TO_ADDRESS	esriFiedTypeInteger	TRUE	0	LEFT TO ADDRESS	LEFT_TO_ADDRESS
LEFT_ADDRESS_NUMBER_SUFFIX	esriFiedTypeString	TRUE	15	LEFT ADDRESS NUMBER SUFFIX	LEFT_ADDRESS_NUMBER_SUFFIX
PARITY_LEFT	esriFiedTypeString	TRUE	1	PARITY LEFT	PARITY_LEFT
RIGHT_ADDRESS_NUMBER_PREFIX	esriFiedTypeString	TRUE	15	RIGHT ADDRESS NUMBER PREFIX	RIGHT_ADDRESS_NUMBER_PREFIX
RIGHT_FROM_ADDRESS	esriFiedTypeInteger	TRUE	0	RIGHT FROM ADDRESS	RIGHT_FROM_ADDRESS





Name2	Type	IsNullable	Length	AliasName	ModelName
RIGHT_TO_ADDRESS	esriFiedTypeInteger	TRUE	0	RIGHT TO ADDRESS	RIGHT_TO_ADDRESS
RIGHT_ADDRESS_NUMBER_SUFFIX	esriFiedTypeString	TRUE	15	RIGHT ADDRESS NUMBER SUFFIX	RIGHT_ADDRESS_NUMBER_SUFFIX
PARITY_RIGHT	esriFiedTypeString	TRUE	1	PARITY RIGHT	PARITY_RIGHT
INCORPORATED_MUNICIPALITY_LEFT	esriFiedTypeString	TRUE	100	INCORPORATED MUNICIPALITY LEFT	INCORPORATED_MUNICIPALITY_LEFT
INCORPORATED_MUNICIPALITY_RIGHT	esriFiedTypeString	TRUE	100	INCORPORATED MUNICIPALITY RIGHT	INCORPORATED_MUNICIPALITY_RIGHT
UNINCORPORATED_COMMUNITY_LEFT	esriFiedTypeString	TRUE	100	UNINCORPORATED COMMUNITY LEFT	UNINCORPORATED_COMMUNITY_LEFT
UNINCORPORATED_COMMUNITY_RIGHT	esriFiedTypeString	TRUE	100	UNINCORPORATED COMMUNITY RIGHT	UNINCORPORATED_COMMUNITY_RIGHT
COUNTY_LEFT	esriFieldTypeString	TRUE	40	COUNTY LEFT	COUNTY_LEFT
COUNTY_RIGHT	esriFiedTypeString	TRUE	40	COUNTY RIGHT	COUNTY_RIGHT
STATE_LEFT	esriFiedTypeString	TRUE	2	STATE LEFT	STATE_LEFT
STATE_RIGHT	esriFiedTypeString	TRUE	2	STATE RIGHT	STATE_RIGHT
COUNTRY_LEFT	esriFiedTypeString	TRUE	2	COUNTRY LEFT	COUNTRY_LEFT
COUNTRY_RIGHT	esriFiedTypeString	TRUE	2	COUNTRY RIGHT	COUNTRY_RIGHT
POSTAL_CODE_LEFT	esriFiedTypeString	TRUE	10	POSTAL CODE LEFT	POSTAL_CODE_LEFT
POSTAL_CODE_RIGHT	esriFiedTypeString	TRUE	10	POSTAL CODE RIGHT	POSTAL_CODE_RIGHT





Name2	Type	IsNullable	Length	AliasName	ModelName
POSTAL_COMMUNITY_NAME_LEFT	esriFiedTypeString	TRUE	50	POSTAL COMMUNITY NAME LEFT	POSTAL_COMMUNITY_NAME_LEFT
POSTAL_COMMUNITY_NAME_RIGHT	esriFiedTypeString	TRUE	50	POSTAL COMMUNITY NAME RIGHT	POSTAL_COMMUNITY_NAME_RIGHT
NEIGHBORHOOD_COMMUNITY_LEFT	esriFiedTypeString	TRUE	50	NEIGHBORHOOD COMMUNITY LEFT	NEIGHBORHOOD_COMMUNITY_LEFT
NEIGHBORHOOD_COMMUNITY_RIGHT	esriFiedTypeString	TRUE	50	NEIGHBORHOOD COMMUNITY RIGHT	NEIGHBORHOOD_COMMUNITY_RIGHT
MSAG_COMMUNITY_NAME_LEFT	esriFiedTypeString	TRUE	50	MSAG COMMUNITY NAME LEFT	MSAG_COMMUNITY_NAME_LEFT
MSAG_COMMUNITY_NAME_RIGHT	esriFiedTypeString	TRUE	50	MSAG COMMUNITY NAME RIGHT	MSAG_COMMUNITY_NAME_RIGHT
ESN_LEFT	esriFiedTypeString	TRUE	10	ESN LEFT	ESN_LEFT
ESN_RIGHT	esriFiedTypeString	TRUE	10	ESN RIGHT	ESN_RIGHT
ONE_WAY	esriFiedTypeString	TRUE	2	ONE-WAY	ONE_WAY
SPEED_LIMIT	esriFiedTypeSmall Integer	TRUE	2	SPEED LIMIT	SPEED_LIMIT
ADDITIONAL_CODE_LEFT	esriFiedTypeString	TRUE	6	ADDITIONAL CODE LEFT	ADDITIONAL_CODE_LEFT
ADDITIONAL_CODE_RIGHT	esriFieldtypeString	TRUE	6	ADDITIONAL CODE RIGHT	ADDITIONAL_CODE_RIGHT



Attachment C: Requirements Compliance Summary

Requirement	Understood	Complies	Complies Partially	Complies with Future Capability	Does Not Comply	Response Provided
3.1.1,1	✓					
3.1.1,2	✓					
3.1.1,3	✓					
3.2		✓				✓
3.3	✓					
3.4	✓					
3.5	✓					
4.1,1		✓				✓
4.1,2		✓				✓
4.2		✓				✓
4.3,1	✓					
4.3,2	✓					
4.3,3	✓					
4.3,4	✓					
4.3,5	✓					
4.3,6	✓					
4.3,7	✓					
4.3,8	✓					
4.3,9	✓					
4.3,10	✓					
4.3,11	✓					
4.3,12		✓				✓
4.3,13		✓				✓
4.4,1		✓				✓
4.4,2		✓				✓
4.5		✓				✓
4.6,1		✓				✓
4.7		✓				✓
4.7.1,1		✓				✓
4.7.1,2		✓				✓
4.7.2		✓				✓
4.7.3,1		✓				✓





Requirement	Understood	Complies	Complies Partially	Complies with Future Capability	Does Not Comply	Response Provided
4.7.3,2		✓				✓
4.7.4,1		✓				✓
4.8,1		✓				✓
4.8,2		✓				✓
4.8,3		✓				✓
4.8,4		✓				✓
4.8,5		✓				✓
4.8,6		✓				✓
4.8.1,1		✓				✓
4.8.1,2		✓				✓
4.9,1		✓				✓
4.9,2		✓				✓
4.9.1,1		✓				✓
4.9.1,2		✓				✓
4.9.1,3		✓				✓
4.9.1,4		✓				✓
4.9.2		✓				✓
4.9.3,1		✓				✓
4.9.3,2		✓				✓
4.9.4,1		✓				✓
4.9.4,2		✓				✓
4.9.5,1		✓				✓
4.9.5,2		✓				✓
4.9.5,3		✓				✓
4.9.6,1		✓				✓
4.9.6,2		✓				✓
4.9.7		✓				✓
4.9.8		✓				✓
4.9.9		✓				✓
4.9.10		✓				✓
4.9.11		✓				✓
4.9.12		✓				✓
4.9.13						✓





Requirement	Understood	Complies	Complies Partially	Complies with Future Capability	Does Not Comply	Response Provided
4.9.14,1						✓
4.9.14,2						✓
4.9.14,3						✓
4.10		✓				✓
4.10.1,1		✓				✓
4.10.1,2		✓				✓
4.10.1,3		✓				✓
4.10.1,4		✓				✓
4.10.1,5		✓				✓
4.10.1,6		✓				✓
4.10.1,7		✓				✓
4.10.1,8		✓				✓
4.10.1,9		✓				✓
4.10.1,10		✓				✓
4.10.1,11		✓				✓
4.10.1,12		✓				✓
4.10.2,1		✓				✓
4.10.2,2		✓				✓
4.10.2,3		✓				✓
4.10.2,4		✓				✓
4.10.2,5		✓				✓
4.10.2,6		✓				✓
4.10.2,7		✓				✓
4.10.3,1		✓				✓
4.10.3,2		✓				✓
4.10.3,3		✓				✓
4.10.3,4			✓			✓
4.10.3,5		✓				✓
4.10.3,6		✓				✓
4.10.3,7				✓		✓
4.10.3,8		✓				✓
4.10.3,9		✓				✓
4.10.3,10		✓				✓





Requirement	Understood	Complies	Complies Partially	Complies with Future Capability	Does Not Comply	Response Provided
4.10.3,11		✓				✓
4.10.3,12		✓				✓
4.10.3,13		✓				✓
4.10.3,14		✓				✓
4.10.4,1		✓				✓
4.10.4,2		✓				✓
4.10.4,3		✓				✓
4.10.4,4		✓				✓
4.10.4,5		✓				✓
4.10.4,6		✓				✓
4.10.4,7		✓				✓
4.10.4,8						
4.10.4,8.1		✓				✓
4.10.4,8.2		✓				✓
4.10.4,8.3						
4.10.4,8.4						
4.10.4,8.5		✓				✓
4.10.4,8.6		✓				✓
4.10.4,8.7		✓				✓
4.10.4,8.8		✓				✓
4.10.4,8.9		✓				✓
4.10.4,8.10		✓				✓
4.10.4,8.11		✓				✓
4.10.4,8.12		✓				✓
4.10.4,8.13		✓				✓
4.10.4,8.14		✓				✓
4.10.4,8.15		✓				✓
4.10.4,8.16		✓				✓
4.10.4,8.17		✓				✓
4.10.4,8.18		✓				✓
4.10.4,8.19		✓				✓
4.10.4,8.20		✓				✓
4.10.4,8.21		✓				✓





Requirement	Understood	Complies	Complies Partially	Complies with Future Capability	Does Not Comply	Response Provided
4.10.5,1		✓				✓
4.10.5,2		✓				✓
4.10.5,3		✓				✓
4.10.5,4		✓				✓
4.10.5,5		✓				✓
4.10.5,6		✓				✓
4.10.5,7		✓				✓
4.10.5,8		✓				✓
4.10.5,9			✓			✓
4.10.5,10		✓				✓
4.10.5,11		✓				✓
4.10.5,12		✓				✓
4.10.6,1		✓				✓
4.10.6,2		✓				✓
4.10.6,3		✓				✓
4.10.6,4		✓				✓
4.10.6,5		✓				✓
4.10.7,1		✓				✓
4.10.7,2			✓			✓
4.10.7,3		✓				✓
4.10.7,4		✓				✓
4.10.8,1		✓				✓
4.10.8,2		✓				✓
4.10.9				✓		✓
4.10.10,1		✓				✓
4.10.10,2		✓				✓
4.10.10,3		✓				✓
4.10.10,4		✓				✓
4.10.10,5		✓				✓
4.10.10,6		✓				✓
4.10.10,7			✓			✓
4.10.11,1		✓				✓
4.10.11,2		✓				✓





Requirement	Understood	Complies	Complies Partially	Complies with Future Capability	Does Not Comply	Response Provided
4.10.12,1		✓				✓
4.10.12,2		✓				✓
4.10.13		✓				✓
4.11.1		✓				✓
4.11.2,1		✓				✓
4.11.2,3		✓				✓
4.11.2,4		✓				✓
4.11.2,5		✓				✓
4.11.2,6		✓				✓
4.11.2,7		✓				✓
4.11.2,8		✓				✓
4.11.2,9		✓				✓
4.11.2,10		✓				✓
4.11.3		✓				✓
4.11.4,1		✓				✓
4.11.4,2		✓				✓
4.11.4,3		✓				✓
4.11.4,4		✓				✓
4.11.4,5		✓				✓
4.11.5		✓				✓
4.11.6		✓				✓
4.11.7		✓				✓
4.12,1		✓				✓
4.12,2				✓		✓
4.12,3		✓				✓
4.12,4		✓				✓
5.1		✓				✓
5.2		✓				✓
5.3		✓				✓
5.4		✓				✓
5.5		✓				✓
6.1		✓				✓
6.2			✓			✓





Requirement	Understood	Complies	Complies Partially	Complies with Future Capability	Does Not Comply	Response Provided
6.3		✓				✓
6.4			✓			✓
6.5		✓				✓
7.1		✓				✓
7.2		✓				✓
8		✓				✓
9.1,1		✓				✓
9.1,2		✓				✓
9.2,1		✓				✓
9.2,2		✓				✓
9.2,3		✓				✓
9.2,4		✓				✓
10		✓				✓





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Attachment D: Sample of Required 10-Digit Transfers

PSAP	County	City	ST	ZIP	NPA-NXX
Maryland State Police Rockville	Montgomery	Rockville	MD	20854	301-424
Maryland Transportation Authority Police	Montgomery	Baltimore	MD	21224	410-537
MNCPPC - Police, Montgomery Division	Montgomery	Silver Spring	MD	20906	301-949
Washington Metropolitan Area Transit Authority	Montgomery	College Park	MD	20740	301-474
NSA - Bethesda	Montgomery	Bethesda	MD	20889	301-295
NSA - Carderock	Montgomery	Bethesda	MD	20817	301-227
U.S. Park Police	Montgomery & Prince George's				202-610
Fort Belvoir	Arlington				
Joint Base Myer-Henderson Hall	Arlington	Arlington	VA	22214	703-979, 703-614, 571-483
Marine Corp Base Quantico	Prince William	Quantico	VA	22134	703-784
Pentagon	Arlington	Washington (in Arlington)	DC	20301	703-545
Joint Base Andrews	Prince George's				
Fort George G. Meade	Anne Arundel	Fort Meade	MD	20755	301-677
Fort Detrick	Frederick	Frederick	MD	21702	301-619
Indian Head Naval Warfare Center Study Area**	Charles	Indian Head	MD	20640	301-744
Joint Base Anacostia-Bolling**	DC				
Fort McNair Army Base**	DC				
Coast Guard Headquarters**	DC				
Marine Barracks Marine Corp Base**	DC				
Naval Research Laboratory**	DC				
Navy Yard**	DC				
George Mason University	Fairfax	Fairfax	VA	22030	703-993
Bowie State University	Prince George's	Bowie	MD	20715	301-860
University of Maryland, College Park	Prince George's	College Park	MD	20740	301-405





PSAP	County	City	ST	ZIP	NPA-NXX
Hood College	Frederick	Frederick	MD	21701	301-663
Mount St. Mary's University	Frederick	Emmitsburg	MD	21727	301-447
Maryland State Police College Park	Prince George's	College Park	MD	20740	301-345
PSAP	County	City	ST	ZIP	NPA-NXX
Maryland State Police Frederick	Frederick	Frederick	MD	21707	301-663
Maryland State Police Forestville	Prince George's	Forestville	MD	20747	301-568
Maryland State Police La Plata	Charles	La Plata	MD	20646	410-753

**Denotes calls are answered at the Navy Yard Emergency Dispatch Center primarily and at Naval Air Station Oceana as a backup





Attachment E: Contact Information for Site Diversity Investigations

PSAP	Contact Name	Contact Phone	Contact Email
Alexandria Police Department	Bob Bloom	703.746.1891	Robert.bloom@alexandriava.gov
Alexandria PD Backup PSAP	Bob Bloom	703.746.1891	Robert.bloom@alexandriava.gov
Arlington County Emergency Communications Center	Jeff Horwitz	571-238-1369	jhorwitz@arlingtonva.us
Arlington County ECC Backup PSAP	Jeff Horwitz	571-238-1369	jhorwitz@arlingtonva.us
Falls Church Police Communications (Associated with Arlington County)	Jamal Mathews	703-248-5413	jmatthews@fallschurchva.gov
Fairfax County Public Safety Communications Center	Steve McMurrer	(571) 350-1779	Steve.mcmurrer@fairfaxcounty.gov
Fairfax County PSCC Alternate PSAP	Steve McMurrer	(571) 350-1779	Steve.mcmurrer@fairfaxcounty.gov
Fairfax City Police Communications (Associated with Fairfax County)	Not Applicable; See Fairfax	Not Applicable; See Fairfax	Not Applicable; See Fairfax
Herndon Police Communications (Associated with Fairfax County)	Not Applicable; See Fairfax	Not Applicable; See Fairfax	Not Applicable; See Fairfax
Vienna Police Communications (Associated with Fairfax County)	Not Applicable; See Fairfax	Not Applicable; See Fairfax	Not Applicable; See Fairfax
Fauquier County 9-1-1 Dispatch Center	Joell Kight	540-422-8643	joell.kight@fauquiercounty.gov
Manassas City Police Communications (Associated with Prince William County)	Brent Heilman		bheilman@ci.manassas.va.us





PSAP	Contact Name	Contact Phone	Contact Email
Manassas Park Police Communications (Associated with Prince William County)	Donald Spady	703-335-0027	d.spady@manassasparkva.gov
Metropolitan Washington Airport Authority	Rodger Spahr	703-572-8369	rodger.spahr@mwaa.com
Prince William County Public Safety Communications	James (Jimmy) Scanlon Or Michele Surdam	Jimmy: 540-840-8533 or Michele: 703-209-3111	James.scanlo@motorolasolutions.com Or Msurdam@pwcgov.org
Prince William County Public Safety Communications Backup PSAP	James (Jimmy) Scanlon Or Michele Surdam	Jimmy: 540-840-8533 or Michele: 703-209-3111	James.scanlo@motorolasolutions.com Or Msurdam@pwcgov.org
Stafford County Sheriffs Communications	Capt. Ray Davis	540-658-4962	raydavis@staffordcountyva.gov
Calvert County PSAP	Yvette Myers	410.535.3491	myersya@co.cal.md.us
Calvert County Backup PSAP	Yvette Myers	410.535.3491	myersya@co.cal.md.us
Charles County 9-1-1 Communications Center	Tony Rose	301-609-3550	roset@charlescountymd.gov
Charles County 9-1-1 Communications Backup PSAP	Tony Rose	301-609-3550	La Plata
Frederick County Emergency Operations Center	Greg Orr	301-600-1670	gorr@frederickcountymd.gov
Frederick County Emergency Operations Center Backup PSAP	Greg Orr	301-600-1670	gorr@frederickcountymd.gov





PSAP	Contact Name	Contact Phone	Contact Email
Montgomery County Police Communications Center	Charlie Schwab	(240) 773-7025	Charles.Schwab@montgomerycountymd.gov

PSAP	Contact Name	Contact Phone	Contact Email
Montgomery County Police Communications Center Backup PSAP	Charlie Schwab	(240) 773-7025	Charles.Schwab@montgomerycountymd.gov
Takoma Park Police (Associated with Montgomery County)	Not Applicable; see above	Not Applicable; see above	Not Applicable; see above
Prince Georges County Emergency Communications Center	Joe Armentrout	301-352-2006	gchv87@motorolasolutions.com
Prince Georges County Emergency Communications Center Backup PSAP	Joe Armentrout	301-352-2006	gchv87@motorolasolutions.com
St. Mary's County	Bob Kelly	301-475-4200 X1013	bob.kelly@stmarysmd.com
St. Mary's County Backup PSAP	Bob Kelly	301-475-4200 X1013	bob.kelly@stmarysmd.com





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Preliminary Work Plan

The offeror must present a description of the phases or segments into which the proposed program can logically be divided and performed, together with flow charts. The technical narrative should address separately each of the tasks described in the Request for Proposal and responses should be keyed to appropriate paragraph numbers. This section should also contain a discussion of any changes proposed by the offeror that substantially differs from the project scope described in these Special Provisions and/or Technical Requirements (Appendix C) as applicable.

This section should include detailed descriptions of activities that are to occur, significant milestones, and anticipated deliverables. The County prefers a High Level Project Plan be submitted with the offeror's response.

AT&T Response:

NCR AT&T ESInet™ Transition Plan

AT&T ESInet™ employs a solution lifecycle implementation methodology (see description below) to ensure that all project areas of change are properly defined, designed, integrated, and deployed. The solution lifecycle implementation methodology has been developed and refined based on experience and the lessons learned migrating hundreds of agency systems to next generation 9-1-1. The methodology provides a blueprint for managing system migration and includes a project plan, templates, examples, diagrams, forms, and project communications. These project tools are tailored during the project definition phase to address the specific attributes of each next generation system implementation, and then refined during the subsequent project phases.

The chart below provides a visual of the phased approach that will be used for the NCR region, with specifics that will be discussed in the following sections.



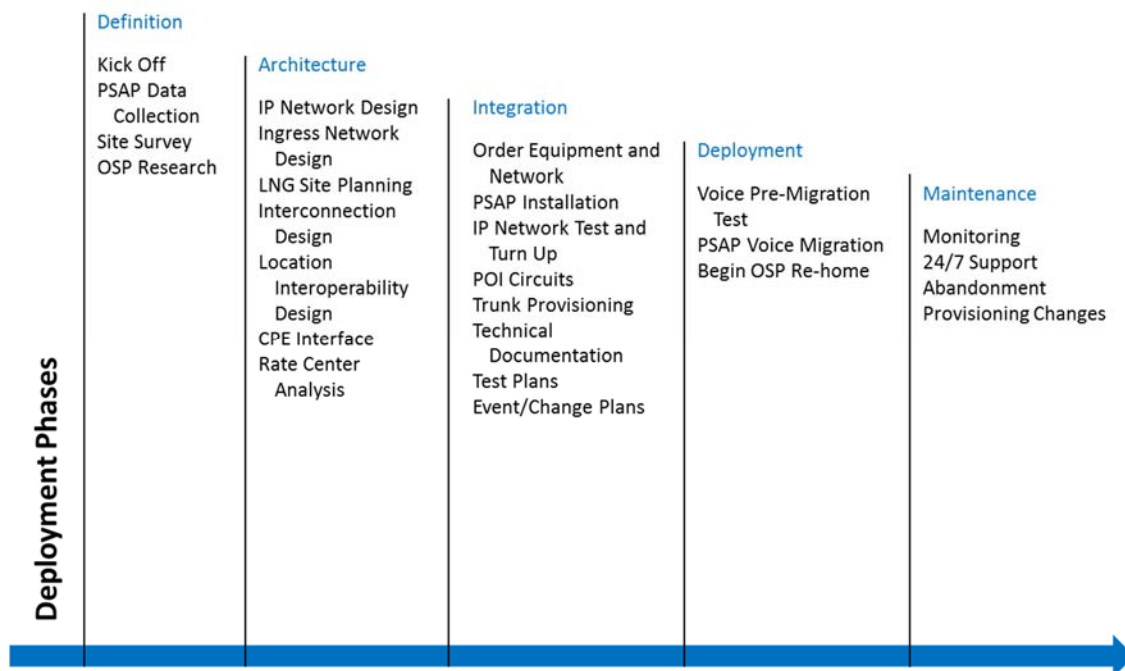


Figure 28. Sample PSAP Deployment Process

Solution Definition

The first phase in the solution lifecycle is the Solution Definition phase, which begins with the kickoff and alignment process and is critical to the overall success of the next generation 9-1-1 initiative within the NCR. During this process, key members of the joint project team unite to identify roles, responsibilities, critical success factors, project challenges, elaborate on specific strategies and project options, confirm E9-1-1 project scope, and finalize plans to expedite solution delivery plans and resources. The proposed solution is reviewed in order to align each primary stakeholder with a common vision and strategy for unified team design and planning.

The Solution Definition phase principally represents administrative, organization, and discovery tasks necessary to align the team's roles and responsibilities with project deliverables. During this phase, the team determines the aspects of the 9-1-1 system that are subject to change within the scope of the project. Much of this entails identifying and collecting information from project stakeholders such as the NCR, existing 9-1-1 service providers, public safety agencies, and Originating Service Providers (OSPs).

Prior to collecting detail information that will be used in the course of the project, it is important for the team to understand the overall project goals and the criteria that will govern their decision-making. Project "Principles and Constraints" represent beliefs that



span and guide all phases of the project, and which will eventually determine the success of the project. The project principles and constraints are communicated to all team members so that all design, integrations, and deployment decisions can be assessed in their light. Guided by the project principles and constraints, more detail information is then collected during the Solution Definition phase. This includes conducting site visits and readiness assessments of Public Safety agency facilities. Information also may be obtained by telephone and email exchange. Where it is possible, the team provides information ahead of time for the agency personnel to validate. A high percentage of PSAP data can be verified in this manner rather than collected from scratch. Every effort is made to obtain the necessary data in a manner that is efficient, respectful, and does not interfere with PSAP operations.

Information collection methods include interviews, questionnaire forms, review of documentation developed by the NCR during earlier project phases, and research utilizing both public and proprietary data sources. The information is captured in Microsoft Office documents including Word, Excel, Project, and Visio. It is then organized, correlated, and stored in a secure project repository. Some of the information is plotted using geographic information systems (GIS) so that relationships between public safety agency jurisdictions and communication service provider networks can be more readily analyzed and communicated. The project Communications Plan guides the dissemination and sharing of this information based on a project RACI chart.

Information collected from or validated with PSAP representatives during the Solution Definition phase includes:

- PSAP Contact Information
- PSAP Jurisdiction Boundaries
- Existing 9-1-1 Service Provider and Legacy Selective Router Information (Section 4.4)
- PSAP Services and Trunk Types
- PSAP CPE and Positions (Section 4.12)
- PSAP Equipment Configuration; Power; HVAC (Section 4.12)
- PSAP ALI Information; Format (Section 4.12)
- PSAP GIS Layers (Section 4.10.5)
- PSAP Community; Back-Up; Alternate; E9-1-1 and PSTN Transfers (Section 4.10.4)



In parallel with the above PSAP data collection tasks, a corresponding research and data collection effort is conducted to gather Originating Service Provider (OSP) information. Again, much of this information is first obtained from public or proprietary industry data bases, and subsequently augmented and annotated with feedback from service provider representatives.

Information collected from or validated with OSP representatives during the Solution Definition phase includes:

- Comprehensive Inventory of OSPs serving the NCR; ILECs; Independent Operating Companies (ICOs); CLECs; Wireless; VoIP; Private Switch Customers
- OSP Contact Information; Network Planning; Trunk Ordering; ALI Data
- OSP Code Sets; CLLI Codes; Point Codes; ACNAs; OCN; NENA IDs
- OSP Switch Information; Type, CLLI Codes; Rate Centers Served
- OSP Trunk Information; Quantities; SS7; CAMA; PRI; SIP
- Embedded existing 9-1-1 service provider system interconnection
- Tariff Information
- Interconnection Agreements

Other general types of information collected or used during the Solution Definition phase includes:

- Candidate POI (point of interface) locations
- Site Surveys

Based upon the project principles and constraints, as well as information collected during the Solution Definition phase, the team begins to distribute “network change” notifications to communications service providers. Network change notifications generally provide at least 6 months lead time for carriers to meet new trunking arrangements. Notifications may be issued on NCR or agency letterhead, and may be emailed as well as posted online. The initial notification to communications service providers may provide general information and time frames, with details to follow as additional instructions are developed during the architecture phase.

The “network change” notifications will be specifically tailored for OSPs. It likely also will be necessary to provision outbound circuits from the LNGs (section 4.10.1) to the embedded existing 9-1-1 service provider systems and legacy selective routers (section 4.4) to support interoperability of the legacy and next generation systems during the migration process.



Solution Architecture

During the Solution Architecture phase, the detailed solution design is finalized based on confirmed requirements. During this phase, the team analyzes the current systems, operations, and operational procedures, identifies the human factors needs, considers implementation options, and with the customer, commits the detailed solution design and implementation schedule.

The Solution Architecture phase represents the design and documentation of all solution components and interrelationships. The objective of the Solution Architecture phase is for all project stakeholders to understand the requirements for which they are responsible and have the information necessary to obtain approvals, procure equipment, submit trunk orders, and arrange connectivity during the Solution Integration phase. During this phase, the team creates and distributes more detailed communications to OSPs that provide trunk ordering instructions and due dates.

To achieve these objectives, Solution Architecture entails creating logical and physical network diagrams and spreadsheets that depict the entity relationships between all system components. Logical entities include the OSP end offices, legacy selective routers (Section 4.4), other 9-1-1 service provider systems, data centers, legacy network gateways (LNGs) (section 4.10.1), points of interface (POIs), next generation selective routers (section 4.5), etc. Additional dimensions considered during Solution Architecture are LATAs, rate centers, exchange boundaries, and PSAP jurisdiction boundaries. Using information collected during the Solution Definition phase, the team estimates the type and quantity of network capacity required to accommodate ingress trunks from all OSPs to the LNGs. The team designs and sizes egress trunk groups from the LNGs back to the legacy systems in accordance with interconnection agreements to support interoperability of the legacy 9-1-1 system with the next generation system during the system migration period. The team identifies service addresses where Common Line Location Identifier (CLLI) codes will be required from Telcordia. (Section 4.10.1)

Solution Integration

During the Solution Integration phase, the components of the solution, including processes, applications, servers, network components, and data flow, are engineered and readied for deployment. All network, regional, and customer premises components are delivered, and the equipment rooms and other facilities are readied.



Coordination with telephone service providers is an essential part of this stage to plan for the 9-1-1 services management transition. OSPs receive all necessary information and detail to order trunks to the LNGs.

Based on the due dates the project team provides, OSPs submit facility orders (usually DS1) to point of interface (POIs) to access the LNGs (section 4.10.1) and trunk group orders (DSOs) to the next generation selective routers. The trunk types include CAMA, PRI, and SIP. If possible, some pre-provisioning may be performed to collapse time frames. An example of this might be the collection of OSP point code information necessary to begin ISUP orders to support pre-provisioning of the OSP SS7 signaling to facilitate trunk group builds. It may be determined that OSPs already connected to the AT&T ESInet™ to serve non-NCR PSAP jurisdictions may be able to leverage such connectivity to deliver traffic intended for the NCR. This would jump-start the connection process for some OSPs by allowing them to add trunk groups for PSAPs to existing facilities.

In general, most OSPs are likely to order trunk groups in quantities and configurations that replicate their existing connectivity to the legacy selective routers. OSPs may be able to aggregate more trunk groups on fewer overall facilities due to changes in the number and location of the LNGs. OSPs will be instructed to order diverse (primary and alternate) trunk groups to the next generation selective routers. OSPs will be instructed to configure their primary and alternate call paths so as to achieve a balance between the AT&T ESInet™ point codes in order to distribute the load between the pair.

The team coordinates with the NCR and OSPs to ensure that each trunk group is associated with the appropriate default PSAP. The default PSAP is the PSAP where calls received over the trunk group will be routed in the event that the ANI is missing or location information for routing is not found. Agencies generally determine the default PSAP based on the relationship between the OSP's originating rate center, the PSAP jurisdiction(s) boundaries, and the PSAP(s) call-taker capacity and ability to dispatch or transfer calls. A baseline for default PSAP determination may be the legacy system relationship between OSP trunk groups, rate centers, and PSAPs.

As trunk orders complete, OSPs contact the AT&T ESInet™ team to schedule call-through testing. Each trunk is tested as well as overflow and alternate call path logic. Depending on the timing relative to the planned in-service date, traffic may be cut-over to the new trunk groups or the trunks may be turned down until the PSAP(s) served by the groups are ready to receive calls from the new system.



In parallel with network provisioning, the project team implements the PSAP connectivity (Section 4.3) and works with the PSAP to ensure CPE configuration is complete. PSAPs are provisioned in the AT&T ESInet™ to support call transfers, star code lists, alternate, overflow, and abandonment routing. A common statewide PSAP directory may be utilized to enable 9-1-1 call transfers to any PSAP as authorized.

Working closely with the NCR and stakeholder groups, the project team designs customized provisioning plans (including incoming trunk route plans, bridge lists, alternate and backup policies and dialing plans). Additionally, the documentation developers customize the user and process documents to meet the needs of the NCR and PSAPs. (Section 4.10.4)

Solution Deployment

Site Cutover Approach (Section 4.9.3)

During the Solution Deployment phase, all network components and equipment connectivity is validated and acceptance tests are performed, and metrics tracking and reporting are initiated. After all non-live call testing is completed, a series of transition events are executed to cut-over live 9-1-1 traffic to the AT&T ESInet™.

In preparation for deployment and in partnership with the NCR, the AT&T ESInet™ Project Manager finalizes the cutover plan, including procedures for notification concerning schedule specifics. To minimize impact to the PSAPs, each PSAP is cutover by receiving traffic directly from the legacy selective routers as well as any OSP end offices that have completed pre-migration provisioning and testing prior to the date of the scheduled cut. The PSAP is flash cut using procedures outlined below, and then any additional OSP traffic and end offices are rehomed post-PSAP cut. Prior to the commencement of the cutover event for the legacy selective router and OSP switches, the project team members hold a cutover meeting, and OSPs are provided a set of methods and procedures for the switch transition. The purpose of this meeting is to discuss the progress of activities, cutover readiness, and the cutover plan.

During the scheduled cutover, all parties both on- and off-site join a bridge that will be managed by an AT&T ESInet™ Change Manager. Legacy selective router and end office migration of live traffic is performed on a switch by switch basis. At the scheduled time and in accordance with the 9-1-1 service transition plan, the OSP translations representative executes a predefined set of switch translations (script) to redirect calls from their legacy trunks to the new trunk groups to the AT&T ESInet™. Generally, the OSP will busy-out their primary legacy call path, thus sending all calls to the alternate legacy call path. The OSP then cuts over the primary trunk group to the AT&T ESInet™



and calls are validated. The OSP then repeats the procedure for the alternate call path. The actual switch transition event occurs smoothly and transparently to 9-1-1 callers as all systems have been previously tested with non-live calls.

After live traffic has been cut, the system will then undergo a system acceptance test and quality walkthrough, including re-validation of a subset of testing that had been performed prior to the migration, including call transfers. Once complete, and in agreement with the Customer, the service is accepted and the maintenance period begins.

In the event that the PSAP must revert back, this may be accomplished by the OSPs reversing the translations and directing traffic sent to the new LNGs back to the prior legacy network paths.

Solution Maintenance

The Solution Maintenance phase begins once live traffic is transferred onto any part of the system. During this phase, AT&T ESInet™ provides ongoing tiered support services to monitor service level performance, manage help desk requests, escalate support procedures, and support the Customer to reach the highest level of operational excellence. The solution support team is in place to receive, analyze, and rectify problems and information requests.

Ongoing OSP rehomes will occur during this phase as well. Any OSP traffic that continues to route to the PSAP through the legacy selective to the AT&T ESInet™ must be moved to direct connections to the AT&T ESInet™ LNGs. AT&T will continue to manage these individual migrations at no impact to the PSAPs.

Risk Management Plan

Risk areas and mitigation steps may include:

Risk	Mitigation
PSAP Space for network termination equipment	Work with PSAP to plan and mitigate back room space and environmental. (Section 4.12)
OSP trunks are not configured properly to deliver calls to new solution.	Establish OSP trunks to new LNGs in parallel with existing trunking to current legacy switches. Perform validation testing before cutting over to new trunks and leave existing trunks in place for a validation period before removal. Stay prepared



Risk	Mitigation
	to cut traffic back to incumbent system if major anomalies are encountered. (Section 4.10.1)
Unidentified impacts to new system migration.	Execute a detailed plan with decision points based on meeting milestones that demonstrate success and validate solution. (Section 4.9.3)
Network failures	Design and install network redundancy and diversity.(Section 4.3)
Circuit Delays	Identify network node locations early to initiate circuit orders as early as possible. (Section 4.3)
PSAP Last Mile Diversity	Work with local network providers to identify last mile options. If not feasible, design robust alternate route scenarios with neighboring PSAPs.(Section 4.3)
Legacy Network interconnection	Provide standards based interconnection specifications to support all major common protocols.(Section 4.2)

Table 21: Risk Areas and Mitigation Steps

Phased Migration and Parallel Operation

AT&T ESInet™ has performed hundreds of PSAP migrations to ESInet services. Each has its own unique requirements and dependencies. AT&T ESInet™ works with all stakeholders to plan and execute migrations in phases and in parallel with the embedded 9-1-1 service. AT&T ESInet™ supports interconnection using standards based (Section 4.2) legacy tandem to tandem interfaces (Section 4.4) and next generation SIP interfaces to enable originating traffic, handoffs and transfers within the ESInet and legacy networks.





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Treatment of the Issues

In this section, the offeror may also comment if deemed appropriate, on any aspect of the Request for Proposal, including suggestions on possible alternative approaches to the coverage, definition, development, and organization of the issues presented in Appendix C, titled “TECHNICAL REQUIREMENTS” and may propose alternative approaches, so long as they are in compliance with all required standards as stated in Appendix C.

AT&T Response:

At present AT&T is offering no alternative solutions. However, AT&T invites all participating PSAPs to review and potentially modify organization of the issues as needed.





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Statement of Qualifications

The statement of Qualifications must include a description of organizational and staff experience, and resumes of proposed staff.

Organizational and Staff Experience

Offerors must describe their qualifications and experience to perform the work described in this Request for Proposal. Information about experience should include direct experience with the specific subject matter.

AT&T Response:

AT&T and West are uniquely qualified to perform the work described in this Request for Proposal. AT&T, a \$147B company, is a recognized leader in National Public Safety. AT&T was one of the first carriers to implement the original 911 service, enhanced 911 and now Next Generation 911. Recently, AT&T made a bold national product announcement that detailed our vision for a national, i3 compliant ESInet solution. This solution is funded and built by AT&T to support double the entire United States 911 traffic. AT&T announced West Corporation as our main supplier of technology and services to help support the AT&T Next Generation 911 strategy.

AT&T and West are the industry leaders in terms of ESInet systems contracted and delivered. At the time of this writing, AT&T and West combined have over 700 PSAPs connected and/or contracted to ESInet solutions. These systems and contracts cover over 50M U.S. citizens in aggregate. No other provider has the same depth of experience in architecting and delivering mission critical Next Generation 911 solutions.

AT&T and West have been delivering ESInet solutions prior to the NENA i3 standards ratification, and have continually updated and enhanced our service offerings with market, technology and standards development. We are well versed in all aspects of system design, delivery, and ongoing lifecycle management. Combined, AT&T and West have over 500 resources dedicated to the national AT&T ESInet solution, of which the National Capitol Region will be a major benefactor. These resources are highly experienced and skilled in actual deployments, allowing all prospective ESInet customers the highest confidence in a successful project.

Please find below AT&T specific responses to references, staffing plans, Service Level Agreements and Financial stability that details AT&T experience in delivering ESInet solutions.



References

The Offeror shall provide at least three (3) client references for whom the Offeror has deployed ESInet and NGCS services that are the same or substantially similar to the services requested in this RFP. Reference information shall include a brief description of the services, the size of the client in terms of population size, number of PSAPs, the contracting entity name, contact name, contact title, contact email address, and contact telephone number. The County may request that references authorize a site visit and the opportunity to review event logs.

AT&T Response:

Please refer to the tables below for reference information.

Reference 1	
Legal Name of Company or Governmental Entity	Tennessee Emergency Communications Board
Industry of Company	State Government
Mailing Address	500 James Robertson Parkway Davy Crockett Tower Nashville, Tennessee 37243-0582
Telephone Number	615-253-2164
Contact Name	Curtis Sutton
Title	Executive Director
Telephone/Fax Number	615-253-2164 / 615-253-2180
E-mail Address	Curtis.sutton@tn.gov
Time period in which services were provided	Installation began in second half of 2010. The ESInet offer is part of a larger statewide contract that is in force until 2018.
Please describe the service provided to this reference	State of Tennessee - Implementation of a state wide ESInet to handle/route all wireless and wireline 911 calls including deploying and managing a state wide ANI/ALI database.

Reference 2	
Legal Name of Company or Governmental Entity	Brevard County E9-1-1 Administration
Industry of Company	County Government
Mailing Address	Government Center C-201 2725 Judge Fran Jamieson Way Viera, FL 32940-6022
Telephone Number	321.690-6846
Contact Name	Deborah A. Sands
Title	911 Administration Manager/911 Coordinator
Telephone/Fax Number	321.690-6846/321.690-6842





Reference 2	
E-mail Address	deborah.sands@brevardcounty.us
Time period in which services were provided	This business was acquired in 2009 and the customer has been utilizing the ESInet offering since Dec 2011
Please describe the service provided to this reference	Brevard County Florida was a sale of both AT&T ESInET as well as an AT&T Provided Hosted Viper Call Handling system serving 9 PSAPS and 64 positions. This ESInet solution is a combination of AT&T products/services and the TCS/mD ESInet routing platform.

Reference 3	
Legal Name of Company or Governmental Entity	U S Navy
Industry of Company	Military
Mailing Address	SPAWAR Systems Center Pacific
Telephone Number	619.524.3176
Contact Name	Ron Anderson
Title	911 Administrator
Telephone/Fax Number	619.524.3176
E-mail Address	ron.anderson@navy.mil
Time period in which services were provided	March 2012 - Present
Please describe the service provided to this reference	Support the regionalization of U S Navy 911 emergency dispatch capabilities by providing AT&T ESInet™

Reference 4	
Project Name:	Statewide Next Generation 911 Deployment for Call Delivery and Call Handling.
Company Name of Bidder/Bidder's Reference:	Delaware Safety & Homeland Security
Contact Name, email Address and Telephone Number of Bidder/Bidder's reference:	Eric Wagner E911 Administrator 303 Transportation Circle P.O. Box 818 Dover, DE. 19903-0818 eric.wagner@state.de.us 302-744-2682
Project Description	The State of Delaware has relied on West for over 15 years to provide call handling equipment its nine different PSAP's for 120 positions. In 2014 the State of Delaware contracted to purchase a



Reference 4

fully managed bundle of services including call routing, call handling, text, and data alerts and GIS services.

These services include:

A9-1-1 Routing: Emergency voice calls over the private, secure, and redundant IP infrastructure via SIP interfaces with transitional ESN routing supporting the migration to NENA i3.

A9-1-1 Location Data Management: Complete solution for 9-1-1 data management for the provisioning and delivery of E9-1-1 services.

A9-1-1 GIS Data Management: GIS based data management tools including MapSAG™ which enables 9-1-1 authorities to manage their GIS data and synchronize with the legacy MSAG.

A9-1-1 VIPER Cloud-based Call Handling: Call handling equipment that is hosted in the network and evolves with network services. The CPE is provided with a call map view including text and supplemental services display.

A9-1-1 Integrated Map Viewer: On each call handling desktop, MapFlex, the integrated map viewer application displays wireline, wireless, and VoIP calls to aid in caller and event location.

A9-1-1 Text: Emergency text request for assistance services over i3-compliant interfaces.

This allows the State of Delaware full budgetary predictability, state and PSAP control. While this project is still on-going, below is a list of the PSAPs and their current state:

Seaford PD	Live 1/2016
Sussex County	Live 2/2016
Rehoboth PD	Live 4/2016
Dover PD	Live 4/2016
Kent County	Live 4/2016
University of Delaware	Live 5/2016
Wilmington PD	Live 5/2016
Newark PD	Live 6/2016
New Castle County	Scheduled to go live 6/29/16



Reference 5	
Project Name:	NG9-1-1 Network for Call Delivery and Cloud-hosted Call Processing Equipment
Company Name of Bidder/Bidder's Reference:	Hawaiian Telecom
Contact Name, email Address and Telephone Number of Bidder/Bidder's reference:	Contact Name, Email Address, and Telephone Number of Bidder's Reference: Ben Morgan - Vice President, Customer Care & Network Reliability Ben.morgan@hawaiiantel.com 808-546-3177
Project Description	The State of Hawaii has migrated the entire state to West's NG 9-1-1 system. With 14 PSAPS and 69 workstations, the State adopted the next-generation, standards-based Internet Protocol (IP) network to expand voice and data capabilities for emergency communications. The network utilizes advanced real-time routing methods, efficiently delivers calls through dynamic and redundant networks designed to accommodate emerging voice and data communications and provides the foundation for the delivery of additional critical information and will assist Hawaii's emergency responders with capabilities to better respond to disaster situations. The project utilizes fully cloud-hosted VIPER call processing equipment (CPE). In the near term, the solution will be enhanced to include MapFlex 5.0, and TXT29-1-1 Power. Additionally, as the PSAPs become ready, they will migrate to full i3 implementation with GIS-based location validation and other i3 functions and protocols for routing, call processing, and location data management and retrieval.

Personnel

Full-time and part-time staff, proposed consultants and subcontractors who may be assigned direct work on this project must be identified. Information is required which will show the composition of the task or work group, its specific qualifications, and recent relevant experience. Special mention shall be made of direct technical supervisors and key technical personnel, and approximate percentage of the total time each will be available for this project. The technical areas, character and extent of



participation by any subcontractor or consultant activity must be indicated and the anticipated sources will be identified.

Resumes of staff and proposed consultants are required indicating education, background, recent relevant experience with the subject matter of the project. Current telephone numbers must be included.

AT&T Response:

The AT&E ESInet™ staff and support teams are staffed by over 500 people from the combined core and edge organizations, ready to support NCR customers. These teams and functions are described below.

Project Management

Within the AT&T Program Management office will be a host of Subject Matter Expert project managers. AT&T Project Management will be responsible for AT&T Customer PSAP implementation on AT&T ESInet™. Project managers are associated with each of the following ESInet functional components: OSP (core), Call Routing (core), Security (core), Network (core), ALI DB (core/edge), GIS (core/edge) and PSAP (edge).

PSAP Project Manager Responsibilities:

- Manage PSAP integration project planning
- Facilitate internal and external customer meetings
- Track the collection and distribution of provisioning information (e.g., GIS data, transfers, alternate routing, etc.)
- Manage pre-migration testing
- Manage live cutover planning
- Manage PSAP training
- Manage CAMA to SIP conversion projects
- Change Event Coordinators

Response from Oral Presentation Dated 2017

Q2. Who would be the Project Manager for this effort? If designated, who would be the Program Manager? Distinguish the responsibilities of a Program Manager and the Project Manager for this specific proposed effort, particularly with regard to on-site and or daily involvement with each jurisdiction.



AT&T Response:

AT&T will identify the dedicated program manager after contract execution. AT&T has a number of highly skilled, well qualified resources to choose from to perform the program management function. Reporting to the program manager will be a host of project management resources.

AT&T follows the PMI definitions for program management and project management. Each project manager is responsible for successfully completing their specific scope inclusive of schedule and resources. The AT&T program manager is more strategic in practice. The program manager will be the dedicated customer interface to coordinate customer requirements as well as report on individual sub-project process, next steps, and contingency plans – all in concert with the AT&T ESInet™ end user customer to ensure an overall successful outcome. Each jurisdiction could have daily involvement with the AT&T program manager to the extent necessary and requested by the jurisdiction. The AT&T Program Manager will be on site as needed.

Program Manager

The AT&T Program Management team represents the lead for the entire AT&T ESInet™ delivery team. Fairfax County will benefit from working with a skilled AT&T Program Manager from the AT&T Public Safety Group who will lead the AT&T Transformation Team. The AT&T Program Manager is directly responsible for the transformation, and can reach out to other AT&T and West Corporation organizations to help smoothly transform Fairfax County's service. Fairfax County's transformation team will also include multiple subject matter experts (SMEs).

Fairfax County will benefit from the skills and experience of our Program Manager and Transformation Team. There will be a peer West Program Manager assigned to the team. Both program managers will work in concert to assure a smooth and timely delivery of services.

Program management focuses on integrating plans and milestones into the transformation schedule so AT&T can maintain project discipline and momentum. In addition, program management is responsible for managing transformation deliverables. Program management will manage transformation issues and will report issue status during status meetings.

AT&T has fully disciplined program management organization and would provide a dedicated Program Manager for Fairfax County and the NCR. The Program Manager would have overall responsibility for system deployment, testing, implementation and longer term operation of the system (Day 2 support). Once the AT&T ESInet™ is



successfully turned up and accepted, AT&T has proposed that the dedicated Program Manager transition to become the dedicated Service Manager for ongoing lifecycle management and elevated support to the NCR.

The Program Management team consists of dedicated account personnel who oversee support activities to ensure all contractual obligations are met.

Project Management

Reporting to the AT&T and West Program Management office will be a host of Subject Matter Expert project managers. AT&T Project Management will be responsible for AT&T Customer PSAP implementation AT&T ESInet™. Throughout the process of implementing the service, AT&T Project and Program Management will collaborate with all parties to manage on-going ESInet critical component implementations. Project managers are associated with each of the following ESInet functional components: OSP (core), Call Routing (core), Security (core), Network (core), ALI DB (core/edge), GIS (core/edge) and PSAP (edge).

PSAP Project Manager Responsibilities include:

- Site Survey, scheduling and installation of new network equipment
- Ingress Network – Originating Service Providers (OSP) migration
- Network circuit ordering
- Data Collection - Call routing and GIS data
- Data Provision AT&T ESInet™ with data collection input
- Training customer support tools such as reports and GIS data imports
- Pre-cutover testing
- PSAP Migration
- Customer acceptance of AT&T ESInet™ solution
- Handoff off to AT&T Service Management for Lifecycle support

The Project Manager plays a key role in system deployment, testing, and implementation. Once the solution is fully deployed, project managers could be sourced on an as needed basis to support large scale changes, additions, etc.



9-1-1 Service Management

AT&T 9-1-1 Service Management will be responsible for AT&T Customer Day Two Support for the service. AT&T 9-1-1 Service Management will collaborate with all parties to manage the customer relationship and basic routing changes as part of ongoing lifecycle management. The Service Manager is the single point of contact for escalation requests and performs the following tasks on a regular basis

- Lead monthly operations meetings.
- Provide upgrade and maintenance event notifications.
- Distribute software release notes, test cases, and test case results.
- Coordinate software release lab testing.
- Escalations.
- RCA reporting.
- Coordinate data center and aggregation site access for technical resources.
- Coordinate new user access to operational support tools e.g., customer web portal.
- Serve as Change Event Coordinators.
- Outage communications.
- Manage and monitor trouble ticket analysis and correlation.

Technical Planning & Engineering

AT&T Technology Planning and Engineering (TP&E) will participate in architectural design planning, transport procurement and installation, OSP interconnection coordination, and on-going capacity planning.

Local Field Technicians

The AT&T Field Technicians will install the AT&T Customer PSAP network edge equipment and provide Day 2 on-site maintenance support at the PSAPs.

Data center/Legacy Network Gateway (LNG) Technicians

The AT&T Data Center/LNG Technicians will deploy, test, install and maintain core equipment located at AT&T aggregation centers and Tier IV data centers.



Labs

AT&T Labs will be responsible for testing the AT&T ESInet™ and interfaces within the public safety ecosystem. This includes not only software upgrade and release testing on an on-going basis, but also forward looking initiatives e.g., new standards development. Test engineers will collaborate with all relevant parties in the creation, review, and execution of test cases as part of the implementation process.

- **Application Testing.** Each application is individually tested to ensure its stability and lack of critical defects.
- **Integration Testing.** After each application is tested individually integration testing is performed. This helps ensure that each version of our applications work well together.
- **Hardware/Software Validation.** Products are constantly validated against new hardware and software, including operating systems, service packs and updates.
- **Load Testing.** Load testing is performed to ensure that the system stays stable and consistent even under peak demand. Specialized software allows us to create any number of simultaneous calls. Performance is benchmarked both with statistics as well as having users navigate the application interface and answer calls while under load. This assures that not only are the statistical values acceptable, but perhaps more importantly, the user experiences no negative behavior.

9-1-1 Resolution Center (2 National Facilities – Chicago and Atlanta)

AT&T will provide support 24x7x365.

The AT&T 9-1-1 Resolution Center is responsible for accepting incoming trouble reports. This group is the first line of support for PSAPs and OSPs

AT&T 9-1-1 Resolution Center Responsibilities:

- SPOC for PSAP customer trouble reporting and support
- Coordination with all teams in support of resolving an issue or question
- Customer PSAP abandonment requests and test calls
- Emergency Customer PSAP re-route requests



- Coordination of field dispatch for PSAP Network Edge Equipment
- Outage response and reporting
- Application, Platform and IP Network Monitoring
- Trouble reporting, Incident Management and follow-up
- Voice quality troubleshooting support
- CDR assistance
- Tier 1-4 technical support

Account, Contract and Solution Support

The local AT&T Sales team, AT&T Public Safety team, AT&T Product Management and AT&T Technical Support organizations are responsible for entire account and contract management. This group will interface with the State throughout the negotiation and contracting process. Once contracts are executed, this group will define the parameters for program management kick off (Requirements, deliverables, etc.) This team will act as the customer advocate throughout the installation phase and through the lifecycle management phase.

A sample resume of the breadth and depth of the AT&T resources is Annex J.

Staffing Plan

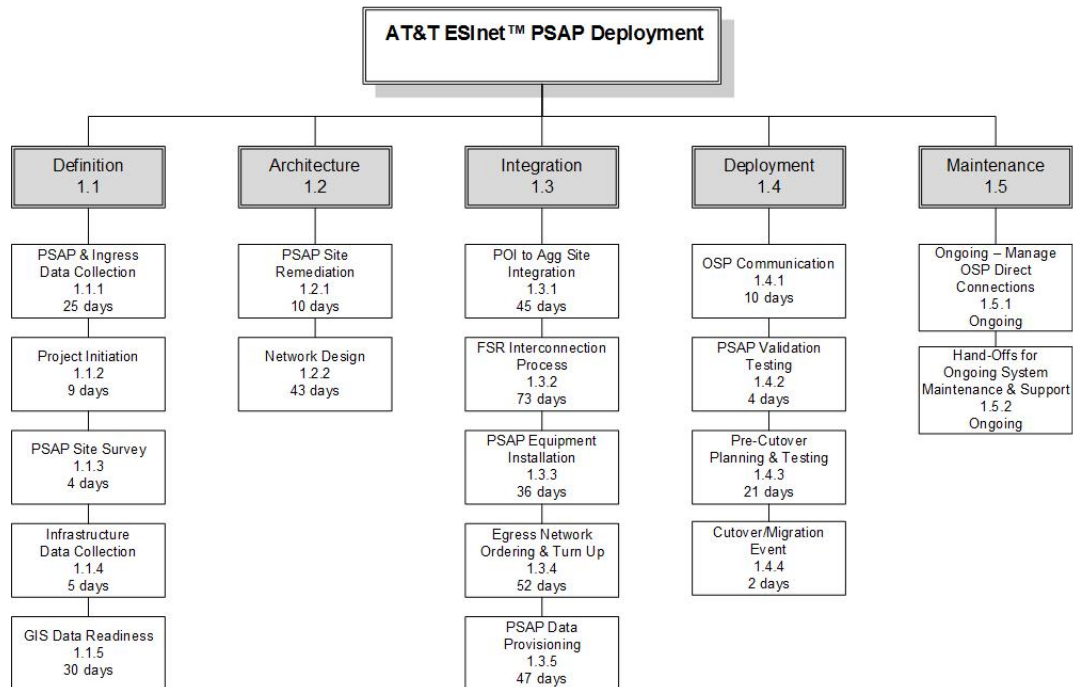
A staffing plan is required which describes the Offeror's proposed staff distribution to accomplish this work. The staffing plan should indicate a chart that partitions the time commitment of each professional staff member across the proposed tasks and a timeline for the project. It is mandatory that this section identify the key personnel who are to work on the project, their relationship to be contracting organization, and amount of time to be devoted to the project. This includes Consultants as well as regular employees of the offeror, if relevant.

AT&T Response:

AT&T shall employ and make available at reasonable times an adequate number of appropriately qualified and trained personnel, familiar with Customer's operations and use of telecommunications services, to provide and support Customer's use of the Services in accordance with the terms of AT&T's response to this RFP. The identities and titles of specific persons and their availability to provide and support Customer's needs will be separately established by authorized representatives of AT&T upon award of the



RFP to AT&T. If required after contract award, AT&T will supply documentation to authenticate technical expertise, within the parameters of confidentiality limits. The individual that will be assigned overall responsibility for the project will have a skill set as represented in Annex J.



SLAs

All required forms such as SLA (Service Level Agreement), SOW (Scope/Statement of Work), Maintenance Agreements, Software Agreements, Change Order forms, etc. as applicable and modified to comport with the terms and conditions of these Special Provisions and Technical Requirements; an editable version of these documents is required with offerors' electronic version of the submission to this RFP.

AT&T Response:

The AT&T ESInet™ service include SLAs that come standard with our offer, at no additional charge and are unmatched in today's marketplace. AT&T's approach to provide ESInet service assurance is to combine 9-1-1 performance measures into meaningful service level agreements that reflect end to end operation of Next Generation Core Services (NGCS).

A soft copy of the SLA is contained in Annex K.





Financial Statements

The offeror shall provide an income statement and balance sheet from the most recent reporting period.

AT&T Response:

AT&T Corp. is a wholly owned subsidiary of AT&T Inc. and a member of the AT&T Inc. family of companies. AT&T financial information is consolidated and reported at the AT&T Inc. level.

The most recent Annual Report for AT&T can be found in the Investor Relations section of our website at: <http://www.att.com/gen/investor-relations?pid=9186>





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Assignment of Key Personnel

The personnel named in the technical proposal will remain assigned to the project throughout the period of this contract. No diversion or replacement may be made without submission of a resume of the proposed replacement with final approval being granted by the County Purchasing Agent and/or NCR.

AT&T Response:

AT&T shall employ and make available at reasonable times an adequate number of appropriately qualified and trained personnel, familiar with Customer's operations and use of telecommunications services, to provide and support Customer's use of the Services in accordance with the terms of AT&T's response to this RFP. AT&T retains the right to manage and deploy its personnel as appropriate from time to time. If Customer requests AT&T to substitute an employee, Customer shall provide such requests in writing, explaining in reasonable detail the reason(s) for the removal request. Any such request shall be for lawful reasons. AT&T will work with the Customer to reach a solution geared to providing Services in compliance with contracted standards.





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AT&T Exceptions and Clarifications

3. CONTRACT PERIOD AND RENEWAL:

- 3.1 This contract will be for a term of five (5) years from the date of award. After the initial term of five (5) years, the contract may be renewed by mutual agreement for an additional five (5) one year periods or any combination thereof.

AT&T Exception/Clarification:

AT&T agrees to the proposed term and option to renew term which shall be set out in the Contract Documents to be entered into between the parties subject, however, to product availability and the terms and conditions relating to renewal and withdrawal of service as set out in the Contract Documents.

8. PRICING:

- 8.1. The subsequent contract will be a firm-fixed price agreement. The fee(s) will remain firm and will include all charges that may be incurred in fulfilling the requirements of the contract during the first 365 days. Changes in cost for any subsequent contract years may be based on the Consumer Price Index (CPI-U), Table 10, U.S. City Averages, or other relevant indices.

AT&T Exception/Clarification:

AT&T agrees.

Response from Second Round Negotiation Issues dated May 11, 2017

12. Referencing page 325 of AT&T's technical proposal, AT & T Exceptions and Clarifications Tab, exception/clarification regarding paragraph 8.1 Pricing, please confirm that the referenced local access pricing has been refreshed and updated in AT & T's revised cost proposals dated April 18, 2017 and April 25, 2017.

AT&T Response:

AT&T agrees.

12. SUBMISSION OF PROPOSAL



- 12.6 By executing the cover sheet (DPSM32), Offeror acknowledges that they have read this Request for Proposal, understand it, and agree to be bound by its terms and conditions. Proposals may be submitted by mail or delivered in person.

AT&T Exception/Clarification:

For clarification, AT&T will provide the products and services proposed hereunder pursuant to the terms and conditions contained in the Contract Documents to be entered into between the parties.

Notwithstanding anything contained in this RFP to the contrary, AT&T Corp., on behalf of itself and its service-providing affiliates (“AT&T”) submits this RFP response (the “Response”) subject to the provisions of this Response, including, but not limited to any exceptions or alternate contract language provided in the Response.

Should AT&T be selected as your vendor under this RFP, AT&T will work cooperatively with the Customer to finalize and/or clarify any contractual provisions required for compliance with the RFP and AT&T’s Response to it, and to expedite any purchases made pursuant to this AT&T offer. AT&T is prepared to negotiate a contract in good faith with Customer that includes certain of Customer’s terms and conditions which are mutually agreed between the parties.

14. PERIOD THAT PROPOSALS REMAIN VALID:

- 14.1 Proposals will remain valid for a period of three-hundred and sixty-five days (365) calendar days after the date specified for receipt of proposals.

AT&T Exception/Clarification:

AT&T agrees.

15. BASIS FOR AWARD

- 15.1 Fairfax County reserves the right to make on-site visitations to assess the capabilities of individual offerors and to contact references provided with the proposal.

AT&T Exception/Clarification:

AT&T will be pleased to answer any questions regarding the provisioning of the services requested in the RFP; however, AT&T would like to better understand why an on-site visit to AT&T facilities would be useful to the Customer. For security and policy reasons, AT&T does not typically accommodate on-site visits of its network facilities to third



parties. Accordingly, once AT&T understands the Customer's specific issues, AT&T will work with the Customer to find an alternative way to address these concerns.

MON Language

The parties mutually agree that the Section 16 titled "INSURANCE" of the Special Provisions of the RFP is deleted and is replaced with the following

16. INSURANCE

- 16.1 The contractor is responsible for its work and for all materials, tools, equipment, appliances, and property of any and all description used in connection with the project, whether owned by the contractor or by the County. The contractor assumes all risks of direct and indirect damage or injury to any person or property wherever located, resulting from any action, omission, commission or operation under, or connected in any way with the contract by Contractor or its employees, volunteers or subcontractors
- 16.2 The Contractor shall, during the continuance of all work under the Contract provide the following:
- Maintain statutory Worker's Compensation and Employer's Liability insurance in limits of \$100,000 to protect the Contractor from any liability or damages for any injuries (including death and disability) to any and all of its employees, volunteers, or subcontractors, including any and all liability or damage which may arise by virtue of any statute or law in force within the Commonwealth of Virginia, or which may be hereinafter enacted.
 - The contractor agrees to maintain Commercial General Liability insurance in the amount of \$1,000,000 per occurrence/aggregate, to protect the contractor, its subcontractors, and the interest of the County, against injuries to third parties, including bodily injury and personal injury, wherever located, resulting from any action or operation under the contract or in connection with contracted work.
 - The contractor agrees to maintain owned, non-owned, and hired Automobile Liability insurance, in the amount of \$1,000,000 per occurrence/aggregate, including property damage, covering all owned, non-owned borrowed, leased, or rented vehicles operated by the Contractor.
 - The contractor agrees to maintain Cyber Liability insurance in the amount of \$5,000,000 per claim/aggregate to protect the Contractor in the event of a data breach.



- e. Liability insurance may be arranged by General Liability and Automobile Liability policies for the full limits required, or by a combination of underlying Liability policies for lesser limits with the remaining limits provided by an Excess or Umbrella Liability policy.
 - f. Rating Requirements:
 - 1. The contractor agrees to provide insurance issued by companies admitted within the Commonwealth of Virginia, with the Best's Key Rating of at least A minus:VI.
 - 2. European markets including those based in London, and the domestic surplus lines markets that operate on a non-admitted basis are exempt from this requirement provided that the contractor's broker can provide financial data to establish that a market is equal to or exceeds the financial strengths associated with the A.M. Best's rating of A minus:VI or better.
 - g. Indemnification: Article 63 of the General Conditions and Instructions to Bidders (Appendix A) shall apply.
 - h. The Contractor will provide an original, signed Certificate of Insurance citing the contract number and such endorsements as prescribed herein, and shall have it filed with the County Purchasing Agent and/or Risk Manager before any work is started.
 - i. If the Contractor delivers services from a County-leased facility, the Contractor is required to carry property insurance on all equipment, to include County-owned installed and maintained equipment used by the contractor while in their care, custody and control for use under this contract. Contractor may self insure this coverage.
- 16.3. Contractor shall provide at least a thirty (30) day written notice to the County Purchasing Agent and/or Risk Manager of cancellation or non-renewal of any required coverage that is not replaced. The contractor shall furnish a new certificate prior to cancellation date. The failure of the contractor to deliver a new and valid certificate will result in suspension of all payments until the new certificate is furnished.
- 16.4. Compliance by the contractor with the foregoing requirements as to carrying insurance shall not relieve the contractor and all subcontractors of their liabilities provisions of the contract.
- 16.5. Contractual and other liability insurance provided under this contract shall not contain a supervision, inspection or engineering services exclusion that would preclude the County from supervising and/or inspecting the project as to the end



result. The contractor shall assume all on-the-job responsibilities as to the control of persons directly employed by it and of the subcontractors.

- 16.6. Nothing contained in the specifications shall be construed as creating any contractual relationship between any subcontractor and the County. The contractor shall be as fully responsible to the County for the acts and omissions of the subcontractors and of persons employed by them as it is for acts and omissions of person directly employed by it.
- 16.7. Precaution shall be exercised at all times for the protection of persons (including employees) and property.
- 16.8. The Contractor and all subcontractors are to comply with the Occupational Safety and Health Act of 1970, Public Law 91-596, as it may apply to this contract.
- 16.9. The County of Fairfax, its employees and officers shall be included as an additional insured in the required Automobile and General Liability policies and it shall be stated on the Insurance Certificate with the provision that this coverage is primary to all other coverage the County may possess.

Response from Second Round Negotiation Issues dated May 11, 2017

13. Referencing page 325 of AT & T's technical proposal, AT & T Exceptions and Clarifications Tab, exception/clarification regarding the County's indemnity language, please provide AT & T's proposed indemnity language for County's review.

AT&T Response:

63.1 General Indemnity-General Indemnity-Contractor shall indemnify and hold Fairfax County and its Affiliates and its and their respective officers, directors, partners, principals, employees, agents, successors and permitted assignees harmless against damages arising out of third party claims resulting from bodily injury to or death of any person or loss of or damage to tangible real or tangible personal property, to the extent that such liability, loss, damage or expense was proximately caused by the negligent act or omission or the willful or intentional misconduct of Contractor, its agents, employees or subcontractors, in connection with the provision or use of Services. Notwithstanding the foregoing, this indemnity obligation shall not be construed to abridge or otherwise undermine either party's partial immunity under state or Federal law as a 9-1-1 service provider



63.2 Indemnity for Intellectual Property Infringement-Contractor's Obligations.

Contractor agrees at its expense to defend and either to settle any third-party claim against the County, its Affiliates and its and their respective employees and directors or to pay all damages that a court finally awards against such parties for a claim alleging that a Service provided to the County under this Agreement infringes any patent, trademark, copyright or trade secret, but not where the claimed infringement solely arises out of or results from: (a) the County's, its Affiliate's or a User's content; (b) modifications to the Service by the County, its Affiliate or a third party under the direction and control of the County, or unapproved combinations of the Service with any non-AT&T services or products by the County; (c) Contractor's reasonable adherence to the County's or its Affiliate's written requirements; or (d) use of a Service in violation of this Agreement."

- a. **Infringing Services.** Whenever Contractor is liable under Section 63.2, AT&T may at its option either procure the right for Customer to continue using, or may replace or modify, the Service so that it is non-infringing.
- b. **Notice and Cooperation.** The party seeking defense or settlement of a third-party claim under this Section will provide notice to the other party promptly upon learning of any claim for which defense or settlement may be sought, but failure to do so will have no effect except to the extent the other party is prejudiced by the delay. The party seeking defense or settlement will allow the other party to control the defense and settlement of the claim and will reasonably cooperate with the defense. The defending party will use counsel reasonably experienced in the subject matter at issue and will not settle a claim without the written consent of the party being defended, which consent will not be unreasonably withheld or delayed, except that no consent will be required to settle a claim where relief against the party being defended is limited to monetary damages that are paid by the defending party under this Section.
- c. Contractor's obligations under Section 63.2 shall not extend to actual or alleged infringement or misappropriation of intellectual property based on Purchased Equipment, Software, or Third-Party Services. [note that Section 63.2.c would not apply to the ESInet Services, but would apply to optional purchases of equipment or software that would require a EULA]

17. METHOD OF ORDERING

- 17.2 A Purchase Order (PO) may be issued to the contractor on behalf of the County agency ordering the items/services covered under this contract. An issued PO will become part of the resulting contract. The purchase order indicates that



sufficient funds have been obligated as required by Title 15.2-1238 of the Code of the Commonwealth of Virginia.

AT&T Exception/Clarification:

Any Customer purchase orders issued for services as provided under this RFP must clearly provide that the purchase is made via the mutually agreed contract documents and not subject to the preprinted terms of that purchase order form.

- 17.3 Procurement Card orders and payments may also be made by the use of a Fairfax County or Fairfax County Public Schools "Procurement" Card. The Procurement Card is currently a Master Card. Contractors are encouraged to accept this method of receiving orders.

AT&T Exception/Clarification:

AT&T is able to accept payment via credit card for most services. Any customer or nonstandard billing requirements may affect AT&T's ability to receive payment from a procurement card.

Response from Fourth Round Negotiation Issues dated July 5, 2017, respectively.

19. PAYMENTS:

- 19.1 The County will pay the Contractor based upon completion, acceptance, and approval by the County of each task outlined in TECHNICAL REQUIREMENTS (Appendix C).

AT&T Exception/Clarification:

The Service Activation for AT&T ESInet Service occurs when AT&T provides notice that the Service transition is complete and the Service is available for use by the PSAP or Host location (Service Activation). Customer has thirty (30) calendar days from Service Activation to provide AT&T written notice of any issues with the Service. AT&T ESInet Service Fees are applicable upon Service Activation of the Service.

22. ACCESS TO AND INSPECTION OF WORK:

- 22.1 The Fairfax County Purchasing Agent and using agencies will, at all times, have access to the work being performed under this contract wherever it may be in progress or preparation.



AT&T Exception/Clarification:

AT&T will be pleased to answer any questions regarding the provisioning of the services requested in the RFP; however, AT&T would like to better understand why access to AT&T work would be useful to the Customer. For security and policy reasons, AT&T does not typically provide access to third parties. Accordingly, once AT&T understands the Customer's specific issues, AT&T will work with the Customer to find an alternative way to address these concerns.

23 PROJECT AUDITS:

23.1 The Contractor shall maintain books, records and documents of all costs and data in support of the services provided. Fairfax County or its authorized representative shall have the right to audit the books, records and documents of the contractor under the following conditions:

- a. If the contract is terminated for any reason in accordance with the provisions of these contract documents in order to arrive at equitable termination costs;

In the event of a disagreement between the contractor and the County on the amount due the Contractor under the terms of this contract;

To check or substantiate any amounts invoiced or paid which are required to reflect the costs of services, or the Contractor's efficiency or effectiveness under this contract; and, If it becomes necessary to determine the County's rights and the contractor's obligations under the contract or to ascertain facts relative to any claim against the Contractor that may result in a charge against the County.

23.2 These provisions for an audit shall give Fairfax County unlimited access during normal working hours to the Contractor's books and records under the conditions stated above.

23.3 Unless otherwise provided by applicable statute, the contractor, from the effective date of final payment or termination hereunder, shall preserve and make available to Fairfax County for a period of three (3) years thereafter, at all reasonable times at the office of the Contractor but without direct charge to the County, all its books, records documents and other evidence bearing on the costs and expenses of the services relating to the work hereunder.

23.4 Fairfax County's right to audit and the preservation of records shall terminate at the end of three (3) years as stated herein. The Contractor shall include this "Right of Audit and Preservation of Records" clause in all subcontracts issued by it and they shall require same to be inserted by all lower tier subcontractors in their subcontracts, for any portion of the work.



- 23.5 Should the Contractor fail to include this clause in any such contract or lower tier contract, or otherwise fail to insure Fairfax County's rights hereunder, the Contractor shall be liable to Fairfax County for all reasonable costs, expenses and attorney's fees which Fairfax County may have to incur in order to obtain an audit or inspection of or the restoration of records which would have otherwise been available to Fairfax County from said persons under this clause. Such audit may be conducted by Fairfax County or its authorized representative.

Response from Fourth Round Negotiation Issues dated July 5, 2017.

23.1 The Contractor shall maintain books, records and documents of all costs and data in support of the services provided. Fairfax County or its authorized representative shall have the right to audit the books, records and documents of the contractor under the following conditions: a. If the contract is terminated for any reason in accordance with the provisions of these contract documents in order to arrive at equitable termination costs; In the event of a disagreement between the contractor and the County on the amount due the Contractor under the terms of this contract; To check or substantiate any amounts invoiced or paid which are required to reflect the costs of services, or the Contractor's efficiency or effectiveness under this contract; and, If it becomes necessary to determine the County's rights and the contractor's obligations under the contract or to ascertain facts relative to any claim against the Contractor that may result in a charge against the County.

23.2 Subject to Contractor's reasonable security requirements, These provisions for an audit shall give Fairfax County unlimited access during normal working hours to the Contractor's books and records under the conditions stated above.

23.3 Unless otherwise provided by applicable statute, the contractor, from the effective date of final payment or termination hereunder, shall preserve and make available to Fairfax County for a period of three (3) years thereafter, at all reasonable times at the office of the Contractor but without direct charge to the County, all its books, records documents and other evidence bearing on the costs and expenses of the services relating to the work hereunder.

23.4 Fairfax County's right to audit and the preservation of records shall terminate at the end of three (3) years as stated herein. The Contractor shall include this

"Right of Audit and Preservation of Records" clause in all subcontracts issued by it and they shall require same to be inserted by all lower tier subcontractors in their subcontracts, for any portion of the work.

23.5 Should the Contractor fail to include this clause in any such contract or lower tier contract, or otherwise fail to insure Fairfax County's rights hereunder, the Contractor shall be liable to Fairfax County for all reasonable costs, expenses and attorney's fees which Fairfax County may have to incur in order to obtain an audit or inspection of or the restoration of records which would have otherwise been available to Fairfax County from said persons under this clause. Such audit may be conducted by Fairfax County or its authorized representative.

23.6 Customer may employ such assistance, as it deems desirable to conduct such reviews, but may not employ the assistance of any entity that derives a substantial portion of its revenues from the provision of services that are substantially similar to the Services provided hereunder or any person who has previously made prohibited use of AT&T's confidential information. Customer shall cause any person



retained for this purpose to execute a nondisclosure agreement. Such reviews shall take place at a time and place agreed upon by the parties. Customer's normal internal invoice reconciliation procedures shall not be considered a review of AT&T's relevant billing records.

Response from Third and Fourth Round Negotiation Issues dated June 21, 2017 and July 5, 2017, respectively.

10. Page 44 , Changes: "AT&T is not responsible to Customer or any other party if a change in AT&T's Service Components, operations, or procedures, (a) affects any equipment or services provided by others, or (b) requires their modification or upgrade in order to be used with AT&T service. AT&T is not obligated to alter or modify AT&T ESInet™ service because of additions or changes to equipment or service not ~~provided by AT&T~~ included with AT&T ESInet™." - Could we list this paragraph on page 44 as not applicable to the AT&T ESInet Services?

AT&T Response:

This clause is applicable to AT&T ESInet™ Service. The County or the County's call-handling equipment provider is responsible for compatibility to AT&T ESInet™ Service for any modifications or upgrades made to equipment or software on the County's side of the demarc. Those modifications or upgrades would be out of scope of the AT&T ESInet™ Service.

Fairfax County Response to #10. Accepted. The AT&T response will be reflected in the Final Contract Documents.

AT&T Response:

AT&T concurs and considers this item closed.

11. Referencing page 51, EFC Responsibilities, "AT&T is not responsible under this EFC offering for: [3rd bullet] Inside wiring [connection between the AT&T-provided NTE and Customer-provided (or AT&T managed) router]," It is our understanding that AT&T will be responsible for the connection all the way to the AT&T managed router and on to the Ethernet Port of the CPE in the PSAP's backroom. Please advise if this understanding needs revising. If not correct, please advise as to how this clause applies to the AT&T ESInet Services.

AT&T Response:

EFC responsibilities are not applicable to the AT&T ESInet™ Service.

The AT&T ESInet™ Service demarcation is at the egress port of the AT&T provided network edge router device (NTE). AT&T ESInet™ Service is not responsible for providing downstream network elements for connectivity with call handling systems. AT&T will cooperate with the County and their third-party call handling vendor.





Fairfax County Response to #11. Accepted. The Memorandum of Negotiation or the Final Technical proposal should reflect the AT&T response noted immediately above to #11.

AT&T Response:

AT&T concurs and considers this item closed.

AT&T's accepts and understands that upon completion of the RFP process, AT&T's cost proposal(s) may be released in response to a FOIA request or if a contract is awarded to AT&T, will be posted on Fairfax County website as contract pricing.

Fairfax County Response. No action required.

AT&T Response:

AT&T concurs and considers this item closed.





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Appendix A: General Terms and Conditions

This section contains our response to Fairfax County's terms and conditions.





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COUNTY OF FAIRFAX COMMONWEALTH OF VIRGINIA

GENERAL CONDITIONS AND INSTRUCTIONS TO BIDDERS

(Vendor: The general rules and conditions which follow apply to all purchases and become a definite part of each formal solicitation and resulting contract award issued by the DEPARTMENT OF PROCUREMENT & MATERIAL MANAGEMENT, unless otherwise specified. Bidders or their authorized representatives are expected to inform themselves fully as to the conditions, requirements, and specifications before submitting bids; failure to do so will be at the bidder's own risk and relief cannot be secured on the plea of error.)

Subject to all State and local laws, policies, resolutions, and regulations and all rules, regulations and limitations imposed by legislation of the Federal Government, bids on all solicitations issued by the DEPARTMENT OF PROCUREMENT & MATERIAL MANAGEMENT will bind bidders to applicable conditions and requirements herein set forth unless otherwise specified in the solicitation.

AT&T's Response:

Notwithstanding anything contained in this RFP to the contrary, AT&T Corp., on behalf of itself and its service-providing affiliates ("AT&T") submits this RFP response (the "Response") subject to the provisions of this Response. Should AT&T be selected as your vendor under this RFP, AT&T will work cooperatively with the Customer to finalize and/or clarify any contractual provisions required for compliance with the RFP and AT&T's Response to it. AT&T is prepared to negotiate a contract in good faith with Customer that includes certain of Customer's terms and conditions which are mutually agreed between the parties.

1. AUTHORITY -The Purchasing Agent has the sole responsibility and authority for negotiating, placing and when necessary modifying every solicitation, contract and purchase order (except for capital construction projects) issued by the County of Fairfax. In the discharge of these responsibilities, the Purchasing Agent may be assisted by assigned buyers. Unless specifically delegated by the County Purchasing Agent, no other County officer or employee is authorized to order supplies or services, enter into purchase negotiations or contracts, or in any way obligate the government of the County of Fairfax for an indebtedness. Any purchase ordered or contract made which is contrary to these provisions and authorities shall be of no effect and void and the County shall not be bound thereby.

2. DEFINITIONS-

AGENCY: Any Department, Agency, Authority, Commission, Board or other unit in the Administrative Service of the County.

BEST VALUE: As predetermined in the solicitation, means the overall combination of quality, price, and various elements of required services that in total are optimal relative to a public body's needs.

BID: The offer of a bidder to provide specific goods or services at specified prices and/or other conditions specified in the solicitation.

BIDDER/OFFEROR: Any individual, company, firm, corporation, partnership or other organization bidding on solicitations issued by the Purchasing Agent and offering to enter into contracts with the County. The term "bidder" will be used throughout this document and shall be construed to mean "offeror" where appropriate.

CONSULTANT SERVICES: Any type of services required by the County, but not furnished by its own employees, which is in its nature so unique that it should be obtained by negotiation on the basis of demonstrated competence and qualification for the type of service required and at fair and reasonable compensation, rather than by competitive sealed bidding.

CONTRACTOR: Any individual, company, firm, corporation, partnership or other organization to whom an award is made by the County.

COUNTY: County of Fairfax.

GOODS: All material, equipment, supplies, printing, and automated data processing/information technology hardware and software.

INFORMALITY: A minor defect or variation of a bid or proposal from the exact requirements of the invitation to bid or the request for proposal which does not affect the price, quality, quantity or delivery schedule for the goods, services or construction being procured.

General Conditions and Instructions to Bidders

INVITATION FOR BID (IFB): A request which is made to prospective suppliers (bidders) for their quotation on goods or services desired by the County. The issuance of an IFB will contain or incorporate by reference the specifications and contractual terms and conditions applicable to the procurement.

PROFESSIONAL SERVICES: Any type of professional service performed by an independent contractor within the practice of accounting, actuarial services, architecture, dentistry, land surveying, landscape architecture, law, medicine, optometry, pharmacy, or professional engineering (which shall be procured as set forth in the Code of Virginia §2.2-4301 in the definition of competitive negotiation at paragraph 3 (a), and in conformance with the Fairfax County Purchasing Resolution).

PURCHASING AGENT: The Purchasing Agent employed by the Board of Supervisors of Fairfax County, Virginia.

QUICK QUOTE (QQ): A method of competitive bidding for the purchase or lease of goods, non professional services or for the purchase of insurance, construction, or construction management when the estimated cost thereof shall be less the \$50,000.

REQUEST FOR PROPOSAL (RFP): A request for an offer from prospective offerors which will indicate the general terms which are sought to be procured from the offeror. The RFP will specify the evaluation factors to be used and will contain or incorporate by reference other contractual terms and conditions applicable to the procurement.

RESPONSIBLE BIDDER/OFFEROR: An individual, company, firm, corporation, partnership or other organization having the capability in all respects to perform fully the contract requirements, and also having the moral and business integrity and reliability which will assure good faith performance, and having been prequalified, if required. (Reference paragraph 24, General Conditions and Instructions to Bidders).

RESPONSIVE BIDDER/OFFEROR: An individual, company, firm, corporation, partnership or other organization having submitted a bid which conforms in all material respects to the invitation for bid or request for proposal.

SERVICES: Any work performed by an independent contractor wherein the service rendered does not consist primarily of acquisition of equipment or materials, or the rental of equipment, materials and supplies.

SOLICITATION: The process of notifying prospective bidders that the County wishes to receive bids on a set of requirements to provide goods or services. The notification of County requirements may consist of public advertising (newspaper, County Web Site, or other electronic notification), the mailing of Notices of Solicitation, Invitation for Bid (IFB) or Request for Proposal (RFP), the public posting of notices, issuance of an Open Market Procurement (OMP), or telephone calls to prospective bidders.

STATE: Commonwealth of Virginia.

AT&T's Response:

AT&T would suggest adding the following definitions:

SITE: Site means a Customer physical location, including a Customer co-location space on AT&T premises, where AT&T installs or provides a Service.

MARKS: Marks means each party's trade names, logos, trademarks, service marks or other indicia of origin.

SOW: SOW means a Statement of Work to be attached to the definitive agreement between the parties.

CONDITIONS OF BIDDING

3. **BID FORMS-**Unless otherwise specified in the solicitation, all bids shall be submitted on the forms provided, to include the bid Cover Sheet and Pricing Schedule(s), properly signed in ink in the proper spaces and submitted in a sealed envelope or package. The item pages of the Pricing Schedule which do not include any items for which a bid is required need not be included in the submission of a bid.

Should the bid prices and/or any other submissions differ on the copy of the submitted bid, the ORIGINAL copy shall prevail.

4. LATE BIDS & MODIFICATIONS OF BIDS-

a. Any bid/modification received at the office designated in the solicitation after the exact time specified for receipt of the bid/modification is considered a late bid/modification. A late bid/modification will not be considered for award except under the following conditions only:

1. It was sent by registered or certified mail not later than the fifth (5th) calendar date prior to the date specified for receipt of the bid/modification; or

General Conditions and Instructions to Bidders

2. The bid/modification was sent by mail and it is determined by the County Purchasing Agent that the late receipt was due solely to mishandling by the County after receipt at the address specified in the solicitation.
 - b. If an emergency or unanticipated event or closing interrupts or suspends normal County business operations so that bids cannot be received at the County office designated for receipt of bids by the exact time specified in the solicitation, the due date/time specified for receipt of bids will be deemed to be extended to the same time of day specified in the solicitation on the first work day on which normal County business operations resume.
 - c. The official time used for receipt of bids/modifications is the Bid Clerk's time and date stamp clock located in the Department of Procurement and Material Management. All bidders are responsible for ensuring all bids/modifications are received prior to the scheduled due date/time.
 - d. A late hand-carried bid, or any other late bid not submitted by mail, shall not be considered for award.
5. **WITHDRAWAL OF BIDS-**
- a. A bidder for a public construction contract, other than a contract for construction or maintenance of public highways, may withdraw his or her bid from consideration if the price bid was substantially lower than the other bids due solely to a mistake therein, provided the bid was submitted in good faith, and the mistake was a clerical mistake as opposed to a judgment mistake, and was actually due to an unintentional arithmetic error or an unintentional omission of a quantity of work, labor or material made directly in the compilation of a bid, which unintentional arithmetic error or unintentional omission can be clearly shown by objective evidence drawn from inspection of original work papers, documents and materials used in the preparation of the bid sought to be withdrawn. If a bid contains both clerical and judgment mistakes, a bidder may withdraw his bid from consideration if the price bid would have been substantially lower than the other bids due solely to the clerical mistake, that was an unintentional arithmetic error or an unintentional omission of a quantity of work, labor or material made directly in the compilation of a bid which shall be clearly shown by objective evidence drawn from inspection of original work papers, documents and materials used in the preparation of the bid sought to be withdrawn. The bidder shall give notice in writing to the Purchasing Agent of his or her claim of right to withdraw his or her bid within two (2) business days after the conclusion of the bid opening procedure and shall submit original work papers with such notice.
 - b. A bidder for a contract other than for public construction may request withdrawal of his or her bid under the following circumstances:
 1. Requests for withdrawal of bids prior to opening of such bids shall be transmitted to the County Purchasing Agent in writing.
 2. Requests for withdrawal of bids after opening of such bids but prior to award shall be transmitted to the County Purchasing Agent, in writing, accompanied by full documentation supporting the request. If the request is based on a claim of error, documentation must show the basis of the error. Such documentation may take the form of supplier quotations, vendor work sheets, etc. If bid bonds were tendered with the bid, the County may exercise its right of collection.
 - c. No bid may be withdrawn under this paragraph when the result would be the awarding of the contract on another bid of the same bidder or of another bidder in which the ownership of the withdrawing bidder is more than five percent.
 - d. If a bid is withdrawn under the authority of this paragraph, the lowest remaining bid shall be deemed to be the low bid.
 - e. No bidder who is permitted to withdraw a bid shall, for compensation, supply any material or labor to or perform any subcontract or other work agreement for the person or firm to whom the contract is awarded or otherwise benefit, directly or indirectly, from the performance of the project for which the withdrawn bid was submitted.
 - f. If the county denies the withdrawal of a bid under the provisions of this paragraph, it shall notify the bidder in writing stating the reasons for its decision and award the contract to such bidder at the bid price, provided such bidder is a responsible and responsive bidder.
 - g. Work papers, documents, and materials submitted in support of a withdrawal of bids may be considered as trade secrets or proprietary information subject to the conditions of the Virginia Freedom of Information Act.
6. **ERRORS IN BIDS-**When an error is made in extending total prices, the unit bid price will govern. Erasures in bids must be initialed by the bidder. Carelessness in quoting prices, or in preparation of bid otherwise, will not relieve the bidder. Bidders are cautioned to recheck their bids for possible error. Errors discovered after public opening cannot be corrected and the bidder will be required to perform if his or her bid is accepted.
7. **MAILING OF BIDS** – All bids and proposals submitted in response to a Fairfax County solicitation shall be submitted in a sealed envelope or package identified with the solicitation number, title, bidder's name and address, and due date/time of opening/closing clearly marked on the outside of such envelope or package.

General Conditions and Instructions to Bidders

8. **COMPLETENESS**-To be responsive, a bid must include all information required by the solicitation.
 9. **ACCEPTANCE OF BIDS/BINDING 90 DAYS**-Unless otherwise specified, all formal bids submitted shall be binding for ninety (90) calendar days following bid opening date, unless extended by mutual consent of all parties.
 10. **CONDITIONAL BIDS**-Conditional bids are subject to rejection in whole or in part.
 11. **BIDS FOR ALL OR PART**-Unless otherwise specified by the County Purchasing Agent or by the bidder, the Purchasing Agent reserves the right to make award on all items in the aggregate or on any of the items on an individual basis, whichever is in the best interest of the County. A bidder may restrict his or her bid to consideration in the aggregate by so stating but shall name a single unit price on each item bid. Any bid in which the bidder names a total price for all the articles without quoting a unit price for each and every separate item may not be considered for award.
 12. **AREA BIDS**-For the purchase and delivery of certain goods and services the County may be divided into Areas (e.g., Areas I, II, III, and IV). When such goods and services are included in the Pricing Schedule, bidders may bid on all areas or an individual area. A map showing the areas of the County will be furnished with the solicitation when required.
 13. **TIME FOR RECEIVING BID**-Bids received prior to the time of opening will be securely kept, unopened. The representative of the Purchasing Agent assigned to open them will decide when the specified time has arrived, and no bid received thereafter will be considered, except as provided in paragraph 4, General Conditions and Instructions to Bidders. No responsibility will attach to the Purchasing Agent or his or her representative for the premature opening of a bid not properly addressed and identified. Unless specifically authorized in the solicitation, telegraphic, electronic, or facsimile bids/modifications will not be considered.
 14. **BID OPENING**-All bids received in response to an Invitation for Bid (IFB) will be opened at the date, time and place specified, read publicly, and made available for inspection as provided in paragraph 68, General Conditions and Instructions to Bidders. Tabulations of bids received are posted on the Department of Purchasing & Supply Management Bulletin Board as well as the County's web site: <http://www.fairfaxcounty.gov/dpsm/bidtab.htm>. Proposals received in response to a Request for Proposal (RFP) will be made available as provided in paragraph 68, General Conditions and Instructions to Bidders.
 15. **OMISSIONS & DISCREPANCIES**-Any items or parts of any equipment listed in this solicitation which are not fully described or are omitted from such specification, and which are clearly necessary for the completion of such equipment and its appurtenances, shall be considered a part of such equipment although not directly specified or called for in the specifications.
- Should a bidder find discrepancies or ambiguities in, or omissions from, the solicitation, including the drawings and/or specifications, he or she shall notify the Purchasing Agent at least five (5) days prior to the date set for the opening of bids. If necessary, the Purchasing Agent will send a written addendum for clarification to all bidders no later than three (3) days before the date set for opening of bids. Notifications regarding specifications will not be considered if received within five days of the date set for opening of bids.

Update from Fourth Round Negotiation Issues dated July 5, 2017.

AT&T's Response:

AT&T is confident that its proposed solution represents a complete ESnet™ Service. For the sake of clarity, AT&T would point out that there are a number of other components/services that are necessary for an end-to-end 9-1-1 service, which are outside of the scope of this RFP, including call handling software and equipment. AT&T is providing a service that is compliant with current NENA standards (NENA STA-010.2). These standards are subject to change during the term of the contract.

16. **RESPONSE TO SOLICITATIONS**-In the event a vendor cannot submit a bid on a solicitation, he or she is requested to return the solicitation cover sheet with an explanation as to why he or she is unable to bid on these requirements.
17. **BIDDER INTERESTED IN MORE THAN ONE BID**-If more than one bid is offered by any one party, either directly or by or in the name of his or her clerk, partner, or other persons, all such bids may be rejected. A party who has quoted prices on work, materials, or supplies to a bidder is not thereby disqualified from quoting prices to other bidders or firms submitting a bid directly for the work, materials or supplies.
18. **TAX EXEMPTION**-The County is exempt from the payment of any federal excise or any Virginia sales tax. The price bid must be net, exclusive of taxes. However, when under established trade practice any federal excise tax is included in the list price, a bidder may quote the list price and shall show separately the amount of federal tax, either as a flat sum or as a percentage of the list price, which shall be deducted by the County. Fairfax County's Federal Excise Tax Exemption Number is 54-74-0127K. Contractors located outside the Commonwealth of Virginia are advised that when materials are picked up by the County at their place of business, they may charge and collect their own local/state sales tax. Materials used in the performance of construction contracts are subject to Virginia Sales/Use Tax as described in Section 630-10-27J of the Virginia Retail Sales and Use Tax Regulations.

General Conditions and Instructions to Bidders

Update from Fourth Round Negotiation Issues dated July 5, 2017.

AT&T's Response:

AT&T accepts the County's tax exempt status. However, it is important for the County to understand that there are fees and surcharges, such as the Federal Access Recovery Fee (FARF), for which the County is not exempt, and which will be assessed as part of the service. The attached forms are required to be completed by the County to implement and process the tax exemptions from the AT&T ESinet™ Service bill.



ct-10any.pdf



st-12-any.pdf

19. **PROHIBITION AGAINST UNIFORM PRICING**-The County Purchasing Agent shall encourage open and competitive bidding by all possible means and shall endeavor to obtain the maximum degree of open competition on all purchase transactions using the competitive sealed bidding, competitive negotiation, or open market methods of procurement. In submitting a bid each bidder shall, by virtue of submitting a bid, guarantee that he or she has not been a party with other bidders to an agreement to bid a fixed or uniform price. Violation of this implied guarantee shall render void the bids of participating bidders. Any disclosure to or acquisition by a competitive bidder, in advance of the opening of the bids, of the terms or conditions of the bid submitted by another competitor may render the entire proceedings void and may require re-advertising for bids.

SPECIFICATIONS

20. **QUESTIONS CONCERNING SPECIFICATIONS**-Any information relative to interpretation of specifications and drawings shall be requested of the Purchasing Agent, in writing, in ample time before the opening of bids. No inquiries, if received by the Purchasing Agent within five (5) days of the date set for the opening of bids, will be given any consideration. Any material interpretation of a specification, as determined by the County Purchasing Agent, will be expressed in the form of an addendum to the specification which will be sent to all prospective bidders no later than three (3) days before the date set for receipt of bids. Oral answers will not be authoritative.

21. **BRAND NAME OR EQUAL ITEMS**-Unless otherwise provided in the invitation for bid, the name of a certain brand, make or manufacturer does not restrict bidders to the specific brand, make or manufacturer named; it conveys the general style, type, character, and quality of the article desired, and any article which the County in its sole discretion determines to be the equal of that specified, considering quality, workmanship, economy of operation, and suitability for the purpose intended, shall be accepted.

22. **FORMAL SPECIFICATIONS**-When a solicitation contains a specification which states no substitutes, no deviation therefrom will be permitted and the bidder will be required to furnish articles in conformity with that specification.

The bidder shall abide by and comply with the true intent of the specifications and not take advantage of any unintentional error or omission, but shall fully complete every part as the true intent and meaning of the specifications and drawings. Whenever the mention is made of any articles, material, or workmanship to be in accordance with laws, ordinances, building codes, underwriter's codes, A.S.T.M. regulations or similar expressions, the requirements of these laws, ordinances, etc., shall be construed as to the minimum requirements of these specifications.

23. **FEDERAL SPECIFICATIONS**-Any Federal Specifications referred to herein may be obtained from the GSA Federal Supply Service Bureau - Specification Section, 470 East L'Enfant Plaza, S.W., Suite #8100, Washington, D.C. 20407 (Voice: 1-202-619-8925, Fax: 1-202-619-8978).

AWARD

Update from Fourth Round Negotiation Issues dated July 5, 2017.

24. **AWARD OR REJECTION OF BIDS**-The Purchasing Agent shall award the contract to the lowest responsive and responsible bidder complying with all provisions of the IFB, provided the bid price is reasonable and it is in the best interest of the County to accept it. Awards made in response to a RFP will be made to the highest qualified offeror whose proposal is determined, in writing, to be the most advantageous to the County taking into consideration the evaluation factors set forth in the RFP. The Purchasing Agent reserves the right to award a contract by individual items, in the aggregate, or in combination thereof, or to reject any or all bids and to waive any informality in bids received whenever such rejection or waiver is in the best interest of the County. Award may be made to as many bidders as deemed necessary to fulfill the anticipated requirements of Fairfax County. The Purchasing Agent also reserves the right to reject the bid of a bidder deemed to be a non-responsible bidder. [AT&T reserves all protest rights afforded bidders/respondents participating in the government procurement process.](#)

General Conditions and Instructions to Bidders

In determining the responsibility of a bidder, the following criteria will be considered:

- a. The ability, capacity and skill of the bidder to perform the contract or provide the service required;
- b. Whether the bidder can perform the contract or provide the service promptly, or within the time specified, without delay or interference;
- c. The character, integrity, reputation, judgment, experience and efficiency of the bidder;
- d. The quality of performance of previous contracts or services;
- e. The previous and existing compliance by the bidder with laws and ordinances relating to the contract or services;
- f. The sufficiency of the financial resources and ability of the bidder to perform the contract or provide the service;
- g. The quality, availability and adaptability of the goods or services to the particular use required;
- h. The ability of the bidder to provide future maintenance and service for the use of the subject of the contract;
- i. The number and scope of the conditions attached to the bid;
- j. Whether the bidder is in arrears to the County on debt or contract or is a defaulter on surety to the County or whether the bidder's County taxes or assessments are delinquent; and
- k. Such other information as may be secured by the County Purchasing Agent having a bearing on the decision to award the contract. If an apparent low bidder is not awarded a contract for reasons of nonresponsibility, the County Purchasing Agent shall so notify that bidder and shall have recorded the reasons in the contract file.

25. **NOTICE OF ACCEPTANCE/CONTRACT DOCUMENTS**-A written award (or Acceptance Agreement) mailed (or otherwise furnished) to the successful bidder within the time for acceptance specified in the solicitation shall be deemed to result in a binding contract. The following documents which are included in the solicitation shall be incorporated by reference in the resulting contract and become a part of said contract:

- a. County of Fairfax Solicitation Form/Acceptance Agreement (Cover Sheet) and other documents which may be incorporated by reference, if applicable,
- b. General Conditions and Instructions to Bidders,
- c. Special Provisions and Specifications,
- d. Pricing Schedule,
- e. Any Addenda/Amendments/Memoranda of Negotiations

AT&T's Response:

Notwithstanding anything contained in this RFP to the contrary, AT&T Corp., on behalf of itself and its service-providing affiliates ("AT&T") submits this RFP response (the "Response") subject to the provisions of this Response, including, but not limited to, any exceptions or alternate language that may be provided in the Response. Should AT&T be selected as your vendor under this RFP, AT&T will work cooperatively with the Customer to finalize and/or clarify any contractual provisions required for compliance with the RFP and AT&T's Response to it. AT&T is prepared to negotiate a contract in good faith with Customer that includes certain of Customer's terms and conditions which are mutually agreed between the parties. AT&T is open to incorporating the terms of the RFP, as responded by AT&T, into the final contract, however, the final negotiated contract documents would take precedence over the RFP and Response documents.

26. **TIE-BIDS** – If all bids are for the same total amount or unit price (including authorized discounts and delivery times), and if the public interest will not permit the delay of readvertisement for bids, the County Purchasing Agent is authorized to award the contract to the resident Fairfax County tie bidder whose firm has its principal place of business in the County, or if there be none, to the resident Virginia tie bidder, or if there be none, to one of the tie bidders by drawing lots in public; or the County Purchasing Agent may purchase the goods or services in the open market except that the price paid shall not exceed the lowest contract bid price submitted for the same goods or services. The decision of the County to make award to one or more such bidders shall be final.

27. PROMPT PAYMENT DISCOUNT-

- a. Unless otherwise specified in the solicitation, prompt payment discounts requiring payment in less than fifteen (15) days will not be considered in evaluating a bid for award. However, even though not considered in the evaluation, such discounts will be taken if payment is to be made within the discount period.
- b. In connection with any discount offered, time will be computed from the date of delivery of the supplies to the carrier when delivery, inspection and acceptance are at the point of origin; or, from date of delivery, inspection and acceptance at destination; or, from date correct invoice or voucher is received in the office specified by the County, if the latter is later than the date of acceptance. In the event the bidder does not indicate a prompt payment discount, it shall be construed to mean NET 30 days.

For the purpose of earning the discount, payment is deemed to be made as of the date of mailing of the County check or issuance of an Electronic Funds Transfer.

AT&T's Response:

General Conditions and Instructions to Bidders

For clarification, AT&T will provide services and, as appropriate, install, implement and cutover the system components called for in the agreed specifications for final acceptance by Customer. The services and components provided will operate in accordance with the, the RFP specifications as responded to by AT&T and the agreement of the parties. When agreed to deliverables have been submitted, acceptance occurs.

28. **INSPECTION-ACCEPTANCE**-For determining acceptance of supplies in accordance with the provisions of the prompt payment discount paragraph, inspection and acceptance shall be accomplished only after examination (including testing) of supplies and services to determine whether the supplies and services conform to the contract requirements. Acceptance shall occur only after receipt and inspection provided such inspection, as appropriate, is accomplished within a reasonable time.

29. **DEFINITE BID QUANTITIES**-Where definite quantities are specifically stated, acceptance will bind the County to order quantities specified and to pay for, at contract prices, all such supplies or services delivered that meet specifications and conditions of the contract. However, the County will not be required to accept delivery of any balances unordered, as of the contract expiration date, unless the Contractor furnished the Purchasing Agent with a statement of unordered balances not later than ten (10) days after the termination date of the contract.

30. **REQUIREMENT BID QUANTITIES**-On "Requirement" bids, acceptance will bind the County to pay for, at unit bid prices, only quantities ordered and delivered. Where the County specifies estimated quantities, the Contractor shall not be required to deliver more than ten (10) percent in excess of the estimated quantity of each item, unless otherwise agreed upon.

CONTRACT PROVISIONS

AT&T's Response:

Notwithstanding anything contained in this RFP to the contrary, AT&T Corp., on behalf of itself and its service-providing affiliates ("AT&T") submits this RFP response (the "Response") subject to the provisions of this Response, including, but not limited to, any exceptions or alternate language that may be provided in the Response. Should AT&T be selected as your vendor under this RFP, AT&T will work cooperatively with the Customer to finalize and/or clarify any contractual provisions required for compliance with the RFP and AT&T's Response to it. AT&T is prepared to negotiate a contract in good faith with Customer that includes certain of Customer's terms and conditions which are mutually agreed between the parties.

31. **TERMINATION OF CONTRACTS**-Contracts will remain in force for full periods specified and/or until all articles ordered before date of termination shall have been satisfactorily delivered and accepted and thereafter until all requirements and conditions shall have been met, unless:

- a. Terminated prior to expiration date by satisfactory deliveries of entire contract requirements, or upon termination by the County for Convenience or Cause.
- b. Extended upon written authorization of the Purchasing Agent and accepted by Contractor, to permit ordering of unordered balances or additional quantities at contract prices and in accordance with contract terms.

Update from Fourth Round Negotiation Issues dated July 5, 2017.

32. **TERMINATION FOR CONVENIENCE**-A contract may be terminated in whole or in part by the County in accordance with this clause whenever the County Purchasing Agent shall determine that such a termination is in the best interest of the County. Any such termination shall be effected by delivery to the Contractor at least thirty (30) working days prior to the termination date of a Notice of Termination specifying the extent to which performance shall be terminated and the date upon which termination becomes effective. An equitable adjustment in the contract price shall be made for completed service, but no amount shall be allowed for anticipated profit on unperformed services.

Update from Fourth Round Negotiation Issues dated July 5, 2017.

33. **TERMINATION OF CONTRACT FOR CAUSE-**

- a. If, through any cause, the Contractor shall fail to fulfill in a timely and proper manner his or her obligations under this contract, or if the Contractor violates any of the covenants, agreements, or stipulations of this contract, in addition to the County's remedies under the contract and all other rights available at law or in equity, the County shall have the right

General Conditions and Instructions to Bidders

to immediately terminate this contract. Such termination shall be effected by delivering a notice of termination to the Contractor at any time specifying the effective date of such termination. [Contractor will be given a 30-day cure period as a prerequisite to termination for cause.](#) In such event all finished or unfinished documents, data, studies, surveys, drawings, maps, models, and reports prepared by the Contractor under the contract shall, at the option of the County, become its property and the Contractor shall be entitled to receive just and equitable compensation for any satisfactory work completed on such documents.

Notwithstanding the above, the Contractor shall not be relieved of liability to the County for damages sustained by the County by virtue of any breach of contract by the Contractor for the purpose of set off until such time as the exact amount of damages due to the County from the Contractor is determined.

34. **CONTRACT ALTERATIONS**-No alterations in the terms of a contract shall be valid or binding upon the County unless made in writing and signed by the Purchasing Agent or his or her authorized agent.

35. **SUBLETTING OF CONTRACT OR ASSIGNMENT OF CONTRACT FUNDS**-It is mutually understood and agreed that the Contractor shall not assign, transfer, convey, sublet or otherwise dispose of his or her contractual duties to any other person, firm or corporation, without the previous written consent of the Purchasing Agent. If the Contractor desires to assign his or her right to payment of the contract, Contractor shall notify the Purchasing Agent immediately, in writing, of such assignment of right to payment. In no case shall such assignment of contract relieve the Contractor from his or her obligations or change the terms of the contract.

Update from Fourth Round Negotiation Issues dated July 5, 2017.

AT&T's Clarification:

The rights and obligations of either party may not be assigned without the prior written consent of the other party, which consent shall not be unreasonably withheld; provided however that AT&T may, without Customer's consent, with thirty working day written notice to the Customer, assign this Agreement and/or any Order to an entity owned in whole or in part by AT&T Corp. or by one of more of its direct or indirect subsidiaries or affiliates.

36. **FUNDING**-A contract shall be deemed binding only to the extent of appropriations available to each Agency for the purchase of goods and services.

37. **DELIVERY/SERVICE FAILURES**-Failure of a Contractor to deliver goods or services within the time specified, or within reasonable time as interpreted by the Purchasing Agent, or failure to make replacements/corrections of rejected articles/services when so requested, immediately or as directed by the Purchasing Agent, shall constitute authority for the Purchasing Agent to purchase in the open market articles/services of comparable grade/quality to replace the services, articles rejected, and/or not delivered. On all such purchases, the Contractor shall reimburse the County, within a reasonable time specified by the Purchasing Agent, for any expense incurred in excess of contract prices. Such purchases shall be deducted from the contract quantities if applicable. Should public necessity demand it, the County reserves the right to use or consume articles delivered or services performed which are substandard in quality, subject to an adjustment in price to be determined by the Purchasing Agent.

AT&T's Response:

Please refer to AT&T's response to Section 33. Termination of Contract for Cause

Further, AT&T will endeavor to meet all implementation dates; however, AT&T shall not be liable for any problems caused by force majeure, delays due to any fault of the Customer and/or any contractor or subcontractor employed by the Customer, manufacturer (to include Equipment which may be on "back order") or network delays, or for problems resulting from causes beyond the reasonable control of AT&T. AT&T will notify the Customer of any Equipment that would be on a "back order" status and the implementation dates will be adjusted as mutually agreed between the parties, but would not constitute a breach of contract.

Since AT&T has no control over the possible differences in prices a secondary vendor might charge, AT&T cannot agree to pay such additional costs related to a secondary vendor.

Update from Fourth Round Negotiation Issues dated July 5, 2017.

38. **NON-LIABILITY**-The Contractor shall not be liable in damages for delay in shipment or failure to deliver when such delay or failure is the result of fire, flood, strike, the transportation carrier, act of God, act of Government, act of an alien enemy or by any other circumstances which, in the Purchasing Agent's opinion, are beyond the control of the Contractor. Under such circumstances, however, the Purchasing Agent may, at his or her discretion, cancel the contract, [with a 30 working day notification period prior to the termination date of a Notice of Termination.](#)

General Conditions and Instructions to Bidders

39. **NEW GOODS, FRESH STOCK**-All Contractors, unless otherwise specifically stated, shall provide new commodities, fresh stock, latest model, design or pack.

40. **NON-DISCRIMINATION**-During the performance of this contract, the Contractor agrees as follows:

- a. The Contractor will not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, age, disability, or other basis prohibited by state law relating to discrimination in employment, except where there is a bona fide occupational qualification reasonably necessary to the normal operation of the Contractor. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this non-discrimination clause.
- b. The Contractor, in all solicitations or advertisements for employees placed by or on behalf of the contractor, will state that such Contractor is an equal opportunity employer.
- c. Notices, advertisements and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient for the purpose of meeting the requirements of this section.
- d. The Contractor will include the provisions of the foregoing paragraphs a, b, and c above in every subcontract or purchase order of over \$10,000 so that the provisions will be binding upon each subcontractor or vendor.
- e. Contractor and Subcontractor hereunder shall, throughout the term of this contract, comply with the Human Rights Ordinance, Chapter 11 of the Code of the County of Fairfax, Virginia, as reenacted or amended.

41. **SMALL AND MINORITY BUSINESS UTILIZATION**

- a. It is the policy of the County of Fairfax as declared by the Fairfax County Board of Supervisors' adoption of a Small and Minority Business Enterprise Program, April 6, 1981, that Fairfax County and its employees undertake every effort to increase opportunity for utilization of small or minority businesses in all aspects of procurement to the maximum extent feasible.
- B Where it is practicable for any portion of the awarded contract to be subcontracted to other suppliers, the contractor is encouraged to offer such subcontracting opportunities to small, women and minority businesses.
- c. Where Federal grants or monies are involved it is the policy of Fairfax County, through its agents and employees, to comply with the requirements set forth in the U.S. Office of Management and Budget Circular No. A-102, uniform administrative requirements for Grants and Cooperative Agreements with State and Local Governments, as they pertain to small and minority business utilization.

42. **GUARANTEES & WARRANTIES**-All guarantees and warranties required shall be furnished by the Contractor and shall be delivered to the Purchasing Agent before final payment on the contract is made. Unless otherwise stated, manufacturer's standard warranty applies.

AT&T's Response:

AT&T will perform Services in a workmanlike manner consistent with any mutually agreed to standard set forth in the final contract.

Update from Fourth Round Negotiation Issues dated July 5, 2017.

43. **PRICE REDUCTION**-If at any time after the date of the bid the Contractor makes a general price reduction in the comparable aggregate price, of the services covered by the contract to customers in the Commonwealth of Virginia, District of Columbia and the State of Maryland based on similar quantities (specifically population sizes of 125,000 population per primary PSAP or greater) and terms and conditions and other relevant considerations, an equivalent price reduction shall apply to this contract for the duration of the contract period (or until the price is further reduced). The benchmarking review to consider price reductions for the County based on other customer pricing within the Commonwealth of Virginia, the District of Columbia and the State of Maryland shall be conducted every 18 months until contract completion. AT&T will certify the results in writing to the County, within 30 days after the completion of a benchmarking review, so that appropriate price reductions in the contract terms can be made to the County contract. Such price reduction shall be effective within 30 days of the completion of the benchmarking review, and no retroactive adjustments shall be made.

For purpose of this provision, a "general price reduction" shall mean any horizontal reduction in the price of an article or service offered (1) to Contractor's customers generally, or (2) in the Contractor's price schedule for the class of customers, i.e., wholesalers, jobbers, retailers, etc., which was used as the basis for bidding on this solicitation. An occasional sale at a lower price, or sale of distressed merchandise at a lower price, would not be considered a "general price reduction" under this provision.

Where one or more such general price reductions were made, the statement furnished by the Contractor shall include with respect to each price reduction (1) the date when notice of any such reduction was issued, (2) the effective date of the reduction, and (3) the date when the Purchasing Agent was notified of any such reduction.

General Conditions and Instructions to Bidders

44. **CHANGES**-Should it become proper or necessary in the execution of this contract to make any change in design, or to make any alterations which will increase the expense, the Purchasing Agent shall determine an equitable adjustment. No payment shall be made to the Contractor for any extra material or services, or of any greater amount of money than stipulated to be paid in the contract, unless some changes in or additions to the contract requiring additional outlay by the Contractor shall first have been expressly authorized and ordered in writing by contract amendment or otherwise furnished by the Purchasing Agent.

45. **PLACING OF ORDERS**-Orders against contracts will be placed with the Contractor on a Purchase Order (or Procurement Card) executed and released by the Purchasing Agent or his or her designee. The Purchase Order must bear the appropriate contract number and date. Where Blanket Purchase Agreements (BPAs) have been executed and a Blanket Purchase Order has been released by the Purchasing Agent, telephonic orders may be placed directly with the Contractor by authorized personnel in the ordering Agency.

AT&T's Clarification:

Any Customer purchase orders issued for services as provided under this RFP must clearly provide that the purchase is made via the mutually agreed contract documents and not subject to the preprinted terms of that purchase order form.

DELIVERY PROVISIONS

46. **SHIPPING INSTRUCTIONS - CONSIGNMENT**-Unless otherwise specified in the solicitation each case, crate, barrel, package, etc., delivered under the contract must be plainly stenciled or securely tagged, stating the Contractor's name, purchase order number, and delivery address as indicated in the order. Where shipping containers are to be used, each container must be marked with the purchase order number, name of the Contractor, the name of the item, the item number, and the quantity contained therein. Deliveries must be made within the hours of 8:00 AM - 3:00 PM. Deliveries at any other time will not be accepted unless specific arrangements have been previously made with the receiver at the delivery point. No deliveries will be accepted on Saturdays, Sundays and holidays, unless previous arrangements have been made. It shall be the responsibility of the Contractor to insure compliance with these instructions for items that are drop-shipped.

47. **RESPONSIBILITY FOR SUPPLIES TENDERED**-Unless otherwise specified in the solicitation, the Contractor shall be responsible for the materials or supplies covered by the contract until they are delivered at the designated point, but the Contractor shall bear all risk on rejected materials or supplies after notice of rejection. Rejected materials or supplies must be removed by and at the expense of the Contractor promptly after notification of rejection, unless public health and safety require immediate destruction or other disposal of rejected delivery. If rejected materials are not removed by the Contractor within ten (10) days after date of notification, the County may return the rejected materials or supplies to the Contractor at his or her risk and expense or dispose of them as its own property.

48. **INSPECTIONS**-Inspection and acceptance of materials or supplies will be made after delivery at destinations herein specified unless otherwise stated. If inspection is made after delivery at destination herein specified, the County will bear the expense of inspection except for the value of samples used in case of rejection. Final inspection shall be conclusive except in regard to latent defects, fraud or such gross mistakes as to amount to fraud. Final inspection and acceptance or rejection of the materials or supplies will be made as promptly as practicable, but failure to inspect and accept or reject materials or supplies shall not impose liability on the County for such materials or supplies as are not in accordance with the specifications.

AT&T's Response:

Notwithstanding anything contained in this RFP to the contrary, AT&T will perform all recommended manufacturer tests, and on successful completion of those manufacturer recommended tests, acceptance will occur.

Update from Fourth Round Negotiation Issues dated July 5, 2017.

49. **COMPLIANCE**-Delivery must be made as ordered and in accordance with the solicitation or as directed by the Purchasing Agent when not in conflict with the bid. The decision of the Purchasing Agent as to reasonable compliance with delivery terms shall be final. Burden of proof of delay in receipt of goods by the purchaser shall rest with the Contractor. Any request for extension of time of delivery from that specified must be approved by the Purchasing Agent, such extension applying only to the particular item or shipment affected. Should the Contractor be delayed by the County, there shall be added to the time of completion a time equal to the period of such delay caused by the County. However, the contractor shall not be entitled to claim damages or extra compensation for such delay or suspension. These conditions may vary for construction contracts. See Special Provisions for the individual solicitation. Any final decision by the Purchasing Agent can be challenged by AT&T, as provided under the Code of Virginia, through the normal Contractual Dispute process outlined in Paragraph 73, Contractual Disputes.

General Conditions and Instructions to Bidders

Update from Fourth Round Negotiation Issues dated July 5, 2017.

50. **POINT OF DESTINATION-** AT&T retains title for the AT&T ESInet™ Service Network Terminating Equipment (NTE) from delivery through performance of service through the term of the contract. At no point does title transfer to the County. AT&T will pay for shipping to the destination. The County is responsible for the storage of the equipment. The County PSAP or host is also responsible to provide suitable space, power, ground, and environmental controls for the NTE, as described in the Service Guide.

51. **ADDITIONAL CHARGES-**Unless bought F.O.B. "shipping point" and Contractor prepays transportation, no delivery charges shall be added to invoices except when express delivery is authorized and substituted on orders for the method specified in the contract. In such cases, difference between freight or mail and express charges may be added to invoice.

52. **METHOD AND CONTAINERS-**Unless otherwise specified, goods shall be delivered in commercial packages in standard commercial containers, so constructed as to ensure acceptance by common or other carrier for safe transportation to the point of delivery. Containers become the property of the County unless otherwise specified by bidder.

53. **WEIGHT CHECKING-**Deliveries shall be subject to re-weighing over official sealed scales designated by the County. Payments shall be made on the basis of net weight of materials delivered. Normal shrinkage may be allowed in such instances where shrinkage is possible. Net weights only, exclusive of containers or wrapping, shall be paid for by the County.

54. **DEMURRAGE AND RE-SPOTTING-**The County will be responsible for demurrage charges only when such charges accrue because of the County's negligence in unloading the materials. The County will pay railroad charges due to the re-spotting of cars, only when such re-spotting is ordered by the County.

55. **REPLACEMENT-**Materials or components that have been rejected by the Purchasing Agent, in accordance with the terms of a contract, shall be replaced by the Contractor at no cost to the County.

56. **PACKING SLIPS OR DELIVERY TICKETS-**All shipments shall be accompanied by Packing Slips or Delivery Tickets and shall contain the following information for each item delivered:

1. The Purchase Order Number,
2. The Name of the Article and Stock Number (Supplier's),
3. The Fairfax County Identification Number (FCIN), if specified in the order,
4. The Quantity Ordered,
5. The Quantity Shipped,
6. The Quantity Back Ordered, 7. The Name of the Contractor.

Contractors are cautioned that failure to comply with these conditions shall be considered sufficient reason for refusal to accept the goods.

BILLING

57. **BILLING-**Billing for the Fairfax County Public Schools and for County agencies: Unless otherwise specified on the contract or purchase order (PO), invoices are to be submitted, in DUPLICATE, for each purchase order immediately upon completion of the shipment or services. If shipment is made by freight or express, the original Bill of Lading, properly receipted, must be attached to the invoice. Invoices should be mailed to the "BILL TO" address on the PO or to the appropriate address specified in the contract.

PAYMENTS

Update from Fourth Round Negotiation Issues dated July 5, 2017.

58. **PAYMENT-**AT&T ESInet™ Service Fees are applicable upon Service Activation of the Service. The Service Activation for the Service and/or Service Component occurs when AT&T provides notice that the Service transition is complete and the Service and/or Service

Component is available for use by the PSAP or Host location (Service Activation), regardless of the readiness of the County Premise or the provision status of other County components.

The County has 30 days from AT&T's notice of Service Activation to provide written notice of any issues with the Service. Upon completion of such corrective actions AT&T shall provide a new notice of Service

Activation, and the County will have 30 days from receipt of the new Service Activation Date to provide AT&T written notice on any remaining issues with the Service.

General Conditions and Instructions to Bidders

If the County does not provide written notice of an issue by the end of 30 days, then it shall be deemed that the County accepted the Service

AT&T's Response:

AT&T does not agree that its right to receive payment is based on a subjective customer satisfaction standard.

59. **PARTIAL PAYMENTS**-Unless otherwise specified, partial payments will be made upon acceptance of materials or services so invoiced if in accordance with completion date. However, up to 5 percent (5%) of the value of the entire order may be retained until completion of contract.

60. **PAYMENT FOR EQUIPMENT, INSTALLATION, AND TESTING**-When equipment requires installation (which shall also be interpreted to mean erection and/or setting up or placing in position, service, or use) and test, and where such installation or testing is delayed, payment may be made on the basis of 50% of the contract price when such equipment is delivered on the site. A further allowance of 25% may be made when the equipment is installed and ready for test. The balance shall be paid after the equipment is tested and found to be satisfactory. If the equipment must be tested, but installation is not required to be made by the Contractor or if the equipment must be installed but testing is not required, payment may be made on the basis of 75% at the time of delivery and the balance shall be paid after satisfactory test or installation is completed.

GENERAL

Update from Fourth Round Negotiation Issues dated July 5, 2017.

61. **GENERAL GUARANTY**-Contractor agrees to:

- a. Save the County, its agents and employees harmless from liability of any nature or kind for the use of any copyrighted or uncopyrighted composition; secret process, patented or unpatented; invention; article or appliance furnished or used in the performance of a contract for which the Contractor is not the patentee, assignee, licensee or owner. The above obligation shall not apply where the claimed infringement arises solely out of or results from: (a) County's or a User's content; (b) modifications to the Service by County, or combinations of the Service with any non-AT&T services or products by County; (c) AT&T's reasonable adherence to County's written requirements; or (d) use of a Service in violation of the Contract.
- b. Protect the County against latent defective material or workmanship and to repair or replace any damages or marring occasioned in transit or delivery.

AT&T's Response:

AT&T will perform Services in a workmanlike manner consistent with any mutually agreed to standard set forth in the final contract.

- c. Furnish adequate protection against damage to all work and to repair damages of any kind to the building or equipment, to his or her own work or to the work of other contractors, for which his or her workers are responsible.

AT&T's Response:

AT&T will repair and replace any damage to the Customer's premises due to the installation effort caused by AT&T or its agents, as promptly as reasonably practicable, returning the site to its pre-installation condition.

- d. Pay for all permits, licenses and fees and give all notices and comply with all laws, ordinances, rules and regulations of the County.

AT&T's Response:

AT&T will be responsible for obtaining licenses and permits required for its work at its cost, and the Customer will be responsible for obtaining any easements, rights-of-way or other consents required, at its cost.

- e. Protect the County from loss or damage to County owned property while it is in the custody of the Contractor.

AT&T's Response:

If awarded the opportunity, AT&T is willing to negotiate to attempt to arrive at mutually agreeable indemnity language.

General Conditions and Instructions to Bidders

62. **SERVICE CONTRACT GUARANTY**-Contractor agrees to:
- a. Furnish services described in the solicitation and resultant contract at the times and places and in the manner and subject to conditions therein set forth provided that the County may reduce the said services at any time.
 - b. Enter upon the performance of services with all due diligence and dispatch, assiduously press to its complete performance, and exercise therein the highest degree of skill and competence.
 - c. All work and services rendered in strict conformance to all laws, statutes, and ordinances and the applicable rules, regulations, methods and procedures of all government boards, bureaus, offices and other agents.
 - d. Allow services to be inspected or reviewed by an employee of the County at any reasonable time and place selected by the County. Fairfax County shall be under no obligation to compensate Contractor for any services not rendered in strict conformity with the contract.
 - e. Stipulate that the presence of a County Inspector shall not lessen the obligation of the Contractor for performance in accordance with the contract requirements, or be deemed a defense on the part of the Contractor for infraction thereof. The Inspector is not authorized to revoke, alter, enlarge, relax, or release any of the requirements of the contract documents. Any omission or failure on the part of the Inspector to disapprove or reject any work or material shall not be construed to be an acceptance of any such defective work or material. Notification of an omission or failure will be documented by the Purchasing Agent.

Update from Fourth Round Negotiation Issues dated July 5, 2017.

AT&T's Clarification:

AT&T will perform Services in a workmanlike manner consistent with any mutually agreed to standard set forth in the final contract. AT&T's Response is submitted under applicable laws and regulations current at the time of contract execution. Changes in laws and regulations may require changes in pricing and performance, subject to Section 20 of the Special Provisions of the RFP titled "Changes."

Update from Fourth Round Negotiation Issues dated July 5, 2017.

63. INDEMNITY

63.1 General Indemnity-Contractor shall indemnify and hold Fairfax County and its Affiliates and its and their respective officers, directors, partners, principals, employees, agents, successors and permitted assignees harmless against damages arising out of third party claims resulting from bodily injury to or death of any person or loss of or damage to tangible real or tangible personal property, to the extent that such liability, loss, damage or expense was proximately caused by the negligent act or omission or the willful or intentional misconduct of Contractor, its agents, employees or subcontractors, in connection with the provision or use of Services. Notwithstanding the foregoing, this indemnity obligation shall not be construed to abridge or otherwise undermine either party's partial immunity under state or Federal law as a 9-1-1 service provider

63.2 Indemnity for Intellectual Property Infringement-Contractor's Obligations. Contractor agrees at its expense to defend and either to settle any third-party claim against the County, its Affiliates and its and their respective employees and directors or to pay all damages that a court finally awards against such parties for a claim alleging that a Service provided to the County under this Agreement infringes any patent, trademark, copyright or trade secret, but not where the claimed infringement solely arises out of or results from: (a) the County's, its Affiliate's or a User's content; (b) modifications to the Service by the County, its Affiliate or a third party under the direction and control of the County, or unapproved combinations of the Service with any non-AT&T services or products by the County; (c) Contractor's reasonable adherence to the County's or its Affiliate's written requirements; or (d) use of a Service in violation of this Agreement."

- a. Infringing Services. Whenever Contractor is liable under Section 63.2, AT&T may at its option either procure the right for Customer to continue using, or may replace or modify, the Service so that it is non-infringing.
- b. Notice and Cooperation. The party seeking defense or settlement of a third-party claim under this Section will provide notice to the other party promptly upon learning of any claim for which defense or settlement may be sought, but failure to do so will have no effect except to the extent the other party is prejudiced by the delay. The party seeking defense or settlement will allow the other party to control the defense and settlement of the claim and will reasonably cooperate with the defense. The defending party will use counsel reasonably experienced in the subject matter at issue and will not settle a claim without the written consent of the party being defended, which consent will not be unreasonably withheld or delayed, except that no consent will be required to settle a claim where relief against the party being defended is limited to monetary damages that are paid by the defending party under this Section.
- c. Contractor's obligations under Section 63.2 shall not extend to actual or alleged infringement or misappropriation of intellectual property based on Purchased Equipment, Software, or Third-Party Services. [note that Section 63.2.c

General Conditions and Instructions to Bidders

would not apply to the ESInet Services, but would apply to optional purchases of equipment or software that would require a EULA]

64. OFFICIALS NOT TO BENEFIT-

- a. Each bidder or offeror shall certify, upon signing a bid or proposal, that to the best of his or her knowledge no Fairfax County official or employee having official responsibility for the procurement transaction, or member of his or her immediate family, has received or will receive any financial benefit of more than nominal or minimal value relating to the award of this contract. If such a benefit has been received or will be received, this fact shall be disclosed with the bid or proposal or as soon thereafter as it appears that such a benefit will be received. Failure to disclose the information prescribed above may result in suspension or debarment, or rescission of the contract made, or could affect payment pursuant to the terms of the contract.
- b. Whenever there is reason to believe that a financial benefit of the sort described in paragraph "a" has been or will be received in connection with a bid, proposal or contract, and that the contractor has failed to disclose such benefit or has inadequately disclosed it, the County Executive, as a prerequisite to payment pursuant to the contract, or at any other time, may require the Contractor to furnish, under oath, answers to any interrogatories related to such possible benefit.
- c. In the event the bidder or offeror has knowledge of benefits as outlined above, this information should be submitted with the bid or proposal. If the above does not apply at time of award of contract and becomes known after inception of a contract, the bidder or offeror shall address the disclosure of such facts to the Fairfax County Purchasing Agent, 12000 Government Center Parkway, Suite 427, Fairfax, Virginia 22035-0013. Relevant Invitation/Request for Proposal Number (see cover sheet) should be referenced in the disclosure.

AT&T's Response:

AT&T is not aware of any material conflict of interest. AT&T is a publicly traded corporation whose stock is sold on the open market. It is impossible for AT&T to determine whether any Fairfax County officer or employee having official responsibility for the procurement transaction, or member of his or her immediate family, may be a shareholder in AT&T, Inc. However, the Customer should make such an inquiry of its own employees, directors, and officers prior to entering into an agreement with AT&T and take the necessary steps to ensure such individuals remain in compliance with these requirements.

65. LICENSE REQUIREMENT-All firms doing business in Fairfax County, shall obtain a license as required by Chapter 4, Article 7, of The Code of the County of Fairfax, Virginia, as amended, entitled "Business, Professional and Occupational Licensing (BPOL) Tax." Questions concerning the BPOL Tax should be directed to the Department of Tax Administration, telephone (703) 222-8234 or visit: http://www.fairfaxcounty.gov/dta/business_tax.htm. The BPOL Tax number must be indicated in the space provided on the Cover Sheet, "Fairfax License Tax No." when appropriate.

66. AUTHORIZATION TO CONDUCT BUSINESS IN THE COMMONWEALTH: A contractor organized as a stock or nonstock corporation, limited liability company, business trust, or limited partnership or registered as a registered limited liability partnership shall be authorized to transact business in the Commonwealth as a domestic or foreign business entity if so required by Title 13.1 or Title 50 of the *Code of Virginia* or as otherwise required by law. Any business entity described above that enters into a contract with a Fairfax County pursuant to the Fairfax County Purchasing Resolution shall not allow its existence to lapse or its certificate of authority or registration to transact business in the Commonwealth, if so required under Title 13.1 or Title 50, to be revoked or cancelled at any time during the term of the contract. Fairfax County may void any contract with a business entity if the business entity fails to remain in compliance with the provisions of this section.

67. COVENANT AGAINST CONTINGENT FEES-The Contractor warrants that no person or selling agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, except bona fide employees or bona fide established commercial or selling agencies maintained by the Contractor for the purpose of securing business. For violation of this warranty, the County shall have the right to terminate or suspend this contract without liability to the County or in its discretion to deduct from the contract price or consideration, or otherwise recover, the full amount of such commission, percentage, brokerage, or contingent fee.

68. VIRGINIA FREEDOM OF INFORMATION ACT-All proceedings, records, contracts and other public records relating to procurement transactions shall be open to the inspection of any citizen, or any interested person, firm or corporation, in accordance with the Virginia Freedom of Information Act (Reference Section 4.D., of the Fairfax County Purchasing Resolution)

BIDDER/CONTRACTOR REMEDIES**69. INELIGIBILITY-**

- a. Any person or firm suspended or debarred from participation in County procurement shall be notified in writing by the County Purchasing Agent.

General Conditions and Instructions to Bidders

1. The Notice of Suspension shall state the reasons for the actions taken and such decision shall be final unless the person or firm appeals within thirty (30) days of receipt of the Notice by instituting legal action as provided in the Code of Virginia.
 2. The Notice of Debarment shall state the reasons for the actions taken and the decision shall be final unless the person or firm appeals within thirty (30) days of receipt of the notice by instituting legal action as provided in the Code of Virginia.
- b. The County Purchasing Agent shall have the authority to suspend or debar a person or firm from bidding on any contract for the causes stated below:
1. Conviction for commission of a criminal offense as an incident to obtaining or attempting to obtain a public or private contract or subcontract, or in the performance of such contract or subcontract;
 2. Conviction under state or federal statutes of embezzlement, theft, forgery, bribery, falsification or destruction of records, receiving stolen property, or any other offense indicating a lack of business integrity or business honesty which currently, seriously, and directly affects responsibility as a County contractor;
 3. Conviction under the state or federal antitrust statutes arising out of the submission of bids or proposals;
 4. Violation of contract provisions, as set forth below, of a character which is regarded by the County Purchasing Agent to be so serious as to justify suspension or debarment action:
 - (a) failure without good cause to perform in accordance with the specifications or within the time limit provided in the contract; or
 - (b) a recent record of failure to perform or of unsatisfactory performance in accordance with the terms of one or more contracts; provided, that failure to perform or unsatisfactory performance caused by acts beyond the control of the contractor shall not be considered to be a basis for suspension or debarment;
 5. Any other cause the County Purchasing Agent determines to be so serious and compelling as to affect responsibility as a contractor, such as debarment by another governmental entity for any cause listed herein, or because of prior reprimands;
 6. The contractor has abandoned performance or been terminated for default on any other Fairfax County project;
 7. The contractor is in default on any surety bond or written guarantee on which Fairfax County is an obligee.
- c. If, upon appeal, it is determined that the action taken by the County Purchasing Agent was arbitrary or capricious, or not in accordance with the Constitution of Virginia, statutes or regulations, the sole relief available to the person or firm shall be restoration of eligibility. The person or firm may not institute legal action until all statutory requirements have been met.
70. **APPEAL OF DENIAL OF WITHDRAWAL OF BID-**
- a. A decision denying withdrawal of a bid submitted by a bidder or offeror shall be final and conclusive unless the bidder appeals the decision within ten (10) days after receipt of the decision by instituting legal action as provided in the Code of Virginia. The bidder or offeror may not institute legal action until all statutory requirements have been met.
 - b. If no bid bond was posted, a bidder refused withdrawal of bid under the provisions of Article 2, Section 4 a.9, of the Fairfax County Purchasing Resolution, prior to appealing, shall deliver to the County a certified check or cash bond in the amount of the difference between the bid sought to be withdrawn and the next low bid. Such security shall be released only upon a final determination that the bidder was entitled to withdraw the bid.
 - c. If, upon appeal, it is determined that the decision refusing withdrawal of the bid was arbitrary or capricious, the sole relief shall be withdrawal of the bid.
71. **APPEAL OF DETERMINATION OF NONRESPONSIBILITY-**
- a. Any bidder who, despite being the apparent low bidder, is determined not to be a responsible bidder for a particular County contract shall be notified in writing by the County Purchasing Agent. Such notice shall state the basis for the determination, which shall be final unless the bidder appeals the decision within ten (10) days of receipt of the notice by instituting legal action as provided in the Code of Virginia. The bidder may not institute legal action until all statutory requirements have been met.
 - b. If, upon appeal, it is determined that the decision of the County Purchasing Agent was arbitrary or capricious and the award for the particular County contract in question has not been made, the sole relief available to the bidder shall be a finding that the bidder is a responsible bidder for the County contract in question. Where the award has been made and performance has begun, the County may declare the contract void upon a finding that this action is in the best interest of

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the public. Where a contract is declared void, the performing contractor shall be compensated for the cost of performance up to the time of such declaration. In no event shall the performing contractor be entitled to lost profits.

AT&T's Response:

AT&T does not agree to waive rights to protest the award decision. To that end, AT&T reserves all protest rights afforded bidders/respondents participating in the government contracting process.

72. PROTEST OF AWARD OR DECISION TO AWARD-

- a. Any bidder or offeror may protest the award or decision to award a contract by submitting a protest in writing to the County Purchasing Agent, or an official designated by the County of Fairfax, no later than ten (10) days after the award or the announcement of the decision to award, whichever occurs first. Any potential bidder or offeror on a contract negotiated on a sole source or emergency basis who desires to protest the award or decision to award such contract shall submit such protest in the same manner no later than ten days after posting or publication of the notice of such contract as provided in Article 3, Section 4, of the Fairfax County Purchasing Resolution. However, if the protest of any actual or potential bidder or offeror depends in whole or in part upon information contained in public records pertaining to the procurement transaction which are subject to inspection under Article 2, Section 4d of the Fairfax County Purchasing Resolution, then the time within which the protest must be submitted shall expire ten days after those records are available for inspection by such bidder or offeror under Article 2, Section 4d, or at such later time as provided herein. No protest shall lie for a claim that the selected bidder or offeror is not a responsible bidder or offeror. The written protest shall include the basis for the protest and the relief sought. The County Purchasing Agent shall issue a decision in writing within ten (10) days of the receipt of the protest stating the reasons for the action taken. This decision shall be final unless the bidder or offeror appeals within ten (10) days of receipt of the written decision by instituting legal action as provided in the Code of Virginia.
- b. If prior to award it is determined that the decision to award is arbitrary or capricious, then the sole relief shall be a finding to that effect. The County Purchasing Agent shall cancel the proposed award or revise it to comply with the law. If, after an award, it is determined that an award of a contract was arbitrary or capricious, then the sole relief shall be as hereinafter provided. Where the award has been made but performance has not begun, the performance of the contract may be declared void by the County. Where the award has been made and performance has begun, the County Purchasing Agent may declare the contract void upon a finding that this action is in the best interest of the County. Where a contract is declared void, the performing contractor shall be compensated for the cost of performance at the rate specified in the contract up to the time of such declaration. In no event shall the performing contractor be entitled to lost profits.

AT&T's Response:

AT&T does not agree to waive rights to protest the award decision. To that end, AT&T reserves all protest rights afforded bidders/respondents participating in the government contracting process.

- c. Pending final determination of a protest or appeal, the validity of a contract awarded and accepted in good faith in accordance with this article shall not be affected by the fact that a protest or appeal has been filed.
- d. An award need not be delayed for the period allowed a bidder or offeror to protest, but in the event of a timely protest, no further action to award the contract will be taken unless there is a written determination that proceeding without delay is necessary to protect the public interest or unless the bid or offer would expire.

73. CONTRACTUAL DISPUTES-

- a. Any dispute concerning a question of fact as a result of a contract with the County which is not disposed of by agreement shall be decided by the County Purchasing Agent, who shall reduce his decision to writing and mail or otherwise forward a copy to the contractor within ninety (90) days. The decision of the County Purchasing Agent shall be final and conclusive unless the contractor appeals within six (6) months of the date of the final written decision by instituting legal action as provided in the Code of Virginia. A contractor may not institute legal action, prior to receipt of the County Purchasing Agent's decision on the claim, unless the County Purchasing Agent fails to render such decision within the time specified.
- b. Contractual claims, whether for money or other relief, shall be submitted in writing no later than sixty days after final payment; however, written notice of the contractor's intention to file such claim shall have been given at the time of the occurrence or beginning of the work upon which the claim is based. Nothing herein shall preclude a contract from requiring submission of an invoice for final payment within a certain time after completion and acceptance of the work or acceptance of the goods. Pendency of claims shall not delay payment of amounts agreed due in the final payment.

74. LEGAL ACTION-No bidder, offeror, potential bidder or offeror, or contractor shall institute any legal action until all statutory requirements have been met.

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75. **COOPERATIVE PURCHASING**-The County may participate in, sponsor, conduct or administer a cooperative procurement agreement on behalf of or in conjunction with one or more other public bodies, or public agencies or institutions or localities of the several states, of the United States or its territories, or the District of Columbia, for the purpose of combining requirements to increase efficiency or reduce administrative expenses in any acquisition of goods and services. Except for contracts for professional services, a public body may purchase from another public body's contract even if it did not participate in the request for proposal (RFP) or invitation for bid (IFB), if the RFP or IFB specified that the procurement was being conducted on behalf of other public bodies. Nothing herein shall prohibit the assessment or payment by direct or indirect means of any administrative fee that will allow for participation in any such arrangement.

AT&T's Clarification:

AT&T is certainly willing to entertain the opportunity to provision to other entities. However, AT&T would need to know information including, but not limited to, which entities were being considered, how the billing and collection would work (e.g., who would ultimately be responsible for payment), any credit issues, and what services were involved. Once AT&T understood the details, AT&T would consider this opportunity.

76. **PROFESSIONAL AFFILIATION**-The Department of Purchasing & Supply Management holds membership in the National Institute of Governmental Purchasing, Inc., a non-profit, educational and technical organization that includes among its goals and objectives the study, discussion, and recommendation of improvements in governmental purchasing and the interchange of ideas and experiences on local state, and national governmental purchasing problems.

77. **DRUG FREE WORKPLACE**-During the performance of a contract, the contractor agrees to (i) provide a drug-free workplace for the contractor's employees; (ii) post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in the contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition; (iii) state in all solicitations or advertisements for employees placed by or on behalf of the contractor that the contractor maintains a drugfree workplace; and (iv) include the provisions of the foregoing clauses in every subcontract of over \$10,000, so that the provisions will be binding upon each subcontractor or vendor. For the purposes of this section, "drug-free workplace" means a site for the performance of work done in conjunction with a specific contract awarded to a contractor in accordance with this section, the employees of whom are prohibited from engaging in the unlawful manufacture, sale, distribution, dispensation, possession or use of any controlled substance or marijuana during the performance of the contract.

AT&T's Response:

AT&T's company policy prohibits the manufacture, use, possession, sale, purchase, distribution or transfer of illegal drugs or unauthorized drugs on company premises or worksites or while off duty and off company premises. Any employee violating this policy may be subject to disciplinary action up to and including dismissal. As a condition of employment, each AT&T employee is required to complete initial and annual internal online training covering AT&T's internal company policies which include the policy relating to Substance Abuse.

78. **VENUE:** This contract and its terms, including, but not limited to, the parties' obligations under it, the performance due from each party under it, and the remedies available to each party for breach of it, shall be governed by, construed and interpreted in accordance with the laws of the Commonwealth of Virginia. Any jurisdiction's choice of law, conflict of laws, rules, or provisions, including those of the Commonwealth of Virginia that would cause the application of any laws other than those of the Commonwealth of Virginia shall not apply. Any and all disputes, claims and causes of action arising out of or in connection with this contract or any performance hereunder, shall be brought in the applicable court of Fairfax County, Virginia, or in the United States District Court, Eastern District of Virginia, Alexandria Division.

79. **IMMIGRATION REFORM AND CONTROL ACT:** Contractor agrees that it does not, and shall not during the performance of the contract for goods and services in the Commonwealth, knowingly employ an unauthorized alien as defined in the Federal Immigration Reform and Control Act of 1986.

80. **CONTRACTOR NOT TO BENEFIT:** Contractor agrees that the goods and/or services provided to Fairfax County pursuant to this Agreement are for the benefit of Fairfax County and that Contractor shall not undertake any actions or efforts stemming from or related to this Agreement that shall inure to the detriment of Fairfax County. Any information provided to the Contractor for the performance of this Contract shall not be used for any other purpose without the written consent of the Purchasing Agent.

INTELLECTUAL PROPERTY RIGHTS

81.1 All intellectual property and proprietary rights arising by virtue of AT&T's performance of the Services are and will be the sole and exclusive property of AT&T, and neither ownership nor title to any such property will pass to Customer.

81.2 Customer shall own the copies of any reports produced and furnished to Customer by AT&T in providing the Service ("Reports"), and Customer is hereby granted, under AT&T's copyrights, the perpetual, non-exclusive, personal and non-transferable right to reproduce and modify the Reports for Customer's own internal business purposes. For

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avoidance of doubt, "internal business purposes" exclude public distribution or resale to third parties and revenue generation purposes.

81.3 AT&T hereby grants to Customer the non-exclusive, personal, and non-transferable right to use any items (other than Reports) produced and furnished to Customer by AT&T in providing the Services, solely for Customer's own internal business purposes during the term of this Agreement, or for such other purposes as may be mutually agreed in writing by the parties.

81.4 Except as otherwise specified herein, no other right or license to or under any of AT&T's intellectual property rights is either granted or implied under this Agreement.

Update from Fourth Round Negotiation Issues dated July 5, 2017.

ADDITIONAL LANGUAGE

82. RESPONSIBILITIES OF THE PARTIES

82.1 AT&T will, through its Affiliate AT&T Corp. or such other Affiliate or subcontractor **mutually agreed to by the parties or identified in the AT&T's RFP response** that AT&T in its discretion deems appropriate, provide the AT&T Consulting Professional Services as described in SOWs that are mutually agreed to by the parties and attached to this Agreement as Schedules. Each SOW is effective, incorporated into and made part of this Agreement, when signed by both the Customer and AT&T.

82.2 AT&T will assign resources with the appropriate skills to meet the Customer's project requirements. However, any tasks identified that are outside the scope of projects described in the SOWs will be addressed with additional services offered to the Customer through a change order. If the scope of the project, number or locations of Sites, start and finish dates, work to be done, or other material parameters of the project change, AT&T and Customer shall revise the SOWs accordingly or use the change order process and make appropriate revisions to the charges for the Services.

82.3 Customer agrees to provide all information and cooperation necessary for implementation of the Services, including but not limited to access to individuals and facilities, determination of schedules, and selection from among alternative designs. Customer shall provide a single point of contact through whom AT&T may obtain information and assistance regarding projects between the parties. AT&T will rely on all information provided by Customer and will not be responsible or held liable for any damages or costs that result from errors or omissions in such information. Customer shall provide a suitable and safe environment for AT&T's work at the Customer's premises. Customer represents that the area of the Customer's premises within which AT&T performs Services shall be **reasonably** free of Hazardous Materials. AT&T shall have no obligation to perform work at a location that is not a suitable and safe working environment or to handle, remove or dispose of Hazardous Materials.

82.4 Each party shall comply with all applicable laws and regulations.

82.5 Customer grants AT&T **limited revocable** access rights to the property and premises that Customer controls **subject to Fairfax County IT Security Policies**. Customer shall cooperate with AT&T's efforts to procure such access rights for the portions of the property not under Customer's control.

82.6 Unless applicable local law or regulation mandates otherwise, Customer may not resell any portion of a Service to third parties.

83. Confidentiality or Use of Information

83.1 The parties acknowledge that it may be necessary for each of them, as Discloser, to provide to the other, as Recipient, certain information, considered to be confidential and proprietary by Discloser ("INFORMATION"), for the purposes of this Agreement. INFORMATION provided to Recipient in written or other tangible or electronic form must be marked with a confidential notice. INFORMATION orally or visually provided must be designated by Discloser as confidential at the time of disclosure and reduced to writing marked with a confidential notice and provided to Recipient within thirty (30) days after such disclosure. Discloser's INFORMATION does not include: (i) any information publicly disclosed by Discloser; (ii) any information Discloser in writing authorizes Recipient to disclose without restriction; (iii) any information Recipient already lawfully knows at the time it is disclosed by Discloser, without an obligation to keep it confidential; (iv) any information Recipient lawfully obtains from any source other than Discloser, provided that such source lawfully disclosed such information; or (v) any information Recipient independently develops without use of or reference to Discloser's INFORMATION, and such development can be proven by written documentation.

83.2 Each party's INFORMATION shall, for a period of three (3) years following its disclosure (except in the case of Software, for an indefinite period): (i) be held in confidence; (ii) be used and transmitted between countries only for purposes of performing this Agreement (including in the case of AT&T, the ability to monitor and record Customer's

General Conditions and Instructions to Bidders

transmissions in order to detect fraud, check quality, and to operate, maintain and repair the Services), using the Services or evaluating potential amendments to this Agreement; and (iii) not be disclosed except to the receiving party's employees, agents and contractors having a need-to-know (provided that such agents and contractors are not direct competitors of the other party and agree in writing to use and disclosure restrictions as restrictive as this Section X), or to the extent required by law (provided that prompt advance notice is provided to the disclosing party to the extent practicable).

83.3 The restrictions in this Section shall not apply to any information that: (i) is independently developed by the receiving party; or (ii) is lawfully received by the receiving party free of any obligation to keep it confidential; or (iii) becomes generally available to the public other than by breach of this Agreement.

83.4 Both parties agree to comply with privacy laws applicable to their respective businesses. Customer shall obtain any User consents legally required relating to handling of User's Content. If Customer believes that, in the course of providing Services under this Agreement, AT&T will have access to data Customer does not want AT&T personnel to comprehend, Customer should encrypt such data so that it will be unintelligible.

84. PUBLICITY AND TRADEMARKS

84.1 Neither party may issue any public statements or announcements relating to this Agreement without the prior written consent of the other party.

84.2 Each party agrees not to display or use, in advertising or otherwise, any of the other party's Marks without the other party's prior written consent, provided that such consent may be revoked at any time.

85. LIMITATIONS OF LIABILITY

85.1 EITHER PARTY'S ENTIRE LIABILITY AND THE OTHER PARTY'S EXCLUSIVE REMEDIES FOR ANY CLAIMS ARISING IN CONNECTION WITH ANY SERVICE OR OBLIGATIONS UNDER THIS AGREEMENT SHALL BE:

(i) FOR BODILY INJURY OR DEATH TO ANY PERSON, OR REAL OR TANGIBLE PROPERTY DAMAGE, NEGLIGENCE CAUSED BY A PARTY, OR DAMAGES ARISING FROM THE WILLFUL MISCONDUCT OF A PARTY OR ANY BREACH OF SECTIONS X (Use of Information) OR X (Publicity and Marks), THE OTHER PARTY'S RIGHT TO PROVEN DIRECT DAMAGES;

(ii) FOR DAMAGES OTHER THAN THOSE SET FORTH ABOVE AND NOT EXCLUDED UNDER THIS AGREEMENT, EACH PARTY'S LIABILITY SHALL BE LIMITED TO PROVEN DIRECT DAMAGES NOT TO EXCEED PER CLAIM (OR IN THE AGGREGATE DURING ANY TWELVE (12) MONTH PERIOD) AN AMOUNT EQUAL TO THE TOTAL NET CHARGES INCURRED BY CUSTOMER FOR THE AFFECTED SERVICE IN THE RELEVANT COUNTRY DURING THE THREE (3) MONTHS PRECEDING THE MONTH IN WHICH THE DAMAGE OCCURRED. THIS SHALL NOT LIMIT CUSTOMER'S RESPONSIBILITY FOR THE PAYMENT OF ALL PROPERLY DUE CHARGES UNDER THIS AGREEMENT.

(iii) THE LIMITATIONS IN THIS SECTION X.1 ARE NOT INTENDED TO PRECLUDE A PARTY FROM SEEKING INJUNCTIVE RELIEF FROM A COURT OF COMPETENT JURISDICTION IN THE EVENT OF A VIOLATION BY THE OTHER PARTY OF SECTION X (Use of Information) OR SECTION X (Publicity and Marks).

85.2 NEITHER PARTY SHALL BE LIABLE TO THE OTHER PARTY FOR ANY INDIRECT, INCIDENTAL, CONSEQUENTIAL, PUNITIVE, RELIANCE OR SPECIAL DAMAGES, INCLUDING WITHOUT LIMITATION, DAMAGES FOR LOST PROFITS, ADVANTAGE, SAVINGS OR REVENUES OF ANY KIND OR INCREASED COST OF OPERATIONS.

85.3 EXCEPT AS EXPRESSLY PROVIDED IN THIS AGREEMENT, AT&T MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED, AND SPECIFICALLY DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE OR NON-INFRINGEMENT OR ANY REPRESENTATION OR WARRANTY ARISING BY USAGE OF TRADE, COURSE OF DEALING OR COURSE OF PERFORMANCE.

85.4 THE LIMITATIONS OF LIABILITY SET FORTH IN THIS AGREEMENT SHALL APPLY: (i) REGARDLESS OF THE FORM OF ACTION, WHETHER IN CONTRACT, TORT, STRICT LIABILITY OR OTHERWISE; AND (ii) WHETHER OR NOT DAMAGES WERE FORESEEABLE.

85.5 THESE LIMITATIONS OF LIABILITY SET OUT IN THIS SECTION X SHALL SURVIVE FAILURE OF ANY EXCLUSIVE REMEDIES PROVIDED IN THIS AGREEMENT.

86. Miscellaneous

86.1 Any legal action arising in connection with this Agreement must begin within **five (5)** years after the cause of action arises.

86.2 Any required notices under this Agreement shall be in writing and shall be deemed validly delivered if sent by hand (in which case delivery will be deemed to have been effected immediately), or by overnight mail (in which case delivery will be deemed to have been effected one (1) business day from the date of mailing), or by first class pre-paid

General Conditions and Instructions to Bidders

post (in which case delivery will be deemed to have been effected five (5) days from the date of posting), or by facsimile or electronic transmission (in which case delivery will be deemed to have been effected on the day the transmission was sent). Any such notice shall be sent to the office of the recipient set forth on the cover page of this Agreement or such other office or recipient as designated in writing from time to time.

86.3 This Agreement does not provide any third party with any remedy, claim, liability, reimbursement, cause of action or other right or privilege.

86.4 THE ENTIRE AGREEMENT BETWEEN THE PARTIES WITH RESPECT TO THE SERVICES. THIS AGREEMENT SUPERSEDES ALL PRIOR AGREEMENTS, PROPOSALS, REPRESENTATIONS, STATEMENTS OR UNDERSTANDINGS, WHETHER WRITTEN OR ORAL CONCERNING THE SERVICES, OR THE RIGHTS AND OBLIGATIONS RELATING TO THE SERVICES. THIS AGREEMENT SHALL NOT BE MODIFIED, OR SUPPLEMENTED BY ANY WRITTEN OR ORAL STATEMENTS, PROPOSALS, REPRESENTATIONS, ADVERTISEMENTS, SERVICE DESCRIPTIONS OR CUSTOMER'S PURCHASE ORDER FORMS NOT EXPRESSLY SET FORTH IN THIS AGREEMENT OR AN ATTACHMENT.

APPROVED:

/S/ David P. Bobzien
COUNTY ATTORNEY

/S/ Cathy A. Muse
COUNTY PURCHASING AGENT

**Fairfax County DEPARTMENT OF INFORMATION TECHNOLOGY
IT Services Provider CONSULTANT/CONTRACTOR AGREEMENT
CONCERNING ACCESS TO AND USE OF INFORMATION SYSTEMS AND COMMUNICATIONS TECHNOLOGY
AT FAIRFAX COUNTY, VIRGINIA**

I/this firm AT&T Corp. working as a consultant/contractor/services provider for Fairfax County Government with access to county technology and communications systems, recognize my/our firm's legal and ethical obligation to conduct work on any Fairfax County information or communications system using computer hardware and devices, and/or software (programming languages, operating systems, databases, third party applications software (COTS) and Web based or 'cloud' applications), system utilities, security solutions, monitoring systems, and, data or voice communications software and electronics, Internet capabilities, etc., and county data/content herein referred to as 'technology', in a responsible manner and within the guidelines of the County's IT Security Policy and/or firm's contract.

My/our purpose in using computer based technology is to perform work for the Fairfax County Department of Information

Technology (DIT) in support of Fairfax County Government, and therefore we are subject to the standards, IT Security and Privacy policies, and ethics and behavior policies of Fairfax County Government. As a condition for and in consideration of being given access to the computer systems, data, the network, internet, and, Fairfax County computer center(s), IT galleries, server rooms, network core facilities, third party hosting centers, and 'clouds' where county services are provided, I/we agree that:

I/our firm possess the professional credentials that I or my firm has represented in my being hired to perform my/our duty and assignments, and that I/our firm representatives have successfully passed a certifiable criminal background check. Certain systems/data may require SECRET Clearance as defined by the U.S. Government.

I/our firm will not use Fairfax County technology systems to access any information available or acquired from the technology systems for any reason except for purposes directly related to our job assignments and responsibilities as defined by my/my firm's contract and assignment with the County. I/we will not use Fairfax County technology systems to disclose any information available or acquired from Fairfax County systems for any reason except for purposes directly related to my/my firm's contract and job assignments and responsibilities for such use as defined by DIT. I/we understand that any work I/we perform for Fairfax County that develops systems, logic, or data is the property of Fairfax County, and I/we cannot take or send such products without express permission of appropriate Fairfax County authority. I/we understand that a user agency may ask me/ my firm to sign a separate agreement relating to the privacy and security of the information that a user agency administers, such as for HIPAA, PII, or other.

I/ our firm will use vendor provided software and/or utilities only in accordance with such provisions as may have been agreed to between such vendor and Fairfax County. I/we will not deliberately violate any copyright laws or agreements states or implied in my/our use of the software. I/we recognize that to do so makes me/my company liable for any applicable penalties and may lead to my/our firm's immediate dismissal from the County's engagement.

I/our firm further understands that the deliberate misuse of Fairfax County technology and/or software, which results in the change, damage or destruction of County systems, programs, and/or data is considered destruction of County property and may be considered a breach of contract and/or a criminal offense. I/we understand that I and/or our firm may be liable to include immediate release from the engagement for breach of the Fairfax County IT Security Policy, and possible prosecution for my/this firms actions in the destruction of County property. I/we further understand and recognize that there are criminal penalties for misusing government information and for the improper use of government information.

I/we have completely read and fully understand the terms of this agreement and accept these terms.

AT&T Corp.

Name of Firm



Consultant/Representative Signature

July 11, 2017

Date

Asif Iqbal

Firm Authorized Representative

July 11, 2017

Date

I accept this agreement on behalf of Fairfax County, Virginia.

ISO

Date



Addendums

Attached are RFP addendums issued by the country.





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County of Fairfax, Virginia

ADDENDUM

DATE: September 21, 2016

ADDENDUM NO. 1

TO: ALL PROSPECTIVE OFFERORS

REFERENCE: RFP2000002010

TITLE: Next Generation Core Services Solution (NGCS)

DUE DATE/TIME: November 4, 2016 / 2:00 P.M. EST

The referenced request for proposal is amended as follows:

1. Reference Page 30 of Appendix C, Section 4.10.1 Legacy Network Gateway (LNG), Paragraph 10, first sentence: Change to read "The Legacy Selective Router Gateway (LSRG) shall support star code transfers made by legacy PSAPs for calls destined for NCR PSAPs or to neighboring legacy PSAPs outside of the Contractor's ESInet."
2. Reference Page 30 of Appendix C, Section 4.10.1 Legacy Network Gateway (LNG), Paragraph 11, first sentence: Change "Legacy Selective Router Gateway" to "LSRG".
3. Reference Page 31 of Appendix C, Section 4.10.2 Legacy PSAP Gateway (LPG), Paragraph 5, first sentence: Change to read "The LPG shall convert outbound call transfers to SIP in accordance with the requirements of NENA 08-003."
4. Reference Page 37 of Appendix C, Section 4.10.4 Emergency Service Routing Proxy (ESRP) and Policy Routing Function (PRF), Paragraph 2, second sentence: Change "ECRF" to "ESRP".
5. Reference Page 69 of Appendix C, Attachment A: NCR PSAP Data for Proposed ESInet and NGCS: Delete Attachment A: NCR PSAP Data for Proposed ESInet and NGCS and replace it with Attachment 2 (revised version of Attachment A) of this Addendum.
6. Reference Pages 8 thru 9 of the Special Provisions, Section 16 Insurance: Delete the entire section and replace it with the following:
 - 16.1. The contractor is responsible for its work and for all materials, tools, equipment, appliances, and property of any and all description used in connection with the

Department of Procurement & Material Management

12000 Government Center Parkway, Suite 427

Fairfax, VA 22035-0013

Website: www.fairfaxcounty.gov/dpmm

Phone (703) 324-3201, **TTY:** 1800- 828-1140, **Fax:** (703) 324-3681

project, whether owned by the contractor or by the County. The contractor assumes all risks of direct and indirect damage or injury to any person or property wherever located, resulting from any action, omission, commission or operation under the contract, or in connection in any way whatsoever with the contracted work.

16.2. The Contractor shall, during the continuance of all work under the Contract provide the following:

- a. Maintain statutory Worker's Compensation and Employer's Liability insurance in limits of not less than \$100,000 to protect the Contractor from any liability or damages for any injuries (including death and disability) to any and all of its employees, volunteers, or subcontractors, including any and all liability or damage which may arise by virtue of any statute or law in force within the Commonwealth of Virginia, or which may be hereinafter enacted.
- b. The contractor agrees to maintain Commercial General Liability insurance in the amount of \$1,000,000 per occurrence/aggregate, to protect the contractor, its subcontractors, and the interest of the County, against any and all injuries to third parties, including bodily injury and personal injury, wherever located, resulting from any action or operation under the contract or in connection with contracted work.
- c. The contractor agrees to maintain owned, non-owned, and hired Automobile Liability insurance, in the amount of \$1,000,000 per occurrence/aggregate, including property damage, covering all owned, non-owned borrowed, leased, or rented vehicles operated by the Contractor.
- d. The contractor agrees to maintain Cyber Liability insurance in the amount of \$5,000,000 per occurrence/aggregate to protect the Contractor in the event of a data breach.
- e. Liability insurance may be arranged by General Liability and Automobile Liability policies for the full limits required, or by a combination of underlying Liability policies for lesser limits with the remaining limits provided by an Excess or Umbrella Liability policy.
- f. Rating Requirements:
 1. The contractor agrees to provide insurance issued by companies admitted within the Commonwealth of Virginia, with the Best's Key Rating of at least A:VI.
 2. European markets including those based in London, and the domestic surplus lines markets that operate on a non-admitted basis are exempt from this requirement provided that the contractor's broker can provide financial data to establish that a market is equal to or exceeds the financial strengths associated with the A.M. Best's rating of A:VI or better.

- g. Indemnification: Article 63 of the General Conditions and Instructions to Bidders (Appendix A) shall apply.
 - h. The Contractor will provide an original, signed Certificate of Insurance citing the contract number and such endorsements as prescribed herein, and shall have it filed with the County Purchasing Agent and/or Risk Manager before any work is started.
 - i. If the Contractor delivers services from a County-leased facility, the Contractor is required to carry property insurance on all equipment, to include County-owned installed and maintained equipment used by the contractor while in their care, custody and control for use under this contract.
- 16.3. No change, cancellation, or non-renewal shall be made in any insurance coverage without a thirty (30) day written notice to the County Purchasing Agent and/or Risk Manager. The contractor shall furnish a new certificate prior to any change or cancellation date. The failure of the contractor to deliver a new and valid certificate will result in suspension of all payments until the new certificate is furnished.
- 16.4. Compliance by the contractor and all subcontractors with the foregoing requirements as to carrying insurance shall not relieve the contractor and all subcontractors of their liabilities provisions of the contract.
- 16.5. Contractual and other liability insurance provided under this contract shall not contain a supervision, inspection or engineering services exclusion that would preclude the County from supervising and/or inspecting the project as to the end result. The contractor shall assume all on-the-job responsibilities as to the control of persons directly employed by it and of the subcontractors.
- 16.6. Nothing contained in the specifications shall be construed as creating any contractual relationship between any subcontractor and the County. The contractor shall be as fully responsible to the County for the acts and omissions of the subcontractors and of persons employed by them as it is for acts and omissions of person directly employed by it.
- 16.7. Precaution shall be exercised at all times for the protection of persons (including employees) and property.
- 16.8. The Contractor and all subcontractors are to comply with the Occupational Safety and Health Act of 1970, Public Law 91-596, as it may apply to this contract.
- 16.9. The County of Fairfax, its employees and officers shall be named as an additional insured in the Automobile and General Liability policies and it shall be stated on the Insurance Certificate with the provision that this coverage is primary to all other coverage the County may possess.

7. The Cost Proposal (Appendix D) Microsoft Excel spreadsheet is available on the Fairfax County Solicitation Web page towards the top of the page.
8. Refer to Attachment 1 for answers to questions received on or before September 19, 2016.
9. Refer to Attachment 3 for the Attendance Sheets for the pre-proposal conference held on September 7, 2016.

All other terms and conditions remain the same.



Jamie Pun, VCO, CPPB
Contract Specialist II

THIS ADDENDUM IS ACKNOWLEDGED AND IS CONSIDERED A PART OF THE SUBJECT REQUEST FOR PROPOSAL:

AT&T Corp.

Name of Firm



(Signature)

December 15, 2016

(Date)

A SIGNED COPY OF THIS ADDENDUM MUST BE INCLUDED IN THE TECHNICAL PROPOSAL OR RETURNED PRIOR TO DUE DATE/TIME.

Note: SIGNATURE ON THIS ADDENDUM DOES NOT SUBSTITUTE FOR YOUR SIGNATURE ON THE ORIGINAL PROPOSAL DOCUMENT. THE ORIGINAL PROPOSAL DOCUMENT MUST BE SIGNED.

Attachment 1

Q1: Calvert County, MD and St. Mary's County, MD are included in Part 2 and they are traditionally not part of the National Capital Region (NCR). How were they selected to be included in Part 2?

A1: **Maryland members of the NCR worked with leadership from these two counties to seek their participation and approval. The region has briefed the Maryland Emergency Number Systems Board (ENSB) who has been provided with the request for proposals (RFP) and is supportive of the approach of the NCR.**

Q2: What will determine if the Cost Proposals will be viewed?

A2: **Refer to paragraph 15.2 on page 6 of the Special Provisions. Based upon the preliminary review of the technical proposals, the cost proposals of the highest rated offeror(s) will then be reviewed.**

Q3: How will the awarded Respondent contract with each of the participating NCR jurisdictions?

A3: **Other participating NCR jurisdictions will use the Terms & Conditions that are established through the contract negotiation. It will then be up to the other jurisdictions to establish their own contract with the successful offeror.**

Q4: Will each jurisdiction be able to negotiate their own Terms & Conditions?

A4: **Refer to paragraph 28.4 on page 13 of the Special Provisions. Participating public bodies have the option of executing a separate contract with the successful offeror. Participating public bodies may add terms and conditions required by statute, ordinances, and regulations, to the extent that they do not conflict with the resultant contract's terms and conditions.**

Q5: Is pricing excluded from the process of individual jurisdictions negotiating their own Terms & Conditions?

A5: **Yes, pricing is excluded. Refer to paragraph 28.1 on page 12 of the Special Provisions. The resultant contract may be extended to other public bodies at the same prices and/or discounts.**

Q6: Will the Selection Advisory Committee (SAC) consist of other jurisdictions in the NCR?

A6: **The requested information cannot be disclosed at this time.**

Q7: How many jurisdictions are completely committed to the NGCS/ESInet RFP?

A7: **All jurisdictions listed in *Attachment A: NCR PSAP Data for Proposed ESInet and NGCS* are committed to use the successful offeror's solution and this commitment had been made verbally. During the September 9, 2016 Metropolitan Washington Council of Governments (MWCOC) 9-1-1 Directors meeting, it was announced that the MWCOC is developing a NG9-1-1 Memorandum of Understanding (MOU) to foster regional participation for NG9-1-1 procurements and other larger regional interoperability initiatives.**

Attachment 1

Q8: Will all jurisdictions be on the ESInet solution resulting from this procurement?

A8: Yes. All participants listed in Part A and Part B of Attachment A have indicated that they plan to be a part of the Contractor's ESInet/NGCS solution.

Q9: Is November 4, 2016 is a firm due date?

A9: Yes. However, the due date is subject to change. Any change would be formally made via an Addendum to the RFP which will be published on the Fairfax County Solicitation Web page.

Q10: What are the details regarding the \$400,000 funding referenced in Section 7.1?

A10: The \$400,000 is available funding to support one-time fees for the Part A PSAPs. No payment can be made at contract award. A service must be delivered in order for a vendor to be paid after contract award.

Q11: Is the funding is a commitment to that dollar amount (\$400,000)?

A11: The reference to the \$400,000 is background information for potential offerors to consider.

Q12: If there are additional questions provided between now and 5 days prior to the due date, will Fairfax County provide answers prior to the 3-day cut-off?

A12: Yes, the County will provide answers via issuance of addenda no later than three days before the date set for receipt of proposals.

Q13: For questions asked this week (September 5, 2016), when can the vendors expect for answers to be provided?

A13: The first Addendum should be provided within a couple weeks of the Pre-Proposal Conference.

Q14: Is there a specific schedule for deploying the selected solution?

A14: The NCR does not have a firm date for completion. The jurisdictions expect the offerors to clearly detail their deployment approach and risks associated with their approach. The NCR desires a safe and calculated migration plan. The migration to NG9-1-1 must be seamless and without fail.

Q15: Ref. Pre-Proposal Conference Cover Page, Section 2.2 – Pre-Proposal Conference, and Section 10 – Contact for Contractual Matters.

Question: Should we send questions to ji.pun@fairfaxcounty.gov or dpsmteam1@fairfaxcounty.gov?

A15: To dpsmteam1@fairfaxcounty.gov with a copy to ji.pun@fairfaxcounty.gov.

Q16: Will questions be answered as they are received?

A16: Yes, via an Addenda

Attachment 1

Q17: Should questions arise during the preparation of our response, what is the deadline for presenting questions and what can we expect the turn-around time to be for obtaining answers?

A17: Questions must be submitted no later than five days before the due date of the solicitation (Ref. Para. 20 of Appendix A). The addenda containing the answers will be issued no later than three days before the due date of the solicitation.

Q18: Ref. Appendix C – Technical Requirements, Attachment A – NCR PSAP Data for Proposed ESInet and NGCS

Question: Please provide the street address information to allow for accurate ESInet pricing.

A18: Due to security concerns for the region's PSAPs, offerors seeking address information for PSAP locations should send a request to ji.pun@fairfaxcounty.gov.

Q19: Ref. Appendix C – Technical Requirements, Attachment A – NCR PSAP Data for Proposed ESInet and NGCS

Question: Can Fairfax County provide the specific street addresses for the PSAPs that are list in Appendix C, Attachment A?

A19: See A18.

Q20: Ref. Appendix C – Technical Requirements, Attachment A – NCR PSAP Data for Proposed ESInet and NGCS

Question: Please indicate the number of T1 and DS0 circuits currently terminated from the service providers at the legacy selective routers. These metrics are necessary for the proper sizing of the ingress solution.

A20: Offerors should exercise their experience in ESInet/NGCS deployments of similar size (population per PSAP, positions, CAMA trunks, etc.) to design their solution provided the information in Attachment A of Appendix C.

Q21: Ref. Appendix C, Section 4.10.1.10 – Legacy Network Gateway (LNG)

Question: Regarding the requirement, "The LNG shall support star codes as defined in NENA 08-003," support for this feature can only be found in the LPG sections of NENA 08-003. Please clarify the intent of this requirement.

A21: The requirement has been updated in Appendix C – Technical Requirements to clarify its intent. It now reads "The Legacy Selective Router Gateway (LSRG) shall support star code transfers made by legacy PSAPs for calls destined for NCR PSAPs or to neighboring legacy PSAPs outside of the Contractor's ESInet."

Q22: Ref. Appendix C, Section 4.10.2.5 – Legacy PSAP Gateway (LPG)

Question: Regarding the requirement, "The LPG shall convert all incoming 9-1-1 calls to SIP calls in accordance with the requirements of NENA 08-003," does this mean incoming calls from the PSAP CPE or the ESInet? The majority of incoming calls to the LPG are SIP calls from the ESInet.

A22: The requirement has been updated in Appendix C – Technical Requirements to clarify its intent. It now reads read "The LPG shall convert outbound call transfers to SIP in accordance with the requirements of NENA 08-003."

Attachment 1

Q23: Ref. Appendix C, Section 4.10.4.2 Emergency Service Routing Proxy (ESRP) and Policy Routing Function (PRF)

Question: The second sentence in the requirement states, "The ECRF interacts with the PRF to determine the next hop of a call or event." Did you mean ESRP, not ECRF?

A23: Yes. ESRP was what was intended to be stated here. The requirement has been updated to clarify its intent.

Q24: Ref. Appendix C, Section 4.10.5.9 – Emergency Call Routing Function (ECRF)

Question: Regarding the bullet "Compliance to NENA 02-010 and NENA 02-014," is this a requirement to support the MSAG Conversion Service (MCS)?

A24: Yes.

Q25: We request that the final questions due date be 10 business days in advance of the solicitation due date and answers to questions be received 5 business days to allow offerors adequate time to incorporate any revisions to their technical and cost proposal.

A25: The due date for submitting questions is five days in advance of the due date of the solicitation and the due date for issuing the last addendum is three days in advance of the due date of the solicitation. If an addendum contains material changes that affect or require changes to content of the proposals, the due date will most likely be extended to allow adequate time to address the changes.

Attachment 2

Attachment A: NCR PSAP Data for Proposed ESInet and NGCS

PSAP	PSAP Type*	Street Address	City	ST	ZIP	NPA-NXX	2014 Pop-ulation	# Dis-patched Calls	9-1-1 Call Transfer	Wire-line Trun-ks	Wire-less Trun-ks	# of Work-stations	SR	ALI	CPE
Alexandria Police Department	Pri		Alexandria	VA	22304	703-746	150,575	72,575		12	16	31	Verizon Fairfax/Alexandria	Verizon Richardson/Longmont	Airbus DS Sentinel 3.1
Alexandria PD Backup PSAP	Bckp		Alexandria	VA	22304	703-739	n/a					11	Verizon Fairfax/Alexandria	Verizon Richardson/Longmont	
Alexandria Fire Communications	Sec		Alexandria	VA	22314	703-746	n/a			Assume 4 or less		Assume 4 or less	Verizon Fairfax/Alexandria	Verizon Richardson/Longmont	
Arlington County Emergency Communications Center	Pri		Arlington	VA	22201	703-228	229,164	115,991	28,415	16	16	30	Verizon Fairfax/Alexandria	Verizon Richardson/Longmont	Airbus DS VESTA Meridian 2.2 (SP-4)
Arlington County ECC Backup PSAP	Bckp		Arlington	VA	22201	703-228	n/a					13	Verizon Fairfax/Alexandria	Verizon Richardson/Longmont	Airbus DS VESTA 2.2 SP 4 1000E
Falls Church Police Communications (within Arlington jurisdiction)	Sec		Falls Church	VA	22046	703-248	n/a			Assume 4 or less		Assume 4 or less	Verizon Fairfax/Alexandria	Verizon Richardson/Longmont	Airbus VESTA 4.0
Fairfax County Public Safety Communications Center	Pri (Side A geodiv-rse)		Fairfax	VA	22030	571-350	1,137,538	670,000	37,799	14 (includ-es 4 VoIP)	14	57	Verizon Fairfax/Alexandria	Verizon Richardson/Longmont	Airbus VESTA 6.0
Fairfax County PSCC Alternate PSAP	Bckp (Side B geodiv-rse)		Annandale	VA	22003	703-280	n/a			14 (includ-es 4 VoIP)	14	21	Verizon Fairfax/Alexandria	Verizon Richardson/Longmont	Airbus VESTA 6.0
Fairfax City Police Communications	Sec		Fairfax	VA	22030	703-385	n/a						Verizon Fairfax/Alexandria	Verizon Richardson/Longmont	Remote off Fairfax County
Herndon Police Communications	Sec		Herndon	VA	20170	703-435	n/a	25,013		4		5	Verizon Fairfax/Alexandria	Verizon Richardson/Longmont	Remote off Fairfax County

Attachment 2

PSAP	PSAP Type*	Street Address	City	ST	ZIP	NPA-NXX	2014 Pop-ulation	# Dis-patched Calls	9-1-1 Call Transfer	Wire-line Trun-ks	Wire-less Trun-ks	# of Work-stations	SR	ALI	CPE
Vienna Police Communications	Sec		Vienna	VA	22180	703-255	n/a			Assume 4 or less		Assume 4 or less			Remote off Fairfax County
Fauquier County 9-1-1 Dispatch Center	Pri		Warrenton	VA	20186	540-347	68,248	108,194	NA			7	Verizon Fairfax/Alexandria and Fredericksburg /Winchester	Verizon Richardson/Longmont	Airbus DS VESTA
Manassas City Police Communications	Sec		Manassas	VA	20110	703-257	42,081			Assum e 4 or less		Assume 4 or less			
Manassas Park Police Communications	Sec		Manassas Park	VA	20111	703-361	15,174	21,974		4	0	3	Verizon Fairfax/Alexandria	Verizon Richardson/Longmont	Airbus DS VESTA 2.6
Metropolitan Washington Airport Authority	Pri		Sterling	VA	20166	703-417	120,548					20	Verizon Fairfax/Alexandria	Private ALI and Verizon Richardson/Longmont	Airbus Vesta
Prince William County Public Safety Communications	Pri		Lake Ridge	VA	22192	703-792	446,094	381,865	216	5	5	15	Verizon Fairfax/Alexandria	Verizon Richardson/Longmont	West VIPER A9C 4.0
Prince William County Public Safety Communications Backup PSAP	Bckp		Manassas	VA	20110	703-368	n/a			5	5	8	Verizon Fairfax/Alexandria	Verizon Richardson/Longmont	West VIPER A9C 4.0
Stafford County Sheriffs Communications	Pri		Stafford	VA	22554	540-659	139,992	170,799	17,192	8	10	25	Verizon Fairfax/Alexandria and Fredericksburg /Winchester	Verizon Richardson/Longmont	Emer-gency Call Works

Attachment 2

PSAP	PSAP Type*	Street Address	City	ST	ZIP	NPA-NXX	2014 Pop-ulation	# Dis-patched Calls	9-1-1 Call Transfer	Wire-line Trun-ks	Wire-less Trun-ks	# of Work-stations	SR	ALI	CPE
PART B PSAPs															
Calvert County PSAP	Pri		Prince Frederick	MD	20678	410-535	90,613	34,072				14	Verizon Hyattsville/ Rockville	Verizon Richardson/ Longmont	Airbus DS VESTA
Calvert County Backup PSAP	Bckp		Prince Frederick	MD	20678	410-535							Verizon Hyattsville/ Rockville	Verizon Richardson/ Longmont	Airbus DS VESTA
Charles County 9-1-1 Communications Center	Pri		La Plata	MD	20646	301-609	154,747	35,607		4	4	16	Verizon Hyattsville/ Rockville	Verizon Richardson/ Longmont	Airbus DS VESTA 2.2
Charles County 9-1-1 Communications Backup PSAP	Bckp		La Plata	MD	20646	301-934	n/a			4	2	4	Verizon Hyattsville/ Rockville	Verizon Richardson/ Longmont	Airbus DS VESTA 2.2
Frederick County Emergency Operations Center	Pri		Frederick	MD	21701	301-600	243,675	324,824	651	8	12	28	Verizon Pikesville/ Ellicott City	Verizon Richardson/ Longmont	Airbus VESTA 6.0
Frederick County Emergency Operations Center Backup PSAP	Bckp		Frederick	MD	21701	301-662	n/a			8	12	18	Verizon Pikesville/ Ellicott City	Verizon Richardson/ Longmont	
Frederick Police Department	Sec		Frederick	MD	21701	301-694	n/a			Assume 4 or less		Assume 4 or less			
Montgomery County Police Communications Center	Pri		Gaithersburg	MD	20878	301-869	1,030,447	354,468	135,714	18	20	41	Verizon Hyattsville/ Rockville Verizon Southwest/ Anacostia	Verizon Richardson/ Longmont	Intrado VIPER ICC/ Power911
Montgomery County Police Communications Center Backup PSAP	Bckp		Rockville	MD	20850	301-217	n/a			19	20	32	Verizon Hyattsville/ Rockville Verizon Southwest/ Anacostia	Verizon Richardson/ Longmont	Intrado VIPER ICC/ Power911
Takoma Park Police (within Montgomery)	Sec		Takoma Park	MD	20912	301-270	n/a			Assume 4 or less		Assume 4 or less			Remote off Montgom

Attachment 2

PSAP	PSAP Type*	Street Address	City	ST	ZIP	NPA-NXX	2014 Pop-ulation	# Dis-patched Calls	9-1-1 Call Transfer	Wire-line Trun-ks	Wire-less Trun-ks	# of Work-stations	SR	ALI	CPE
County jurisdiction)															ery County
Prince Georges County Emergency Communications Center	Pri		Bowie	MD	20715	301-333	904,430	1,367,591	66,031	20	17	76	Verizon Hyattsville/ Rockville	Verizon Richardson/ Longmont	Airbus DS VESTA 6.0
Prince Georges County Emergency Communications Center Backup PSAP	Bckp		Landover	MD	20785	301-324	n/a			20	13	43	Verizon Hyattsville/ Rockville	Verizon Richardson/ Longmont	Airbus DS VESTA 6.0
St. Mary's County	Pri		Leonardtown	MD	20650	301-475	110,382	15,650				14	Verizon Hyattsville/ Rockville	Verizon Richardson/ Longmont	VESTA 2.2
St. Mary's County Backup PSAP	Bckp		Leonardtown	MD	20650	301-475							Verizon Hyattsville/ Rockville	Verizon Richardson/ Longmont	

* PSAP TYPE LEGEND: Pri = Primary; Bckp = Backup; Sec = Secondary

**PRE PROPOSAL CONFERENCE
ATTENDANCE SHEET**

SOLICITATION # RFP2000002010; Next Generation Core Services Solution

DATE: September 7, 2016 at 10:00 a.m.

Individual's Name	Company Name	Telephone Number
Jamie Pun	DEMM	703-324-3653
JONATHAN Soren	M. BAKER INTL.	757-615-8860
Al Krum	Winbourn Consulting	703-584-5358
Amir Dehdashly	Hughes	301-601-2674
Sam Bard	Capgemini	859-797-7176
Zyankato	Motorola Solutions Inc	203.201.8755
Chris Knights	Motorola Solutions	434-989-0757
Guerdy Charles	AT&T	301-956-0585
Jeff Valencia	Contech	410-280-1015
Brian McNally	Contech	410-280-1029
MARY GROGAN	GDIT	703-995-5395
Mark Nicholson	ASHKURN Consulting	301-873-0080
STEPHEN ASHURKOFF	GDIT	571-533-3082
Diamond Chaflawee	NICE	804-436-2321
Raul Rabenhorst	Hughes	301-428-2950
Rick Johnston	West	303-888-5194

**PRE PROPOSAL CONFERENCE
ATTENDANCE SHEET**

SOLICITATION # RFP2000002010; Next Generation Core Services Solution

DATE: September 7, 2016 at 10:00 a.m.

Individual's Name	Company Name	Telephone Number
Dave Schnert	Mission Critical Partners, Inc.	303.476.0719
Judy Doidorf	Fairfax County GIS	571-247-1826
Steve McMurrer	Fairfax County DPSC	571-350-1779
Bob Wolinski	Fx DIT	703-209-8533
Brenda Edmondson	DPSC	571-350-1214
Ken Miller	MICHAEL BAKER	443 223 2582
Rob Clark	ATOS	410 453 6900
CHUCK SACKLEY	ATOS	214 578-7562
Travis Bottiglier	AIRBUS-DS Communications	909-437-9682

**PRE PROPOSAL CONFERENCE
ATTENDANCE SHEET**

SOLICITATION # RFP2000002010; Next Generation Core Services Solution

DATE: September 7, 2016 at 10:00 a.m.

Individual's Name	Company Name	Telephone Number
MARK Scott	WEST CORP	303-888-4636
Bryan Kotin	AT&T	301-529-1536
Juan Carlos Rizo	AT&T	404-769-0612
Justin Regan	Windstream	703-880-1011

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County of Fairfax, Virginia

ADDENDUM

DATE: October 17, 2016

ADDENDUM NO. 2

TO: ALL PROSPECTIVE OFFERORS

REFERENCE: RFP2000002010

TITLE: Next Generation Core Services Solution (NGCS)

DUE DATE/TIME: November 30, 2016 / 2:00 P.M. EST (Revised)

The referenced request for proposal is amended as follows:

1. The due date/time has changed to November 30, 2016 at 2:00 P.M. EST.
2. Reference page 1 of Appendix C, Section 1 Background and Project Scope, third paragraph, first sentence: Change to read "This Next Generation Core Services (NGCS) and ESInet procurement for the NCR consists of 13 primary, 7 secondary, and 10 backup public safety answering points (PSAPs) residing in the State of Maryland and the Commonwealth of Virginia."
3. Reference page 7 of Appendix C, Section 4.2 Standards, second paragraph, second sentence: Change to read "Specifically, the Contractor's solution shall comply with new NGCS and ESInet industry standards within 18 months of ratification of applicable industry standards."
4. Reference page 16 of Appendix C, Section 4.8 Security, Paragraph 2: Delete the paragraph and replace it with "Respondent shall provide a compliance matrix, as outlined in NENA 75-502, NENA NG-SEC Audit Checklist, which identifies whether its proposed solution Complies (C), Does Not Comply (No), or Not Applicable (N/A) to the identified requirement(s) for each audit question, using the instructions provided in Section 3 of NENA 75-502. If N/A is provided, Respondent shall provide an explanation as to why the question is not applicable to the proposed solution."

- ☐ Complies
- ☐ Does Not Comply
- ☐ Not Applicable

Details to support the answer:"

5. Reference page 19 of Appendix C, Section 4.9.1 Security Monitoring and Management, Paragraph 4, first sentence: Change to read "Respondent shall provide details concerning how its proposed solution will provide for security monitoring and management."
6. Reference page 26 of Appendix C, Section 4.9.14 Operational Scenarios, Paragraph 2, second and third sentences: Change to read "On Monday at 12:17 A.M., one of the LNGs experiences a catastrophic failure and is unable to process any calls. In a review of Monday's logs, it is found that the surviving LNG processed only 14,000 calls."
7. Reference page 44 of Appendix C, Section 4.10.6 Location Validation Function (LVF), Paragraph 2, second sentence: Change to read "The LIS/LDB shall be allowed to periodically revalidate the civic location information against the GIS data contained within the LVF."
8. Reference page 45 of Appendix C, Section 4.10.7 Spatial Interface (SI), Paragraph 2, first sentence: Change to read "The SI shall convert the GIS data meeting these requirements into the format (data structure and projection) used by the ECRF and LVF. The SI shall provision the formatted data and perform incremental updates, in real-time or near real-time, using a Web feature service."
9. Reference pages 39 thru 40 of Appendix C, Section 4.10.4 Emergency Service Routing Proxy (ESRP) and Policy Routing Function (PRF): Replace the first column of Table 2 with the following. This updated column provides for the updated numbering schema.

Requirement
4.10.4,8.1 Overview
4.10.4,8.2 Call Queueing
4.10.4,8.3 Queue State Event Package
4.10.4,8.4 De-queue Registration Event Package
4.10.4,8.5 Policy Routing Function
4.10.4,8.6 ESRP Notify Event Package
4.10.4,8.7 INVITE Transaction Processing
4.10.4,8.8 BYE Transaction Processing
4.10.4,8.9 CANCEL Transaction Processing
4.10.4,8.10 OPTIONS Transaction Processing

Requirement
4.10.4,8.11 Upstream Call Interface
4.10.4,8.12 Downstream Call Interface
4.10.4,8.13 ECRF Interface
4.10.4,8.14 Location Information Server (LIS) Dereference Interface
4.10.4,8.15 Additional Data Interfaces
4.10.4,8.16 ESRP, PSAP, Call-Taker State Notification and Subscriptions
4.10.4,8.17 Time Interface
4.10.4,8.18 Logging Interface
4.10.4,8.19 Data Structures
4.10.4,8.20 Policy Elements
4.10.4,8.21 Provisioning

10. Reference page 69 of Appendix C, Attachment A: NCR PSAP Data for Proposed ESInet and NGCS: Delete Attachment A: NCR PSAP Data for Proposed ESInet and NGCS and replace it with Attachment 2 (revised version of Attachment A).
11. Reference page 78 of Appendix C, Attachment C: Requirements Compliance Summary: Delete Attachment C: Requirements Compliance Summary and replace it with Attachment 3 (revised version of Attachment C). The numbering schema has been updated and Sections 4.3,12 and 4.3,13 were updated to reflect their response type.
12. Refer to Attachment 1 for answers to questions received from September 20, 2016 through October 4, 2016.
13. Below are links to mandatory terms and conditions of Montgomery County, Maryland. These terms and conditions will apply to any contract being extended to Montgomery County, Maryland, upon completion of this solicitation process. These terms and conditions will not apply to the resultant contract between Fairfax County and the Contractor.

PMMD 45 – General Conditions of Contract Between County & Contractor (for Montgomery County, MD)

<https://www.montgomerycountymd.gov/PRO/Resources/Files/General/PMMD-45.pdf>

PMMD 91 - Minority-Owned Business Addendum to General Conditions of Contract Between County and Contractor (for Montgomery County, MD)

www.montgomerycountymd.gov/PRO/Resources/Files/SolForm/PMMD-91.pdf

PMMD 65 – Montgomery County, Maryland, Minority, Female, Disabled Person Subcontractor Performance Plan

www.montgomerycountymd.gov/PRO/Resources/Files/SolForm/PMMD-65.pdf

Mandatory Insurance Requirements (for Montgomery County Maryland)

<http://www.montgomerycountymd.gov/POL/Resources/Files/PDF/Informal/MANDATORY%20MINIMUM%20INSURANCE%20REQUIREMENTS%20Next%20Generation%20Core%20Services.pdf>

All other terms and conditions remain the same.



Jamie Pun, VCO, CPPB
Contract Specialist II

THIS ADDENDUM IS ACKNOWLEDGED AND IS CONSIDERED A PART OF THE SUBJECT REQUEST FOR PROPOSAL:

AT&T Corp.

Name of Firm



(Signature)

December 15, 2016

(Date)

A SIGNED COPY OF THIS ADDENDUM MUST BE INCLUDED IN THE TECHNICAL PROPOSAL OR RETURNED PRIOR TO DUE DATE/TIME.

Note: SIGNATURE ON THIS ADDENDUM DOES NOT SUBSTITUTE FOR YOUR SIGNATURE ON THE ORIGINAL PROPOSAL DOCUMENT. THE ORIGINAL PROPOSAL DOCUMENT MUST BE SIGNED.

Attachment 1

Q1: Can you please grant an extension for this bid?

A1: **The RFP due date has been extended to November 30, 2016. See RFP Amendments above.**

Q2: Ref. Appendix C, Section 4.10.3 Border Control Function (BCF)

Question: For [paragraphs] #7 and #11 below, these are confusing questions can you please clarify?

7. The Contractor's BCF solution shall support transcoding of Baudot tones to real-time text, as described in IETF RFC 4103.

11. The Respondent shall provide details on how its proposed SBC shall be capable of populating the Layer 3 headers, based on call/session type (e.g., 9-1-1 calls) in order to facilitate priority routing of the packets.

A2: **As elements of published standards, clarification may be found in NENA 08-003, or its recent update STA-010.2.**

Q3: For this question 4.11.1 we do not have the current call volume we only have dispatched calls which is different can you please provide?

A3: **Call volume, workstation and trunk data has been updated and/or verified in Attachment A to Appendix C.**

Q4: Please confirm the call volumes in Attachment A. Are these call volumes monthly or annual?

A4: **See A3.**

Q5: Can you please provide the number of originating service provider trunks for the PSAPS in each phase?

A5: **The NCR requested this data from its 9-1-1 Service Provider and was informed that this information cannot be made available to the jurisdictions.**

Offerors should exercise their experience in ESInet/NGCS deployments of similar size (population per PSAP, positions, CAMA trunks, etc.) to design their solution provided the information in Attachment A of Appendix C.

Q6: Please provide the number of primary and secondary psaps for each of the sites listed for Part and part B. (We have the total counts of these in Attachment A but are unable to associate which PSAPs are associated to which others.)

A6: **See updated Attachment A. Secondary PSAPs now have their Primary PSAP listed after the Secondary PSAP's name. Offerors should take note that Secondary PSAPs with "Remote off [x] County" are served by CPE hosted by the named county. These secondary PSAPs would not be directly connected to the ESInet.**

Additionally, while listed as Secondary PSAPs, Manassas City and Manassas Park receive some wireline calls directly. These two PSAPs have wireless calls transferred to them by Fairfax County, Prince William County, and potentially others. Metropolitan Washington Airport Authority also only receives wireless 911 calls through transfers.

Attachment 1

Q7: Please provide the number of concurrent calls allowable per site in part a and part b.

A7: The number of concurrent calls allowable per site is provided in the updated Attachment A of Appendix C provided in this addendum.

Q8: In requirement 4.8. SECURITY It states:

"2. Respondent shall provide a compliance matrix, as outlined in NENA 75-502, NENA NG- SEC Audit Checklist, which identifies whether its proposed solution Complies (C), Complies Partially (CP), Complies with Future Capability (CFC) or Does Not Comply (DNC) to the identified requirement(s) for each audit question, using the instructions provided in Section 3 of NENA 75-502."

In the section 3 instructions for NENA 75-502 and in the matrix itself, the user is given the following three choices: C for "comply," No for "does not comply" or not applicable (N/A).

Do you want responders to use the responses as given in 4.8.2 or those in NENA 75-502 section 3 and the matrix?

A8: The RFP requirement has been updated to require offerors to provide Complies, Does Not Comply (No), or Not Applicable (N/A). See RFP amendments above.

Q9: In regards to question 4.9.1, 4 which reads "Respondent shall provide details concerning how it provides security monitoring and management for similar solutions. Respondent shall provide details, including drawings, which explain how its proposed solution meets or exceeds the above requirements."

Is it your intent for the responder to explain security monitoring and management for the solution that is being offered in this response – an ESInet solution? Or is it your intention to have the respondent explain that detail for a different "similar" solution?

A9: The RFP requirement has been updated to require offerors to provide details how it will provide security monitoring and management for its proposed solution. See RFP amendments above.

Q10: Ref. RFP Section 5.4.3

Question: Could the NCR identify which specific forms/documents are required in response to this requirement?

A10: Offeror's forms or agreements such as SLA (Service Level Agreement), SOW (Scope/Statement of Work), Maintenance Agreements, Software Agreements, Change Order forms, etc., as applicable and modified to comply with terms and conditions of the RFP, which the offeror will require the County to accept and agree to prior to completion of negotiations, if the offeror is selected to move forward to the negotiations phase.

Q11: Ref. Appendix A, Section 33 Termination of Contract for Clause

Question: It is unusual for there not to be a cure period before a termination for cause is issued to the Contractor. Will the NCR consider a reasonable period of time for the Contractor to cure the problem(s) that is causing the concern?

A11: If an exception needs to be taken to this provision, please clearly identify it and state the reason for taking the exception in a separate section in the proposal. The County will consider it during negotiations, if the offeror taking the exception is selected to move forward to the negotiations phase. Please note that Appendix A contains general terms and conditions specific to Fairfax County only. Other participating

Attachment 1

jurisdictions may have differing mandatory terms and conditions required by statute, ordinances, and regulations that may apply to contracts being extended to those participating jurisdictions of NCR upon completion of this RFP process.

Q12: Ref. Appendix C, Section 4.2 Standards

Question: It is possible that as a standard becomes ratified there are no technical vendor solutions available within the 12-month timeline. Would the NCR consider revising this statement to allow time for hardware and software solutions to become available?

A12: Attachment C has been amended to an 18-month timeframe. The NCR seeks to contract with a vendor partner who will be contributing to and shaping industry standards as they are being developed. This should position such a partner to meet an 18-month timeline for solution delivery. Offerors may suggest alternative solutions in their proposals.

Q13: Ref. Appendix C, Section 4.3.13 Network

Question: Could the NCR please provide detailed performance, capacity and utilization information on each PSAP as applied to this requirement?

A13: Offerors should exercise their experience in ESnet/NGCS deployments of similar size (population per PSAP, positions, call volume, CAMA trunks, etc.) to design their solution provided the information in Attachment A of Appendix C.

Q14: Ref. Appendix C, Sections 4.7.1.1 Data Center Locations, 4.7.2 Data Center Requirements, and 4.7.3 Cabinets and Power Distribution

Question: These requirements appear oriented to mandating the physical design, location and capabilities of the Data Centers including sizing and performance and usage. Is it sufficient to meet the requirements if the Respondent's Data Centers meet Tier 3 standards?

A14: No. Offerors should note that the NCR is not mandating the location of the data centers, but do state their desires. Q14 does not fulfill the NCR's requirements for functionality such as power distribution monitoring requirements (e.g., SNMP).

Q15: Ref. Appendix C, Section 4.9.1.1 Security Monitoring and Management,

Question: Does the NCR have specific "public safety network security guidelines" that Contractors should reference (e.g. NIST, CSA, NENA)? If so, please provide.

A15: No. Offerors are encouraged to describe their solution and the security standards and best practices to which they adhere.

Q16: Ref. Appendix C, Section 4.9.13 Third-Party Management,

Question: It is not clear what responsibility Third-Party NOC/SOC will have or what level of support they will be providing.

- a. Will Third-Party NOC/SOC providers be held liable for SLA compliance?
- b. What contractual relationship is envisioned between the Prime Contractor and Third-Party NOC/SOC?

A16: a. No.

b. If the NCR elects to procure services from a third-party NOC/SOC, then the NCR anticipates that there would only be a contractual relationship between the NCR and the third-party NOC/SOC.

Attachment 1

- Q17: Ref. Appendix C, Section 4.9.14,2 Operational Scenarios
Questions: A) When did the LNG experience a catastrophic failure? B) One could assume that the surviving LNG did not process 6,000 active calls entering the NCR ESInet. Is this the proper assumption?
- A17: **A) The referenced operational scenario has been amended to read “On Monday at 12:17 A.M., one of the LNGs experiences a catastrophic failure and is unable to process any calls. In a review of Monday’s logs, it is found that the surviving LNG processed only 14,000 calls.”**
B) Offerors shall make and state their own assumptions.
- Q18: Ref. Appendix C, Section 4.9.14,3 Operational Scenarios
Question: Should it be assumed the change to the centerline data has been uploaded to the LDB?
- A18: **Offerors shall make and state their own assumptions.**
- Q19: Ref. Appendix C, Section 4.10.8.1 Location Database (LDB)
Question: The RFP indicates the LDB is to provide a NG9-1-1 HELD interface, as well as two other interfaces: legacy ALI and ALI Query Service (AQS). A) Is the AQS interface intended to support legacy CPE? As all CPE can support a legacy ALI interface, it seems unnecessary to support the additional interface. B) As such, is it possible that the legacy interface be provided to this CPE using only the legacy ALI interface and not AQS? C) If AQS is required, please provide a use case.
- A19: **A) No. Within the LDB, the AQS allows for support of different query keys, such as SIP URL, allowing query keys beyond "NPA NXX TN". AQS is used in several LDB functions, including mapping of fields between legacy formats and NG formats, as documented in Appendix A of the recently released NENA-STA-010.2-2016.**
B) No. AQS is used for other functions beyond “support of legacy CPE”. AQS allows querying for location of reference, such as an MCP or VPC, and allows location information to be used in a mixed NG9-1-1 and E9-1-1 environment.
C) Transitional Data Element Use Cases may be found in Appendix A of the recently released NENA-STA-010.2-2016 and in the NENA NG9-1-1 Transition Plan Considerations Information Document, NENA-INF-008.2-2013.
- Q20: Ref. Appendix C, Section 4.10.12.1 Applications and Alarm Integration
Questions: Will all alarm and sensor data be IP-based? If not, what format will be used? And with what protocols?
- A20: **The NCR anticipates that initial support for alarms will be provided through similar methods used today (e.g., 10-digit emergency line). However, it is the desire that the NCR’s NGCS and ESInet will provide for IP-based non-human initiated calls via standards-based interfaces and protocols.**
- Q21: Ref. Appendix C, Section 4.11.1 System Capabilities and Performance,
Question: Would the NCR please provide detailed existing utilization and performance figures on all the necessary points to fulfill this requirement?
- A21: **Offerors should exercise their experience in ESInet/NGCS deployments of similar size (population per PSAP, positions, call volume, CAMA trunks, etc.) to design their solution provided the information in Attachment A of Appendix C.**

Attachment 1

Q22: Ref. Appendix C, Section 4.11.7 Incident Severity Level 1 and 2 Violation Damages

Question: Does the NCR have a definition of Severity 1 and 2, or are you looking to the vendor to define?

A22: The NCR is looking for Offerors to propose Severity Levels.

Q23: Ref. Appendix C, Attachment A

Question: For the remote PSAPs indicated in the RFP can you please clarify: 1.) Is the Host CPE for the remotes capable of transitional SIP and/or i3 protocol Traffic? If not, 2.) Do the CAMA Trunks that serve the remote PSAP terminate at the Host CPE Site, or the Remote CPE site

A23: The Host CPE is capable of supporting SIP and other i3 protocols.

Q24: Ref. Appendix C, Section 4.3,3

Question: In order to meet the requirement to indicate if facility construction is required, we will need to perform site surveys. Can the NCR arrange for site visits?

A24: In a future addendum, the NCR will provide a PSAP contact name, phone number and email for each of the sites so that Respondents may work with their networking partners to assess path diversity into each PSAP location.

Q25: [Please provide] the local contact name, number and email for each of the sites that are in scope for the Fairfax ESInet project.

A25: See A24.

Attachment 2

Attachment A: NCR PSAP Data for Proposed ESInet and NGCS

PSAP	PSAP Type*	Street Address	City	ST	ZIP	NPA-NXX	2014 Population	Annual Call 9-1-1 Volume	# of Concurrent Calls	Wire-line Trunks	Wire-less Trunks	# of Work-stations	SR	ALI	CPE
Alexandria Police Department	Pri		Alexandria	VA	22304	703-746	150,575	144,248	23	12	16	23	Verizon Fairfax/Alexandria	Verizon Richardson/Longmont	Airbus DS Sentinel 3.1
Alexandria PD Backup PSAP	Bckp		Alexandria	VA	22304	703-739	n/a		11	6	6	11	Verizon Fairfax/Alexandria	Verizon Richardson/Longmont	
Arlington County Emergency Communications Center	Pri		Arlington	VA	22201	703-228	229,164	115,991	30	32 (includes 16 VoIP)	16	30	Verizon Fairfax/Alexandria	Verizon Richardson/Longmont	Airbus DS VESTA Meridian 2.2 (SP- 4)
Arlington County ECC Backup PSAP	Bckp		Arlington	VA	22201	703-228	n/a		13	16 (includes 8 VoIP)	8	13	Verizon Fairfax/Alexandria	Verizon Richardson/Longmont	Airbus DS VESTA 2.2 SP 4 1000E
Falls Church Police Communications (Associated with Arlington County)	Sec		Falls Church	VA	22046	703-248	n/a	5,288	2	4		2	Verizon Fairfax/Alexandria	Verizon Richardson/Longmont	Airbus VESTA 4.0
Fairfax County Public Safety Communications Center	Pri (Side A geodiversion)		Fairfax	VA	22030	571-350	1,137,538	414,065	39 (Includes Fairfax, Herndon, Vienna and Backup)	14 (includes 4 VoIP)	14	57	Verizon Fairfax/Alexandria	Verizon Richardson/Longmont	Airbus VESTA 6.1
Fairfax County PSCC Alternate PSAP	Bckp (Side B geodiversion)		Annandale	VA	22003	703-280	n/a		39 (Includes Fairfax, Herndon, Vienna and Primary)	14 (includes 4 VoIP)	14	21	Verizon Fairfax/Alexandria	Verizon Richardson/Longmont	Airbus VESTA 6.1
Fairfax City Police Communications (Associated with	Sec		Fairfax	VA	22030	703-385	n/a	4,580		4		4	Verizon Fairfax/Alexandria	Verizon Richardson/Longmont	Remote off Fairfax County

Respondents should take note that Secondary PSAPs with “Remote off [x] County” are served by CPE hosted by the named county. These secondary PSAPs would not be directly connected to the ESInet. Additionally, while listed as Secondary PSAPs, Manassas City and Manassas Park receive some wireline calls directly. These two PSAPs have wireless calls transferred to them by Fairfax County, Prince William County, and potentially others. Metropolitan Washington Airport Authority also only receives wireless 911 calls through transfers.

Attachment 2

PSAP	PSAP Type*	Street Address	City	ST	ZIP	NPA-NXX	2014 Population	Annual Call 9-1-1 Volume	# of Concurrent Calls	Wire-line Trunks	Wire-less Trunks	# of Work-stations	SR	ALI	CPE
Fairfax County)															
Herndon Police Communications (Associated with Fairfax County)	Sec		Herndon	VA	20170	703-435	n/a	2,629		4		4	Verizon Fairfax/Alexandria	Verizon Richardson/Longmont	Remote off Fairfax County
Vienna Police Communications (Associated with Fairfax County)	Sec		Vienna	VA	22180	703-255	n/a	1,337		4		3	Verizon Fairfax/Alexandria	Verizon Richardson/Longmont	Remote off Fairfax County
Fauquier County 9-1-1 Dispatch Center	Pri		Warrenton	VA	20186	540-347	68,248	25,380	7	8	6	7	Verizon Fairfax/Alexandria and Fredericksburg /Winchester	Verizon Richardson/Longmont	Airbus DS VESTA
Manassas City Police Communications (Associated with Prince William County)	Sec		Manassas	VA	20110	703-257	42,081	7,855	5	5	0	5			
Manassas Park Police Communications (Associated with Prince William County)	Sec		Manassas Park	VA	20111	703-361	15,174	21,974	3	4	0	3	Verizon Fairfax/Alexandria	Verizon Richardson/Longmont	Airbus DS VESTA 2.6
Metropolitan Washington Airport Authority	Pri		Sterling	VA	20166	703-417	120,548	9,235	12	6		12	Verizon Fairfax/Alexandria	Private ALI and Verizon Richardson/Longmont	Airbus Vesta
Prince William County Public Safety Communications	Pri		Lake Ridge	VA	22192	703-792	446,094	381,865	15	5	5	15	Verizon Fairfax/Alexandria	Verizon Richardson/Longmont	West VIPER A9C 4.0
Prince William County Public Safety Communications Backup PSAP	Bckp		Manassas	VA	20110	703-368	n/a		8	5	5	8	Verizon Fairfax/Alexandria	Verizon Richardson/Longmont	West VIPER A9C 4.0
Stafford County Sheriffs Communications	Pri		Stafford	VA	22554	540-659	139,992	50,447	18	8	10	25	Verizon Fairfax/Alexandria and Fredericksburg /Winchester	Verizon Richardson/Longmont	Emergency Call Works

Respondents should take note that Secondary PSAPs with “Remote off [x] County” are served by CPE hosted by the named county. These secondary PSAPs would not be directly connected to the ESInet. Additionally, while listed as Secondary PSAPs, Manassas City and Manassas Park receive some wireline calls directly. These two PSAPs have wireless calls transferred to them by Fairfax County, Prince William County, and potentially others. Metropolitan Washington Airport Authority also only receives wireless 911 calls through transfers.

Attachment 2

PSAP	PSAP Type*	Street Address	City	ST	ZIP	NPA-NXX	2014 Population	Annual Call 9-1-1 Volume	# of Concurrent Calls	Wire-line Trunks	Wire-less Trunks	# of Work-stations	SR	ALI	CPE
Calvert County PSAP	Pri		Prince Frederick	MD	20678	410-535	90,613	34,072	15	6	6	15	Verizon Hyattsville/ Rockville	Verizon Richardson/ Longmont	Airbus DS VESTA
Calvert County Backup PSAP	Bckp		Prince Frederick	MD	20678	410-535			9	6	6	9	Verizon Hyattsville/ Rockville	Verizon Richardson/ Longmont	Airbus DS VESTA
Charles County 9-1-1 Communications Center	Pri		La Plata	MD	20646	301-609	154,747	35,607	8**	4	4	16	Verizon Hyattsville/ Rockville	Verizon Richardson/ Longmont	Airbus DS VESTA 2.2
Charles County 9-1-1 Communications Backup PSAP	Bckp		La Plata	MD	20646	301-934	n/a		4**	4	2	4	Verizon Hyattsville/ Rockville	Verizon Richardson/ Longmont	Airbus DS VESTA 2.2
Frederick County Emergency Operations Center	Pri		Frederick	MD	21701	301-600	243,675	126,185	20	8	12	28	Verizon Pikesville/ Ellicott City	Verizon Richardson/ Longmont	Airbus VESTA 6.0
Frederick County Emergency Operations Center Backup PSAP	Bckp		Frederick	MD	21701	301-662	n/a		20	8	12	18	Verizon Pikesville/ Ellicott City	Verizon Richardson/ Longmont	
Montgomery County Police Communications Center	Pri		Gaithersburg	MD	20878	301-869	1,030,447	551,873	60	18	20	56	Verizon Hyattsville/ Rockville Verizon Southwest/ Anacostia	Verizon Richardson/ Longmont	Intrado VIPER ICC/ Power911
Montgomery County Police Communications Center Backup PSAP	Bckp		Rockville	MD	20850	301-217	n/a		60	19	20	39	Verizon Hyattsville/ Rockville Verizon Southwest/ Anacostia	Verizon Richardson/ Longmont	Intrado VIPER ICC/ Power911
Takoma Park Police (Associated with Montgomery County)	Sec		Takoma Park	MD	20912	301-270	n/a		Incorporated in Montgomery number	4		3			Remote off Montgomery County
Prince Georges County Emergency Communications	Pri		Bowie	MD	20715	301-333	904,430	1,367,591	37	17	20	77	Verizon Hyattsville/ Rockville	Verizon Richardson/ Longmont	Airbus DS VESTA 6.0

Respondents should take note that Secondary PSAPs with “Remote off [x] County” are served by CPE hosted by the named county. These secondary PSAPs would not be directly connected to the ESInet. Additionally, while listed as Secondary PSAPs, Manassas City and Manassas Park receive some wireline calls directly. These two PSAPs have wireless calls transferred to them by Fairfax County, Prince William County, and potentially others. Metropolitan Washington Airport Authority also only receives wireless 911 calls through transfers.

Attachment 2

PSAP	PSAP Type*	Street Address	City	ST	ZIP	NPA-NXX	2014 Pop-ulation	Annual Call 9-1-1 Volume	# of Concurr-ent Calls	Wire-line Trun-ks	Wire-less Trun-ks	# of Work-stations	SR	ALI	CPE
Center															
Prince Georges County Emergency Communications Center Backup PSAP	Bckp		Landover	MD	20785	301-324	n/a		23	13	20	43	Verizon Hyattsville/ Rockville	Verizon Richardson/ Longmont	Airbus DS VESTA 6.0
St. Mary's County	Pri		Leonardtown	MD	20650	301-475	110,382	15,650	14	8**	8**	14	Verizon Hyattsville/ Rockville	Verizon Richardson/ Longmont	VESTA 2.2
St. Mary's County Backup PSAP	Bckp		Leonardtown	MD	20650	301-475			8	4**	4**	8**	Verizon Hyattsville/ Rockville	Verizon Richardson/ Longmont	

* PSAP TYPE LEGEND: Pri = Primary; Bckp = Backup; Sec = Secondary
** Unverified data. In process of being confirmed.

Respondents should take note that Secondary PSAPs with “Remote off [x] County” are served by CPE hosted by the named county. These secondary PSAPs would not be directly connected to the ESInet. Additionally, while listed as Secondary PSAPs, Manassas City and Manassas Park receive some wireline calls directly. These two PSAPs have wireless calls transferred to them by Fairfax County, Prince William County, and potentially others. Metropolitan Washington Airport Authority also only receives wireless 911 calls through transfers.

Attachment 3

Attachment C: Requirements Compliance Summary

Requirement	Understood	Complies	Complies Partially	Complies with Future Capability	Does Not Comply	Response Provided
3.1.1,1						
3.1.1,2						
3.1.1,3						
3.2						
3.3						
3.5						
4.1,1						
4.1,2						
4.2						
4.3,1						
4.3,2						
4.3,3						
4.3,4						
4.3,5						
4.3,6						
4.3,7						
4.3,8						
4.3,9						
4.3,10						
4.3,11						
4.3,12						
4.3,13						
4.4,1						
4.4,2						
4.5						
4.6,1						
4.7						
4.7.1,1						
4.7.1,2						
4.7.2						

Attachment 3

Requirement	Understood	Complies	Complies Partially	Complies with Future Capability	Does Not Comply	Response Provided
4.7.3,1						
4.7.3,2						
4.7.4,1						
4.8,1						
4.8,2						
4.8,3						
4.8,4						
4.8,5						
4.8,6						
4.8.1,1						
4.8.1,2						
4.9,1						
4.9,2						
4.9.1,1						
4.9.1,2						
4.9.1,3						
4.9.1,4						
4.9.2						
4.9.3,1						
4.9.3,2						
4.9.4,1						
4.9.4,2						
4.9.5,1						
4.9.5,2						
4.9.5,3						
4.9.6,1						
4.9.6,2						
4.9.7						
4.9.8						
4.9.9						
4.9.10						
4.9.11						
4.9.12						

Attachment 3

Requirement	Understood	Complies	Complies Partially	Complies with Future Capability	Does Not Comply	Response Provided
4.9.13.1						
4.9.13.2						
4.9.13.3						
4.9.13.4						
4.9.13.5						
4.9.13.6						
4.9.14.1						
4.9.14.2						
4.9.14.3						
4.10						
4.10.1.1						
4.10.1.2						
4.10.1.3						
4.10.1.4						
4.10.1.5						
4.10.1.6						
4.10.1.7						
4.10.1.8						
4.10.1.9						
4.10.1.10						
4.10.1.11						
4.10.1.12						
4.10.2.1						
4.10.2.2						
4.10.2.3						
4.10.2.4						
4.10.2.5						
4.10.2.6						
4.10.2.7						
4.10.3.1						
4.10.3.2						
4.10.3.3						
4.10.3.4						

Attachment 3

Requirement	Understood	Complies	Complies Partially	Complies with Future Capability	Does Not Comply	Response Provided
4.10.3,5						
4.10.3,6						
4.10.3,7						
4.10.3,8						
4.10.3,9						
4.10.3,10						
4.10.3,11						
4.10.3,12						
4.10.3,13						
4.10.3,14						
4.10.4,1						
4.10.4,2						
4.10.4,3						
4.10.4,4						
4.10.4,5						
4.10.4,6						
4.10.4,7						
4.10.4,8						
4.10.4,8.1						
4.10.4,8.2						
4.10.4,8.3						
4.10.4,8.4						
4.10.4,8.5						
4.10.4,8.6						
4.10.4,8.7						
4.10.4,8.8						
4.10.4,8.9						
4.10.4,8.10						
4.10.4,8.11						
4.10.4,8.12						
4.10.4,8.13						
4.10.4,8.14						
4.10.4,8.15						

Attachment 3

Requirement	Understood	Complies	Complies Partially	Complies with Future Capability	Does Not Comply	Response Provided
4.10.4.8.16						
4.10.4.8.17						
4.10.4.8.18						
4.10.4.8.19						
4.10.4.8.20						
4.10.4.8.21						
4.10.5.1						
4.10.5.2						
4.10.5.3						
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4.10.5.11						
4.10.5.12						
4.10.6.1						
4.10.6.2						
4.10.6.3						
4.10.6.4						
4.10.6.5						
4.10.7.1						
4.10.7.2						
4.10.7.3						
4.10.7.4						
4.10.8.1						
4.10.8.2						
4.10.9						
4.10.10.1						
4.10.10.2						
4.10.10.3						

Attachment 3

Requirement	Understood	Complies	Complies Partially	Complies with Future Capability	Does Not Comply	Response Provided
4.10.10,4						
4.10.10,5						
4.10.10,6						
4.10.10,7						
4.10.11,1						
4.10.11,2						
4.10.12,1						
4.10.12,2						
4.10.13						
4.11.1						
4.11.2,1						
4.11.2,3						
4.11.2,4						
4.11.2,5						
4.11.2,6						
4.11.2,7						
4.11.2,8						
4.11.2,9						
4.11.2,10						
4.11.3						
4.11.4,1						
4.11.4,2						
4.11.4,3						
4.11.4,4						
4.11.4,5						
4.11.5						
4.11.6						
4.11.7						
4.12,1						
4.12,2						
4.12,3						
4.12,4						
5.1						

Attachment 3

Requirement	Understood	Complies	Complies Partially	Complies with Future Capability	Does Not Comply	Response Provided
5.2						
5.3						
5.4						
5.5						
6.1						
6.2						
6.3						
6.4						
6.5						
7.1						
7.2						
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9.1,1						
9.1,2						
9.2,1						
9.2,2						
9.2,3						
9.2,4						
10						



County of Fairfax, Virginia

ADDENDUM

DATE: November 4, 2016

ADDENDUM NO. 3

TO: ALL PROSPECTIVE OFFERORS

REFERENCE: RFP2000002010

TITLE: Next Generation Core Services Solution (NGCS)

DUE DATE/TIME: November 30, 2016 / 2:00 P.M.

The referenced request for proposal is amended as follows:

1. Reference Page 45 of Appendix C, Section 4.10.7 Spatial Interface (SI), Paragraph 1: Delete the first sentence and replace it with "The SI is responsible for provisioning and updating authoritative GIS data to the ECRF and LVF. It is anticipated that, in the future, the NCR will require the PSAP tactical map display, computer-aided dispatch (CAD) systems, and similar applications that consume GIS data will also receive updates via the SI. However, SI updates to these systems are not required at this time and this capability should not be priced in Respondent's cost proposal."
2. Reference Page 41 of Appendix C, Section 4.10.5 Emergency Call Routing Function, Paragraph 5: Delete the first and second sentences and replace them with "An origination network may use an ECRF, or a similar function within its own network and at its own cost, to determine an appropriate route—equivalent to what would be determined by the authoritative ECRF—to the correct ESInet for the emergency call. Respondent shall describe the functionality of such an ECRF equivalent and document where this functional element resides. The Contractor shall provide a Spatial Interface to authorized entities, such as Origination Networks, to provide for replication of the ECRF for Origination Networks to determine the appropriate ESInet to route calls."
3. Reference Page 42 of Appendix C, Section 4.10.5 Emergency Call Routing Function, Paragraph 9: Delete the "Location Error Correction" bullet point from the list of bullets.
4. Reference Attachment 2 to addendum #3: Contact Information for Site Diversity Investigations has been added to Appendix C (Technical Requirements) as Attachment E.

5. Reference Page 50 of Appendix C, Section 4.10.10 Event Logging and Management Information System (MIS), Paragraph 6, first sentence: Change to read "Contractor is responsible for any third-party software licensing costs and any other associated costs."
6. Reference Attachment A (with Addresses) of Appendix C: The address of Manassas City Police Communications PSAP has been corrected. Please send a request to ji.pun@fairfaxcounty.gov for the revised version of Attachment A with address information.
7. Refer to Attachment 1 for answers to questions received from October 5, 2016 through November 1, 2016.

All other terms and conditions remain the same.



Jamie Pun, VCO, CPPB
Contract Specialist II

THIS ADDENDUM IS ACKNOWLEDGED AND IS CONSIDERED A PART OF THE SUBJECT REQUEST FOR PROPOSAL:

AT&T Corp.

Name of Firm



(Signature)

December 15, 2016

(Date)

A SIGNED COPY OF THIS ADDENDUM MUST BE INCLUDED IN THE TECHNICAL PROPOSAL OR RETURNED PRIOR TO DUE DATE/TIME.

Note: SIGNATURE ON THIS ADDENDUM DOES NOT SUBSTITUTE FOR YOUR SIGNATURE ON THE ORIGINAL PROPOSAL DOCUMENT. THE ORIGINAL PROPOSAL DOCUMENT MUST BE SIGNED.

Attachment 1

Q1: Ref. Appendix C, Section 4.10.5,11

Question: Please define the meaning of “replicas” in this context.

A1: Replica means a replication of the GIS data layers provided by the Offeror’s Spatial Interface. Copies of the GIS data may be permitted by the Offeror’s SI to another authorized element, such as access/origination networks.

Q2: Ref. Appendix C, Section 4.10.5,12

Question: Please provide use cases where the state-level ECRF would need to become authoritative for the NoVA region.

A2: If the region’s ECRF received a query for a service URN of “urn:nena:service:responder.federal_police.pp” for the U.S. Park Police, it may need to refer or recur to a state-level ECRF for determining next-hop URI. Additional use cases may be found in Section 5.3.8 in NENA-STA-010.2-2016.

Q3: Ref. Appendix C, Section 4.10.5,12

Question: Are the terms “replica” and “higher level aggregation” used interchangeably in this instance? If not, please clarify each term.

A3: The aggregation of data at higher-level ECRFs would include aggregating replicas of GIS data sets provided by Spatial Interfaces from more than one regional data set. For example, the NCR’s SI replica aggregated with other regional Virginia replicas that are aggregated by a future, state-level ECRF.

Q4: Ref. Appendix C, Section 4.10.5,12

Question: To help understand the underlying issue to be resolved, please provide an example use case for overload and backup ECRF.

A4: If the region’s ECRF suffered a catastrophic failure, a long-term, future use case would be that a state-level ECRF could provide the next-hop URI as a backup to the regions failed ECRF.

Q5: Ref. Appendix C, Section 4.10.7,1

Question: What tactical map display is each agency using?

A5: The referenced section has been updated to clarify that SI updates to tactical map displays is a future requirement that should not be priced at this time. For future reference, Offerors shall assume that the PSAP’s tactical map display shall be required to support a Spatial Interface (SI) per Appendix B of NENA-STA-010.2-2016 if it is to provision and update GIS data layers from the Offeror’s SI.

Q6: Ref. Appendix C, Section 4.10.7,2

Question: Please confirm the intent is for the SI to provision GIS data to the ECRF/LVF for use when answering LoST requests and not that the intent is for the SI to convert GIS data into the LoST protocol itself.

A6: Addendum 2 updated the referenced requirement to address Q25. It now reads “The SI shall convert the GIS data meeting these requirements into the format (data structure and projection) used by the ECRF and LVF. The SI shall provision the formatted data and perform incremental updates, in real-time or near real-time, using a Web feature service.”

Attachment 1

Q7: Ref. Appendix C, Attachment A

Question: Can you please complete Attachment A? It is incomplete. It is not possible to provide a proper bandwidth calculation without the current number of trunks. i.e. missing the # of trunks at many of the backup sites.

A7: See updated Attachment A provided in Addendum 2.

Q8: Ref. Appendix C, Section 4.4

Question: transfers include the ANI not ALI. A rebid is required for the ALI once transferred can you please clarify this?

A8: Offerors shall describe how their solution supports the delivery of location and caller information when a call transfer is performed.

Q9: Ref. Appendix C, Section 4.10.10, 6

Question: What third party does NCR envision potentially having third party verification fees? Can you please provide examples?

A9: The third party fees might be items proposed by the offeror which Fairfax County does not currently have a license to utilize with its CPE or in its network environment. We are asking for clarity where this might be required. If the contractor is holding all the software license agreements for each of the participating jurisdictions (e.g., for a particular MIS logging tool or for licensing agreements for CISCO routers that will be provided to each jurisdiction) then no licensing agreement might be necessary for each jurisdiction to sign. See modification #5 above.

Q10: Ref. Appendix C, Section 4.10.3,7

Question: this question is a bit confusing. IETF RFC 4103 describes carrying text as a payload through RTP, but does not describe the conversion of Baudot tones to real-time-text. Baudot tones will be converted to SIP by the LNG and will be delivered as such to the CPE or LPG

A10: As an element of published standards, clarification may be found in NENA 08-003, or its recent update STA-010.2-2016.

Q11: Is it possible to provide an executive summary for this bid?

A11: See Appendix C, Section 1 Background and Project Scope.

Q12: Ref. Addendum 1, A3

With respect to Addendum 1 as responded, A3, we understand that the master terms and conditions are being established through this RFP by way of Fairfax County as the procurement agency. While it is also noted that other jurisdictions will establish their own contract and negotiations, it is not clear as to how they will actually procure said services.

Question: Will each County procure from Fairfax County the NGCS as a service, essentially using this master agreement as a Frame Contract, or will each County purchase independently using this as a pre-defined rate card?

A12: Each participating jurisdiction will procure services independently using the terms, conditions, and pricing established for the resultant contract. The resultant contract will be between Fairfax County and the Contractor. Each

Attachment 1

participating jurisdiction will have an option of independently contracting with the contractor using the same terms, conditions, requirements and pricing of the resultant contract upon completion of this RFP process. Each participating jurisdiction will have an option of adding additional terms and conditions required by statute, ordinances, and regulations, to the extent that they do not conflict with the resultant contract's terms and conditions.

Q13: Ref. Addendum 1, A3

Question: Will each MWCOG member county be required to go through their own respective RFP process to procure from this Master Agreement?

A13: No, the competition requirement is being fulfilled by Fairfax County conducting this competitive procurement process on behalf of NCR. Participating jurisdictions of NCR have the option of riding the resultant contract, utilizing the same terms, conditions, specification, and pricing established during this RFP process to procure Next Generation Core Services Solution.

Q14: Ref. Addendum 1, A3

Question: Question #3: Assuming Fairfax County awards to successful bidder independently (i.e. no other MWCOG agencies participate from the start), is it the County's intent to offer its NGCS core as a service to other jurisdictions (fee for service)?

A14: No, each participating jurisdiction is responsible for procuring its services. Fairfax County does not intend to offer its NGCS as a service to other jurisdiction for a fee.

Q15: Ref. Addendum 1, A7

Question: As of the date of solicitation of this RFP, it is understood by bidders that such an agreement does not exist yet. If said MOU is being developed still and is specifically addressing NG9-1-1 procurements, how can bidders be assured that the Terms and Conditions or intent of the existing RFP are able to be extended to said MWCOG regional members? If an agreement for shared NG9-1-1 procurements is not yet in place, what assurance do bidders have that other agencies will in fact be able to utilize the awarded framework via Fairfax County at this stage?

A15: The mentioned MOU is not a governing document for this RFP process. This RFP process is being conducted in accordance with Virginia Public Procurement Act which permits any public body to participate in, sponsor, conduct or administer a joint procurement agreement on behalf of or in conjunction with one or more other public bodies or public agencies or institutions or localities of the United States or its territories for the purpose of combining requirements to increase efficiency or reduce administrative expenses in any acquisition of goods, services, or construction (ref. VPPA, Section 2.2-4304). Also reference Section 28 (Use of Contract by Other Public Bodies) of Special Provisions.

Q16: Ref. Addendum 1, A8

Question: While intent is clear, are these agencies in fact able to participate in a shared NG9-1-1 procurement if the MOU has not yet been agreed upon by MWCOG members?

A16: See A15.

Attachment 1

Q17: Ref. Addendum 1, A14

Question: With respect to Addendum 1, A14, it is understood as to there being no stated or pre-defined timeline for deployment of the NGCS solution. As the majority of the NCR is served by Verizon currently via their 9-1-1 network assets and it is widely known that any serving site containing a DMS-100 EOL, there is a possibility that certain PSAPs in the region could be impacted by an end of service / end of support date. Are any of the Verizon serving locations (Tandem or Central Offices) utilizing said DMS-100's and, if so, are any of the NCR PSAPs on an EOL / EOS deadline?

A17: Yes, Verizon operates DMS-100 selective routers in the NCR. Verizon has not provided an end-of-life or end-of-service notice to any PSAPs within the NCR.

Q18: Ref. Attachment A

Question: Will the County provide bidders with current (2015) call volume information for inbound call traffic, including 9-1-1 and administrative calls, for all PSAPs in the NCR?

A18: 9-1-1 call volume was verified and/or updated in Attachment A provided in Addendum 2. The NGCS and ESInet will not be managing administrative calls, therefore this call volume has not been provided in Attachment A.

Q19: With respect to the existing SI (Spatial Interface) project discussed at the pre-bid conference, it is understood that this project will have substantive impact on the NGCS project bid herein. As this project is being led by GDIT (who is also the current CPE service provider in Fairfax County) and was in attendance at the pre-bid per Addendum 1 sign in sheet, there could be a perceived inequitable advantage held by said firm with respect to leveraging existing deployments and technologies in the region. Will the County amend the RFP to require any incumbent provider of NG9-1-1 service elements to disclose these in their respective pricing submissions, with instructions to the evaluation team to evaluate costs for all providers from a position of "cost neutrality"? This will ensure all bidders (including incumbents) are given equal stakes and not erroneously scored based on any existing project overlaps which should not pertain to this RFP.

A19: No. Amending the RFP is not necessary. The end result of the current SI project is that each of the individual jurisdiction's GIS data will utilize a common, standards-based GIS data model with highly accurate data layers that is ready for integration with the selected NGCS vendor's solution. As a standards-based data model, the current SI vendor has no competitive advantage over potential Offerors to this RFP. The evaluation team will conduct a fair, thorough, and balanced evaluation of the submitted proposals in accordance with all procurement guidelines and the stated evaluation criteria.

Q20: With respect to the above and the fact that all bidders require accurate details as to incoming call volumes as stated in Question #7 [Q18], and that the County has stated there is no urgent pressing date to complete deployment for this project, it is in the best interests of all to have ample time to design and cost once said information is received. In lieu of the aforementioned, will the County grant a three (3) week extension to the proposal due date so bidders can capture the call volumes and details critical to their solution and most favorable pricing options to the region?

Attachment 1

A20: Addendum 2 extended the due date from November 4, 2016 to November 30, 2016. No additional extension is being considered at this time.

Q21: Ref. Appendix C, Section 4.5

Although the text refers to an MPLS handoff, it is our understanding that the network connections (circuits) are not required as we have been asked to provide a one-time fee.

A) Is this understanding correct? B) Is the requirement for the interface and interoperability testing only?

A21: A) No. The Contractor will be required to provide MPLS network connectivity to West's Miami, Florida, and Englewood, Colorado data centers. Any potential monthly recurring fees should be rolled into a one-time fee. B) The requirement is to mutually establish network connectivity with West, mutually develop an interoperability specification, mutually conduct interoperability testing, and maintain the interface and connection for production call transfers as the system demands for the term of the services.

Q22: Ref. Appendix C, Section 4.10.5 Emergency Call Routing Function, Paragraph 5.

Question: The ECRF utilized by the Origination Network would typically set outside of the ESInet serving the NCR. Does the question suggest that the vendor must supply access to the NCR ECRF or stand up a separate ECRF for Origination Networks to access for the purpose of introducing calls into the NCR ESInet? Can you please include a use case to help clarify the request?

A22: The referenced requirement has been amended as documented in this Addendum above. The Contractor shall provide a Spatial Interface to authorized entities, such as Origination Networks, to provide for replication of the ECRF for Origination Networks to determine the appropriate ESInet to route calls.

Q23: Ref. Appendix C, Section 4.10.5 Emergency Call Routing Function, Paragraph 9.

Question: What is meant by "Location Error Correction"? Data corrections would be accepted via the Spatial Interface. The ECRF supports Gap/Overlap detection and reporting, but would not be expected to correct errors with the locations themselves. That should always flow from the authoritative GIS provider.

A23: The referenced requirement has been updated to delete "Location Error Correction" from the list of bullets.

Q24: In order to properly provision an ESInet and NG Core Services to manage the call volumes of Fairfax County and the National Capital Region, it is necessary to understand the expected call volumes and the peak load periods. Based on this, can Fairfax County provide the monthly call volumes of each PSAP that is a part of this procurement, at a minimum for the last year, best case scenario over the last three years?

A24: Offerors shall use the information provided in Attachment A to Appendix C to design its bandwidth requirements for their proposed solutions.

Attachment 1

Q25: Ref. Appendix A, Section 59 Partial Payments

Question: The clause states that up to 5% of the value of the entire order may be retained until completion of the contract. Should this apply under an as-a-service type contract? If so, how would the retainage be withheld?

A25: During the negotiations phase, a mutually agreed-upon payment schedule may be established to specify frequency and/or the dates of the payments. The issue of partial payments will be addressed during the negotiations phase.

Q26: Ref. Addendum 2, Attachment 1 Questions and Answers.

Question: Your answer to Question 11 instructs bidders to identify and state the reason for taking a particular exception in a separate section in the proposal, and states that the County will consider it during negotiations. Does this answer pertain only to Question 11 or is it acceptable to identify and state the reason for taking exception to other provisions? Will taking exception(s) have any effect on the consideration of offers?

A26: Whether or not to take an exception to a requirement of a RFP is a decision to be made by the offeror responding to the RFP. Exceptions to specifications or requirements that have been categorized into any of the evaluation criteria may negatively impact the score for that criteria. Exceptions to general terms and conditions contained in Appendix A most likely will not affect the initial evaluations (which will be based on the evaluation criteria and weighting specified in paragraph 15.6.c, Special Provisions) and will not come into play until the negotiations phase.

Q27: Ref. Special Provisions, Section 7.1 -Part A

Question: Counties have indicated a limitation of grant funding of \$400,000. Does that mean that \$400,000 is the maximum amount the Part A Counties have in total for Non-Recurring Cost(NRC) and that any amount above that needs to be calculated into the Monthly recurring cost? Or does that just mean that the \$400,000 is the portion coming from grant funding and that the vendor should bid the appropriate NRC by county and that any amount above the \$400,000 for the Virginia Counties will come from other funding sources.

A27: The \$400,000 is provided as information on the grant funding available for payment of non-recurring fees for Part A. Offerors should propose the total non-recurring fees regardless if they are less than or surpass the \$400,000 in grant funding.

Q28: Ref. Special Provisions Section 7.3

- a) What other counties and/ or states is the contractor to consider when supplying prices by population or by PSAP beyond Virginia and Maryland?
- b) Based on the fact that there are multiple variables (legacy network/CPE and operational differences) for each state or region, can the NCR recommended pricing structure that can be used by these additional locales?

A28: a) Offerors should only consider Maryland and Virginia.

b) The NCR requests that pricing structures be provided as monthly recurring fees based on population per primary PSAP for NGCS. Understanding that there are undefined variables that affect ESInet connectivity, the NCR requests that a high/low range for monthly recurring fee of MPLS connectivity is provided. Similarly, the NCR requests a high/low range for non-recurring fees per PSAP.

Attachment 1

Q29: Ref. Special Provisions, Section 7.1 -Part A

Question: Please clarify if the \$400,000 up-front funding is available to be **spread across / divided by** the 9 Part A PSAPs (\$44,444.44) or is it **available for each** Part A PSAP ($9 \times 400,000 = \$3,600,000$)?

A29: The \$400,000 grant funding is the total amount available for all Part A PSAPs and it would be divided between each jurisdiction. Please see A27 for additional information.

Q30: Ref. Appendix D Cost Proposal

Question: There are 2 Secondary PSAPs on the cost worksheet. However, there are 5 other secondary PSAP's that are not on the worksheet (Total of 7 Secondary PSAPs). All Secondary PSAP's are clearly noted in their relation to respective Primary PSAPs. However, why are 2 Secondary PSAP's on the Cost Worksheet, and the other 5 Secondary PSAP's not on the cost worksheet? What is the difference in these 2 secondary PSAP's and reason for being on the Cost Worksheet?

A30: The two secondary PSAPs listed in the Cost Proposal are their own jurisdiction and will be responsible for their own costs. The other five secondary PSAPs fall under the jurisdiction of a Primary PSAP that will be responsible for the costs of their respective secondary PSAPs. Offerors should take note that the secondary PSAPs of Fairfax Police Communications, Herndon Police Communications, Vienna Police Communications, and Takoma Park Police are served by CPE hosted by the county in which they reside and as shown in Attachment A. These secondary PSAPs would not be directly connected to the ESInet. The Cost Proposal has been updated to indicate that the backup and secondary PSAP costs should be rolled into its jurisdiction's cost line items.

Q31: Please provide a definition to determine the difference between a "Secondary PSAP" and a "Back Up PSAP" in terms of the type of equipment and/or connections that are required and differentiate the two classifications.

A31: Per [NENA Glossary](#) a secondary PSAP is "a PSAP to which 9-1-1 calls are transferred from a Primary PSAP." Secondary PSAPs have their own CPE or are hosted by a primary PSAP's CPE as noted in Attachment A and in A30. A backup PSAP is the site that takes the calls destined for the primary PSAP when they are unable to answer calls at the primary PSAP due to an evacuation or a system issue. In the NCR, backup PSAPs are currently not typically staffed unless an issue arises, but they are exercised on a regular basis. Backup PSAPs have their own CPE as noted in Attachment A.

Q32: Is the respondent responsible for providing the circuit Connections between the Primary and Secondary and/or Back Up PSAPs? Who is responsible for installing, managing and monitoring the circuit connections between the Primary and/or Secondary PSAP's.

A32: Individual jurisdictions are responsible for the network connectivity for host and remote CPE configurations. For example, Fairfax County's primary and backup sites have connectivity to Fairfax City, Herndon and Vienna. Similarly, Montgomery County's primary and backup locations have existing connectivity to Takoma Park. Offerors shall install, manage and monitor network connectivity to:

Attachment 1

- Alexandria Police Department
- Alexandria PD Backup
- Arlington County ECC
- Arlington County ECC Backup
- Falls Church PC
- Fairfax County PSCC
- Fairfax County PSCC Alternate
- Fauquier County 9-1-1
- Manassas City PC
- Manassas Park PC
- Metropolitan Washington Airport Authority
- Prince William County PSC
- Prince William County PSC Backup
- Stafford County Sheriffs Communications
- Calvert County
- Calvert County Backup
- Charles County 9-1-1
- Charles County 9-1-1 Backup
- Frederick County EOC
- Frederick County EOC Backup
- Montgomery County PCC
- Montgomery County PCC Backup
- Prince George's County ECC
- Prince George's County ECC Backup
- St. Mary's County
- St. Mary's County Backup

Q33: Ref. Appendix C, Section 4.10.9 Discrepancy Reporting

Question: You reference Section 4.9 of NENA 08-003. That does not exist. Could it be Section 4.7 "Discrepancy Reporting?" Please confirm.

A33: Section 4.9 of NENA 08-003 is Discrepancy Reporting. Discrepancy Reporting is found in Section 4.7 of NENA-STA-010.2.

Q34: Ref. Special Provisions, Section 5.4 Statement of Qualifications, paragraph (d) and Appendix C, Section 6 Project Management and On-going Client Management Services, paragraph 3

Question: Special Provisions Section 5.4 states the following: "A staffing plan is required which describes the Offeror's proposed staff distribution to accomplish this work. "

Attachment 1

In Paragraph #3 of section 6 of Appendix C it states the following: “3. Respondent shall provide a description of each team member’s role and their anticipated amount of time dedicated to the project. Respondent shall describe key team members’ experience in managing and implementing projects of similar size and scope.”

Please confirm if paragraph #3 of section 6 in the RFP will satisfy the “staffing plan” requirement in the special provisions section of RFP 2000002010.

A34: No, paragraph 3 of Section 6 will not satisfy the staffing plan. While similar, the referenced requirements have unique characteristics and remain as written.

Q35: Ref. Appendix C, Attachment A

Question: In the Amendment, two PSAPs on version 1 and 2 no longer appear. They are Alexandria Fire Communications and Frederick PD. Can you please explain why or how would you like us to respond?

A35: The amended Attachment A provides an accurate list of PSAPs participating in this project. The referenced PSAPs are no longer to be considered a part of this project.

Attachment 2

Attachment E: Contact Information for Site Diversity Investigations

PSAP	Contact Name	Contact Phone	Contact Email
Alexandria Police Department	Bob Bloom	703.746.1891	Robert.bloom@alexandriava.gov
Alexandria PD Backup PSAP	Bob Bloom	703.746.1891	Robert.bloom@alexandriava.gov
Arlington County Emergency Communications Center	Jeff Horwitz	571-238-1369	jhorwitz@arlingtonva.us
Arlington County ECC Backup PSAP	Jeff Horwitz	571-238-1369	jhorwitz@arlingtonva.us
Falls Church Police Communications (Associated with Arlington County)	Jamal Mathews	703-248-5413	jmathews@fallschurchva.gov
Fairfax County Public Safety Communications Center	Steve McMurrer	(571) 350-1779	Steve.mcmurrer@fairfaxcounty.gov
Fairfax County PSCC Alternate PSAP	Steve McMurrer	(571) 350-1779	Steve.mcmurrer@fairfaxcounty.gov
Fairfax City Police Communications (Associated with Fairfax County)	Not Applicable; See Fairfax	Not Applicable; See Fairfax	Not Applicable; See Fairfax
Herndon Police Communications (Associated with Fairfax County)	Not Applicable; See Fairfax	Not Applicable; See Fairfax	Not Applicable; See Fairfax
Vienna Police Communications (Associated with Fairfax County)	Not Applicable; See Fairfax	Not Applicable; See Fairfax	Not Applicable; See Fairfax
Fauquier County 9-1-1 Dispatch Center	Joell Kight	540-422-8643	joell.kight@fauquiercounty.gov
Manassas City Police Communications (Associated with Prince William County)	Brent Heilman		bheilman@ci.manassas.va.us
Manassas Park Police Communications (Associated with Prince William County)	Donald Spady	703-335-0027	d.spady@manassasparkva.gov
Metropolitan Washington Airport Authority	Rodger Spahr	703-572-8369	rodger.spahr@mwaa.com
Prince William County Public Safety Communications	James (Jimmy) Scanlon Or Michele Surdam	Jimmy: 540-840-8533 or Michele: 703-209-3111	James.scanlo@motorolasolutions.com Or Msurdam@pwcgov.org
Prince William County Public Safety Communications Backup PSAP	James (Jimmy) Scanlon Or Michele Surdam	Jimmy: 540-840-8533 or Michele: 703-209-3111	James.scanlo@motorolasolutions.com Or Msurdam@pwcgov.org
Stafford County Sheriffs Communications	Capt. Ray Davis	540-658-4962	raydavis@staffordcountyva.gov
Calvert County PSAP	Yvette Myers	410.535.3491	myersya@co.cal.md.us
Calvert County Backup PSAP	Yvette Myers	410.535.3491	myersya@co.cal.md.us
Charles County 9-1-1 Communications Center	Tony Rose	301-609-3550	roset@charlescountymd.gov
Charles County 9-1-1 Communications Backup PSAP	Tony Rose	301-609-3550	La Plata
Frederick County Emergency Operations Center	Greg Orr	301-600-1670	gorr@frederickcountymd.gov
Frederick County Emergency Operations Center Backup PSAP	Greg Orr	301-600-1670	gorr@frederickcountymd.gov
Montgomery County Police Communications Center	Charlie Schwab	(240) 773-7025	Charles.Schwab@montgomerycountymd.gov

Attachment 2

PSAP	Contact Name	Contact Phone	Contact Email
Montgomery County Police Communications Center Backup PSAP	Charlie Schwab	(240) 773-7025	Charles.Schwab@montgomerycountymd.gov
Takoma Park Police (Associated with Montgomery County)	Not Applicable; see above	Not Applicable; see above	Not Applicable; see above
Prince Georges County Emergency Communications Center	Joe Armentrout	301-352-2006	gchv87@motorolasolutions.com
Prince Georges County Emergency Communications Center Backup PSAP	Joe Armentrout	301-352-2006	gchv87@motorolasolutions.com
St. Mary's County	Bob Kelly	301-475-4200 X1013	bob.kelly@stmarysmd.com
St. Mary's County Backup PSAP	Bob Kelly	301-475-4200 X1013	bob.kelly@stmarysmd.com

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County of Fairfax, Virginia

ADDENDUM

DATE: November 15, 2016

ADDENDUM NO. 4

TO: ALL PROSPECTIVE OFFERORS

REFERENCE: RFP2000002010

TITLE: Next Generation Core Services Solution (NGCS)

DUE DATE/TIME: **December 15, 2016 / 2:00 P.M. (Revised)**

The referenced request for proposal is amended as follows:

1. The due date/time has changed to December 15, 2016 at 2:00 P.M. EST.
2. Reference Attachment A (with Addresses) of Appendix C: The address of Calvert County's Primary PSAP has been corrected. Please send a request to ji.pun@fairfaxcounty.gov for the revised version of Attachment A with address information.
3. Reference Appendix D (ESInet NGCS Cost Proposal): Replace Appendix D with Attachment 2 (revised version of Appendix D) to this addendum. The titles of some jurisdictions have been revised. (example: Fairfax County, VA is now shown as "Fairfax County, VA (includes Primary, Backup, and 3 Secondaries)"). See A11. The Excel version of the revised Appendix D is also available on the Fairfax County Solicitation Web page: [Appendix D Cost Proposal \(Excel Document\)](#) **[Updated]**.
4. Refer to Attachment 1 for answers to questions received from November 2, 2016 thru November 11, 2016.

All other terms and conditions remain the same.



Jamie Pun, VCO, CPPB
Contract Specialist II

THIS ADDENDUM IS ACKNOWLEDGED AND IS CONSIDERED A PART OF THE SUBJECT REQUEST FOR PROPOSAL:

AT&T Corp.

Name of Firm



(Signature)

December 15, 2016

(Date)

A SIGNED COPY OF THIS ADDENDUM MUST BE INCLUDED IN THE TECHNICAL PROPOSAL OR RETURNED PRIOR TO DUE DATE/TIME.

Note: SIGNATURE ON THIS ADDENDUM DOES NOT SUBSTITUTE FOR YOUR SIGNATURE ON THE ORIGINAL PROPOSAL DOCUMENT. THE ORIGINAL PROPOSAL DOCUMENT MUST BE SIGNED.

Attachment 1

Q1: Whether companies from Outside USA can apply for this? (like from India or Canada)

A1: **The RFP is open to Offerors who comply with the terms and conditions outlined in the Special Provisions, Appendices, and associated Attachments. Potential Offerors should take note of Section 31 of Special Provisions and Sections 65 and 66 of Appendix A.**

Q2: Whether we need to come over there for meetings?

A2: **Fairfax County anticipates that the project will require a mixture of face-to-face meetings in Fairfax County and/or the surrounding area, as well as teleconference calls and web conferences. The proposal evaluation committee will be limited to domestic site visits should site visits become part of the evaluation process.**

Q3: Can we perform the tasks (related to RFP) outside USA? (like, from India or Canada)

A3: **Fairfax County anticipates that some tasks will be performed remotely while others will require on-site and/or regional coordination.**

Q4: Can we submit the proposals via email?

A4: **No. The requirements for proposal submission may be found in Special Provisions Section 12.**

Q5: Please advise what the awarded ESInet provider can expect to receive as a result of the project initiated in January 2016 to develop a common GIS dataset across the region. For example, in terms of the overall transition from the project currently underway to the NGCS project, will the awarded vendor be provided a complete regional dataset for load into the ESInet? Will complete workflows with a regional understanding of the workflows be in place? Further, at what point does NCR expect the awarded vendor will step in during the transition period between the current project and the NGCS project—after the conclusion of the current project? Prior to the conclusion?

A5: **The result of the referenced spatial interface development project will provide the jurisdictions with a common, standards-based GIS data model with highly accurate data layers that is ready for integration with the selected NGCS vendor's solution. Jurisdictions will have standard operating procedures (SOP) or workflows in place that enable the maintenance of the data layers, but it is anticipated that these SOPs may need to be slightly adjusted to accommodate the NGCS provider's solution. The then current data set would become available to the selected NGCS vendor upon contract execution. Fairfax County or its designee will work with the NGCS Contractor and the current spatial interface project vendor to coordinate a transition of data development and management with a completion of that transition no later than May 31, 2018.**

Q6: Ref. NCR Requirements RFP_Attachment A_with Addresses_27OCT2016v3

Question: Could you please confirm the addresses for Calvert County PSAP and Charles County 9-1-1 Communications Center. They are both listed with the same address.

A6: **The Calvert County PSAP address has been updated on the file RFP Attachment A_with Addresses_08NOV2016v4. This file will be sent to potential Offerors that have previously requested the file. Additionally, the file will be made available to other potential offerors who have not yet requested the file.**

Attachment 1

Q7: Ref. Addendum 3 Questions 27 and 29. A27: "Offerors should propose the total non-recurring fees regardless if they are less than or surpass the \$400,000 in grant funding." A29: "The \$400,000 grant funding is the total amount available for all Part A PSAPs and it would be divided between each jurisdiction."

Question: Is the \$400,000 in grant funding the only funding the Part A jurisdictions have for the NCR NGCS and ESInet Services contract? If not, what is the total funding available for NCR for the Part A jurisdictions?

A7: Total funding available for the Part A jurisdictions will not be provided. Offerors are encouraged to provide their most competitive fees.

Q8: Ref. Appendix C, Section 3.1.1.2 and 3.1.1.3 - Responses to Each Requirement

Question: When sample or reference material (reports, plans, 11x17 foldout drawings, resumes, etc.) is asked for, especially when such material is several pages long, is it acceptable for respondents to attach these materials at the end of the document rather than insert these materials several times over several responses? We believe this approach would result in a document that is more streamlined and easier to read and evaluate.

A8: Yes. The proposed layout approach is acceptable.

Q9: Ref. Addendum 3, Q/A32

Question: We understand from Q/A 32 on Addendum 3 the list of locations where we shall install, manage and monitor network connectivity. Please confirm whether Terminating Equipment is needed (installed, managed and maintained) at the Back Up and/or Secondary Locations where network connectivity is terminated"

A9: Yes. Offerors are to provide turn-key network connectivity, including all termination equipment, up to the demarcation point of the PSAP's CPE router.

Q10: Please send the updated Appendix D cost worksheet referenced in Addendum 3, Q30 A30?

A10: The updated Appendix D has been uploaded to www.fairfaxcounty.gov/solicitation

Q11: Does the cost worksheet in Appendix D need to be updated to reflect the list of sites in Addendum 3, Q32 A32 response?

A11: The updated Appendix D spreadsheet describes all of the relationships between each jurisdiction and the primary, backup, and secondary PSAPs that are associated with the jurisdiction. No additional updates should be required. Offerors should roll up the costs to that single line item. For example, Fairfax County fees (cells C16 and C17) would include the ESInet costs for connecting the Primary and Backup locations and the NGCS fees for the Primary, Backup, and 3 secondary locations. Similarly, Montgomery County fees (cells C58 and C59) would include the ESInet costs for connecting the Primary and Backup locations and the NGCS fees for the Primary, Backup and 1 secondary PSAP. In both situations, the individual network connectivity to the primary and backup location should provide enough bandwidth to accommodate serving all locations, e.g., Fairfax Backup location should have the bandwidth to serve the primary location, Vienna, Fairfax City and Herndon as should the primary location.

Appendix D
ESInet NGCS Cost Proposal

RESPONDENT INSTRUCTIONS: Offeror shall enter its name in cell C5 and C82. Offeror shall enter a Monthly Recurring Fee and One Time Fee (if applicable) for each NCR Jurisdiction. The Annual Recurring Fee will autopopulate based on the Monthly Recurring Fee entered by Offeror.

[RESPONDENT NAME]	
Part A ESInet & NGCS	
City of Alexandria, VA (includes Primary and Backup)	
One Time Fee	\$ -
Monthly Recurring Fee	\$ -
Annual Recurring Fee	\$ -
Arlington County, VA (includes Primary and Backup)	
One Time Fee	\$ -
Monthly Recurring Fee	\$ -
Annual Recurring Fee	\$ -
Fairfax County, VA (includes Primary, Backup, and 3 Secondaries)	
One Time Fee	\$ -
Monthly Recurring Fee	\$ -
Annual Recurring Fee	\$ -
Fauquier County, VA	
One Time Fee	\$ -
Monthly Recurring Fee	\$ -
Annual Recurring Fee	\$ -
City of Manassas, VA	
One Time Fee	\$ -
Monthly Recurring Fee	\$ -
Annual Recurring Fee	\$ -
Manassas Park, VA	
One Time Fee	\$ -

Appendix D
ESInet NGCS Cost Proposal

Monthly Recurring Fee	\$ -
Annual Recurring Fee	\$ -
Metropolitan Washington Airport Authority, VA	
One Time Fee	\$ -
Monthly Recurring Fee	\$ -
Annual Recurring Fee	\$ -
Prince William County, VA (includes Primary and Backup)	
One Time Fee	\$ -
Monthly Recurring Fee	\$ -
Annual Recurring Fee	\$ -
Stafford County, VA	
One Time Fee	\$ -
Monthly Recurring Fee	\$ -
Annual Recurring Fee	\$ -
Part A Total Fees	\$ -
Part B ESInet & NGCS	
Calvert County, MD (includes Primary and Backup)	
One Time Fee	\$ -
Monthly Recurring Fee	\$ -
Annual Recurring Fee	\$ -
Charles County, MD (includes Primary and Backup)	
One Time Fee	\$ -
Monthly Recurring Fee	\$ -
Annual Recurring Fee	\$ -
Frederick County, MD (includes Primary and Backup)	
One Time Fee	\$ -
Monthly Recurring Fee	\$ -
Annual Recurring Fee	\$ -
Montgomery County, MD (includes Primary, Backup, and Secondary)	
One Time Fee	\$ -
Monthly Recurring Fee	\$ -

Appendix D
ESInet NGCS Cost Proposal

Annual Recurring Fee	\$ -
Prince George's County, MD (includes Primary and Backup)	
One Time Fee	\$ -
Monthly Recurring Fee	\$ -
Annual Recurring Fee	\$ -
St. Mary's County, MD (includes Primary and Backup)	
One Time Fee	\$ -
Monthly Recurring Fee	\$ -
Annual Recurring Fee	\$ -
Part B Total Fees	\$ -
Interconnection to D.C. & Loudoun County	
Interconnection to D.C. One Time Fee	
Interconnection to Loudoun County One Time Fee	
ESInet and NGCS Grand Total Costs	\$ -
SCORE	0

Optional pricing sheet shown below

	[RESPONDENT NAME]	
Optional Services		
Alarm Integration		
One Time Fee	\$	-
Monthly Recurring Fee	\$	-
3rd Party NOC/SOC Access		
One Time Fee	\$	-
Monthly Recurring Fee	\$	-

Appendix D
ESInet NGCS Cost Proposal

Other NG9-1-1 Applications	
One Time Fee	\$ -
Monthly Recurring Fee	\$ -
Integration of Secondary Military PSAPs	
One Time Fee	\$ -
Monthly Recurring Fee	\$ -
Bandwidth Upgrade (to accommodate 25% increase in call volume)	
One Time Fee	\$ -
Monthly Recurring Fee	\$ -
Text to 9-1-1 MSRP Integration	
One Time Fee	\$ -
Monthly Recurring Fee	\$ -
Non-Terrestrial Transport	
One Time Fee	\$ -
Monthly Recurring Fee	\$ -
[Optional Service]	
One Time Fee	\$ -
Monthly Recurring Fee	\$ -
[Optional Service]	
One Time Fee	\$ -
Monthly Recurring Fee	\$ -
[Optional Service]	
One Time Fee	\$ -
Monthly Recurring Fee	\$ -
TOTAL COST	
	\$ -



County of Fairfax, Virginia

ADDENDUM

DATE: November 29, 2016

ADDENDUM NO. 5

TO: ALL PROSPECTIVE OFFERORS

REFERENCE: RFP2000002010

TITLE: Next Generation Core Services Solution (NGCS)

DUE DATE/TIME: **December 15, 2016 / 2:00 P.M.**

The referenced request for proposal is amended as follows:

1. Reference Page 56 of Appendix C, Section 4.11.3 SLAs for Incident Management:
Delete this section and replace it with "It is expected that the Contractor will have processes and procedures for supporting a NOC/SOC that can rapidly triage calls. In the absence of reasonably proposed processes, the Contractor shall meet, at a minimum, the following requirements for tracking, responding to, and reporting on network and system outages or failures:
 - Severity Level 1 incidents responded to within 30 minutes and resolved within four hours of detection
 - Severity Level 2 incidents responded to within 30 minutes and resolved within eight hours of detection
 - Severity Level 3 incidents responded to within eight hours and resolved within 48 hours
 - Severity Level 4 incidents responded to within 16 hours and resolved within 96 hours

These severity levels are defined as follows:

Severity 1 Incident

An incident shall be categorized as a "Severity 1 Incident" if the incident is characterized by the following attributes: the incident (a) renders a business-critical system, service, software, equipment or network component unavailable or substantially unavailable, or

seriously impacts normal business operations, in each case prohibiting the execution of productive work, and (b) affects either (i) a group or groups of people, or (ii) a single individual performing a critical business function.

Severity 2 Incident

An incident shall be categorized as a “Severity 2 Incident” if the incident is characterized by the following attributes: the incident (a) does not render a business-critical system, service, software, equipment or network component unavailable or substantially unavailable, but a function or functions are not available, substantially available, or functioning as they should, in each case prohibiting the execution of productive work, and (b) affects either (i) a group or groups of people, or (ii) a single individual performing a critical business function.

Severity 3 Incident

An incident shall be categorized as a “Severity 3 Incident” if the incident is characterized by the following attributes: the incident causes a group or individual to experience an incident with accessing or using a system, service, software, equipment or network component or a key feature thereof and a reasonable workaround is not available, but does not prohibit the execution of productive work.

Severity 4 Incident

An incident shall be categorized as a “Severity 4 Incident” if the incident is characterized by the following attributes: the incident may require an extended resolution time, but does not prohibit the execution of productive work and a reasonable workaround is available.

- ☐ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:”

2. Reference Page 59 of Appendix C, Section 4.11.7 Incident Severity Level 1 and 2 Violation Damages: Change the title to read “Incident Severity Level 1 and 2 Credits”.
3. Reference Page 59 of Appendix C, Section 4.11.7 Incident Severity Level 1 and 2 Violation Damages: Delete this section and replace it with “Contractor shall provide a monetary credit of the monthly recurring fee (MRF) to the NCR and its respective specified agencies, as applicable, for each event in which service levels are not maintained. The NCR expects that all of the Contractor’s network devices and services will perform at a level equal to 99.999 percent uptime measured on a rolling, 12-month

calendar. Failure to meet service levels shall be measured per service-affecting outage. Respondent shall include how uptime information will be gathered, analyzed and provided to NCR.

Contractor shall meet the following requirements for tracking, responding to, and reporting on network and system outages or failures:

- Severity Level 1 incidents responded to within 30 minutes and resolved within four hours of detection.
- Severity Level 2 incidents responded to within 30 minutes and resolved within eight hours of detection.

The following severity levels are defined as follows:

Severity Level 1 Incident

An incident shall be categorized as a "Severity 1 Incident" if the incident is characterized by the following attributes: the incident (a) renders a business-critical system, service, software, equipment or network component unavailable or substantially unavailable, or seriously impacts normal business operations, in each case prohibiting the execution of productive work, and (b) affects either (i) a group or groups of people, or (ii) a single individual performing a critical business function.

Severity Level 2 Incident

An incident shall be categorized as a "Severity 2 Incident" if the incident is characterized by the following attributes: the incident (a) does not render a business-critical system, service, software, equipment or network component unavailable or substantially unavailable, but a function or functions are not available, substantially available, or functioning as they should, in each case prohibiting the execution of productive work, and (b) affects either (i) a group or groups of people, or (ii) a single individual performing a critical business function.

For Severity Level 1 and 2 incidents, a 10-percent credit of the monthly recurring fee (MRF) shall be due to the NCR and its respective agencies, as applicable when the initial period of resolution is exceeded. If the resolution period length of time doubles, then the credit shall increase to 20 percent of the MRF. If the resolution period length of time quadruples the initial period, then 50 percent of the MRF shall be credited. The credited amount shall be included on the invoice of each affected NCR jurisdiction the month immediately following the violation."

- ☐ Complies
- ☐ Complies Partially
- ☐ Complies with Future Capability
- ☐ Does Not Comply

Details to support the answer:"

4. Reference Page 26 of Special Provisions, Appendix A: Fairfax County DEPARTMENT OF INFORMATION TECHNOLOGY IT Services Provider CONSULTANT/CONTRACTOR AGREEMENT CONCERNING ACCESS TO AND USE OF INFORMATION SYSTEMS AND COMMUNICATIONS TECHNOLOGY AT FAIRFAX COUNTY, VIRGINIA: Delete it and replace it with Attachment 2 of this addendum.
5. Refer to Attachment 1 for the answer to the question received after November 11, 2016.

All other terms and conditions remain the same.



Jamie Pun, VCO, CPPB
Contract Specialist II

THIS ADDENDUM IS ACKNOWLEDGED AND IS CONSIDERED A PART OF THE SUBJECT REQUEST FOR PROPOSAL:

AT&T Corp.
Name of Firm



(Signature)

December 15, 2016
(Date)

A SIGNED COPY OF THIS ADDENDUM MUST BE INCLUDED IN THE TECHNICAL PROPOSAL OR RETURNED PRIOR TO DUE DATE/TIME.

Note: SIGNATURE ON THIS ADDENDUM DOES NOT SUBSTITUTE FOR YOUR SIGNATURE ON THE ORIGINAL PROPOSAL DOCUMENT. THE ORIGINAL PROPOSAL DOCUMENT MUST BE SIGNED.

Attachment 1

- Q1: The offeror would like to provide description optional services listed on the pricing sheet. Does Fairfax have a preferred method for submitted these descriptions or can we submit them as an attachment to the pricing sheet?
- A1: **As an attachment to the pricing sheet but separate each optional services as a separate attachment.**

Attachment 2

Fairfax County DEPARTMENT OF INFORMATION TECHNOLOGY

IT Services Provider CONSULTANT/CONTRACTOR AGREEMENT

CONCERNING ACCESS TO AND USE OF INFORMATION SYSTEMS and COMMUNICATIONS TECHNOLOGY AT FAIRFAX COUNTY, VIRGINIA

I / this firm _____ working as a consultant/contractor/services provider for Fairfax County Government with access to county technology and communications systems, recognize my/our firm's legal and ethical obligation to conduct work on any Fairfax County information or communications system using computer hardware and devices, and/or software (programming languages, operating systems, databases, third party applications software (COTS) and Web based or 'cloud' applications), system utilities, security solutions, monitoring systems, and, data or voice communications software and electronics, Internet capabilities, etc. and county data/content herein referred to as 'technology', in a responsible manner and within the guidelines of the County's IT Security Policy and/or firm's contract. My/our purpose in using computer based technology is to perform work for Fairfax County which includes accessing Fairfax County systems through the Internet, and therefore we are subject to the standards, IT Security and Privacy policies, and ethics and behavior policies of Fairfax County Government. As a condition for and in consideration of being given access to computer systems, data, the network, internet, and, Fairfax County computer center(s), IT galleries, server rooms, network core facilities, third party hosting centers and 'clouds' where county services are provided or supported, I/we affirm that:

I/our firm possess the professional credentials that I or my firm has represented in being hired to perform my/our duty and assignments, and that I/our firm representatives have successfully passed a certifiable criminal background check.

I/our firm will not use Fairfax County technology systems or our firm's systems to access any information available or acquired from the technology systems for any reason except for purposes directly related to our (firm's) job assignments and responsibilities as defined by my/my firm's contract and assignment with the County. I/we will not use Fairfax County technology systems to disclose any information available or acquired from Fairfax County systems for any reason except for purposes directly related to my/my firm's contract and job assignments and responsibilities for such use as defined by DIT and contract(s). I/we understand that any work I/we perform for Fairfax County that develops systems, logic, or data is the property of Fairfax County, and I/we cannot take or send such products or data without express permission of appropriate Fairfax County authority. I/we will exercise due diligence in providing policy and oversight of our firm's contractors and sub-contractors. I/we understand that a user agency may ask me/ my firm to sign a separate agreement relating to the privacy and security of the information that a user agency administers, such as for HIPAA, PCI, PII, and/or other Data Privacy Cyber Security laws.

I/ our firm will use vendor provided software and/or utilities only in accordance with that vendor's license, and such provisions as may have been agreed to between such vendor and Fairfax County. I/we will not deliberately violate any copyright laws or agreements states or implied in my/our use of the software. I/we recognize that to do so makes me/my company liable for any applicable penalties and may lead to my/our firm's immediate dismissal from the County's engagement.

I/our firm further understands that the deliberate misuse of Fairfax County technology, data, and/or software which results in the change, damage or destruction of County systems, programs, and/or data is considered destruction of County property and may be considered a breach of contract and/or a criminal offense. I/we understand that our firm may be liable to include immediate release from the engagement for breach of the Fairfax County IT Security Policy, and possible prosecution for the actions of my/this firms actions in the destruction of County property, misuse or theft of classified (sensitive) data. I/we further understand and recognize that there are criminal penalties for deliberate misuse of government information.

I/we have completely read and fully understand the terms of this agreement and accept these terms.

Name of Firm

Firm's Consultant/Representative Signature

Date

Firm Authorized Representative

Date

I acknowledging receipt of this agreement on behalf of Fairfax County, Virginia.

Fairfax County IT Security Officer

Date



Annex A: ESInet to ESInet Interconnection Specification

Attached is a copy of AT&T's ESInet to ESInet Interconnection Specification v1.0





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AT&T ESInet™
ESInet to ESInet Interconnection
Specification
Version 1.0

the 1990s, the number of people in the UK who are employed in the public sector has increased by 1.5 million, from 2.5 million in 1980 to 4 million in 1995. The public sector has become a major employer in the UK, and its growth has been a major factor in the overall growth of the economy.

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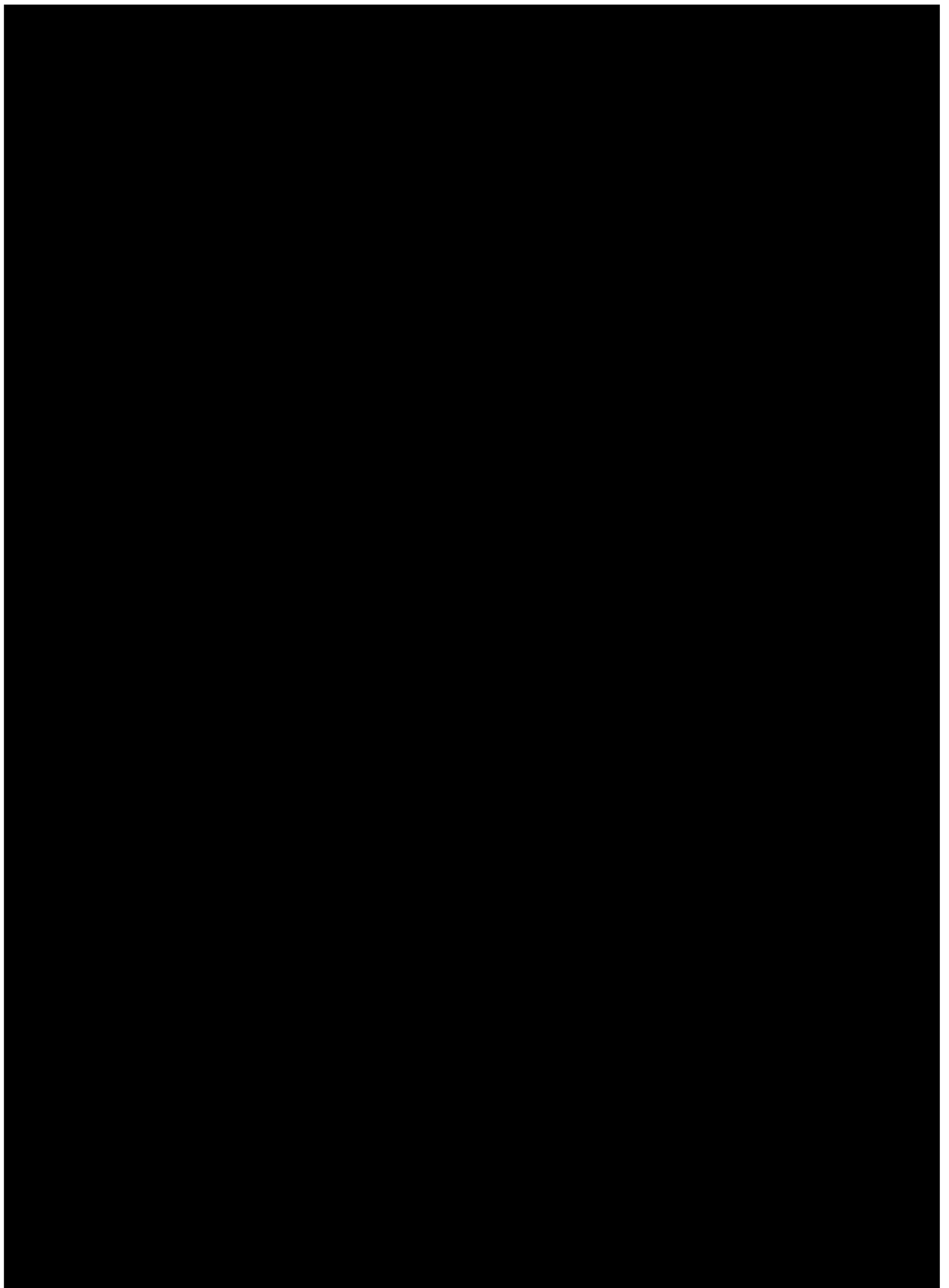
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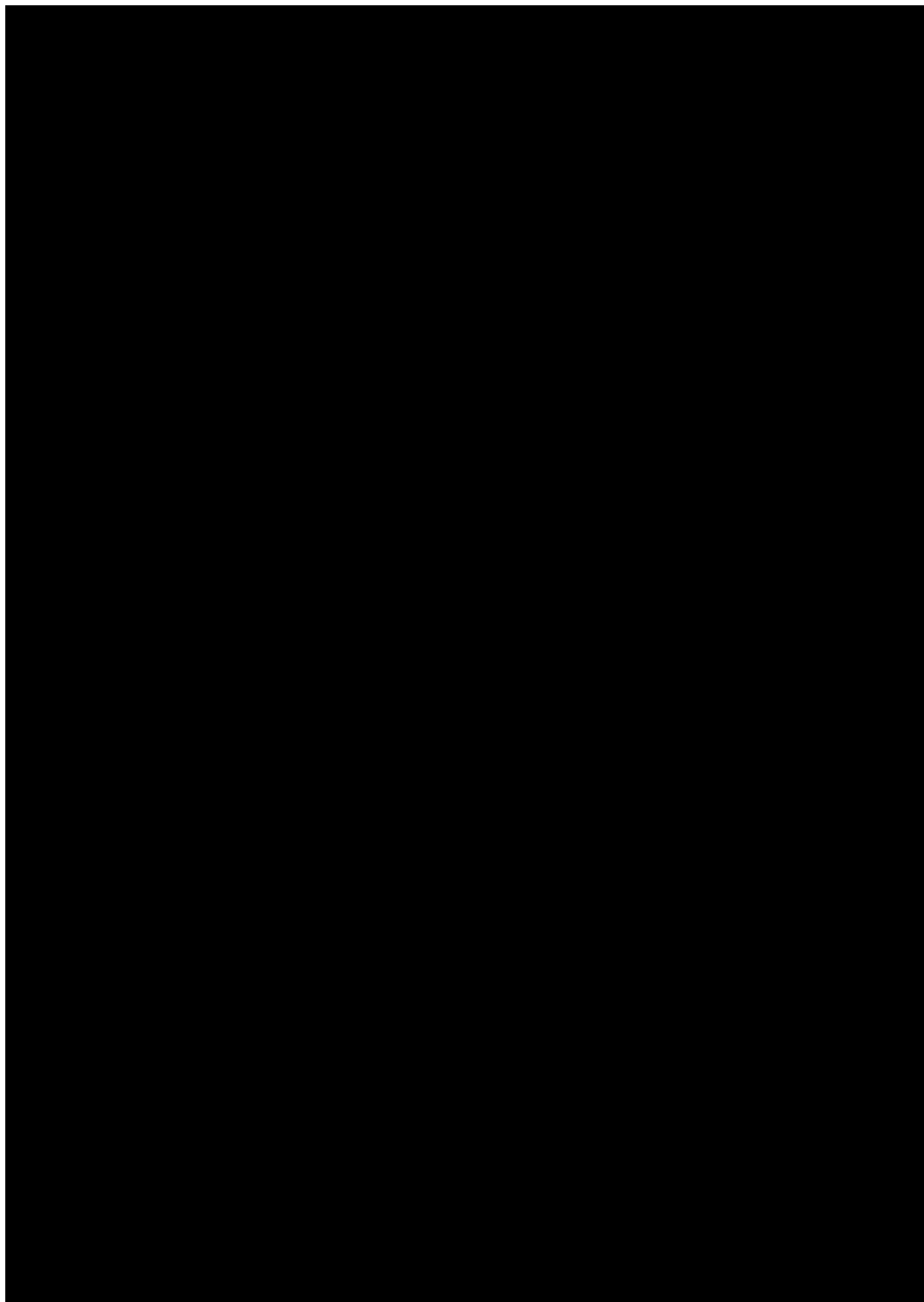
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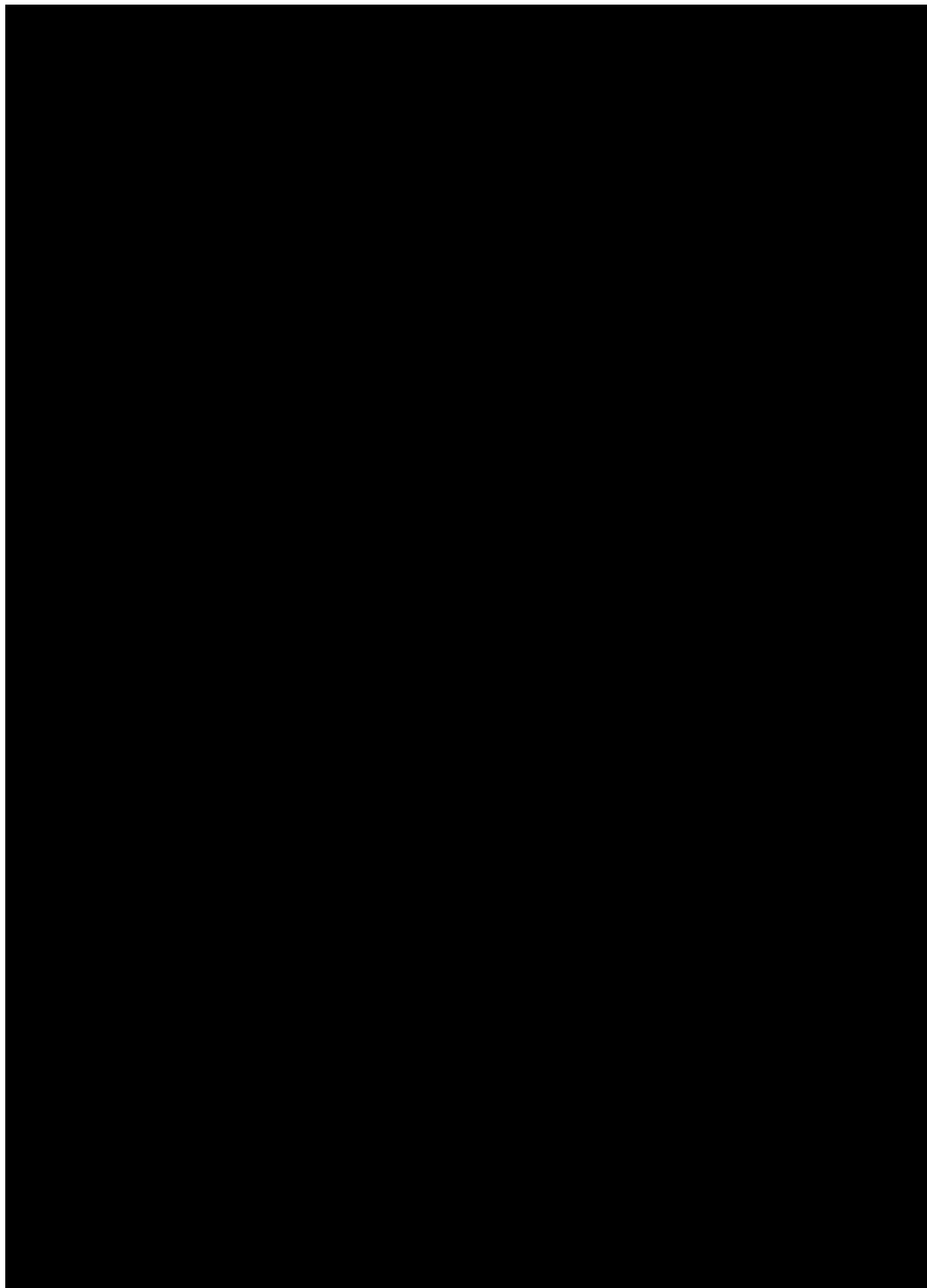
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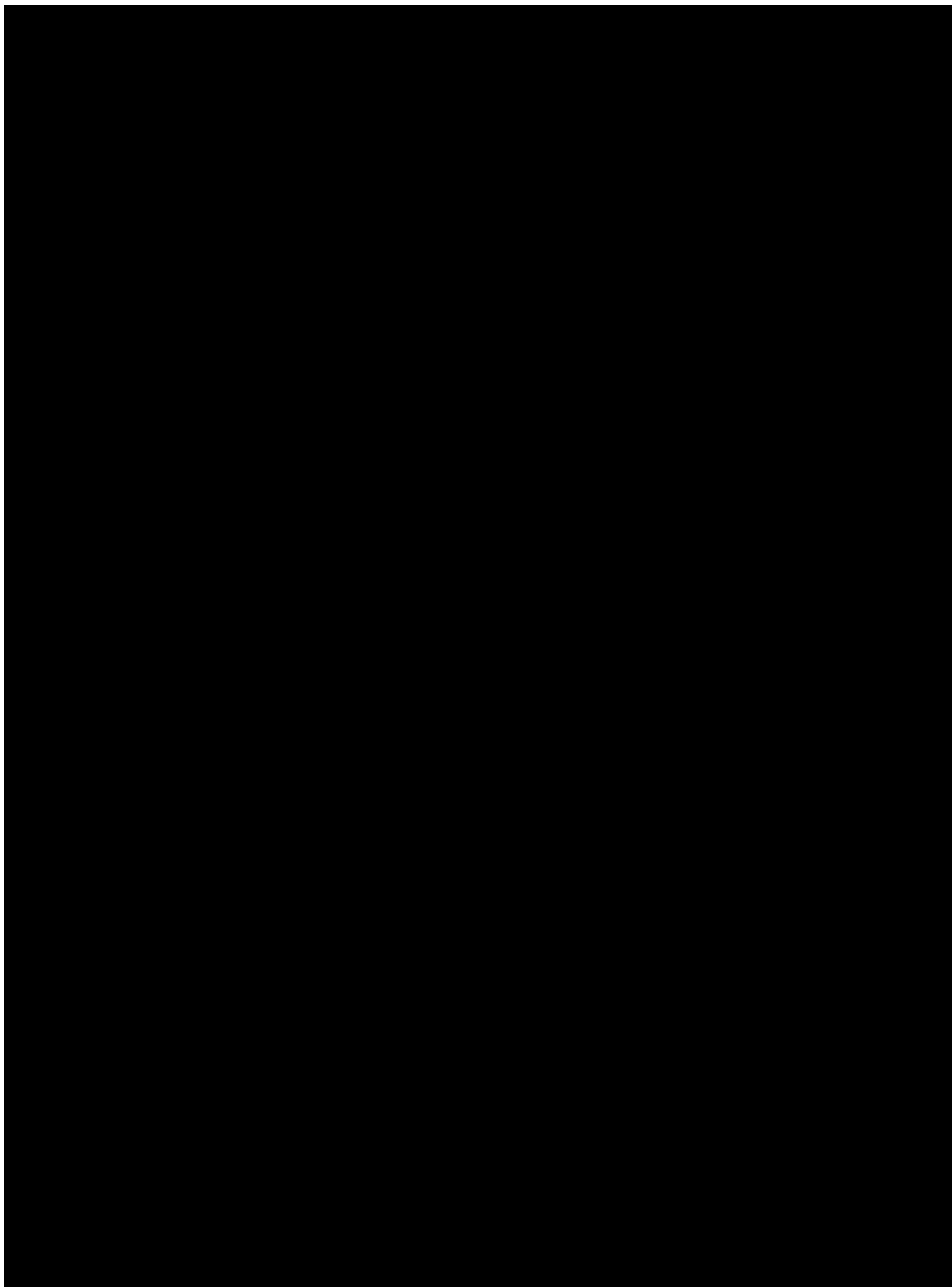
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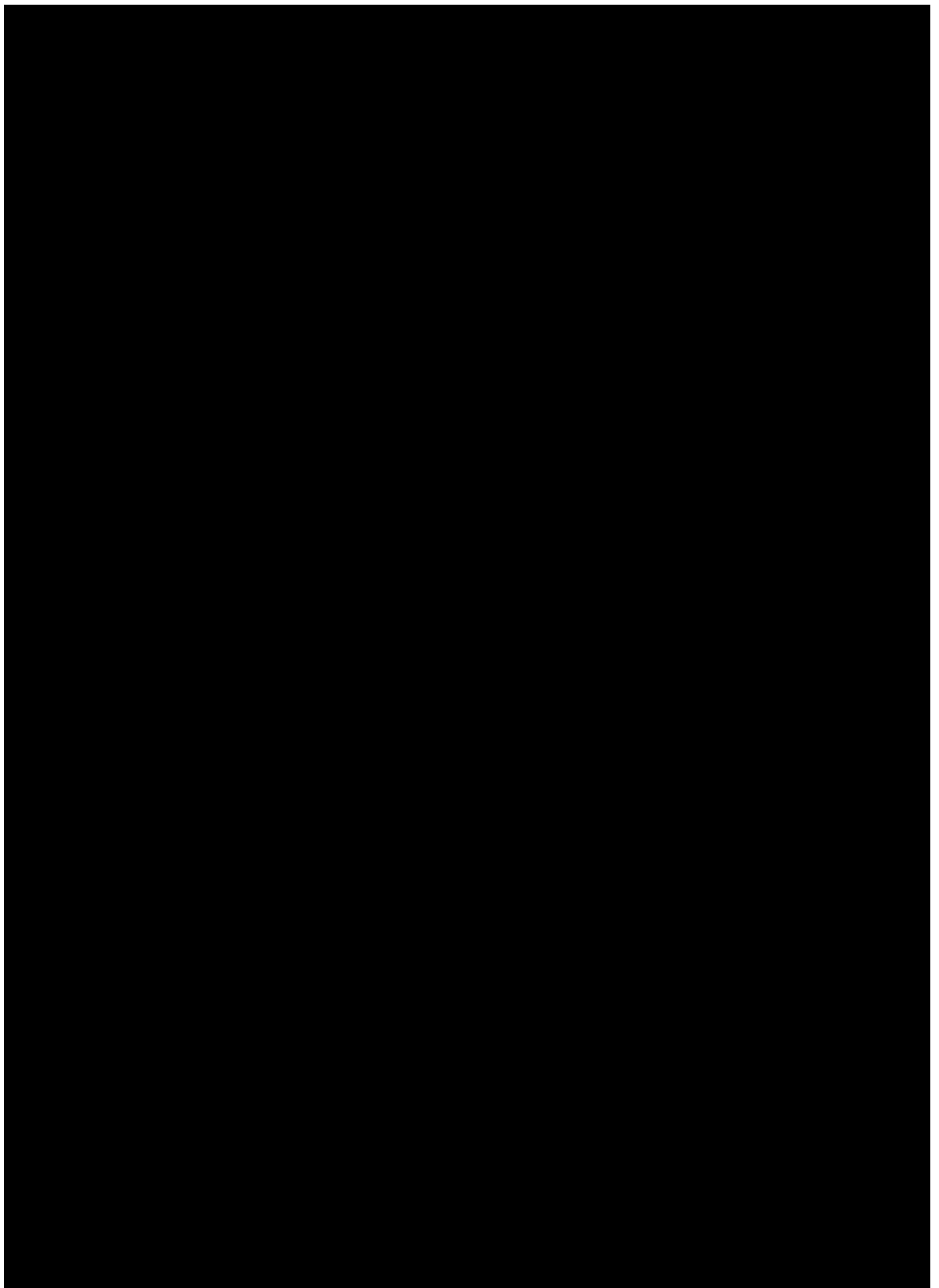
[The text is illegible due to poor scan quality. It appears to be a single paragraph of text, possibly containing some technical or scientific information, but the specific details cannot be discerned.]











the 1990s, the number of people in the UK who are aged 65 and over has increased by 1.5 million (1990–1999) and is projected to increase by a further 1.5 million by 2010 (Office for National Statistics 2000). The number of people aged 65 and over is projected to increase by 2.5 million by 2020 (Office for National Statistics 2000).

There is a growing awareness of the need to develop strategies to meet the needs of the ageing population. The Department of Health (1999) has identified the need to develop a new approach to the care of the elderly, one that is based on the principles of partnership, shared responsibility and shared resources. The Department of Health (1999) has identified the need to develop a new approach to the care of the elderly, one that is based on the principles of partnership, shared responsibility and shared resources.

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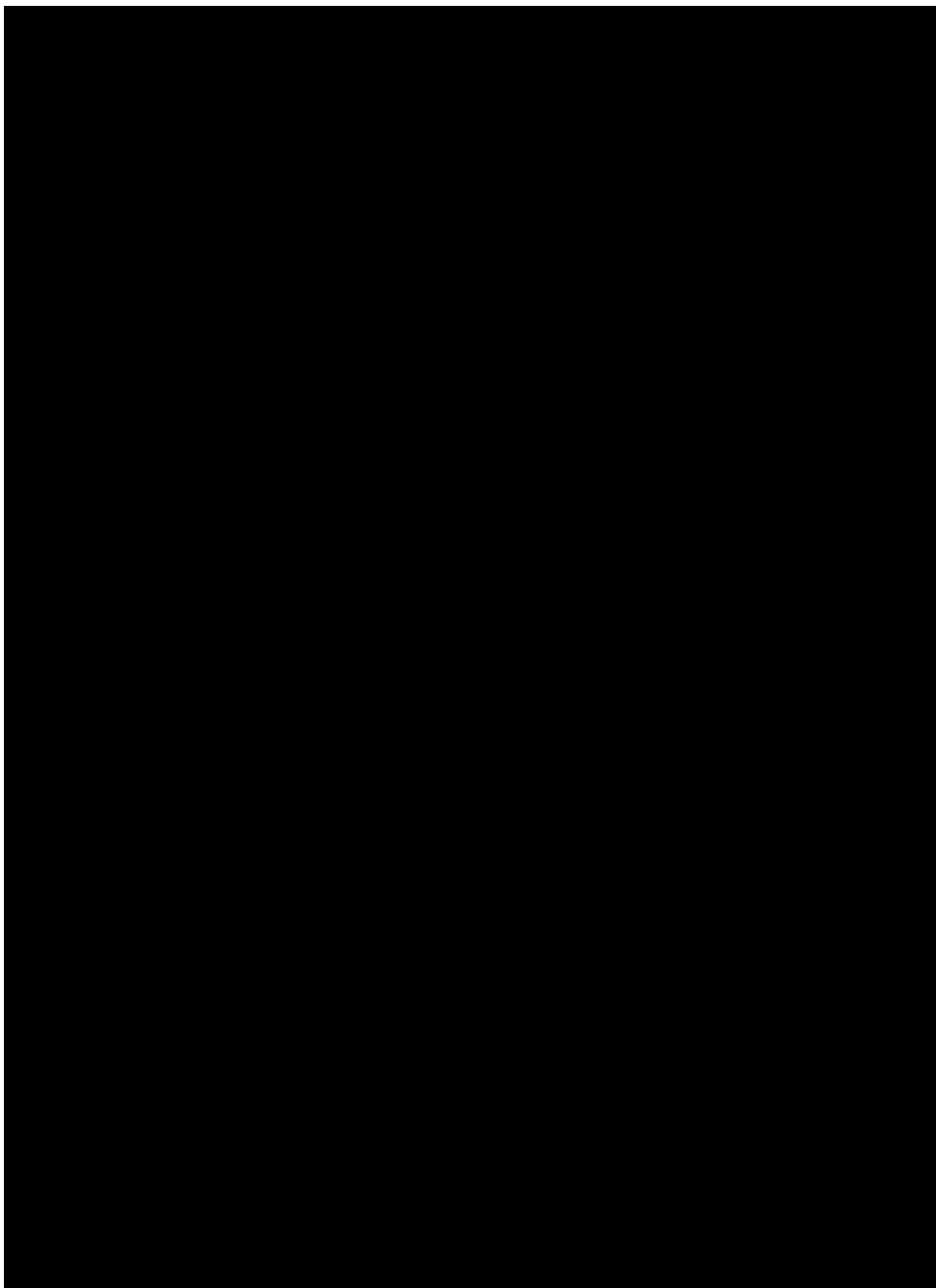
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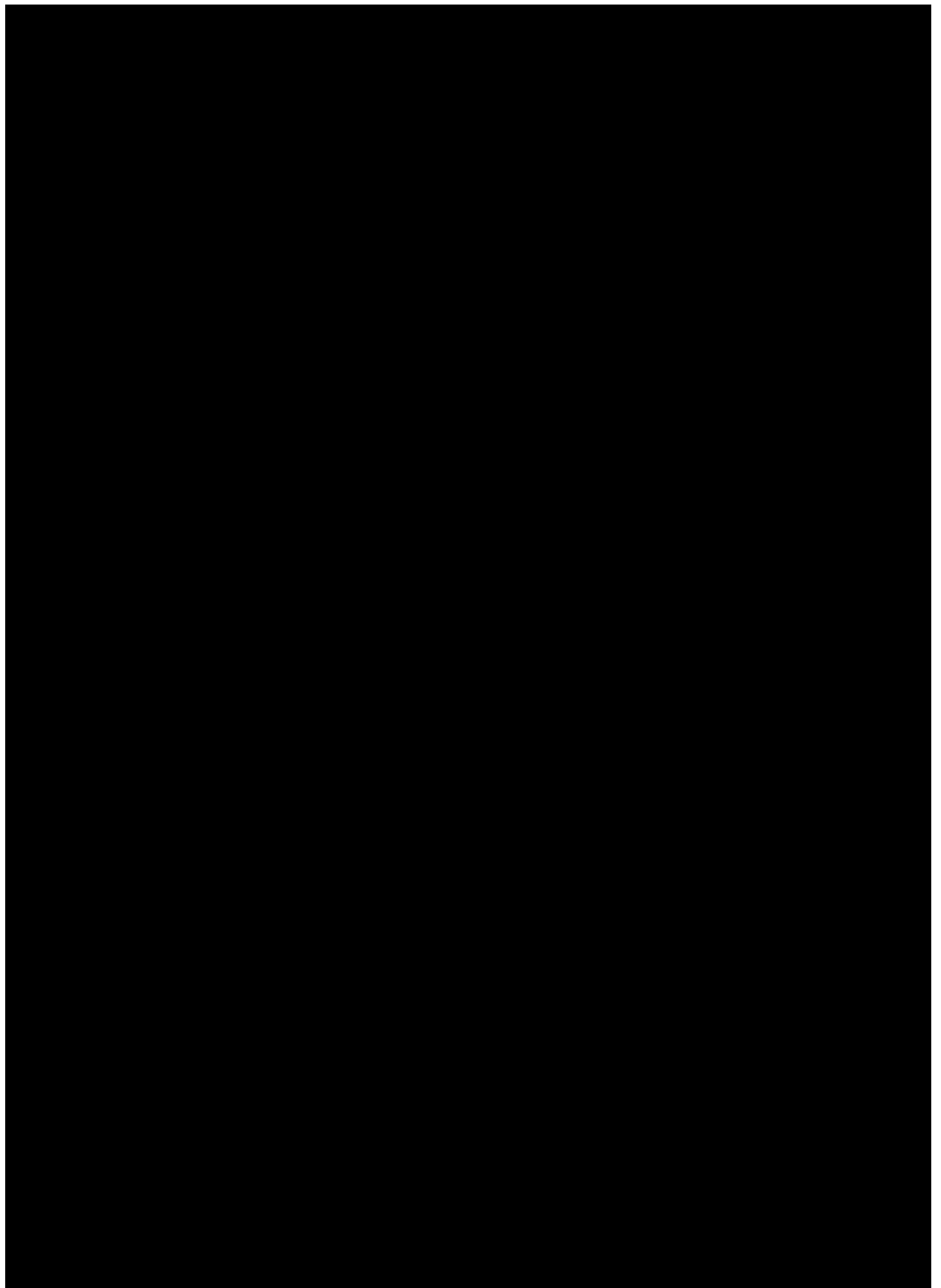
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There is a growing awareness of the need to address the health and social care needs of the ageing population. The Department of Health (1999) has identified the need to develop a 'new paradigm' of health and social care for the ageing population. This paradigm is based on the principles of 'active ageing', which is defined as the process of optimising the health, participation and security of older people (World Health Organization 1990). The Department of Health (1999) has identified the need to develop a 'new paradigm' of health and social care for the ageing population.

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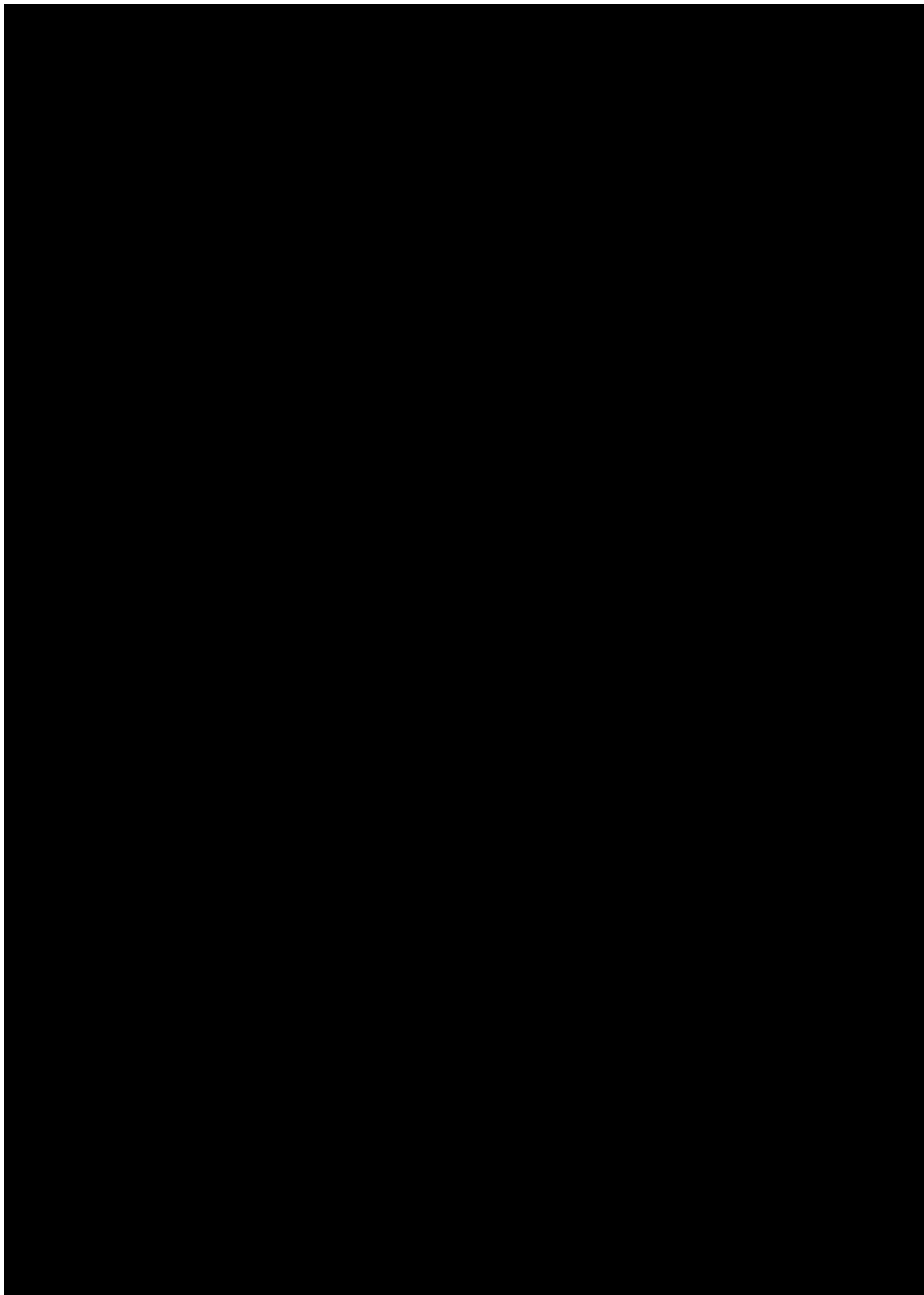
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There is a growing awareness of the need to develop strategies to meet the needs of the ageing population. The Department of Health (1999) has published a strategy for the ageing population, which sets out the government's commitment to improve the health and social care of older people. The strategy is based on the following principles: (1) to improve the health and social care of older people; (2) to ensure that older people are able to live independently; (3) to ensure that older people are able to participate in society; and (4) to ensure that older people are able to live in their own homes.

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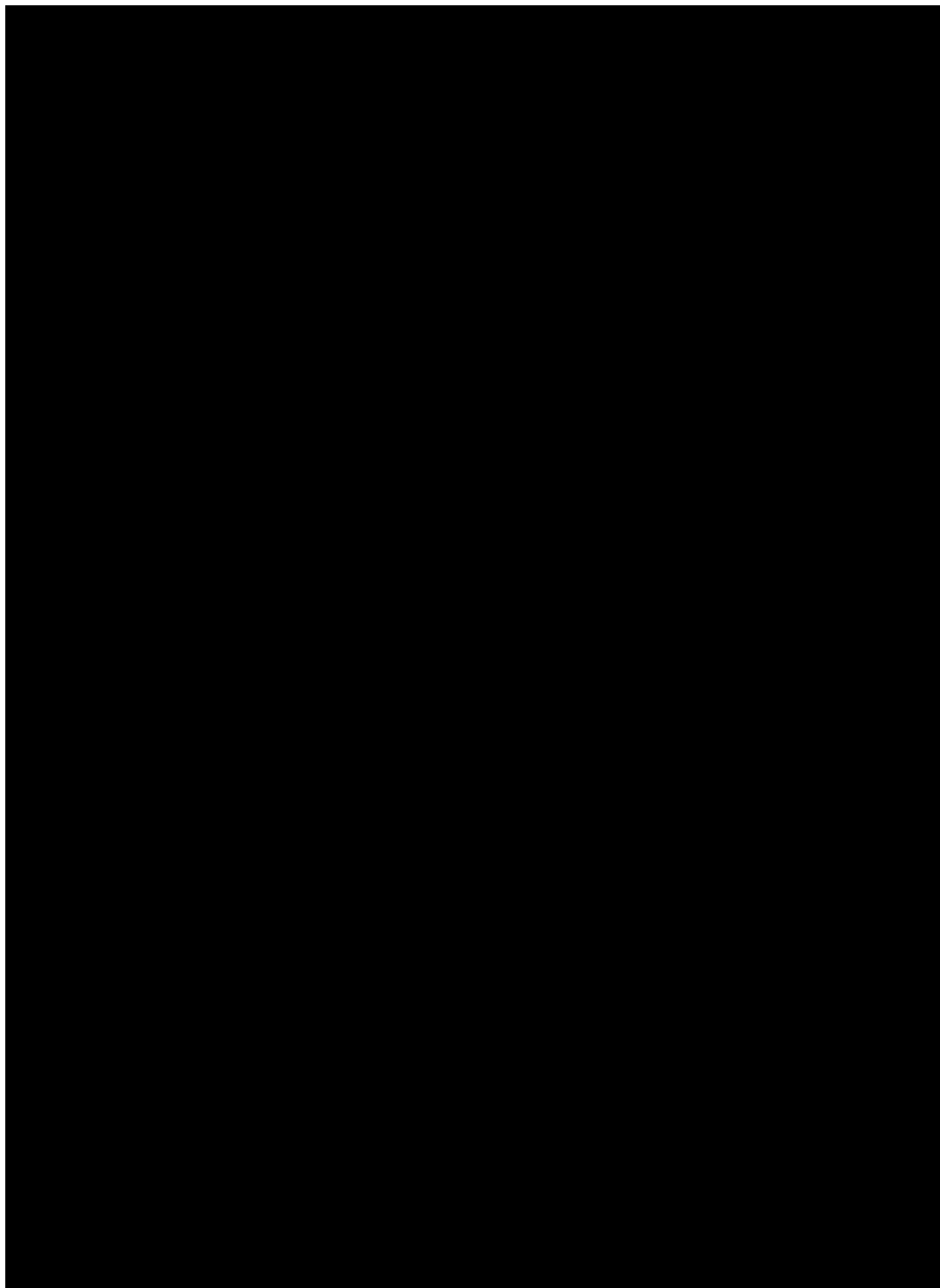
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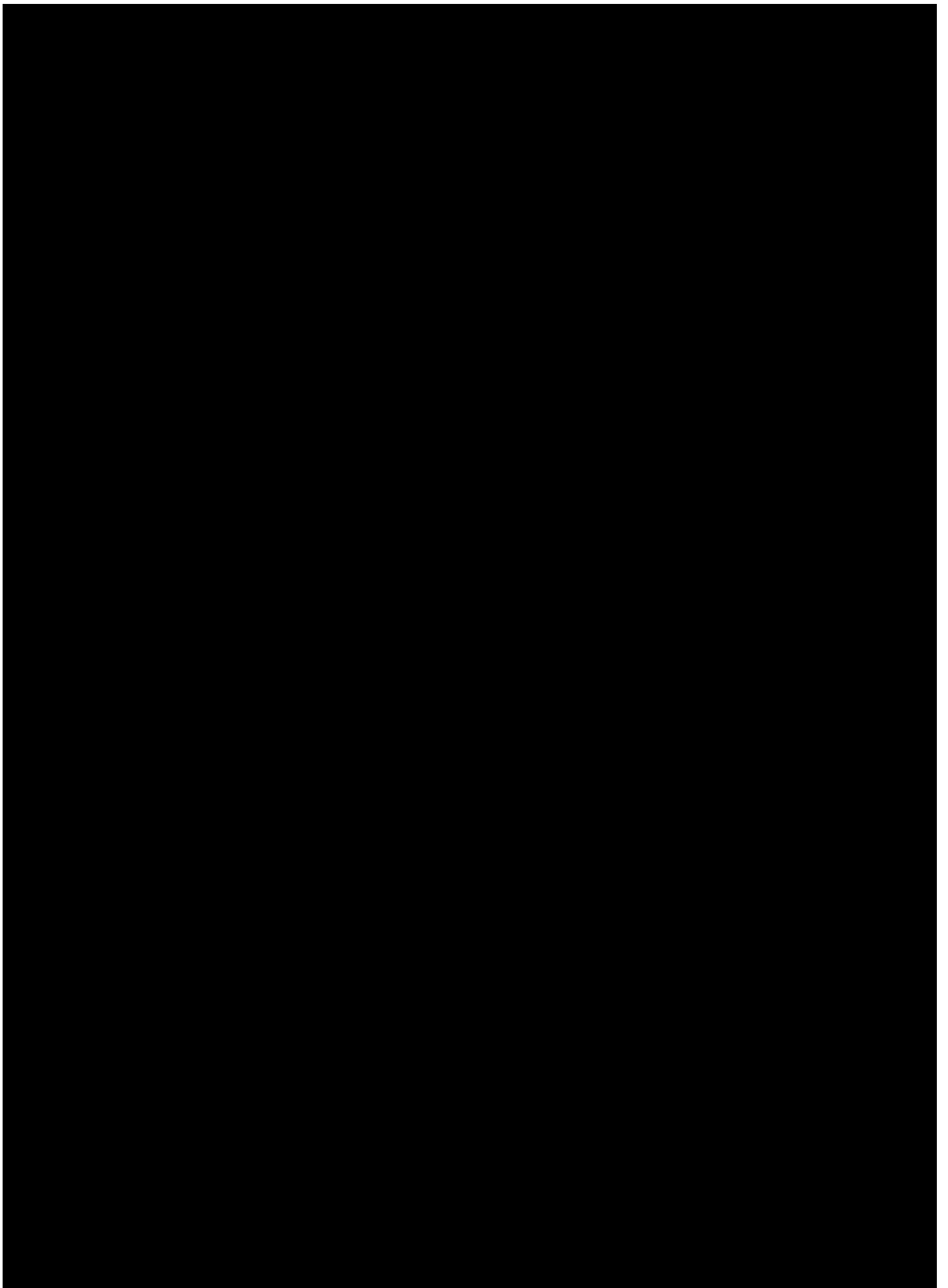
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the 1990s, the number of people in the UK who are employed in the public sector has increased by 1.5 million, from 2.5 million in 1980 to 4 million in 1998 (Department of Health 1999). The number of people employed in the health service has increased by 1.2 million, from 2.2 million in 1980 to 3.4 million in 1998 (Department of Health 1999).

There is a growing emphasis on the need to improve the quality of health care, and to ensure that the health service is able to meet the needs of the population. This has led to a number of initiatives, including the introduction of the Health Service Act 1990, the Health Service Act 1997, and the Health Service Act 1999. These acts have led to a number of changes in the way the health service is organised and managed, and to a number of initiatives to improve the quality of health care.

One of the key initiatives is the introduction of the Health Service Act 1990, which introduced a number of changes to the way the health service is organised and managed. These changes included the introduction of a new system of funding, the introduction of a new system of management, and the introduction of a new system of regulation.

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These changes have led to a number of initiatives to improve the quality of health care. These initiatives include the introduction of a new system of accreditation, the introduction of a new system of monitoring and evaluation, and the introduction of a new system of patient involvement.

These initiatives have led to a number of improvements in the quality of health care. These improvements include a reduction in the number of errors, an increase in the number of patients who are satisfied with their care, and an increase in the number of patients who are involved in their care.

These improvements have led to a number of changes in the way the health service is organised and managed. These changes include the introduction of a new system of funding, the introduction of a new system of management, and the introduction of a new system of regulation.

The first of these is the *Journal of the American Medical Association* (JAMA), which has been a leading voice in the medical profession for over a century. It is a weekly publication that covers a wide range of topics, from clinical medicine to public health. The second is the *New England Journal of Medicine* (NEJM), which is a leading journal in the field of internal medicine. The third is the *Lancet*, which is a leading journal in the field of general practice. The fourth is the *British Medical Journal* (BMJ), which is a leading journal in the field of general practice. The fifth is the *Medical Record*, which is a leading journal in the field of general practice. The sixth is the *Medical Record*, which is a leading journal in the field of general practice. The seventh is the *Medical Record*, which is a leading journal in the field of general practice. The eighth is the *Medical Record*, which is a leading journal in the field of general practice. The ninth is the *Medical Record*, which is a leading journal in the field of general practice. The tenth is the *Medical Record*, which is a leading journal in the field of general practice.

the 1990s, the incidence of *S. flexneri* has increased in the United Kingdom [10]. In the United States, *S. flexneri* has been reported as the most common serotype in children with acute bacterial dysentery [11].

There is a paucity of data on the epidemiology of *S. flexneri* in the United Kingdom. In the 1970s, *S. flexneri* was the most commonly isolated serotype from patients with acute bacterial dysentery in the United Kingdom [12]. In the 1980s, *S. flexneri* was the most commonly isolated serotype from patients with acute bacterial dysentery in the United Kingdom [13].

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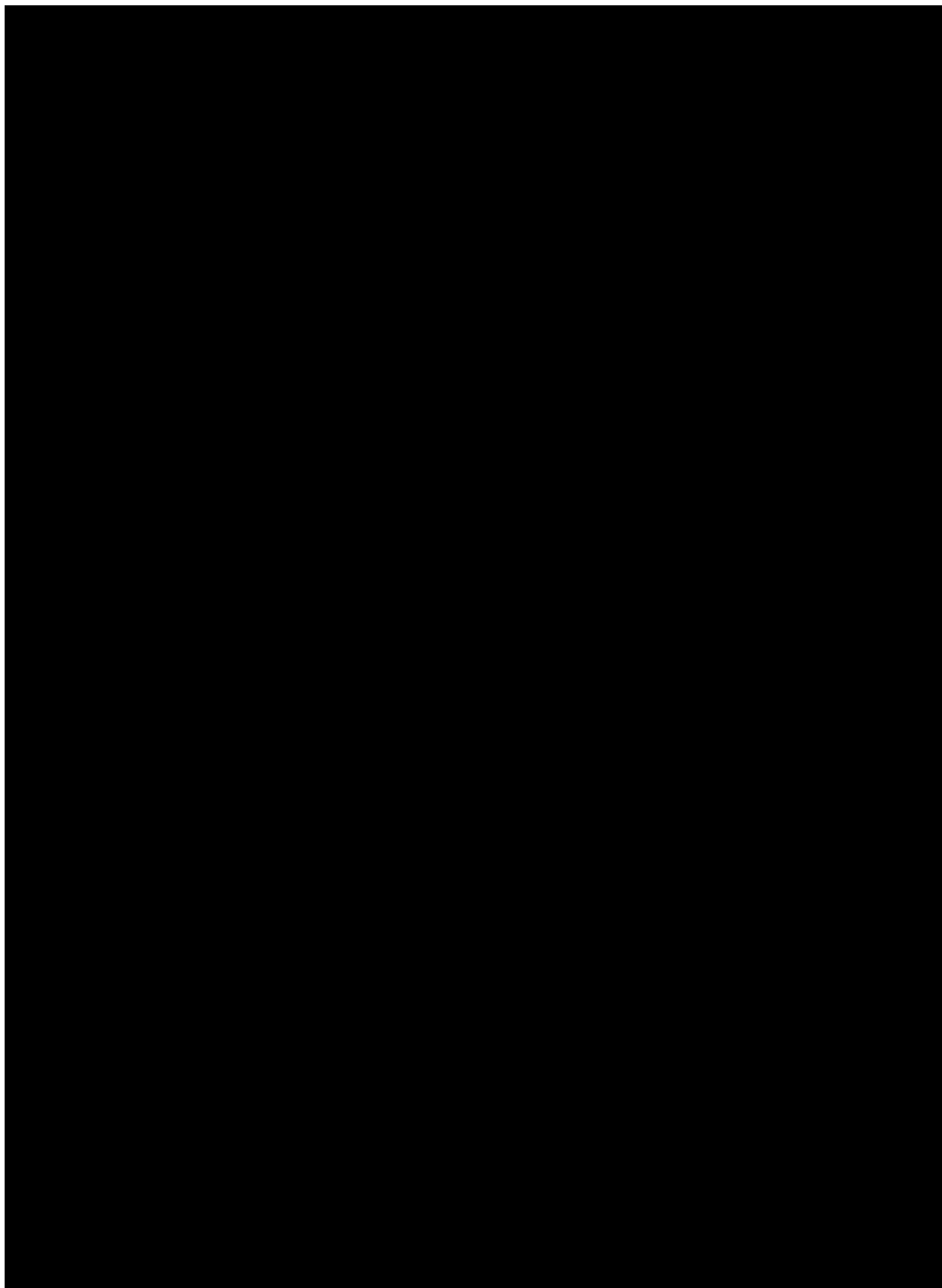
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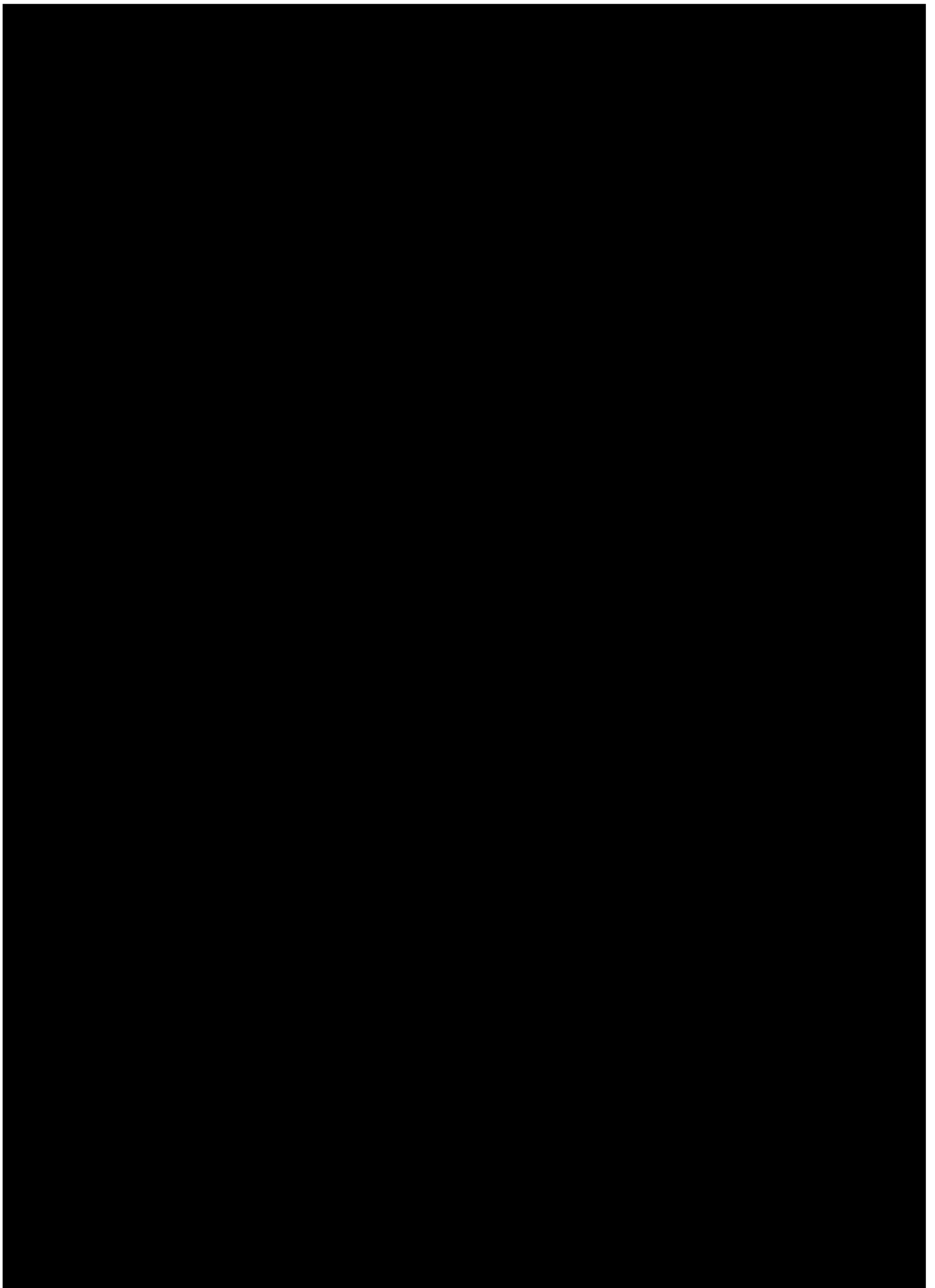
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100



The first part of the paper discusses the importance of the research and the objectives of the study. It then presents a literature review of the existing research on the topic. The methodology section describes the research design and the data collection process. The results section presents the findings of the study, and the conclusion section summarizes the main findings and provides recommendations for future research.

The study was conducted in a laboratory setting, and the data were collected using a series of experiments. The results of the experiments were analyzed using statistical methods, and the findings were compared with the results of previous studies. The study found that the research objectives were achieved, and the results were consistent with the hypotheses.

The study has several limitations, and there are some areas for future research. The study was conducted in a laboratory setting, and the results may not be generalizable to real-world situations. Future research should investigate the effects of the research on a larger sample size and in a more naturalistic setting.

In conclusion, the study has provided valuable insights into the research topic, and the findings have implications for future research. The study has identified the importance of the research and the need for further investigation. The results of the study have provided a foundation for future research, and the findings have been discussed in the context of the existing literature.

The first part of the paper discusses the importance of the research and the objectives of the study. It then presents a literature review of the existing research on the topic. The second part of the paper describes the methodology used in the study, including the data collection and analysis techniques. The third part of the paper presents the results of the study, and the fourth part discusses the conclusions and implications of the findings.

The study was conducted using a quantitative research design. Data was collected from a sample of 100 participants using a survey questionnaire. The questionnaire was designed to measure the variables of interest in the study. The data was then analyzed using statistical software to determine the relationships between the variables.

The results of the study show that there is a significant positive relationship between the variables. This finding is consistent with the previous research in the field. The study also found that there are some differences in the results across different groups of participants. These differences may be due to various factors, such as age, gender, and education level.

The conclusions of the study suggest that the findings have important implications for practice and policy. Further research is needed to explore the underlying mechanisms of the relationships and to test the generalizability of the findings.

the 1990s, the number of people in the world who are under 15 years of age has increased by 1.2 billion, from 1.1 billion in 1980 to 2.3 billion in 1999. The number of children under 15 years of age in the world is projected to increase to 3.1 billion by 2020 (United Nations 1999).

There is a growing awareness of the need to address the needs of children in the world. The United Nations Convention on the Rights of the Child (1989) is the most widely ratified human rights treaty in the world. It sets out the rights of children and the responsibilities of governments to protect and promote these rights. The Convention has been ratified by 112 countries, including all of the member states of the United Nations.

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The first part of the paper discusses the importance of the research and the objectives of the study. It then presents a literature review of the existing research on the topic. The second part of the paper describes the methodology used in the study, including the data collection and analysis techniques. The third part of the paper presents the results of the study, and the fourth part discusses the conclusions and implications of the findings.

The study was conducted in a laboratory setting, and the data was collected using a series of experiments. The results of the study show that there is a significant difference between the two groups, and this difference is statistically significant. The findings of the study have important implications for the field of research, and they provide a basis for further research in this area.

In conclusion, the study has shown that there is a significant difference between the two groups, and this difference is statistically significant. The findings of the study have important implications for the field of research, and they provide a basis for further research in this area.



Annex B: Audit Checklist

Attached is the NENA NG-SEC AT&T ESInet Audit Checklist.





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Annex C: Trouble Ticket Sample 1

Attached is a sample trouble ticket





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Trouble Report Number	Customer Name	Circuit ID	Receive Date	Receive Time	Restored Date	Restored Time	Trouble Reported	Trouble Summary	Report Category
EZ074992	Customer	35/XXXX/911041 /xx	07/19/2016	12:59	08/04/2016	13:02	ECATS P911-517 ISSUE WANTS A DETAILED CALL INFORMATION ABOUT ERRORS IN 911 CALL	CPE NO BILL	RM
EZ075435	Customer	31/DHXO/570252 /xx	07/28/2016	15:09	07/29/2016	14:11	CIRCUIT IS DOWN CC - MONICA FLICK - ^F2, F3, ETC. CABLE PAIR - 2812356765 :	CHANGED (COPPER)	CR
EZ075420	Customer	35/XXXX/911258	07/28/2016	11:40	07/28/2016	16:54	CONTINGENCY T1 INVENTORY	CHECKED BACKUP CIRCUITS FOR VIPER	RM
EZ075444	Customer	35/XXXX/911042 /xx	07/28/2016	16:50	07/28/2016	20:26	TEST CALLS	PERFORMED TEST CALLS	RM
EZ075461	Customer	35/XXXX/911042 /xx	07/29/2016	08:01	07/29/2016	15:11	CALL VENDOR FOR ECATS	INFO FORWARDED	RM
EZ075476	Customer	35/XXXX/911042 /xx	07/29/2016	11:52	07/29/2016	11:53	MTU TESTING	MTU TESTING	RM
EZ075474	Customer	35/XXXX/911304	07/29/2016	11:21	07/29/2016	11:27	CANNOT PING ROUTER 2.	REPLACED DEF TETHER CORD	RM
EZ075457	Customer	35/XXXX/911263	07/29/2016	07:56	07/29/2016	15:12	POWER PROJECT	WORK COMPLETED FOR 07/29 PWR PROJECT	RM
EZ075537	Customer	35/XXXX/911263	08/01/2016	11:07	08/01/2016	16:38	CISCO POWER SUPPLY FOR NBPD	CPE NO BILL	RM
EZ075536	Customer	35/XXXX/911257	08/01/2016	10:55	08/01/2016	11:54	VIPER PBX BACKUP	CPE NO BILL	RM
EZ075520	Customer	35/XXXX/911259	08/01/2016	07:58	08/01/2016	10:58	BACK VIPER PBX MONTHLY	CPE NO BILL	RM
EZ075525	Customer	35/XXXX/911042 /xx	08/01/2016	08:07	08/01/2016	16:43	LABELS ON POWER CABLES.	LABLES PLACED ON REAR OF CPE UNITS	PM
EZ075523	Customer	35/XXXX/911258	08/01/2016	08:04	08/01/2016	16:32	POWER LABEL PROJECT	POWER LABEL PROJECT	PM
EZ075603	Customer	35/XXXX/911323	08/02/2016	15:55	08/02/2016	20:26	3600 NW LOOP 410 TRANSGUIDE CIRCUIT	COMPLETED TRAINING AT DIAMOND CENTRAL OFFICE	RM
EZ075565	Customer	35/XXXX/911321	08/02/2016	07:58	08/02/2016	10:46	EQUIPMENT REMOVAL	CPE NO BILL	RM
EZ075588	Customer	35/XXXX/911257	08/02/2016	13:18	08/02/2016	16:25	911 CALL TRACING	CPE NO BILL	RM
EZ075563	Customer	35/XXXX/911259	08/02/2016	07:54	08/02/2016	13:21	SQL BACKUPS	CPE NO BILL	RM
EZ075583	Customer	35/XXXX/911042 /xx	08/02/2016	12:07	08/02/2016	16:02	CALL TESTING	CPE NO BILL	RM
EZ075571	Customer	35/XXXX/911041 /xx	08/02/2016	09:31	08/02/2016	16:25	DOWNLOAD LOGS FOR POSITION 32	DOWNLOAD LOGS FOR POSITION 32 -- AIRBUS	PM
EZ075569	Customer	35/XXXX/911042 /xx	08/02/2016	08:04	08/02/2016	16:28	LABELING ON POWER CABLES	LABELING ON POWER CABLES -- AIRBUS	PM
EZ075551	Customer	35/XXXX/911042 /xx	08/02/2016	00:10	08/02/2016	09:58	INSTANT RETRIEVAL IS NOT COMING UP AFTER RESTART. NEED 1ST AM DPO TO FIX FOR POSITION 32.	REBOOTED POSITON 32. RECORDER NOW WORKING.	CR
EZ075622	Customer	35/XXXX/911304	08/03/2016	07:29	08/03/2016	10:57	CONSOLE 1 DOWN, WHEN 911 LINE RINGS IT DOES NOT COME UP ON CONSOLE 1.	ASSIGNED IP ADDRESS	CR
EZ075625	Customer	35/XXXX/911321	08/03/2016	07:53	08/03/2016	10:44	STATION NOT WORKING	CPE NO BILL	RM
EZ075623	Customer	35/XXXX/911042 /xx	08/03/2016	07:48	08/03/2016	16:36	CALL TESTING	CPE NO BILL	RM
EZ075649	Customer	35/XXXX/911042 /xx	08/03/2016	12:16	08/03/2016	20:33	CALL TESTING	CPE NO BILL	RM
EZ075626	Customer	35/XXXX/911321	08/03/2016	07:54	08/03/2016	10:34	UPDATE SECURITY FOR SAFD	PF7464 UPDATE SECURITY FOR SAFD	PM
EZ075628	Customer	35/XXXX/911042 /xx	08/03/2016	08:10	08/07/2016	16:45	LABELING ON POWER CABLES	POWER CABLES LABELED	PM
EZ075640	Customer	35/XXXX/911042 /xx	08/03/2016	10:30	08/03/2016	16:18	VENDOE MEET WITH LT PETERS	VENDOR MEET W/ LT PETERS	PM
EZ075724	Customer	35/XXXX/911306	08/04/2016	14:17	08/05/2016	07:59	TEXT TO 911 NOT WORKING	/TEXT TO 911 CORRECTED YESTERDAY	RM
EZ075723	Customer	35/XXXX/911306	08/04/2016	14:12	08/04/2016	18:50	TEXT TO 911 ISSUES	CORRECTED ISSUE ON THE NETWORK SIDE	CR
EZ075687	Customer	35/XXXX/911263	08/04/2016	08:05	08/04/2016	15:02	MIS MAINT	CPE NO BILL	RM

EZ075713	Customer	35/XXXX/911257	08/04/2016	12:23	08/04/2016	16:15	POTS SRV BACKUP	CPE NO BILL	RM
EZ075714	Customer	35/XXXX/911041 /xx	08/04/2016	12:56	08/05/2016	12:56	ABANDON CALL REPORTING ISSUES ON AURORA	CPE NO BILL	RM
EZ075715	Customer	35/XXXX/911041 /xx	08/04/2016	12:59	08/04/2016	14:31	AURORA ISSUES	CPE NO BILL	RM
EZ075778	Customer	35/XXXX/911041 /xx	08/04/2016	16:10	08/04/2016	20:34	FD15 POSITION NOISY	CPE NO BILL	RM
EZ075679	Customer	35/XXXX/911042 /xx	08/04/2016	07:54	08/04/2016	12:51	911 CALL TESTING	CPE NO BILL	RM
EZ075716	Customer	35/XXXX/911306	08/04/2016	13:12	08/04/2016	19:04	TEXT TO 911 NOT WORKING	GEM CLIENT RESTORED TO ALL FOUR POSITIONS	CR
EZ075748	Customer	35/XXXX/911263	08/04/2016	14:57	08/04/2016	16:32	POWER PROJECT	POWER PROJECTCOMPLETED	RM
EZ075706	Customer	35/XXXX/911042 /xx	08/04/2016	10:40	08/04/2016	14:10	TEST CALLS NEEDED TO UPDATE LOGS FOR BEXAR METRO	PULLED OFF FOR MEASURED TKT	PM
EZ075685	Customer	35/XXXX/911258	08/04/2016	08:03	08/04/2016	10:32	WINDOWS UPDATES	WINDOWS UPDATE PROCESSING	PM
EZ075832	Customer	35/XXXX/910636 /xx	08/05/2016	12:54	08/05/2016	20:28	WIRELESS CALL: EX 911-512-2876 08/05 @1230 - 1300 // TCS WIRELESS TKT -86187 #800-959-3749	AT&T WIRELESS INFO MISSING. DPO'D AH3936 REF TO TCS	CR
EZ075831	Customer	35/XXXX/911259	08/05/2016	12:52	08/05/2016	15:53	VIPER DNS ISSUES	CPE NO BILL	RM
EZ075810	Customer	35/XXXX/911257	08/05/2016	08:02	08/05/2016	16:29	RENEW 911 CARD ID AT SAPD OFFICE	NEW APPLICATION FOR BEXAT METRO	PM
EZ075803	Customer	35/XXXX/911042 /xx	08/05/2016	02:08	08/05/2016	06:36	PSAP IS INTERMITTENTLY NOT GETTING ANI/ALI NEEDS IMMED DISP	NO ALI FROM AT&T MOB OR CRICKET/ADV TO SEND ALI INQUIRY	CR
EZ075828	Customer	35/XXXX/911258	08/05/2016	12:09	08/05/2016	14:00	VIPER BACKUP	PERFORMED VIPER BACKUP	RM
EZ075833	Customer	35/XXXX/911042 /xx	08/05/2016	12:54	08/05/2016	17:12	POS 35 TIME IS NOT SYNCING INTERNAL TKT 1167551	POS 35 NOT SYNC. DPO'D. AH3936 RESTORED	CR
EZ075842	Customer	35/XXXX/911304	08/05/2016	15:33	08/05/2016	18:52	POS #2 IS DOWN	REMOVEDLY CLEARED TROUBLE WORKING WITH CALLTAKER	CR
EZ075869	Customer	35/XXXX/911041 /xx	08/06/2016	22:09	08/07/2016	04:25	TRANSFERRED CALLS..HAPPENING ON ALL WORK STATIONS..REQUESTING TECH	DD324 DPO'D RE NO INFO. ISOLATD TO CRICKET WIRELESS	CR
EZ075870	Customer	35/XXXX/910698 /xx	08/06/2016	22:09	08/08/2016	09:48	ONLY GETTING THE PHONE NUMBER WHEN CALLER CALLS IN ON AT LEAST 2 STATIONS SO FAR	WIRELESS ATT AND CRICKET NETWORK DOWN CAUSING NO ANI/ALI	CR
EZ075872	Customer	35/XXXX/911042 /xx	08/07/2016	06:08	08/08/2016	16:42	POS 2 DRIVE IS ABOUT TO FAIL...OK FOR MONDAY AM DISPATCH TO WORK WITH TECH SUPPORT	/REPLACED HARD DRIVE AND REIMAGED WORKSTATION	CR
EZ075885	Customer	31/DHXO/570235 /xx	08/07/2016	18:31	08/08/2016	10:32	911 T1 DOWN CC - MONICA FLICK - 2812356765 :	^CKD/SPAN STATS CLN/VM W/RFO NO CB AC TKT	CR
EZ075888	Customer	35/XXXX/911041 /xx	08/07/2016	23:20	08/08/2016	09:38	GEM911 IS DOWN ON ALL POSITIONS	ADVISED THAT IT CAME BACK	CR
EZ075880	Customer	35/XXXX/911306	08/07/2016	14:14	08/08/2016	10:35	TRANSFER INFO FROM SAFD HAS NO ALI INFO, UNABLE TO CALL BACK - CALLS ROUTE TO SHERIFF	ISSUE RESOLVED WITH GOOD TEST CALL	CR
EZ075877	Customer	35/XXXX/911042 /xx	08/07/2016	10:53	08/07/2016	21:26	TRANSFER FAILURE CC - VALERIE NELSON - 2102077550 :	TRNSFR FAIL. DPO'D. SPEED DIAL PRGRMD.	CR
EZ075931	Customer	35/XXXX/911263	08/08/2016	13:22	08/08/2016	16:34	LIVE OAK T-1 "A" END	CPE NO BILL	RM
EZ075907	Customer	35/XXXX/911259	08/08/2016	09:18	08/08/2016	15:28	NENA WORKBOOKS	CPE NO BILL	RM
EZ075922	Customer	35/XXXX/911258	08/08/2016	12:20	08/08/2016	15:41	BACKUP VIPER	CPE NO BILL	RM
EZ075901	Customer	35/XXXX/911042 /xx	08/08/2016	07:54	08/08/2016	09:30	VENDOR MEETING	CPE NO BILL	RM
EZ075945	Customer	35/XXXX/911042 /xx	08/08/2016	15:24	08/09/2016	07:03	CALL TESTING	CPE NO BILL	RM
EZ075910	Customer	35/XXXX/911258	08/08/2016	09:43	08/08/2016	16:35	PM COFIGURATOR LOGS FOR COMAL PSAP	FT PULLED UP LOGS FOR COMAL	PM
EZ075915	Customer	35/XXXX/911258	08/08/2016	11:15	08/08/2016	16:30	CHECK STATUS OF WAPS.	IDENTIFIED AND MONITORED WAPS FOR ENO	PM
EZ075935	Customer	35/XXXX/911306	08/08/2016	13:37	08/09/2016	09:22	MANUAL REROUTE TO SEGUIN PD FOR 24HRS CARMEN IS WORKING DIRECTLY W/ TRC	REROUTE REMOVED	CR
EZ075911	Customer	35/XXXX/911042 /xx	08/08/2016	09:46	08/08/2016	10:35	GEM CLEINT ISSUES ON ALL POSITIONS	TRBL BEING WORKED ON BY PIEDRA TECH	PM

EZ075968	Customer	35/XXXX/911263	08/09/2016	07:56	08/10/2016	16:40	REMOTE PSAP CIRCUIT ID	CPE NO BILL	RM
EZ075967	Customer	35/XXXX/911042 /xx	08/09/2016	07:49	08/09/2016	16:38	ABANDON CALL VENDOR MEET	JOINED ABANDONED CALL VENDOR MEET	RM
EZ075995	Customer	35/XXXX/911258	08/09/2016	11:49	08/09/2016	16:32	UDATE ANTIVIRUS DEF LOGS	UDATE ANTIVIRUS DEF LOGS	PM
EZ075986	Customer	35/XXXX/911041 /xx	08/09/2016	09:48	08/09/2016	16:42	TESTING ABANDONED CALLS WITH BEXAR METRO.	WORKED ON ABANDONED CALL ISSUES	PM
EZ076032	Customer	35/XXXX/911042 /xx	08/10/2016	09:31	08/10/2016	16:37	TRUNK TESTING PER EDDIE TAYLOR	ANAYLIZNG LOGS FRO AURORA	PM
EZ076019	Customer	35/XXXX/911257	08/10/2016	08:00	08/10/2016	16:08	WORK ON ABANDONED CALL ISSUES.	BP4591 DPO'D RE VNDR MEET RE ABANDONED CALLS	PM
EZ076018	Customer	35/XXXX/911042 /xx	08/10/2016	07:59	08/10/2016	16:09	AVAYA CALL TRACES	CPE NO BILL	RM
EZ076023	Customer	35/XXXX/910637 /xx	08/10/2016	08:10	08/10/2016	16:41	VENDOR MEET	DS5932 DPO'D FOR VNDR MEET	PM
EZ076021	Customer	35/XXXX/911257	08/10/2016	08:01	08/10/2016	09:34	MONITOR TRUNKS TO COMAL	PF7464 DPO'D FOR CALL OBSERVATION	PM
EZ076026	Customer	35/XXXX/911041 /xx	08/10/2016	08:56	08/10/2016	15:53	WORK ON ABANDONED CALLS ISSUE.	RESEARCHED ABANDONED CALLS AT BROOKS	PM
EZ076040	Customer	31/EMXS/210/928/4556/D50	08/10/2016	12:55	08/11/2016	16:34	NEED TEST ASSIST. CUSTOMER IS REQUESTING ALL 30 TRUNKS FOR SAPD BE TESTED FOR LEVELS.	TKT TO CHECK LEVELS WITH DD3241	CR
EZ076050	Customer	31/EMXS/210/928/4556/D50	08/10/2016	14:56	08/15/2016	16:37	NEED TEST ASSIST. CUSTOMER IS REQUESTING ALL 30 TRUNKS FOR SAPD BE TESTED FOR LEVELS	TKT TO CHECK LEVELS WITH DD3241	CR
EZ076051	Customer	31/EMXS/210/928/4556/D50	08/10/2016	14:56	08/16/2016	16:34	NEED TEST ASSIST. CUSTOMER IS REQUESTING ALL 30 TRUNKS FOR SAPD BE TESTED FOR LEVELS	TKT TO CHECK LEVELS WITH DD3241	CR
EZ076052	Customer	31/EMXS/210/928/4556/D50	08/10/2016	14:57	08/18/2016	11:32	NEED TEST ASSIST. CUSTOMER IS REQUESTING ALL 30 TRUNKS FOR SAPD BE TESTED FOR LEVELS	TKT TO CHECK LEVELS WITH DD3241	CR
EZ076049	Customer	31/EMXS/210/928/4556/D50	08/10/2016	14:55	08/11/2016	16:37	NEED TEST ASSIST. CUSTOMER IS REQUESTING ALL 30 TRUNKS FOR SAPD BE TESTED FOR LEVELS	TKT TO CHECK LEVELS WITH DD3241	CR
EZ076106	Customer	31/DHXO/570235 /xx	08/11/2016	20:23	08/13/2016	07:25	CIRCUIT DOWN CC - MONICS FLICK - 2812356765	^^BNC/CC AFTER DPO & DPI/MONICS 2812356765	CR
EZ076092	Customer	31/EMXS/210/928/4556/D50	08/11/2016	13:08	08/18/2016	10:03	PER AT&T/DWAYNE (DD3241), CUSTOMER REQUESTED LEVEL TESTING ON THE CKT	49 - 911 OR PBX / MTCE CONTRACT	CR
EZ076081	Customer	35/XXXX/911041 /xx	08/11/2016	10:18	08/11/2016	16:03	MONITOR AND RESEARCH ABANDONED CALL PROBLEM.	ANALYZED ABANDONED CALL INFO -- AIRBUS	PM
EZ076062	Customer	35/XXXX/911042 /xx	08/11/2016	02:30	08/11/2016	04:42	CASSIDIAN GEM IS NOT ALLOWING ANYONE TO LOGIN NEEDS IMMED DISP	CASSIDIAN GEM	CR
EZ076069	Customer	35/XXXX/911042 /xx	08/11/2016	07:33	08/11/2016	19:04	AVAYA CALL LOG REPORTS	GATHERED TRACES AND REPORTS - AIRBUS	PM
EZ076071	Customer	35/XXXX/911041 /xx	08/11/2016	08:04	08/11/2016	16:27	RESUME T1 TEST TRUNK TESTING FOR BEXAR METRO	TEST TRUNK PER BEXAR METRO -- AIRBUS	PM
EZ076088	Customer	31/EMXS/210/928/4556/D50	08/11/2016	13:03	08/18/2016	11:16	PER AT&T/DWAYNE (DD3241), CUSTOMER REQUESTED LEVEL TESTING ON THE CKT.	TKT TO CHECK LEVELS WITH DD3241	CR
EZ076089	Customer	31/EMXS/210/928/4556/D50	08/11/2016	13:03	08/17/2016	16:38	PER AT&T/DWAYNE (DD3241), CUSTOMER REQUESTED LEVEL TESTING ON THE CKT.	TKT TO CHECK LEVELS WITH DD3241	CR
EZ076090	Customer	31/EMXS/210/928/4556/D50	08/11/2016	13:05	08/18/2016	11:03	PER AT&T/DWAYNE (DD3241), CUSTOMER REQUESTED LEVEL TESTING ON THE CKT.	TKT TO CHECK LEVELS WITH DD3241	CR
EZ076091	Customer	31/EMXS/210/928/4556/D50	08/11/2016	13:07	08/18/2016	10:44	PER AT&T/DWAYNE (DD3241), CUSTOMER REQUESTED LEVEL TESTING ON THE CKT.	TKT TO CHECK LEVELS WITH DD3241	CR
EZ076135	Customer	31/EMXS/210/928/4556/D51	08/11/2016	13:08	08/12/2016	12:01	PER AT&T/DWAYNE (DD3241), CUSTOMER REQUESTED LEVEL TESTING ON THE CKT	TKT TO CHECK LEVELS WITH DD3241	CR
EZ076136	Customer	31/EMXS/210/928/4556/D51	08/11/2016	13:08	08/12/2016	12:01	PER AT&T/DWAYNE (DD3241), CUSTOMER REQUESTED LEVEL TESTING ON THE CKT	TKT TO CHECK LEVELS WITH DD3241	CR
EZ076137	Customer	31/EMXS/210/928/4556/D51	08/11/2016	13:08	08/12/2016	12:01	PER AT&T/DWAYNE (DD3241), CUSTOMER REQUESTED LEVEL TESTING ON THE CKT	TKT TO CHECK LEVELS WITH DD3241	CR
EZ076139	Customer	31/EMXS/210/928/4556/D51	08/11/2016	13:08	08/12/2016	12:01	PER AT&T/DWAYNE (DD3241), CUSTOMER REQUESTED LEVEL TESTING ON THE CKT	TKT TO CHECK LEVELS WITH DD3241	CR
EZ076140	Customer	31/EMXS/210/928/4556/D51	08/11/2016	13:08	08/12/2016	12:01	PER AT&T/DWAYNE (DD3241), CUSTOMER REQUESTED LEVEL TESTING ON THE CKT	TKT TO CHECK LEVELS WITH DD3241	CR
EZ076141	Customer	31/EMXS/210/928/4556/D51	08/11/2016	13:08	08/12/2016	12:01	PER AT&T/DWAYNE (DD3241), CUSTOMER REQUESTED LEVEL TESTING ON THE CKT	TKT TO CHECK LEVELS WITH DD3241	CR
EZ076142	Customer	31/EMXS/210/928/4556/D51	08/11/2016	13:08	08/12/2016	12:01	PER AT&T/DWAYNE (DD3241), CUSTOMER REQUESTED LEVEL TESTING ON THE CKT	TKT TO CHECK LEVELS WITH DD3241	CR

EZ076143	Customer	31/EMXS/210/928/4556/D51	08/11/2016	13:08	08/12/2016	12:01	PER AT&T/DWAYNE (DD3241), CUSTOMER REQUESTED LEVEL TESTING ON THE CKT	TKT TO CHECK LEVELS WITH DD3241	CR
EZ076144	Customer	31/EMXS/210/928/4556/D51	08/11/2016	13:08	08/12/2016	12:01	PER AT&T/DWAYNE (DD3241), CUSTOMER REQUESTED LEVEL TESTING ON THE CKT	TKT TO CHECK LEVELS WITH DD3241	CR
EZ076145	Customer	31/EMXS/210/928/4556/D51	08/11/2016	13:08	08/12/2016	12:01	PER AT&T/DWAYNE (DD3241), CUSTOMER REQUESTED LEVEL TESTING ON THE CKT	TKT TO CHECK LEVELS WITH DD3241	CR
EZ076146	Customer	31/EMXS/210/928/4556/D52	08/11/2016	13:08	08/12/2016	12:01	PER AT&T/DWAYNE (DD3241), CUSTOMER REQUESTED LEVEL TESTING ON THE CKT	TKT TO CHECK LEVELS WITH DD3241	CR
EZ076147	Customer	31/EMXS/210/928/4556/D52	08/11/2016	13:08	08/12/2016	12:01	PER AT&T/DWAYNE (DD3241), CUSTOMER REQUESTED LEVEL TESTING ON THE CKT	TKT TO CHECK LEVELS WITH DD3241	CR
EZ076148	Customer	31/EMXS/210/928/4556/D52	08/11/2016	13:08	08/12/2016	12:01	PER AT&T/DWAYNE (DD3241), CUSTOMER REQUESTED LEVEL TESTING ON THE CKT	TKT TO CHECK LEVELS WITH DD3241	CR
EZ076149	Customer	31/EMXS/210/928/4556/D52	08/11/2016	13:08	08/12/2016	12:01	PER AT&T/DWAYNE (DD3241), CUSTOMER REQUESTED LEVEL TESTING ON THE CKT	TKT TO CHECK LEVELS WITH DD3241	CR
EZ076150	Customer	31/EMXS/210/928/4556/D52	08/11/2016	13:08	08/12/2016	12:01	PER AT&T/DWAYNE (DD3241), CUSTOMER REQUESTED LEVEL TESTING ON THE CKT	TKT TO CHECK LEVELS WITH DD3241	CR
EZ076151	Customer	31/EMXS/210/928/4556/D52	08/11/2016	13:08	08/12/2016	12:01	PER AT&T/DWAYNE (DD3241), CUSTOMER REQUESTED LEVEL TESTING ON THE CKT	TKT TO CHECK LEVELS WITH DD3241	CR
EZ076152	Customer	31/EMXS/210/928/4556/D52	08/11/2016	13:08	08/12/2016	12:01	PER AT&T/DWAYNE (DD3241), CUSTOMER REQUESTED LEVEL TESTING ON THE CKT	TKT TO CHECK LEVELS WITH DD3241	CR
EZ076153	Customer	31/EMXS/210/928/4556/D52	08/11/2016	13:08	08/12/2016	12:01	PER AT&T/DWAYNE (DD3241), CUSTOMER REQUESTED LEVEL TESTING ON THE CKT	TKT TO CHECK LEVELS WITH DD3241	CR
EZ076154	Customer	31/EMXS/210/928/4556/D52	08/11/2016	13:08	08/12/2016	12:01	PER AT&T/DWAYNE (DD3241), CUSTOMER REQUESTED LEVEL TESTING ON THE CKT	TKT TO CHECK LEVELS WITH DD3241	CR
EZ076155	Customer	31/EMXS/210/928/4556/D52	08/11/2016	13:08	08/12/2016	12:01	PER AT&T/DWAYNE (DD3241), CUSTOMER REQUESTED LEVEL TESTING ON THE CKT	TKT TO CHECK LEVELS WITH DD3241	CR
EZ076072	Customer	35/XXXX/911257	08/11/2016	08:05	08/11/2016	16:41	WORK ON DATA SERVER	WORKED ON TEXT TO 911 SERVER ISSUES - VIPER	PM
EZ076122	Customer	31/FDDC/021414 /xx	08/12/2016	06:55	08/12/2016	08:10	TX BEXAR METRO REGIONAL E 31FDDC021414 OOS HAL 08-12 04:18:46	**OOS/POWER OUTAGE- REPLACED POWER RECTIFIER/BM4641	AD
EZ076130	Customer	35/XXXX/911042 /xx	08/12/2016	08:06	08/12/2016	10:42	CHECK CMS SERVER FOR STATS	49 - 911 CPE	PM
EZ076158	Customer	35/XXXX/911042 /xx	08/12/2016	10:09	08/12/2016	14:44	POS 1 IRR NOT RETRIEVING RECORDINGS	49 - 911 CPE	CR
EZ076126	Customer	35/XXXX/911042 /xx	08/12/2016	07:50	08/12/2016	16:45	ABANDONED CALL TESTING	ABANDONED CALL TESTEING COMPLETED	RM
EZ076129	Customer	35/XXXX/911310	08/12/2016	08:04	08/12/2016	16:25	T1 INVESIGATION ON PSAP PER JH2772	WORKING ON T1 GOING TO LIVE OAK PD	PM
EZ076208	Customer	35/XXXX/911042 /xx	08/13/2016	17:33	08/15/2016	13:35	QUE EXCEEDED THRESHOLD/ AIRBUS# 1172548 POS # 40 IS OFFLINE.	AURORA MESSAGES EXCEEDED THRESHOLD. DPOD	CR
EZ076204	Customer	35/XXXX/911042 /xx	08/13/2016	15:26	08/14/2016	08:36	CUSTOMER UPS POWER TESTING FOR SUNDAY AUG 14 MORNING PUT BEHIND HP9491 PER MGR JH2772	CPE NO BILL	RM
EZ076193	Customer	35/XXXX/911042 /xx	08/13/2016	07:05	08/20/2016	18:49	WORKSTATION 31025 LOST CONNECTIVITY	PSAP RESTORED AIRBUS WORKSTATION	CR
EZ076215	Customer	35/XXXX/910637 /xx	08/14/2016	04:50	08/14/2016	11:38	MS SERVER HAS A POWER SUPPLY FAILURE & DC1 RUNTIME ERROR AIRBUS CASE 1172719.	49 - 911 OR PBX / MTCE CONTRACT	CR
EZ076214	Customer	35/XXXX/911042 /xx	08/14/2016	04:35	08/14/2016	13:42	LOSS POWER DSC SERVER AIRBUS#1172718	49 - 911 OR PBX / MTCE CONTRACT	CR
EZ076217	Customer	35/XXXX/911042 /xx	08/14/2016	08:14	08/14/2016	18:22	POS 35 CALLS RINGING ON POS 33 TECH HP9491 ON SITE	CALL WAS PLACED IN CONFERENCE TO BOTH POS- USER ERROR	CR
EZ076264	Customer	35/XXXX/911042 /xx	08/15/2016	11:33	08/15/2016	17:15	CORE AT&T SERVER DID NOT RESPOND WHEN THE PRIMARY SERVER CRASHED	49 - 911 OR PBX / MTCE CONTRACT	CR
EZ076269	Customer	35/XXXX/911257	08/15/2016	14:15	08/15/2016	16:06	VERIFY POWER STRIP MARKINGS ON VIPER	RESEARCHED TRUNK DATA FOR PD TESTING	PM
EZ076303	Customer	35/XXXX/911258	08/16/2016	09:46	08/16/2016	16:35	UPDATE ANTIVIRUS LOGS	49 - 911 OR PBX / MTCE CONTRACT	PM
EZ076302	Customer	35/XXXX/911042 /xx	08/16/2016	09:42	08/16/2016	16:33	GET IT READY FOR LIVE CALLS. ALSO MOVE BUILD ADMIN POS IN BACKROOM.	49 - 911 OR PBX / MTCE CONTRACT	CR
EZ076291	Customer	35/XXXX/911042 /xx	08/16/2016	07:44	08/16/2016	13:13	CONDUCT ELLIPSYS TESTING OF TRUNKS WITH 911 GROUPS.	74 - OFFICIAL COMPANY SERVICES (OCS)	PM
EZ076292	Customer	35/XXXX/911042 /xx	08/16/2016	07:47	08/16/2016	16:13	ASSIST SLC5 TRUNK LINEUP BETWEEN BROOKS PD AND LEHIGH CO.	74 - OFFICIAL COMPANY SERVICES (OCS)	PM
EZ076287	Customer	35/XXXX/911042 /xx	08/16/2016	07:29	08/16/2016	08:59	SETUP CALL MONITOR AT THE LEIGH HIGH CENTRAL OFFICE	CPE NO BILL	RM

EZ076349	Customer	36/DHXO/501286 /xx	08/16/2016	23:09	08/17/2016	09:44	T1 FLAPPING AND FAILED CC - MONICA FLICK - 2812356765 :	REPEATER PM CHK NO ERRORS DETECTED PAST 7 DAYS. SAW 1 ERR	CR
EZ076386	Customer	35/XXXX/911257	08/17/2016	14:02	08/17/2016	16:05	TRY TO GET ELLIPSYS TEST SET WORKING.	74 - OFFICIAL COMPANY SERVICES (OCS)	PM
EZ076373	Customer	35/XXXX/911042 /xx	08/17/2016	08:44	08/17/2016	14:05	WORK ON ABANDONED CALL ISSUE WITH CONCERNED PERSONNEL.	74 - OFFICIAL COMPANY SERVICES (OCS)	PM
EZ076362	Customer	35/XXXX/911042 /xx	08/17/2016	07:23	08/17/2016	13:44	ABANDON CALL ISSUES AND LOCAL REPORTING	CPE NO BILL	RM
EZ076370	Customer	35/XXXX/911042 /xx	08/17/2016	08:04	08/17/2016	10:25	WORK WITH CO TO ADJUST LEVELS	CPE NO BILL	RM
EZ076352	Customer	31/EMXS/210/928/4556/D52	08/17/2016	02:05	08/17/2016	02:06	TKGMN=472-23 NEN=1-0-0-4-1-7-4-15 BLKD OOS AUTO/CADN/PSAP UNABLE TO REL	CPE TICKET EZ076363	AD
EZ076442	Customer	35/XXXX/911290	08/18/2016	18:06	08/18/2016	20:27	AIRCONDITIONER IS DRIPING WATER NEED TECH TO CHECK CPE.	49 - 911 OR PBX / MTCE CONTRACT	CR
EZ076419	Customer	35/XXXX/911042 /xx	08/18/2016	09:11	08/23/2016	16:00	AURORA UNABLE TO PULL MIS REPORTS	49 - 911 OR PBX / MTCE CONTRACT	CR
EZ076437	Customer	31/FDDC/021414 /xx	08/18/2016	14:11	08/19/2016	16:32	ALI CKT DOWN ON 1 SIDE, OOS IN AMITY	ALI OOS; TRBL FIXED SEE ST094206;- REPLACED HR2H-LR1S PLU	AD
EZ076407	Customer	35/XXXX/911259	08/18/2016	07:34	08/18/2016	14:17	WORK WITH TEIR 3 SUPPORT	CPE NO BILL	RM
EZ076414	Customer	35/XXXX/911042 /xx	08/18/2016	07:58	08/18/2016	16:36	TRUNK TESTING	CPE NO BILL	RM
EZ076429	Customer	31/EMXS/210/928/4556/D50	08/18/2016	12:02	08/23/2016	09:49	xxITCH AND CUSTOMER END FOR 30 TRK MEMBERS.@ 1000HZ,400HZ,2800HZ (DB LEVEL	INFO TKT TO CHECK LEVELS WITH DD3241	AD
EZ076470	Customer	35/XXXX/910698 /xx	08/19/2016	10:05	08/19/2016	14:43	POS 3 MAPPING ISSUE PLEASE ASSIGN TO SANTOS DEL MORAL SD5932	49 - 911 OR PBX / MTCE CONTRACT	CR
EZ076475	Customer	35/XXXX/911042 /xx	08/19/2016	11:35	08/19/2016	15:17	REPORTING WHEN THEY GET TTY PHONE CALLS THEY GETS JIBBERISH AT CALL TAKER POSITION	49 - 911 OR PBX / MTCE CONTRACT	CR
EZ076473	Customer	35/XXXX/910637 /xx	08/19/2016	11:09	08/19/2016	16:25	NEED TECH TO INVESTIGATE AIRBUS TKT 1179716... PING FAIL AT POS 16 ALSO 1179776	POS 16 WAS ACCIDENTLY TURNED OFF BY NEW EMPLOYEE	CR
EZ076492	Customer	35/XXXX/911042 /xx	08/20/2016	03:51	08/20/2016	11:36	NEED DPO ASAP TO FIX. ALSO RECORDING TIMES ARE OFF AS WELL.	FOUND DEFECTIVE HEADSET.	CR
EZ076528	Customer	35/XXXX/911312	08/21/2016	22:13	08/22/2016	09:12	UNAUTH ADDRESSES ARE POPULATING IN THE CAD DURING 911 CALLS/ LCON RETHA 2106191200	49 - 911 OR PBX / MTCE CONTRACT	CR
EZ076525	Customer	35/XXXX/911042 /xx	08/21/2016	14:36	08/23/2016	10:25	POS 23: AUDIO IS MUFFLED - TRIED CHANGING HEADSET & REBOOT	74 - OFFICIAL COMPANY SERVICES (OCS)	CR
EZ076530	Customer	36/DHXO/501286 /xx	08/22/2016	04:12	08/22/2016	04:52	BOUNCING	^CKT BNC/CHECK PM'S/TU2 MONICA	CR
EZ076529	Customer	36/DHXO/501252 /xx	08/22/2016	04:11	08/22/2016	21:56	BOUNCING	--BOUNCING//R1 - F1 PAIR- REPAIRED//MONICA-PSAP	CR
EZ076544	Customer	35/XXXX/911042 /xx	08/22/2016	08:07	08/22/2016	09:30	TEST POS1 FOR TTY TRANSMISSION ISSUES.	49 - 911 OR PBX / MTCE CONTRACT	PM
EZ076538	Customer	35/XXXX/911042 /xx	08/22/2016	07:59	08/22/2016	16:09	TEST TRUNKS WITH TIER THREE AT BETWEEN LEHIG AND BROOKS.	74 - OFFICIAL COMPANY SERVICES (OCS)	PM
EZ076573	Customer	35/XXXX/911042 /xx	08/22/2016	14:14	08/22/2016	16:06	ASSIST WITH CALL DATA ANALIZER. MAKE A TEST CABLE FOR DIRECT ACCESS	ASSIST WITH CALL DATA ANALIZER -- AIRBUS	PM
EZ076554	Customer	35/XXXX/911042 /xx	08/22/2016	09:20	08/22/2016	09:39	ASSIST WITH TRUNK TESTING	ASSIST WITH TRUNK TESTING -- AIRBUS	PM
EZ076556	Customer	35/XXXX/911290	08/22/2016	09:37	08/22/2016	14:58	TXT TO 911 ISSUE	CPE NO BILL	RM
EZ076537	Customer	35/XXXX/911042 /xx	08/22/2016	07:58	08/22/2016	16:09	SETUP CALL MONITOR ON 911 T-1	CPE NO BILL	RM
EZ076540	Customer	35/XXXX/911312	08/22/2016	08:03	08/22/2016	09:40	T1 DOWN	CPE NO BILL	RM
EZ076555	Customer	35/XXXX/911290	08/22/2016	09:36	08/22/2016	16:23	OBJECT SERVER NEEDS REPAIRS AFTER WATER LEAK	REPLACE EQUIPMENT THAT GOT WET	PM
EZ076557	Customer	35/XXXX/911290	08/22/2016	09:41	08/22/2016	14:17	REPLACE WATER DAMAGED CPE(KEYBOARD,MOUSE,PRINTER AND MONITOR).	REPLACE WATER DAMAGED CPE	PM
EZ076595	Customer	35/XXXX/911042 /xx	08/23/2016	08:07	08/23/2016	16:30	MAKE TTY TEST CALLS PER CALL TAKER GARBLED MESSAGES.	49 - 911 OR PBX / MTCE CONTRACT	PM
EZ076613	Customer	35/XXXX/911041 /xx	08/23/2016	11:02	08/23/2016	16:37	DROPPED CALL TROUBLE	CPE NO BILL	RM
EZ076590	Customer	35/XXXX/911042 /xx	08/23/2016	07:33	08/23/2016	15:28	ABANDON CALL ISSUES	CPE NO BILL	RM

EZ076619	Customer	35/XXXX/911257	08/23/2016	13:58	08/23/2016	16:08	REINSTALL MACHINES USED IN TESTING AT LEHIGH CO WITH TIER 3.	RETRUNED PC AND MODEM AND TESTING MATERIALS TO 911 RM	PM
EZ076608	Customer	35/XXXX/911042 /xx	08/23/2016	10:18	08/23/2016	14:02	EXTEND WIRING FOR ADMIN COMPUTER AND CHECK STATUS ON AURORA SERVER REPORT.	ROUTINE FOR RUNNING CABLE FOR NEW ADMIN MACHINE	PM
EZ076641	Customer	35/XXXX/911257	08/24/2016	07:53	08/24/2016	11:12	INSTALL NEW EQUIPMENT FOR CALL LOG	49 - 911 OR PBX / MTCE CONTRACT	PM
EZ076645	Customer	35/XXXX/911258	08/24/2016	08:04	08/24/2016	10:00	INSTALL ANTIVIRUS DEF UPDATES ON VIPER2	49 - 911 OR PBX / MTCE CONTRACT	PM
EZ076650	Customer	35/XXXX/911042 /xx	08/24/2016	08:41	08/24/2016	16:00	CALLTKR POS 15 HAD TO CLICK EMS BTN 3 TIMES BEFORE IT WOULD XFR TO EMS	49 - 911 OR PBX / MTCE CONTRACT	CR
EZ076643	Customer	35/XXXX/911257	08/24/2016	08:02	08/24/2016	16:10	MONITOR ALI LINKS	74 - OFFICIAL COMPANY SERVICES (OCS)	PM
EZ076642	Customer	35/XXXX/911258	08/24/2016	07:54	08/24/2016	16:02	GO TO 7159 SAN PEDRO AND GET NCM MODOEM	CPE NO BILL	RM
EZ076701	Customer	35/XXXX/911321	08/25/2016	08:04	08/25/2016	10:05	VENDOR MEET	49 - 911 OR PBX / MTCE CONTRACT	PM
EZ076702	Customer	35/XXXX/911321	08/25/2016	08:04	08/25/2016	09:09	MEET WITH VENDORS AND TEAM MEMBERS.	74 - OFFICIAL COMPANY SERVICES (OCS)	PM
EZ076704	Customer	35/XXXX/911041 /xx	08/25/2016	08:18	08/25/2016	11:45	COMPARE EVENT VIEWER INFORMATION WITH CDR OUTPUT.	74 - OFFICIAL COMPANY SERVICES (OCS)	PM
EZ076720	Customer	35/XXXX/911257	08/25/2016	11:45	08/25/2016	16:00	UPDATE DATABASES IN SERVERS	COMPLETED SERVER MTC)	PM
EZ076696	Customer	35/XXXX/911321	08/25/2016	06:59	08/25/2016	13:01	REMOTE MAINTENANCE.	CPE NO BILL	RM
EZ076698	Customer	35/XXXX/911321	08/25/2016	07:24	08/25/2016	09:27	CUSTOMER MEETING	CPE NO BILL	RM
EZ076719	Customer	35/XXXX/911259	08/25/2016	11:43	08/25/2016	16:08	SQL DATABASE MAINTENANCE	CPE NO BILL	RM
EZ076713	Customer	35/XXXX/911042 /xx	08/25/2016	10:02	08/25/2016	16:27	TEST TTY IN FIRE TRAINING ROOM OOS	ROUTINE MAINT, TESTED TTY	PM
EZ076783	Customer	35/XXXX/911376 /xx	08/26/2016	11:37	08/26/2016	13:58	16NERS119443.. ALL ARE BACK UP, NEED TECH TO CHECK EQUIPMENT	CAME CLEAR AFTER TESTING	CR
EZ076789	Customer	35/XXXX/911321	08/26/2016	14:10	08/26/2016	15:30	ANALYZE CALL RECORD DETAILS FOR ABANDONED CALLS ISSUES AT SAPD.	COMPARED DATA FROM EVENT VIEWER AND ECATS	PM
EZ076790	Customer	35/XXXX/911321	08/26/2016	14:11	08/26/2016	15:50	TELCO INVENTORY	CPE NO BILL	RM
EZ076764	Customer	35/XXXX/911042 /xx	08/26/2016	07:13	08/26/2016	13:29	911 ABANDON CALL TESTING	CPE NO BILL	RM
EZ076782	Customer	35/XXXX/911257	08/26/2016	10:53	08/26/2016	16:15	PULL UP LOGS FOR CONVERSE PSAP	LOGS NEEDED FOR CONVERSE	PM
EZ076785	Customer	35/XXXX/911259	08/26/2016	13:26	08/26/2016	14:30	KANTU ESI ROUTER DOWN	RESET MRM WORKING	PM
EZ076765	Customer	35/XXXX/911042 /xx	08/26/2016	07:25	08/26/2016	13:30	TESTING FOR ABANDONED CALLS ISSUE	TEST CALLS WITH CONFERENCE BRIDGE SUPPORT PERSONNEL	PM
EZ076792	Customer	35/XXXX/911258	08/26/2016	14:54	08/26/2016	16:20	CHECK DATABASE SERVER CONNECTIVITY	TESTED CONNECTIVITY ON DB SERVER	PM
EZ076770	Customer	35/XXXX/911042 /xx	08/26/2016	08:05	08/26/2016	14:50	TTY TESTING ON FIRE TRAINING POSITION	TROUBLESHOOT ABANDON CALL RATE. REPORTS WERE SENT	PM
EZ076847	Customer	35/XXXX/911263	08/29/2016	14:08	08/29/2016	16:39	ALI MAINTENANCE	CPE NO BILL	RM
EZ076819	Customer	35/XXXX/911042 /xx	08/29/2016	07:45	08/29/2016	15:59	ABANDON CALL MONITORING	CPE NO BILL	RM
EZ076882	Customer	35/XXXX/911042 /xx	08/30/2016	10:15	08/31/2016	07:14	FIX SLOW LOGIN ISSUES ON POS 19,20,21 AND REPLACE MOUSE ON 19.	911 CPE MTNC	PM
EZ076891	Customer	35/XXXX/911258	08/30/2016	14:08	08/31/2016	07:07	CHECK TCS CERTIFICATES FOR TEXT TO 911	CHECK TCS CERTIFICATES	PM
EZ076867	Customer	35/XXXX/911263	08/30/2016	07:05	08/30/2016	16:35	SERVER MAINT	CPE NO BILL	RM
EZ076872	Customer	35/XXXX/911041 /xx	08/30/2016	07:45	08/30/2016	15:28	ABANDON CALL TRUNK VERICATION	CPE NO BILL	RM
EZ076912	Customer	35/XXXX/911304	08/30/2016	21:49	08/31/2016	13:36	POS 4 PHONE MIKE WILL NOT MUTE.	DEFECTIVE CORD REPLACED AT POSITION 2	CR
EZ076877	Customer	35/XXXX/911257	08/30/2016	08:01	08/30/2016	10:51	ANALYZE TRUNKS THROUGH PMG	PREV MAINT; PM CONFIGURATOR SET UP	PM

EZ076892	Customer	35/XXXX/911041 /xx	08/30/2016	14:08	08/30/2016	16:35	WORKING ON 911 TRUNKS 31/EMXS 210-928-4557 D503 AND D516 NEED CKTS BUSIED OUT DPO TO HP9491	TESTED CABLE PAIRS TOK AND HAD TO REPLACE MTU CARD	CR
EZ076883	Customer	35/XXXX/911258	08/30/2016	10:49	08/31/2016	07:13	INVESTIGATE SET UP OF TRUNKS FROM CONFIGURATOR	TRUNK MAINTENANCE	PM
EZ076924	Customer	35/XXXX/911042 /xx	08/31/2016	07:53	08/31/2016	16:39	MTU TESTING	CPE NO BILL	RM

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Annex D: Trouble Ticket Sample 2

Attached is a sample trouble ticket.





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Trouble Report Number	Customer Name	Circuit ID	Receive Date	Receive Time	Restored Date	Trouble Reported	Trouble Summary	Report Category
EZ074311	Customer	35/XXXX/911219 /xx	07/01/2016	17:37	07/05/2016	ADMIN 01 PING FAILURE. AIRBUS TKT 1152300 OK TO DISPATCH TUESDAY 7/5 IN A.M..	49 - 911 /RESTARTED FIREWALL TO SYNC DATA ON ADMIN	CR
EZ074348	Customer	35/XXXX/910526 /xx	07/04/2016	08:48	07/04/2016	CHECK ALARMS TB	MONITORED AND CLEARED ALARMS	CR
EZ074430	Customer	35/XXXX/911219 /xx	07/05/2016	18:51	07/07/2016	GETTING ALARM ADMIN 01 PING FAIL THEY ARE LOGGING BACK IN BUT HAVE FLIPPED THE MAKE BUSY SWITCH...AIRBUS CASE1154532	49 - 911 RESET FIREWALL...PING FROM REMOTE AND INTERNAL	CR
EZ074520	Customer	35/XXXX/910869 /xx	07/07/2016	18:45	07/07/2016		PSAP REBOOTED POSITIONS TOK	CR
EZ074534	Customer	35/XXXX/910781 /xx	07/08/2016	06:45	07/08/2016	CHECK ALARMS TB	49 - 911ESTARTED WORKSTATIONS, TESTED PRINTER, DID DATA S	CR
EZ074535	Customer	35/XXXX/910594 /xx	07/08/2016	06:47	07/08/2016	CHECK ALARMS TB	49 - 911 /CLEARED ALARMS	CR
EZ074536	Customer	35/XXXX/910869 /xx	07/08/2016	06:49	07/18/2016	CHECK ALARMS TB	49 - 911CLEARED ALARMS DATA SYNC ON POSITIONS	CR
EZ074938	Customer	35/XXXX/911090 /xx	07/19/2016	06:44	07/19/2016	CHECK POS ALM TB	SYNCED POS TO DATA ON SERVER	CR
EZ074939	Customer	35/XXXX/910996 /xx	07/19/2016	06:46	07/19/2016	CHECK POS ALM TB	SYNC DATA ON POS IN PSAP	CR
EZ074940	Customer	35/XXXX/910594 /xx	07/19/2016	06:48	07/20/2016	CHECK POS ALM TB	49 - 911 RESTARTED POS TO SYNC...OK TO CLOSETR	CR
EZ075059	Customer	35/XXXX/910781 /xx	07/20/2016	13:50	07/20/2016	CHECK RECORDER TB	DATA SYNC ON POS..OK	CR
EZ075095	Customer	35/XXXX/910526 /xx	07/21/2016	10:06	07/21/2016	CK POS 2 TB	49 - 911 ALL POSITIONS GOOD...OK TO CLOSE	CR
EZ075137	Customer	35/XXXX/910781 /xx	07/22/2016	01:47	07/22/2016	REMOTE HOST LOST CONNECTION AIRBUS #1160772 LINK LOSS	CLRD ALRMS & FORCED BACK TO DDS A	CR
EZ075156	Customer	35/XXXX/911090 /xx	07/22/2016	08:39	07/24/2016	CK RECORDER TBA	RECORDER OK	CR
EZ075157	Customer	35/XXXX/910996 /xx	07/22/2016	08:41	07/22/2016	CK RECORDER TBA	DG4980 DPO'D RE RECORDER.	CR
EZ075158	Customer	35/XXXX/910594 /xx	07/22/2016	08:42	07/25/2016	INCORRECT ALI PRNT NOW WORKING	49 - 911 OR PBX / MTCE CONTRACT	CR
EZ075159	Customer	35/XXXX/910594 /xx	07/22/2016	08:44	07/26/2016	9-1-1 OVERFLOW NOT WORKING	REFERRED TO WINDSTREAM	CR
EZ075208	Customer	35/XXXX/910781 /xx	07/23/2016	18:29	07/24/2016	CANT OPEN MAP TBA	/SYNC DATA AND UPDATE	CR
EZ075213	Customer	35/XXXX/910996 /xx	07/24/2016	08:06	07/24/2016	CHECK UPS TBA	UPS IS WORKING OK	CR
EZ075215	Customer	35/XXXX/910526 /xx	07/24/2016	09:03	07/24/2016	MAP NOT WORKING TBA	49 - 911 OR PBX / MTCE CONTRACT	CR
EZ075241	Customer	35/XXXX/910932 /xx	07/25/2016	09:14	07/25/2016	RECORDER TROUBLE TBA	49 - 911 OR PBX / MTCE CONTRACT	CR
EZ075259	Customer	35/XXXX/910769 /xx	07/25/2016	15:52	07/25/2016	CHECK OVERFLOW TBA	TESTED OVERFLOW...WORKING...OK TO CLOSE	CR
EZ075275	Customer	35/XXXX/910955 /xx	07/26/2016	06:38	07/26/2016	POS 2 MAP.TBA	49 - 911 /MAP IS WORKING GOOD ON BOTH POSITIONS...	CR
EZ075276	Customer	35/XXXX/910869 /xx	07/26/2016	06:40	07/26/2016	POS 2 MAP.TBA	49 - 911/REMOTED IN AND CHECKED MAPPING...ALL	CR
EZ075277	Customer	35/XXXX/910708 /xx	07/26/2016	06:41	07/27/2016	POS 2 MAP.TBA	MAPPING OK...OK TO CLOSE	CR
EZ075289	Customer	35/XXXX/911219 /xx	07/26/2016	10:00	07/26/2016	ADMIN 1 IS FAILING PING	49 - 911/RESTORED ADMIN MACHINE T	CR
EZ075390	Customer	35/XXXX/910889 /xx	07/27/2016	18:21	07/27/2016	RECORDER NOT RESPONDING	RESTARTED SERVICES ON NRX TO ALLOW USER LOGIN AT DSP LVL	CR
EZ075394	Customer	35/XXXX/910781 /xx	07/27/2016	20:47	07/28/2016	SEEING A DATA SYNC ERROR FROM THE ORION VELA, PLZ DPO 1ST TO RESOLVE...AIRBUS CASE 1163661	49 - 911WORKED WITH JUSTIN AT AIRBUS...AFTER RESET,MONIT	CR
EZ075396	Customer	36/EMXS/432/367/1120/D50	07/27/2016	21:40	07/27/2016	AIRBUS REPORTING PING FAILURES AT SITE. CAN NOT REACH PSAP, PLEASE TEST FOR TROUBLE.	NO COMMERCIAL POWER @PREM	CR
EZ075397	Customer	35/XXXX/910996 /xx	07/27/2016	21:50	07/28/2016	FAILURES AT SITE. PER CHITWOOD-PSAP THE PSAP'S BUILDING LOST POWER. NO ETR. AIBUS TKT#	CALLS ROUTED BACK TO SITE AFTER POWER OUTAGE	CR

EZ075398	Customer	35/XXXX/910996 /xx	07/27/2016	23:24	07/29/2016	RELATIONSHIP" DISPLAYED... TECH ANDREW/JUSTIIN MAY BE ABLE TO REMOTE IN TO RESOLVE	49 - 911/WORKED WITH AIRBUS TO RECONFIGURE POS2 INTO DOMA	CR
EZ075453	Customer	35/XXXX/911090 /xx	07/29/2016	06:35	07/29/2016	HANDSET NOT WORKING TBA	REPLACED HANDSET, MAINTENANCE ON CPUS	CR
EZ075500	Customer	35/XXXX/910955 /xx	07/29/2016	23:45	07/29/2016	BOTH STATIONS DISCONNECTED FROM SERVER/VERIFY THEY CAN STILL TAKE CALLS	STATION BECAME DISCONNECTED	CR



Annex E: OSP Network SIP Interconnection

Attached is the AT&T OSP Network SIP Interconnection v1.4.



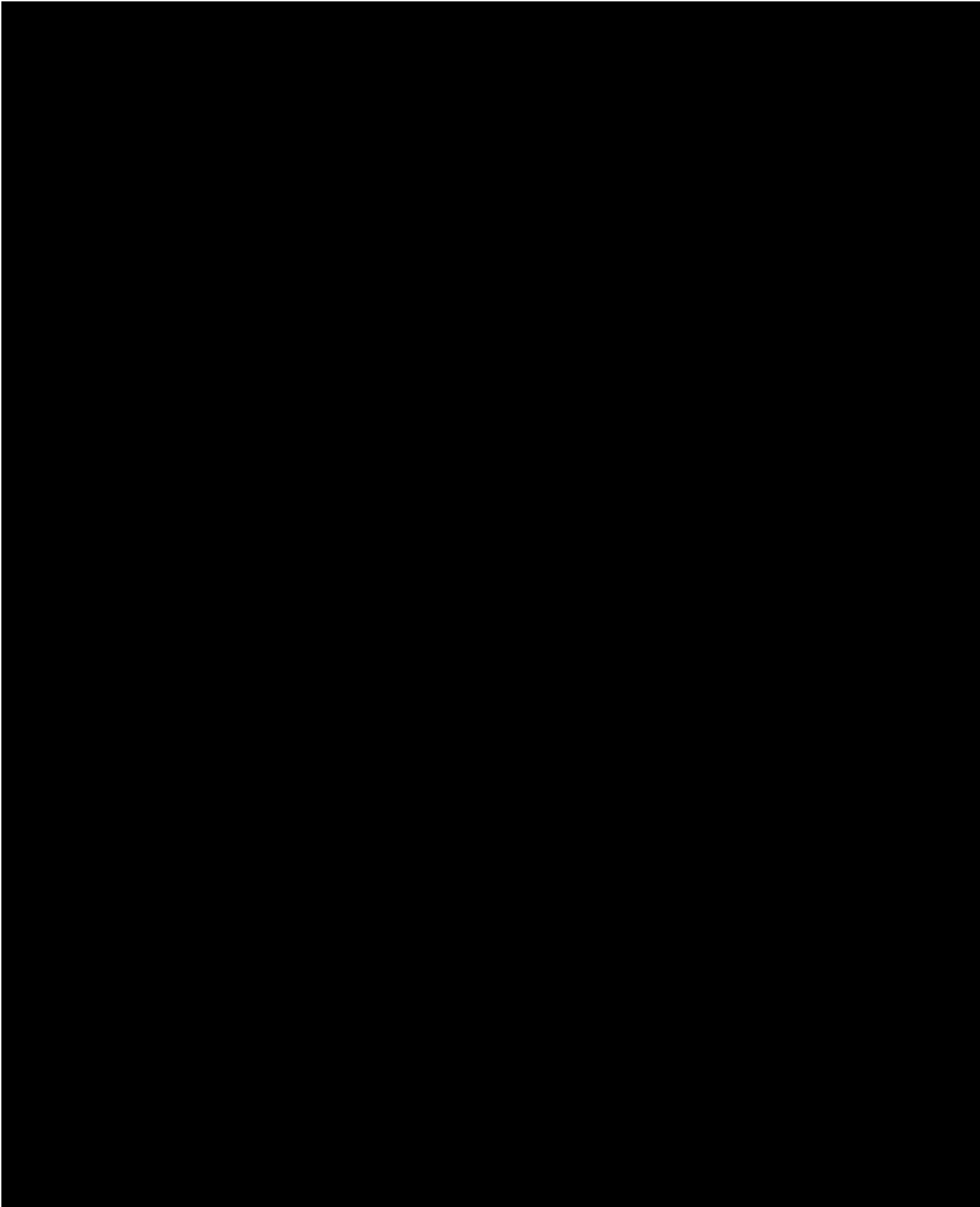


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AT&T ESInet™
OSP Network SIP Interconnection
Specification
Version 1.4



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the 1990s, the number of people in the world who are under 15 years of age has increased by 1.2 billion (United Nations 1999). The number of children in the world is projected to increase to 2.5 billion by the year 2025 (United Nations 1999).

There is a growing concern that the world's children are not being properly cared for. The United Nations Children's Fund (UNICEF) has estimated that 100 million children are in need of special care (United Nations 1999). The World Bank has estimated that 100 million children are in need of special care (World Bank 1999). The United Nations has estimated that 100 million children are in need of special care (United Nations 1999).

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The first part of the paper discusses the importance of the research and the objectives of the study. It then presents a literature review of the existing research on the topic. The next section describes the methodology used in the study, including the data sources and the statistical techniques employed. The results of the study are then presented, followed by a discussion of the findings and their implications. Finally, the paper concludes with a summary of the main points and suggestions for future research.

The research was conducted using a quantitative approach, with data collected from a large sample of participants. The results show a significant positive correlation between the variables studied, indicating that the hypothesis was supported. The findings have important implications for the field and suggest that further research is needed to explore the underlying mechanisms.

In conclusion, the study provides valuable insights into the relationship between the variables and highlights the need for continued research in this area. The results are consistent with previous findings and offer new perspectives on the topic.

the 1990s, the number of people in the UK who are aged 65 and over has increased by 1.5 million (1990–1999) and is projected to increase by a further 1.5 million by 2010 (Office for National Statistics 2000). The number of people aged 65 and over is projected to increase by 2.5 million by 2020 (Office for National Statistics 2000).

There is a growing awareness of the need to develop strategies to meet the needs of the ageing population. The Department of Health (1999) has identified the need to develop a 'new paradigm' for the care of the elderly. This paradigm is based on the principle of 'active ageing', which is the process of maintaining and enhancing the functional ability of older people to live independently and to participate in society. The Department of Health (1999) has identified a number of key areas for action in order to achieve this paradigm, including: (1) the development of a 'new paradigm' for the care of the elderly; (2) the development of a 'new paradigm' for the care of the elderly; (3) the development of a 'new paradigm' for the care of the elderly.

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the 'information' and 'communication' fields. The 'information' field is defined as:

...the study of the processes of information production, distribution, access, use and evaluation, and the study of the social, cultural, economic and political contexts in which these processes take place. (p. 10)

The 'communication' field is defined as:

...the study of the processes of communication production, distribution, access, use and evaluation, and the study of the social, cultural, economic and political contexts in which these processes take place. (p. 10)

The 'information science' field is defined as:

...the study of the processes of information production, distribution, access, use and evaluation, and the study of the social, cultural, economic and political contexts in which these processes take place. (p. 10)

The 'information studies' field is defined as:

...the study of the processes of information production, distribution, access, use and evaluation, and the study of the social, cultural, economic and political contexts in which these processes take place. (p. 10)

The 'information research' field is defined as:

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[The following text is a dense, continuous block of text, likely a scan of a document page. It contains numerous words and phrases that are mostly illegible due to the quality of the scan. The text appears to be a single paragraph or a section of a larger document. The words are arranged in lines, with some words appearing to be in a different script or language than others, possibly indicating a mix of languages or a specific dialect. The overall structure is a single, unbroken block of text.]

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The research was conducted in a laboratory setting, using a sample of 100 participants. The data was collected over a period of six months. The results show that there is a significant correlation between the variables studied. This finding has important implications for the field of research.

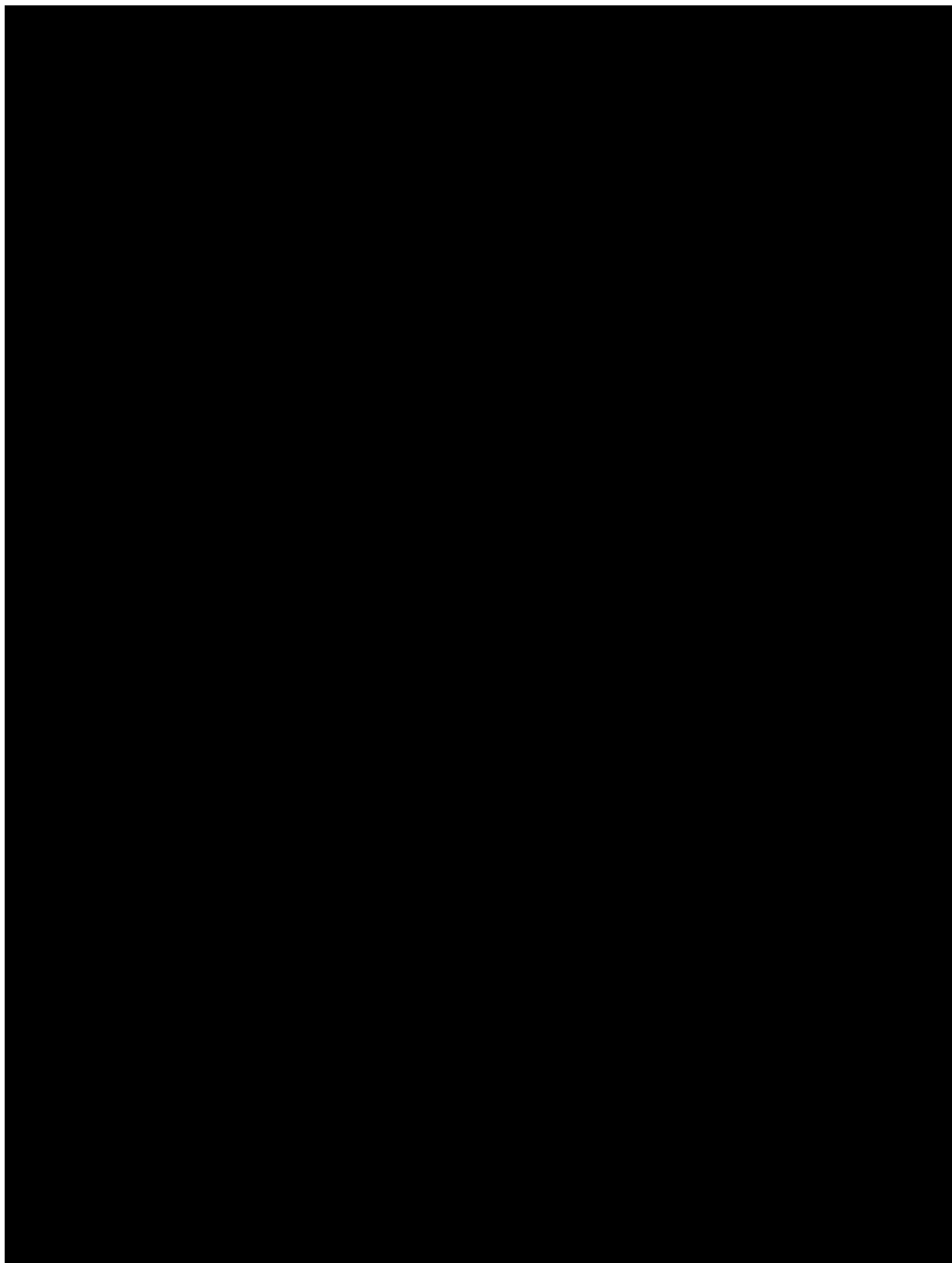
The methodology used in this study was a combination of qualitative and quantitative methods. This approach allowed for a more comprehensive understanding of the research topic. The data was analyzed using statistical software, and the results were presented in a clear and concise manner.

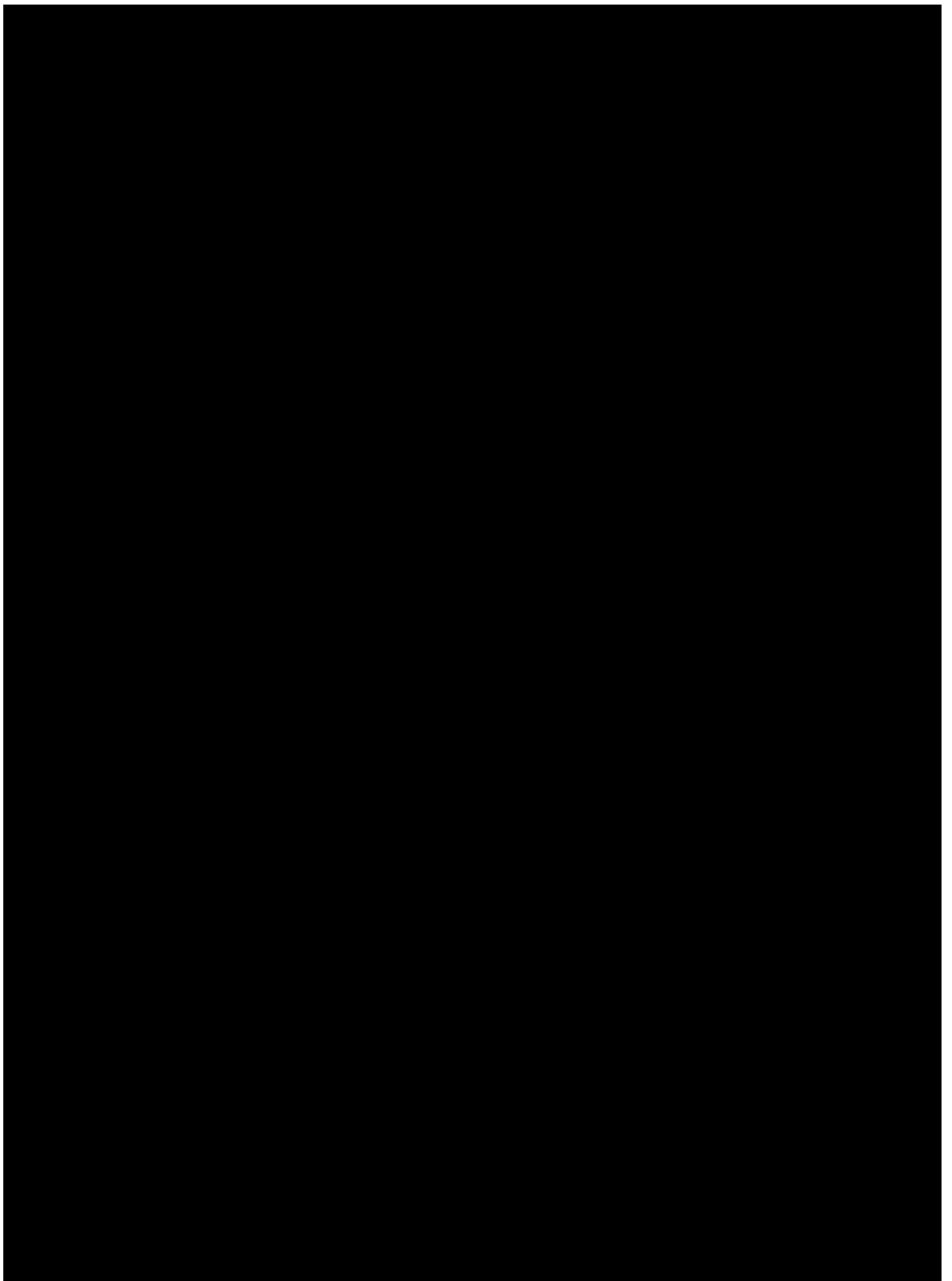
The findings of the study suggest that there is a need for further research in this area. The implications of the findings are discussed in detail, and the limitations of the study are acknowledged. The paper concludes with a list of references and a summary of the main points.

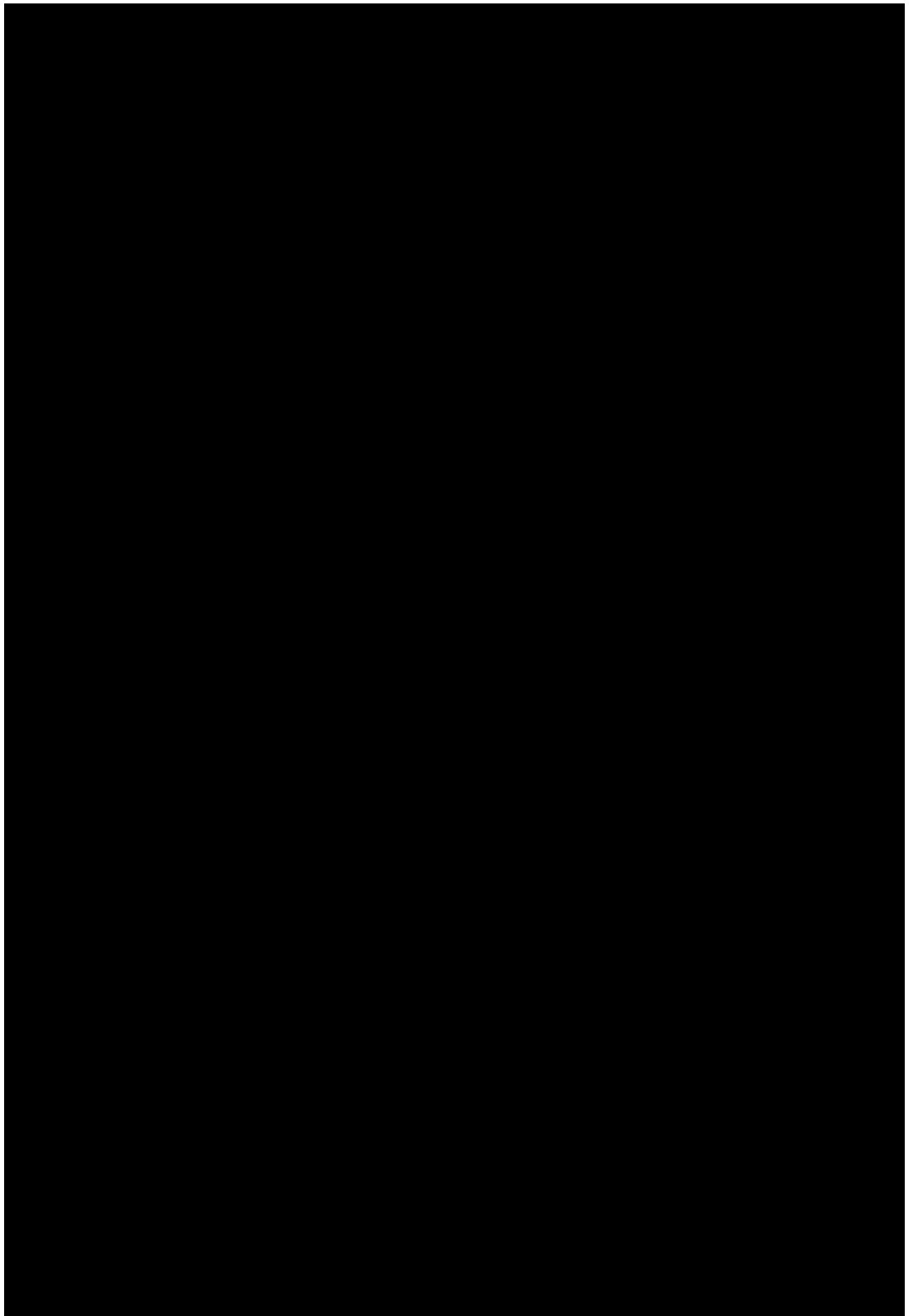
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In conclusion, the study provides valuable insights into the relationship between the variables and highlights the need for continued research in this area. The results are consistent with previous findings and offer new perspectives on the topic.







the 1990s, the number of people in the UK who are employed in the public sector has increased by 1.5 million (1990–1999) and the number of people in the public sector has increased by 2.5 million (1990–1999) (Department of Health 2000).

There is a growing emphasis on the need to improve the efficiency of the public sector and to ensure that the public sector is able to deliver the best possible value for money. This has led to a number of initiatives, including the introduction of the Health Service Act 1999, the Health Service Act 2001, and the Health Service Act 2004. These initiatives have led to a number of changes in the way the public sector is organised and managed, and have led to a number of improvements in the way the public sector delivers services.

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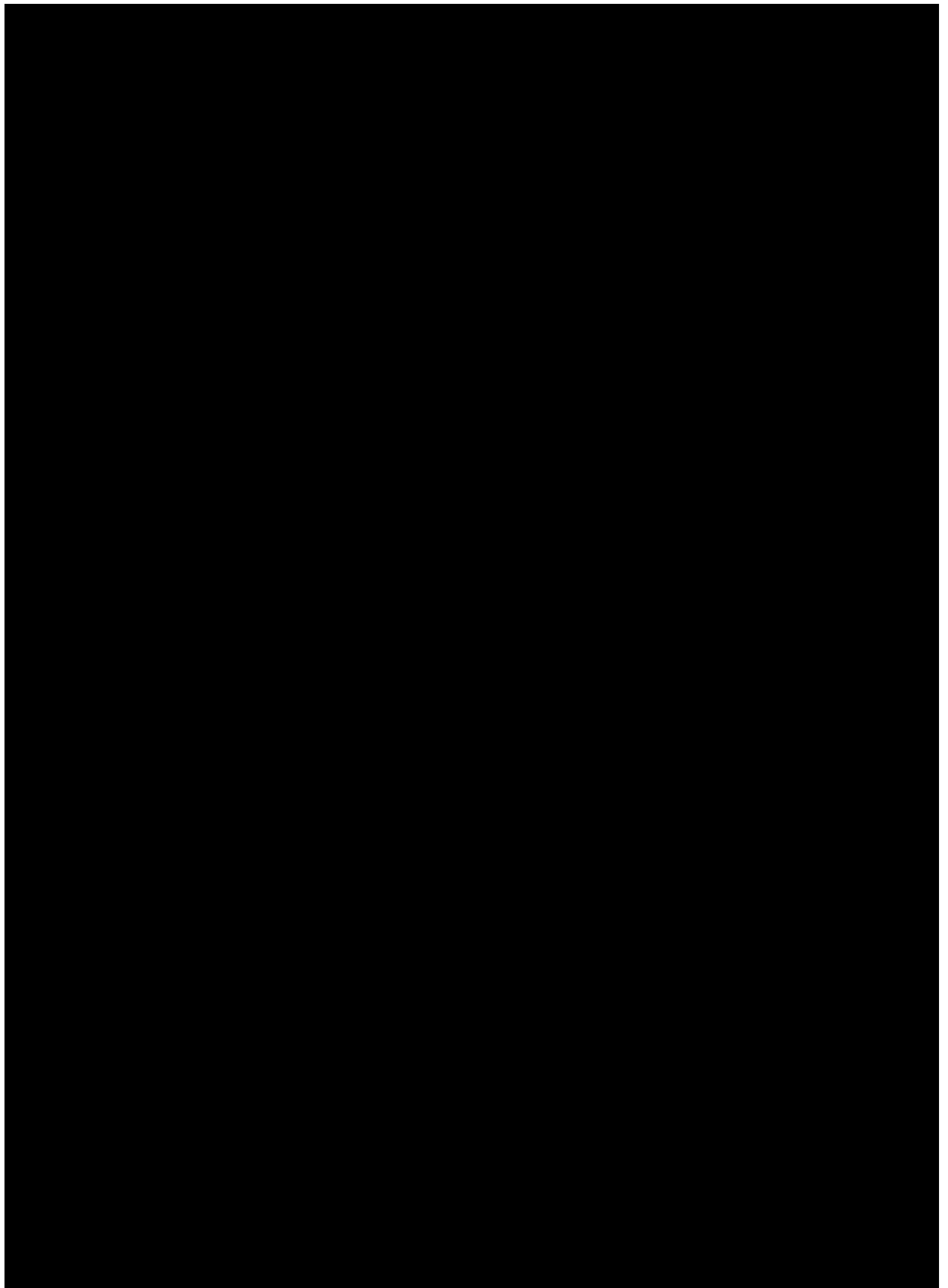
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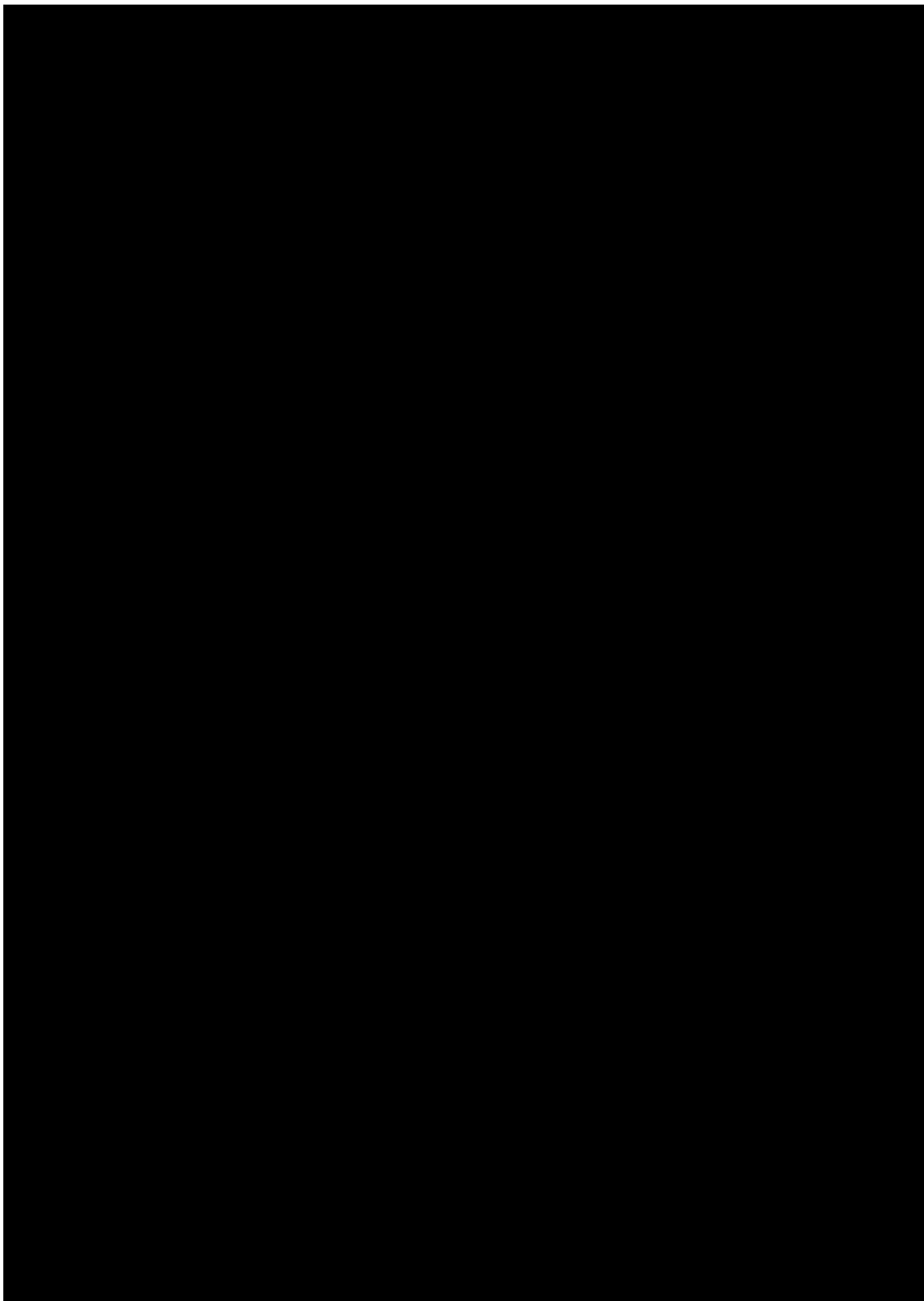
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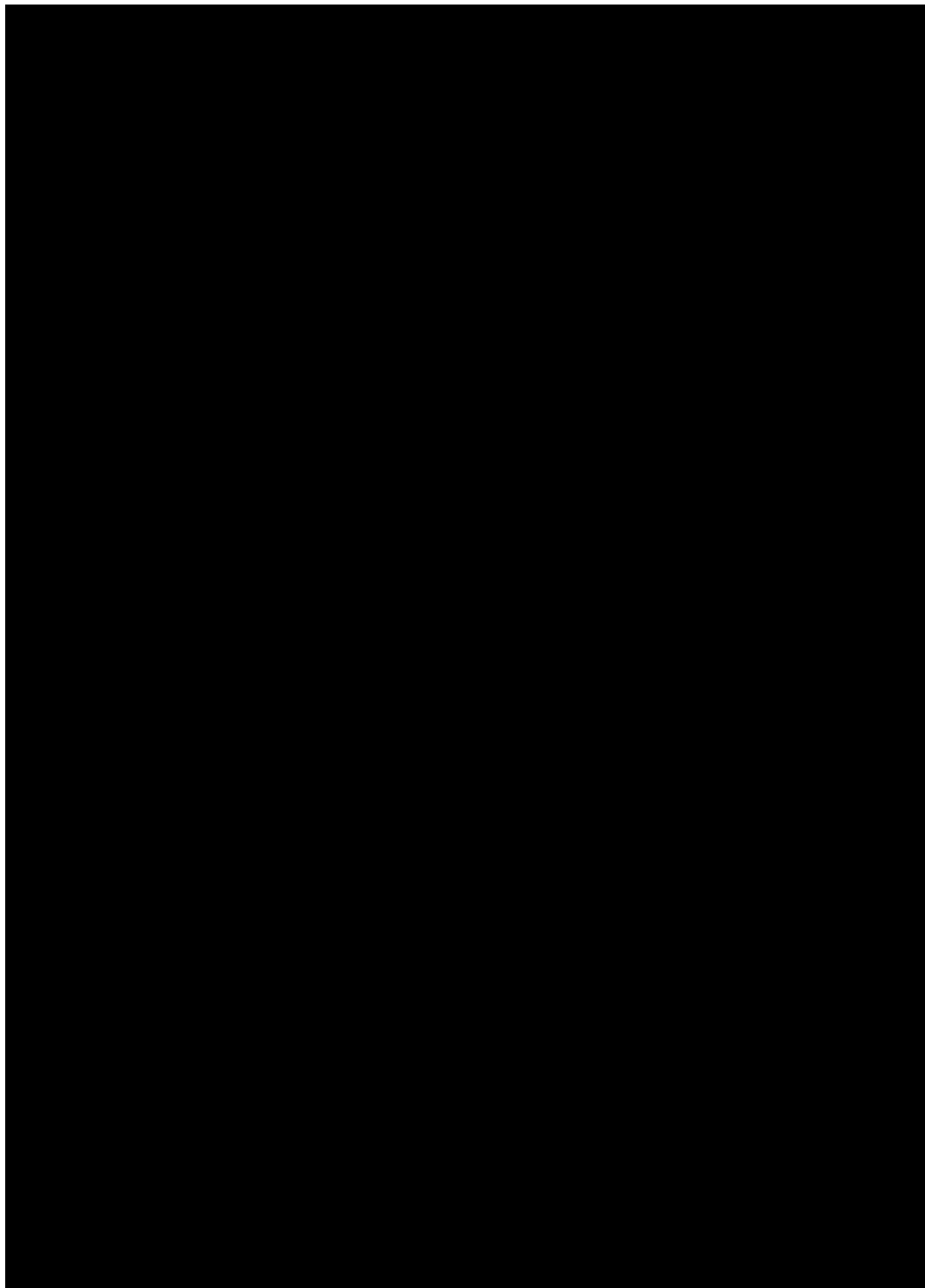
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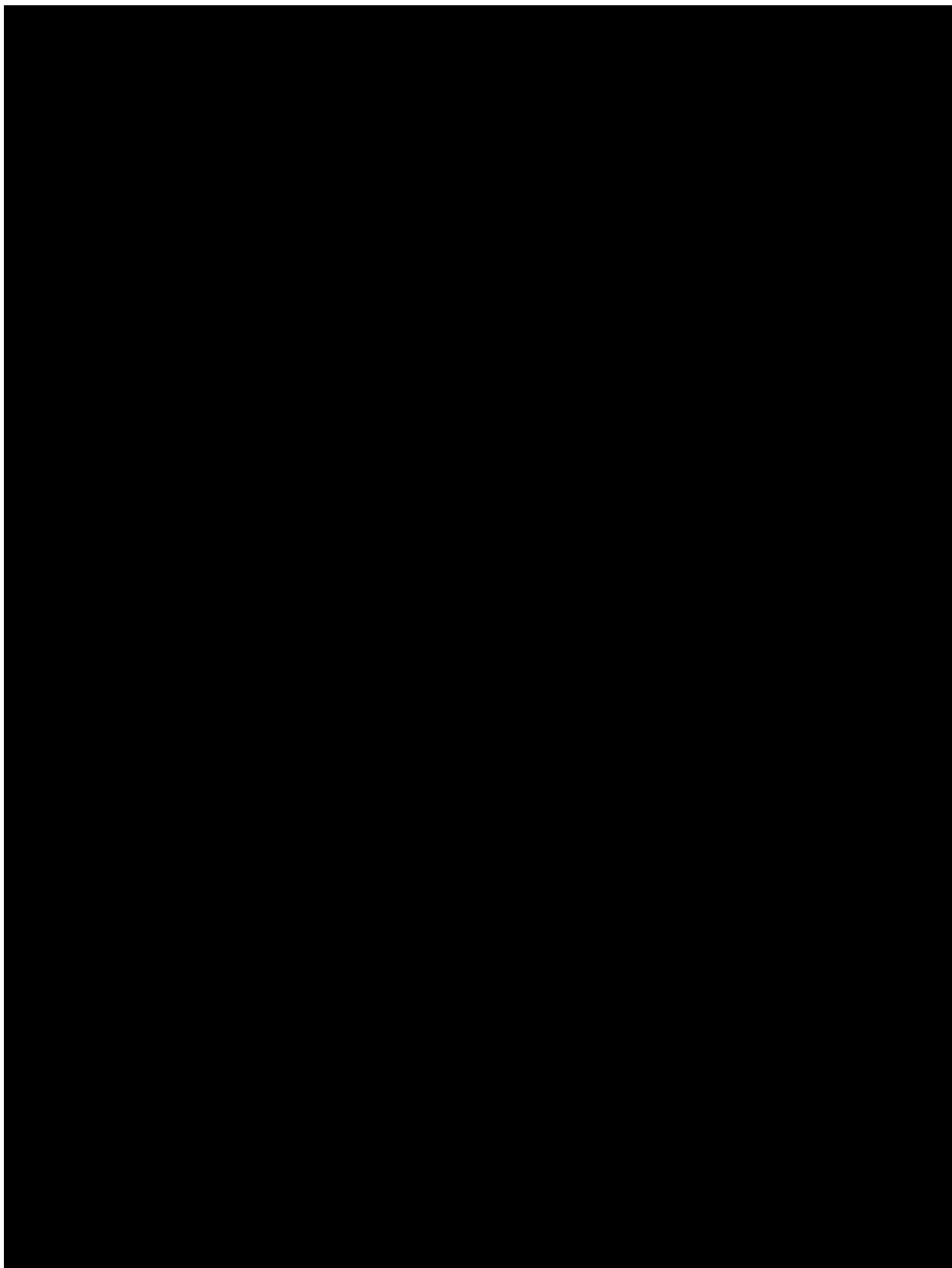
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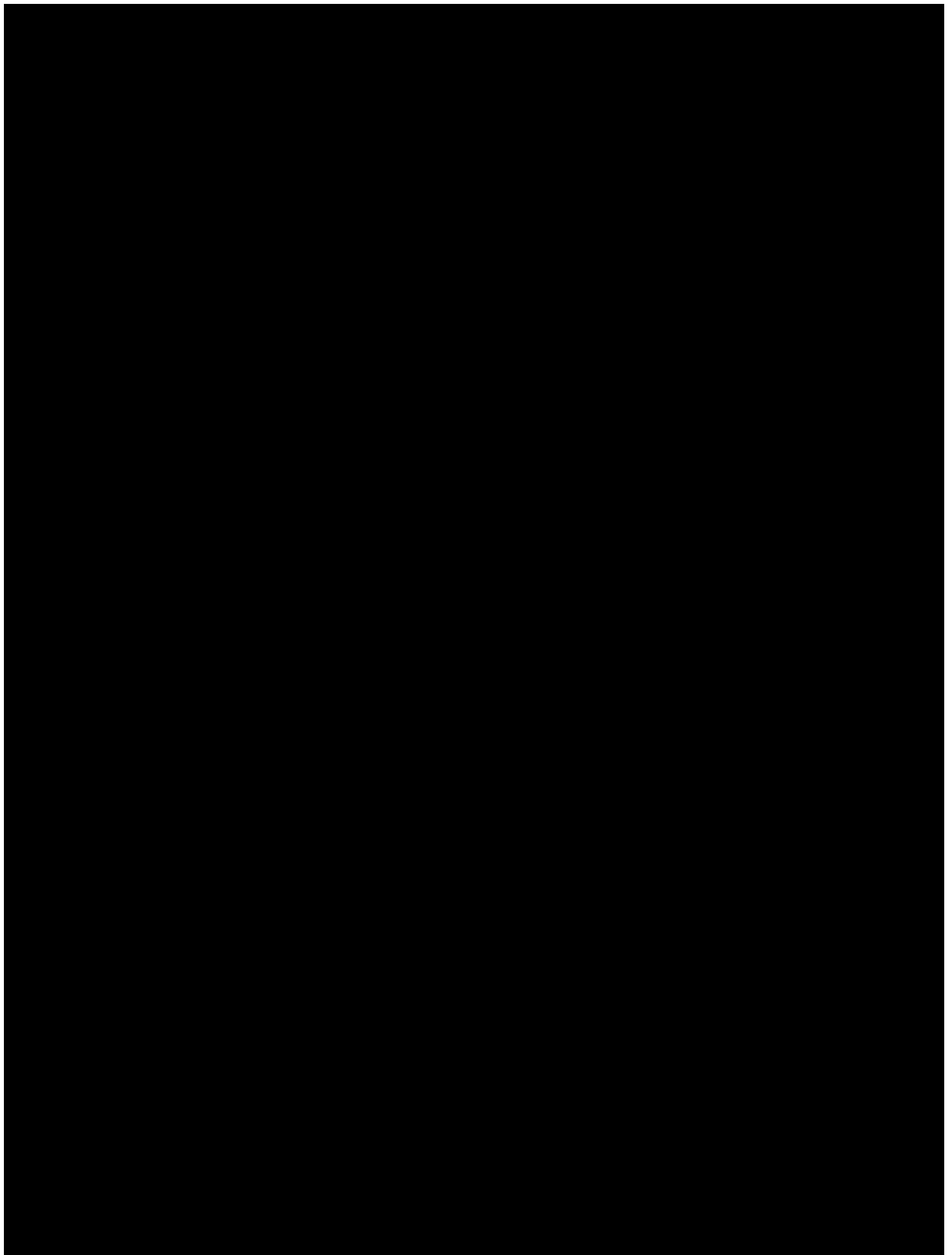














Annex F: ESRP-Terminating

Attached is information on AT&T's ESRP Terminating ESRP Interface for ESInet Specification v1.2.





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AT&T ESInet™
ESRP-Terminating ESRP Interface for
ESInet Specification
Version 1.2

the 1990s, the incidence of *S. flexneri* infections in the United Kingdom has increased, and the incidence of *S. flexneri* infection in the United States has increased in the last 20 years [10].

There is a paucity of data on the incidence of *S. flexneri* infection in the United Kingdom. In the 1980s, *S. flexneri* was the second most commonly isolated *Shigella* species from patients with shigellosis in the United Kingdom [11]. In the 1990s, *S. flexneri* was the most commonly isolated *Shigella* species from patients with shigellosis in the United Kingdom [12].

The purpose of this study was to determine the incidence of *S. flexneri* infection in the United Kingdom in the 1990s. The study was conducted in the United Kingdom, where the incidence of *S. flexneri* infection is high, and the incidence of *S. flexneri* infection is increasing.

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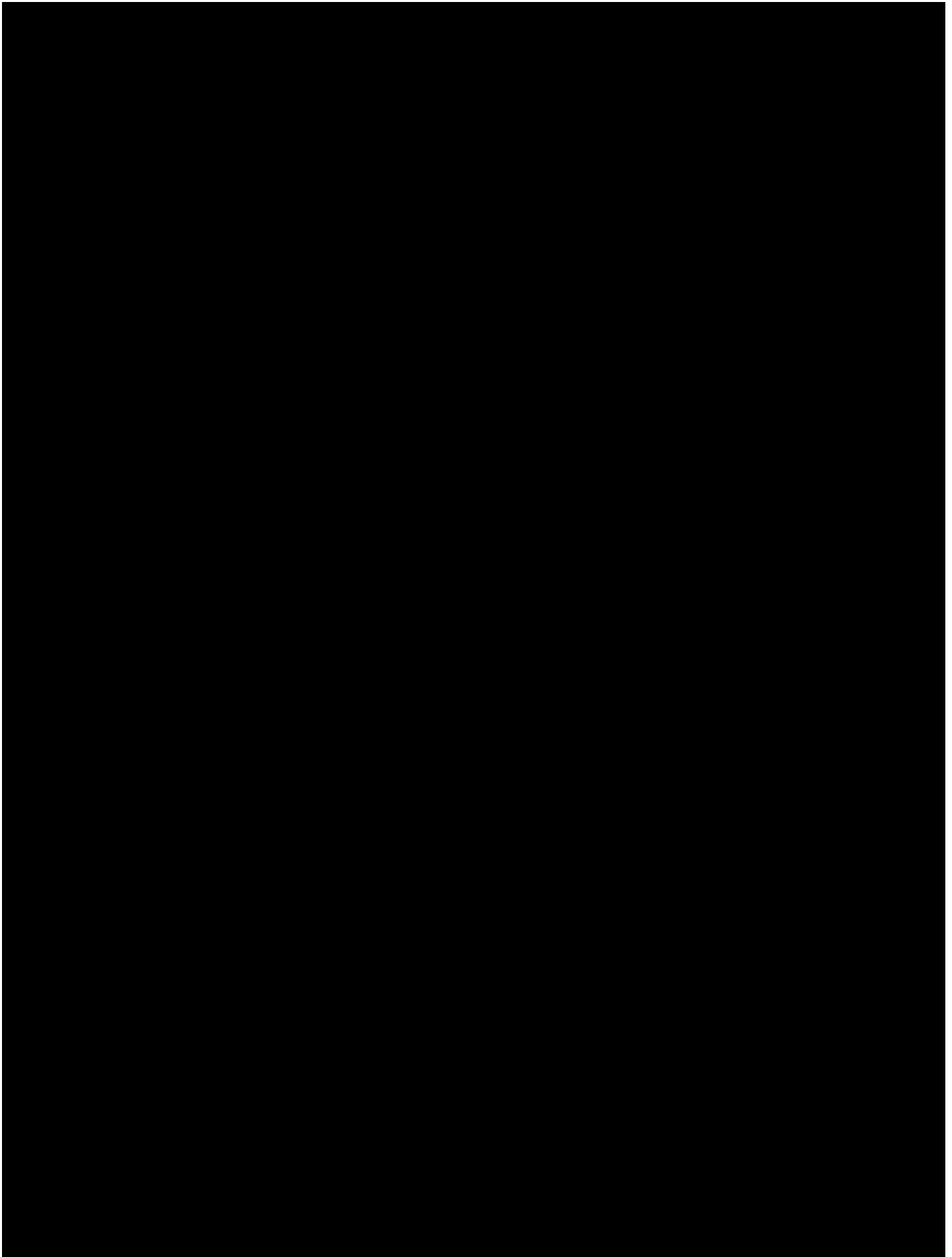
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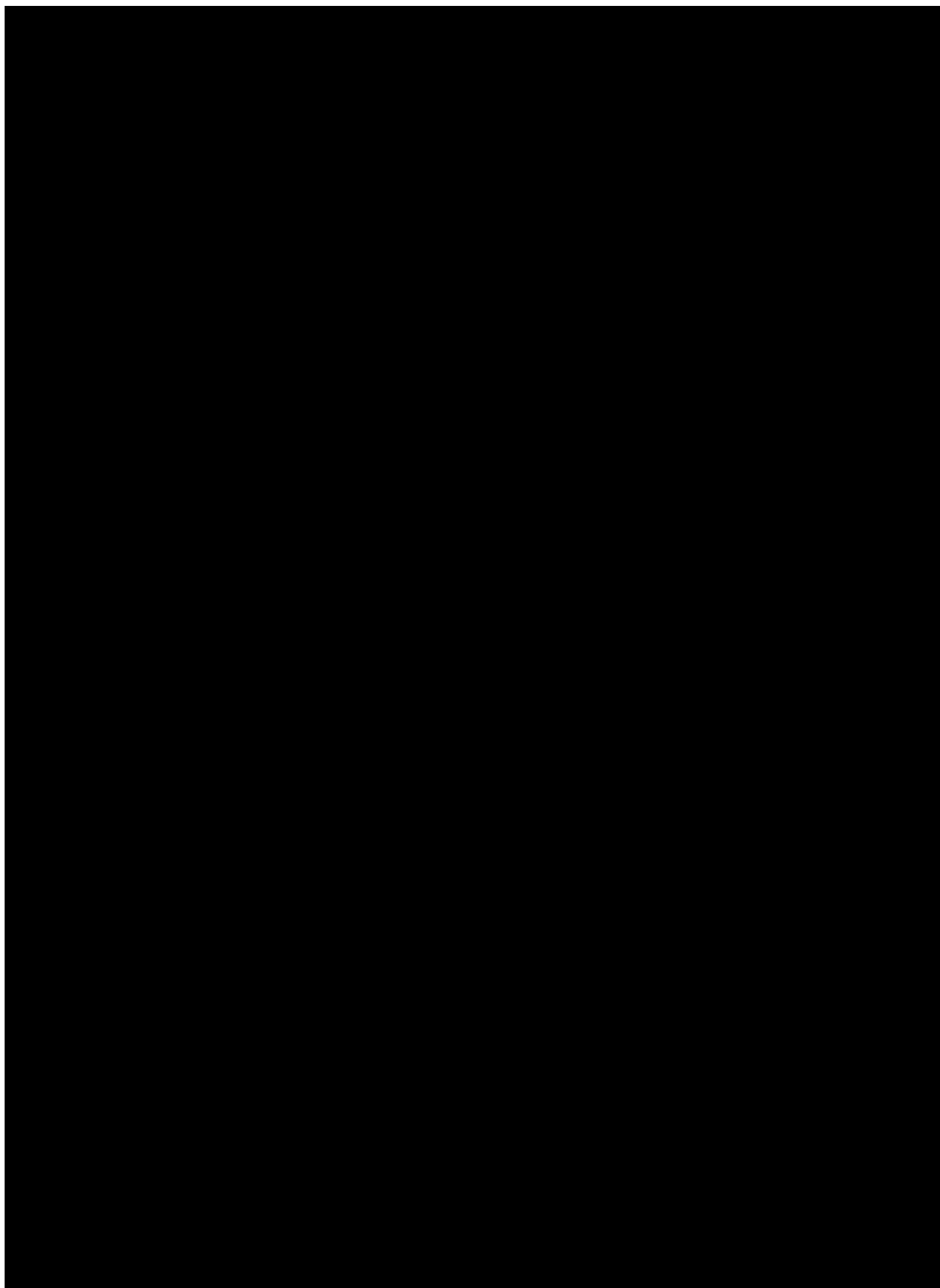
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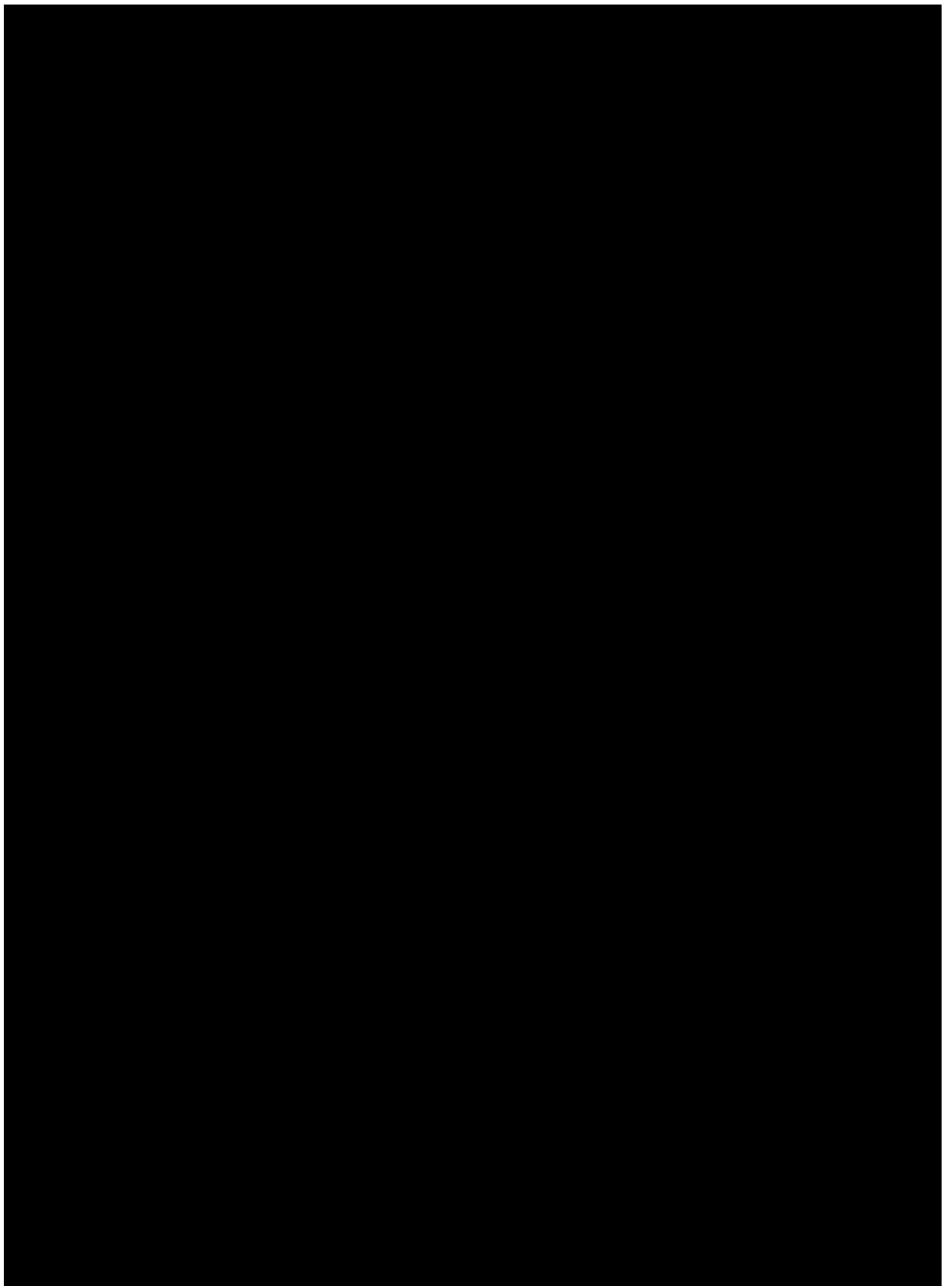
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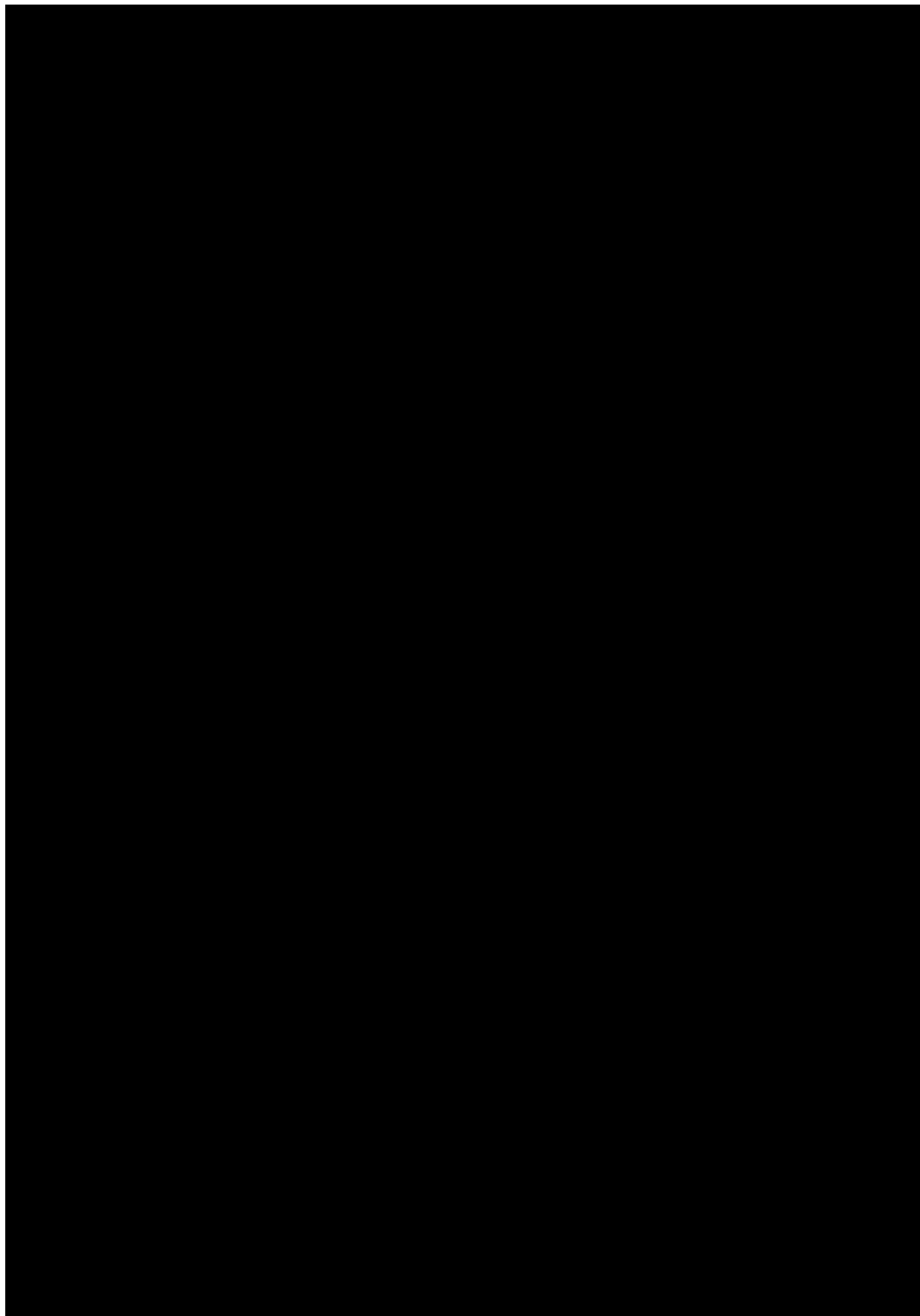
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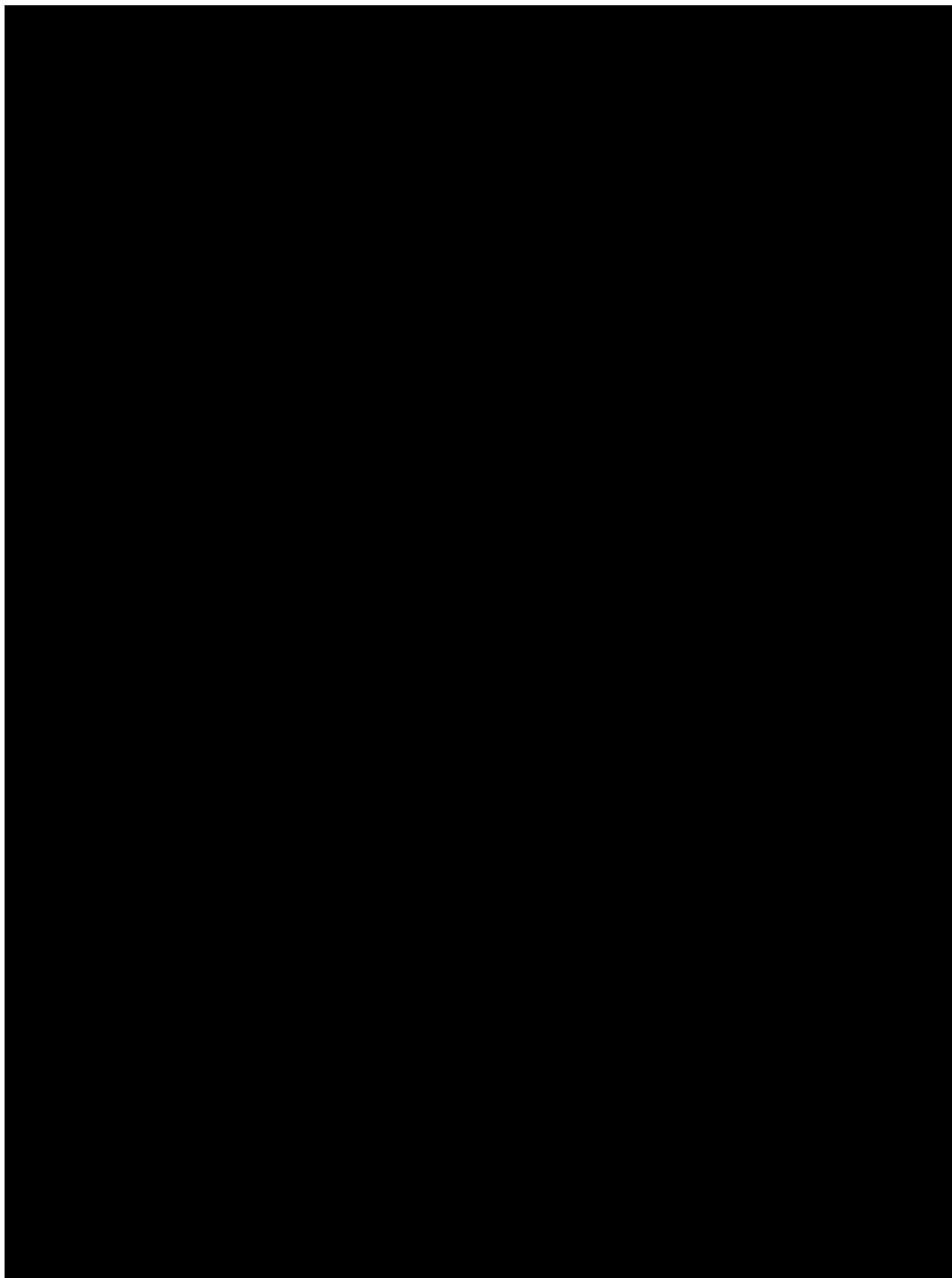
[The following text is a dense, handwritten manuscript, likely a letter or a page from a book. It is written in a cursive script and is mostly illegible due to the quality of the scan. The text appears to be a continuous paragraph or a series of connected sentences. The handwriting is fluid and somewhat slanted. There are some words that are more legible than others, but the overall content cannot be accurately transcribed. The text is written in dark ink on a light-colored paper.]











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the 1990s, the number of people in the UK who are aged 65 and over has increased by 1.5 million, and the number of people aged 75 and over has increased by 1.2 million (Office of National Statistics 1999). The number of people aged 85 and over has increased by 0.5 million in the same period.

There is a growing awareness of the need to address the needs of older people in the community. The Department of Health (1999) has published a strategy for older people, which sets out the government's commitment to improve the health and social care of older people.

The strategy is based on the following principles:

- Older people should be able to live independently in their own homes for as long as possible.
- Older people should be able to access the services they need to live well.
- Older people should be able to participate in the decisions that affect their lives.

The strategy also sets out a number of key objectives, including:

- To reduce the number of older people who are in care homes.
- To improve the quality of care in care homes.
- To increase the number of older people who are employed.

The strategy is a key document in the development of policy for older people in the UK. It provides a framework for the development of services for older people, and sets out the government's commitment to improve the health and social care of older people.

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There is a growing awareness of the need to address the needs of older people in the UK. The Department of Health (2000) has published a strategy for older people, which sets out the government's commitment to improve the health and social care of older people. The strategy is based on the following principles:

- Older people should be able to live independently and actively in their own homes for as long as possible.
- Older people should be able to access the services and support they need to live well.
- Older people should be able to participate in decisions about their care and support.
- Older people should be able to live in a safe and secure environment.
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There is a growing awareness of the need to develop strategies to meet the needs of the ageing population. The Department of Health (1999) has published a strategy for ageing, which sets out the government's commitment to improve the lives of older people. The strategy is based on three main principles: (1) to ensure that older people have the opportunity to live independently and actively; (2) to ensure that older people have access to the services and support they need; and (3) to ensure that older people are treated with respect and dignity.

The strategy is based on the following assumptions: (1) that older people are a diverse group with different needs and interests; (2) that older people should be able to live independently and actively; (3) that older people should have access to the services and support they need; and (4) that older people should be treated with respect and dignity. The strategy sets out a range of measures to be taken to improve the lives of older people, including: (1) to improve the physical environment; (2) to improve the social environment; (3) to improve the financial environment; and (4) to improve the health and social care environment.

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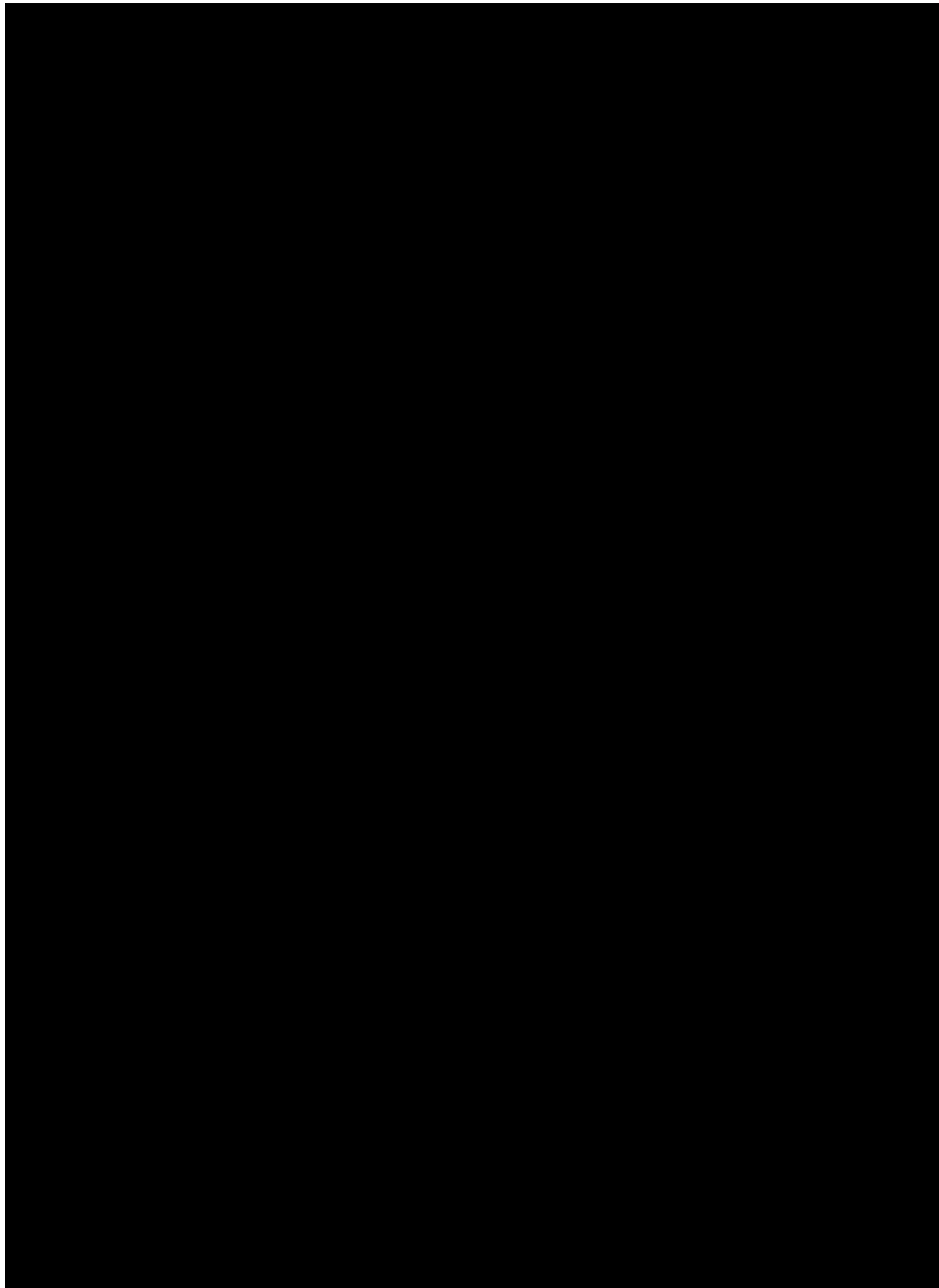
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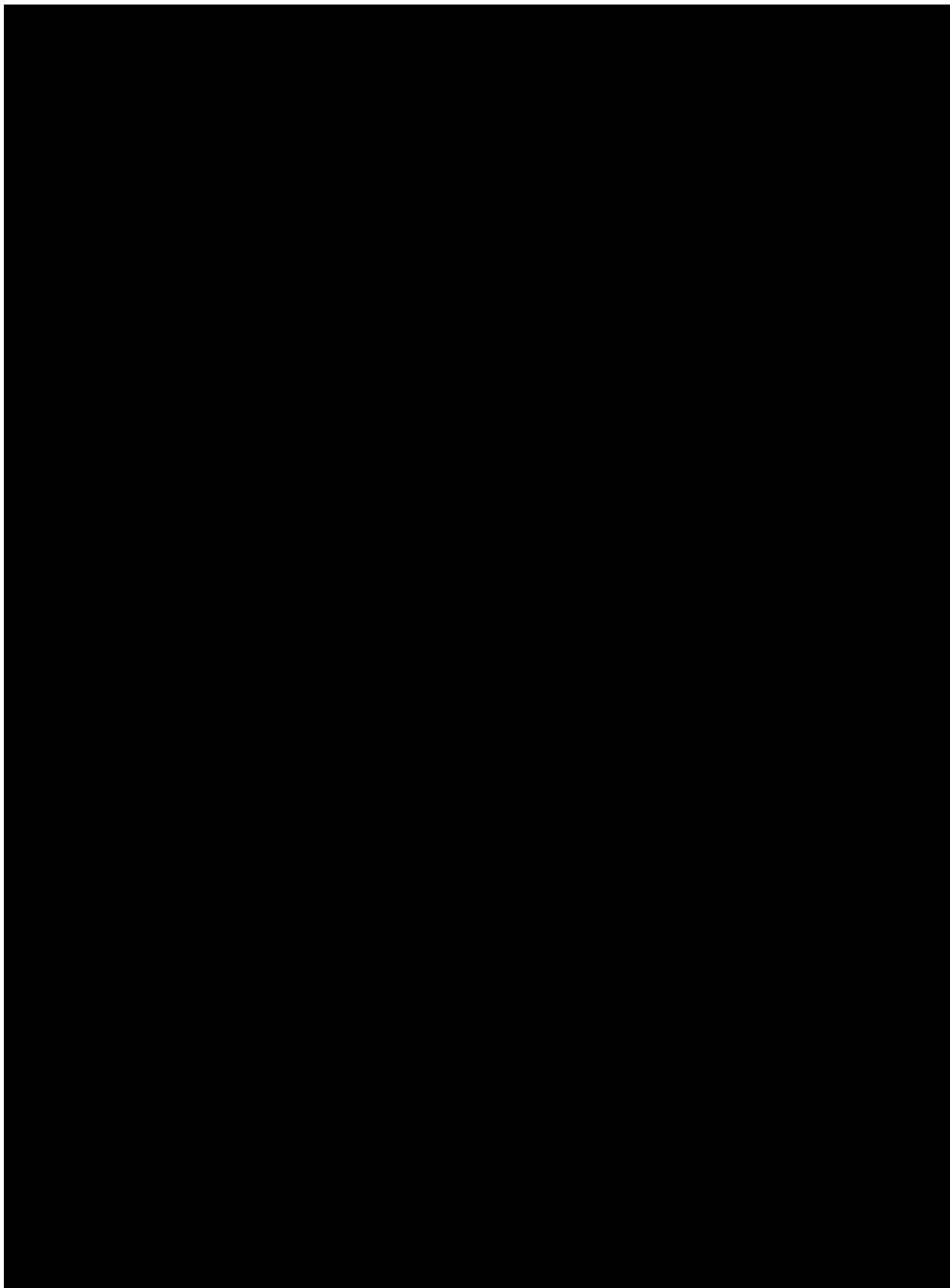
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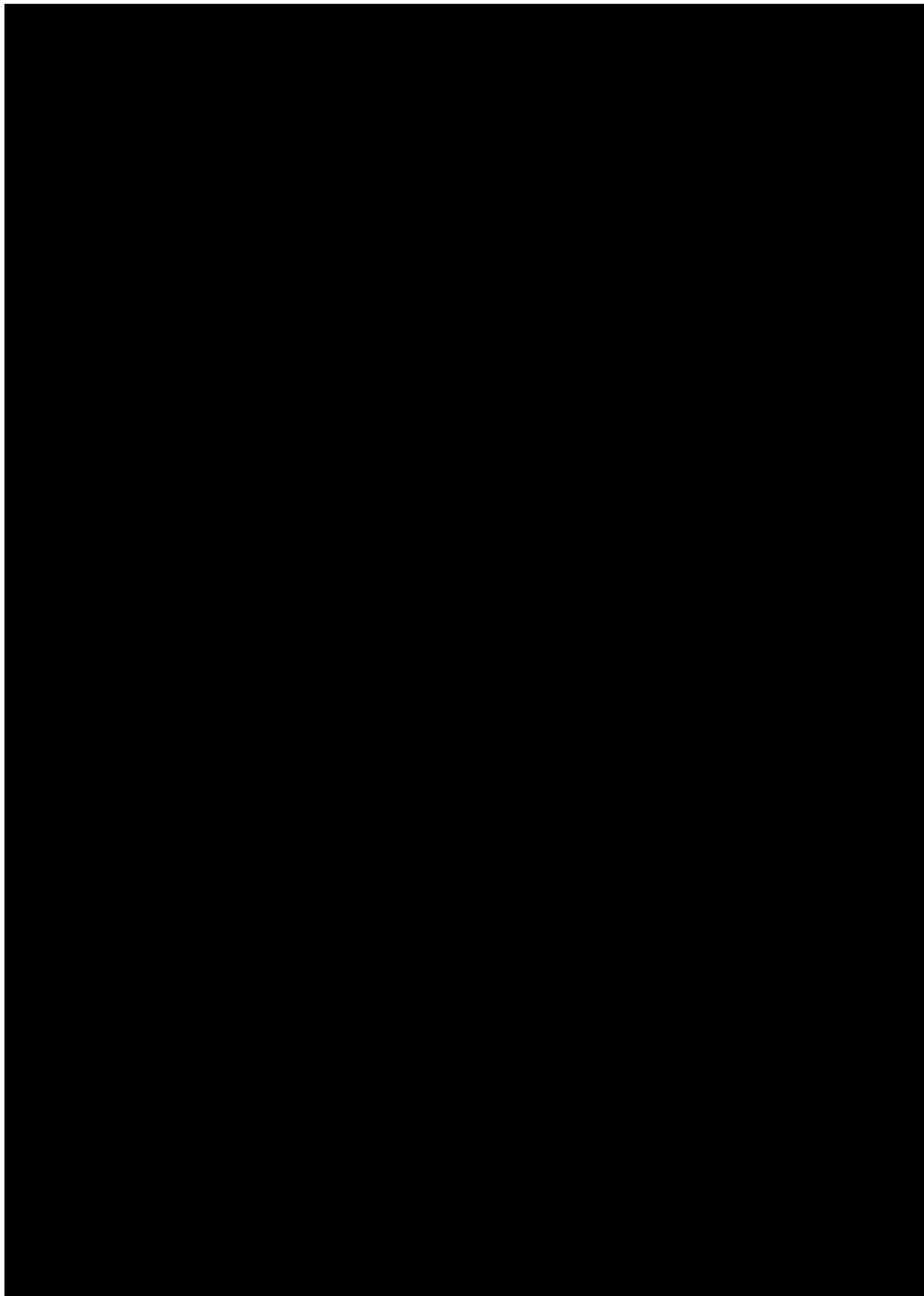
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[The following text is a dense, continuous block of characters and symbols, appearing to be a corrupted or heavily redacted document. It contains no legible words or phrases.]

The first of these is the *Journal of the American Medical Association* (JAMA), which is the most widely read and cited medical journal in the United States. It is published weekly and covers a wide range of medical topics, including clinical research, reviews, and news. The second is the *New England Journal of Medicine* (NEJM), which is also a highly respected and influential journal. It is published weekly and focuses on clinical research and reviews. The third is the *Lancet*, which is a British medical journal that is also highly respected and influential. It is published weekly and covers a wide range of medical topics, including clinical research, reviews, and news. The fourth is the *British Medical Journal* (BMJ), which is a British medical journal that is also highly respected and influential. It is published weekly and covers a wide range of medical topics, including clinical research, reviews, and news. The fifth is the *Annals of Internal Medicine*, which is a highly respected and influential journal. It is published weekly and focuses on clinical research and reviews. The sixth is the *Journal of the American Society of Nephrology* (JASN), which is a highly respected and influential journal. It is published weekly and focuses on clinical research and reviews. The seventh is the *Journal of the American Society of Hypertension* (JASH), which is a highly respected and influential journal. It is published weekly and focuses on clinical research and reviews. The eighth is the *Journal of the American Society of Endocrinology* (JASE), which is a highly respected and influential journal. It is published weekly and focuses on clinical research and reviews. The ninth is the *Journal of the American Society of Geriatrics* (JAGS), which is a highly respected and influential journal. It is published weekly and focuses on clinical research and reviews. The tenth is the *Journal of the American Society of Gerontology* (JAG), which is a highly respected and influential journal. It is published weekly and focuses on clinical research and reviews.

The first of these is the *Journal of the American Medical Association* (JAMA), which has been a leading voice in the medical profession for over a century. It is a weekly publication that covers a wide range of topics, from clinical medicine to public health. The second is the *New England Journal of Medicine* (NEJM), which is a leading journal in the field of internal medicine. The third is the *Lancet*, which is a leading journal in the field of general practice. The fourth is the *British Medical Journal* (BMJ), which is a leading journal in the field of general practice. The fifth is the *Medical Record*, which is a leading journal in the field of general practice. The sixth is the *Medical News*, which is a leading journal in the field of general practice. The seventh is the *Medical Record*, which is a leading journal in the field of general practice. The eighth is the *Medical News*, which is a leading journal in the field of general practice. The ninth is the *Medical Record*, which is a leading journal in the field of general practice. The tenth is the *Medical News*, which is a leading journal in the field of general practice.

the 1990s, the number of people in the UK who are aged 65 and over has increased from 10.5 million to 12.5 million, and the number of people aged 75 and over has increased from 4.5 million to 6.5 million (Office for National Statistics 2000).

There is a growing awareness of the need to address the needs of older people in the community. The Department of Health (1999) has published a strategy for older people, which sets out a vision for the future of older people's health and social care. The strategy is based on the following principles: older people should be able to live independently and actively in the community; older people should be able to access the services they need; and older people should be able to participate in decisions about their care and services.

The strategy also sets out a number of key objectives for the future of older people's health and social care. These include: to improve the health and well-being of older people; to ensure that older people have access to the services they need; to ensure that older people are able to participate in decisions about their care and services; and to ensure that older people are able to live independently and actively in the community.

The strategy is a key document for the future of older people's health and social care in the UK. It sets out a vision for the future of older people's health and social care, and sets out a number of key objectives for the future of older people's health and social care. The strategy is a key document for the future of older people's health and social care in the UK.

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the 1990s, the number of people in the world who are under 15 years of age has increased from 1.1 billion to 1.5 billion, and the number of people aged 65 and over has increased from 0.5 billion to 0.7 billion (United Nations 1999).

There is a growing awareness of the need to address the needs of the young and the old in the context of the ageing population. The United Nations (1999) has identified the need to address the needs of the young and the old in the context of the ageing population. The United Nations (1999) has identified the need to address the needs of the young and the old in the context of the ageing population.

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Annex G: PSAP Implementation

Attached is information on our PSAP Implementation processes.

Response from Oral Presentation dated March 17, 2017

Q10. Please explain the deployment tasks in thorough detail including the expected timeline to complete each task and the overall implementation.

AT&T Response:

AT&T had supplied a host of project related documents intended to satisfy the NCR questions regarding timeline and tasks. Included are the following documents depicting samples of the implementation processes supporting the overall tasks. We look forward to the discussion with NCR to clarify any remaining questions or concerns regarding the AT&T project approach.

- [NCR Transition Plan](#)
- [AT&T Project Plan – ESInet™ Fairfax VA Sample](#)
- [Fairfax VA ATT Data Collection](#)
- [Fairfax County PSAP Site Survey](#)
- [Pre-migration Test Plan Template ATT ESInet™ i3](#)

Appendices B-F detail the following project scope.

Project Scope

- [Installation](#)
 - [AVPN circuits to NCR PSAPs for AT&T ESInet™](#)
 - [Network termination equipment at NCR PSAPs](#)
 - [PSAP Abandonment Device \(if ordered\)](#)
- [Data Collection](#)
 - [Call routing/ call flow information from NCR](#)
 - [GIS data](#)
- [Provision AT&T ESInet™](#)
 - [Call routing/ call flow information from NCR](#)
 - [GIS data](#)



- [Training](#)
 - [GIS data training \(if applicable\) and data exchange](#)
 - [PSAP Abandonment Device](#)
 - [Metrics request training and various reports with timelines](#)
- [Ingress Network](#)
- [Pre-cutover testing](#)
- [PSAP Migration](#)
 - [Network failover](#)
 - [Pre-migration test plan](#)
 - [Develop Migration Plan for NCR PSAPs](#)
 - [Implement Migration Plan for NCR PSAPs onto AT&T ESInet™](#)
 - [Validate AT&T ESInet™ call routing after migration](#)
- [Customer acceptance of AT&T ESInet™](#)
- [Close Project](#)



NCR ATT ESInet Implementation Project Plan V4.mpp

ID	Task Name	Duration	Start	Finish	Predecessors	Successors	er 1	January 1		February 1		Week 9
								Week -2	Week 1	Week 3	Week 5	
1	NCR ESInet Implementation Project Plan, including PSAP	227 days	Tue 8/1/17	Wed 6/13/18								
2	Definition Phase	104 days	Tue 8/1/17	Fri 12/22/17								
3	Pre-Sale	25 days	Tue 8/1/17	Mon 9/4/17		19,59						
4	AT&T ESInet System, Core Site (6), and Aggregation	0 days	Tue 8/1/17	Tue 8/1/17								
5	PSAP and Regional Ingress Data Collection	25 days	Tue 8/1/17	Mon 9/4/17								
6	PSAP Data Collection Forms	20 days	Tue 8/1/17	Mon 8/28/17								
7	Work with PSAPs to complete Data Collection	20 days	Tue 8/1/17	Mon 8/28/17		132,131						
8	PSAP User Data Collection for Portals	20 days	Tue 8/1/17	Mon 8/28/17								
9	Collect User Data for West portal provisioning	20 days	Tue 8/1/17	Mon 8/28/17		133						
10	Regional Ingress Network Data Collection	25 days	Tue 8/1/17	Mon 9/4/17		67,68,69,70						
11	Create Regional OSP list and obtain contact	10 days	Tue 8/1/17	Mon 8/14/17		12						
12	Collect all information for both In-Region and	5 days	Tue 8/15/17	Mon 8/21/17	11	13,15,89						
13	Confirm Interconnection Agreements w/ OSPs	5 days	Tue 8/22/17	Mon 8/28/17	12							
14	Obtain signed PSAP LOAs from Customer	1 day	Tue 8/1/17	Tue 8/1/17								
15	Create Jurisdiction Rate Center Maps	10 days	Tue 8/22/17	Mon 9/4/17	12							
16	Confirm No HCAS Present	5 days	Tue 8/1/17	Mon 8/7/17								
17	Post-Sale	79 days	Tue 9/5/17	Fri 12/22/17		59						
18	Project Initiation	79 days	Tue 9/5/17	Fri 12/22/17								
19	Process and Send Service Order Requests, along	1 day	Tue 9/5/17	Tue 9/5/17	3	20						
20	Service Order Request Received	0 days	Tue 9/5/17	Tue 9/5/17	19	22,182FF						
21	Service Order Acceptance	0 days	Tue 9/5/17	Tue 9/5/17								
22	Review Service Order and Send Acceptance	0 days	Tue 9/5/17	Tue 9/5/17	20	23,39,25,41,1						
23	Send West PSAP IDs with Service Order	0 days	Tue 9/5/17	Tue 9/5/17	22	184FF						
24	Project Planning	13 days	Wed 9/6/17	Fri 9/22/17								
25	ESInet Project Kickoff	1 day	Wed 9/6/17	Wed 9/6/17	22	27,26						
26	Escalation and Contact Info sharing	1 day	Thu 9/7/17	Thu 9/7/17	25	27						
27	Introductory call with customer	1 day	Fri 9/8/17	Fri 9/8/17	26,25	30,28						
28	Collaborate on individual PSAP IPPs	10 days	Mon 9/11/17	Fri 9/22/17	27							
29	Customer Kick-Off Meeting	25 days	Mon 9/11/17	Fri 10/13/17								
30	Presentation, materials, and discussion - Project	10 days	Mon 9/11/17	Fri 9/22/17	27	31						
31	Conduct PSAP Customer Kickoffs	15 days	Mon 9/25/17	Fri 10/13/17	30	34,43FF+2 wks						
32	(Estimated) Optional Special Construction	75 days	Mon 9/11/17	Fri 12/22/17		125						
33	PSAP Site Survey	30 days	Mon 10/16/17	Fri 11/24/17								
34	Conduct PSAP site visits	20 days	Mon 10/16/17	Fri 11/10/17	31	35						
35	Complete site assessments	10 days	Mon 11/13/17	Fri 11/24/17	34	36,185FF						
36	Deliver PSAP Site Assessments to customers	0 days	Fri 11/24/17	Fri 11/24/17	35	63						

NCR ATT ESInet Implementation Project Plan V4.mpp

ID	Task Name	Duration	Start	Finish	Predecessors	Successors	er 1	January 1		February 1		Week 9
							Week -2	Week 1	Week 3	Week 5	Week 7	
37	Infrastructure Data Collection	5 days	Wed 9/6/17	Tue 9/12/17								
38	Aggregation Site Evaluation	5 days	Wed 9/6/17	Tue 9/12/17								
39	Aggregation Site Location identification for	5 days	Wed 9/6/17	Tue 9/12/17	22							
40	ESInet Network Requirements	5 days	Wed 9/6/17	Tue 9/12/17								
41	Identify Specific PSAP Requirements (carrier	5 days	Wed 9/6/17	Tue 9/12/17	22	75						
42	GIS Data Readiness	21 days	Fri 10/27/17	Fri 11/24/17								
43	Training session #1	1 day	Fri 10/27/17	Fri 10/27/17	31FF+2 wks	44FF+3 wks,45						
44	Training session #2	1 day	Fri 11/17/17	Fri 11/17/17	43FF+3 wks							
45	Customer submits GIS Data	1 day	Fri 11/10/17	Fri 11/10/17	43FF+2 wks	46,51						
46	Initial error report provided	0 days	Fri 11/10/17	Fri 11/10/17	45	47,188FF						
47	Work to correct errors and map fields	10 days	Mon 11/13/17	Fri 11/24/17	46	48FF						
48	Resubmit GIS Data	1 day	Fri 11/24/17	Fri 11/24/17	47FF,52	49						
49	GIS Data Preparation Complete	0 days	Fri 11/24/17	Fri 11/24/17	48	130,59,189FF						
50	NextGen Data Assesment	6 days	Mon 11/13/17	Mon 11/20/17								
51	ALI and MSAG data provided	2 days	Mon 11/13/17	Tue 11/14/17	31,45	52						
52	Comparison Report	4 days	Wed 11/15/17	Mon 11/20/17	51	48						
53	MapSAG	8 days	Fri 10/27/17	Tue 11/7/17								
54	Customer Kick-Off Meeting	1 day	Fri 10/27/17	Fri 10/27/17	31FF+2 wks	55						
55	Install MapSAG at PSAP #1	1 day	Mon 10/30/17	Mon 10/30/17	54	57FS+5 days,5						
56	MapSAG Install Complete at PSAP #1	0 days	Mon 10/30/17	Mon 10/30/17	55	186FF						
57	MapSAG Training	1 day	Tue 11/7/17	Tue 11/7/17	55FS+5 days	58						
58	MapSAG Training Complete	0 days	Tue 11/7/17	Tue 11/7/17	57	187FF,179						
59	Data Collection Complete	0 days	Fri 12/22/17	Fri 12/22/17	3,17,49	60,190FF						
60	Definition Phase Complete	0 days	Fri 12/22/17	Fri 12/22/17	59	191FF						
61	Architecture Phase	94 days	Tue 8/1/17	Fri 12/8/17								
62	PSAP Site Remediation	10 days	Mon 11/27/17	Fri 12/8/17								
63	Review Customer PSAP Site Requirements	5 days	Mon 11/27/17	Fri 12/1/17	36	64						
64	Identify Customer PSAP Site Remediation	5 days	Mon 12/4/17	Fri 12/8/17	63	121						
65	Network Design	56 days	Tue 8/1/17	Tue 10/17/17		80						
66	Regional Ingress Network Design for the NCR	40 days	Tue 8/1/17	Mon 9/25/17								
67	ILEC and other existing service provider	5 days	Tue 9/5/17	Mon 9/11/17	10	72,89						
68	Facilitate inter-local agreements	10 days	Tue 9/5/17	Mon 9/18/17	10	72						
69	Legacy SR and other existing service	10 days	Tue 9/5/17	Mon 9/18/17	10	72						
70	Split rate center design	10 days	Tue 9/5/17	Mon 9/18/17	10	72						
71	OSP interconnection design	20 days	Tue 8/1/17	Mon 8/28/17		72						
72	Ingress Network Design review	5 days	Tue 9/19/17	Mon 9/25/17	67,68,69,70,71	73						

NCR ATT ESInet Implementation Project Plan V4.mpp

ID	Task Name	Duration	Start	Finish	Predecessors	Successors	er 1	January 1		February 1		Week 10
							Week -2	Week 1	Week 3	Week 5	Week 7	Week 9
73	Ingress Network design finalized	0 days	Mon 9/25/17	Mon 9/25/17	72	192FF						
74	Egress Network Design (to PSAPs)	25 days	Wed 9/13/17	Tue 10/17/17								
75	Customer PSAP AVPN connection design	10 days	Wed 9/13/17	Tue 9/26/17	41	76,77						
76	Customer PSAP LAN design	10 days	Wed 9/27/17	Tue 10/10/17	75	78						
77	ESInet interconnection design	5 days	Wed 9/27/17	Tue 10/3/17	75	78						
78	ESINet Design Review	5 days	Wed 10/11/17	Tue 10/17/17	76,77	79						
79	Finalize PSAP Customer Architecture	0 days	Tue 10/17/17	Tue 10/17/17	78	131,132,133,1						
80	Architecture Review	2 days	Wed 10/18/17	Thu 10/19/17	65	81						
81	Architecture Phase Complete	0 days	Thu 10/19/17	Thu 10/19/17	80	123,85,86,194						
82	Integration Phase	87 days	Tue 9/12/17	Wed 1/10/18								
83	POI to Agg Site Network for Region	45 days	Fri 10/20/17	Thu 12/21/17		135						
84	Create POI Facility	45 days	Fri 10/20/17	Thu 12/21/17								
85	Physical Work	30 days	Fri 10/20/17	Thu 11/30/17	81							
86	POI to Agg Site Circuit Orders	30 days	Fri 10/20/17	Thu 11/30/17	81	87						
87	POI to Agg Site Trunk Orders	15 days	Fri 12/1/17	Thu 12/21/17	86							
88	FSR Interconnection Process for Region	73 days	Tue 9/12/17	Thu 12/21/17		135						
89	Confirm FSR 9-1-1 contacts	1 day	Tue 9/12/17	Tue 9/12/17	67,12	90						
90	Circuit orders to FSRs	45 days	Wed 9/13/17	Tue 11/14/17	89	93,94						
91	Connections to FSR & Transit Solution for Region	27 days	Wed 11/15/17	Thu 12/21/17								
92	Trunk orders	23 days	Wed 11/15/17	Fri 12/15/17								
93	Create Trunk Model Diagram	1 day	Wed 11/15/17	Wed 11/15/17	90	95						
94	FOC ILEC Trunk Orders	15 days	Wed 11/15/17	Tue 12/5/17	90	97						
95	Submit Originating and Transfer Trunk Orders	15 days	Thu 11/16/17	Wed 12/6/17	93	96						
96	Transfer Trunk Test and Turn Up	2 days	Thu 12/7/17	Fri 12/8/17	95	97						
97	Provision Trunks in ESInet	3 days	Mon 12/11/17	Wed 12/13/17	96,94	98,100						
98	Perform Unit Testing	2 days	Thu 12/14/17	Fri 12/15/17	97							
99	End to End Circuit testing with FSR	2 days	Thu 12/14/17	Fri 12/15/17								
100	FSR Circuit Testing	1 day	Thu 12/14/17	Thu 12/14/17	97	101,102						
101	Confirm gain settings	1 day	Fri 12/15/17	Fri 12/15/17	100							
102	FSR Circuit Testing Complete	0 days	Thu 12/14/17	Thu 12/14/17	100	104,195FF						
103	FSR Transit Routing Solution	5 days	Fri 12/15/17	Thu 12/21/17								
104	Submit Formal Transition request notification	1 day	Fri 12/15/17	Fri 12/15/17	102	105,107						
105	Determine routing ESN from FSR to West	2 days	Mon 12/18/17	Tue 12/19/17	104							
106	Test Transit Routing Solution with FSR ILEC	4 days	Mon 12/18/17	Thu 12/21/17								
107	Create Transit Test Plan	1 day	Mon 12/18/17	Mon 12/18/17	104	108						
108	Confirm Transit Test Plan w/ ILEC	1 day	Tue 12/19/17	Tue 12/19/17	107	109						

NCR ATT ESInet Implementation Project Plan V4.mpp

ID	Task Name	Duration	Start	Finish	Predecessors	Successors	er 1	January 1		February 1		Week 9
							Week -2	Week 1	Week 3	Week 5	Week 7	
109	Schedule Transit testing with ILEC	1 day	Wed 12/20/17	Wed 12/20/17	108	110						
110	Conduct Routing Solution testing	1 day	Thu 12/21/17	Thu 12/21/17	109	112FF,111						
111	ESINet Implementation/Testing Complete	0 days	Thu 12/21/17	Thu 12/21/17	110	196FF						
112	FSR Transit routing solution confirmed	1 day	Thu 12/21/17	Thu 12/21/17	110FF							
113	PSAP Equipment Installation - PSAP #1	44 days	Fri 11/10/17	Wed 1/10/18		135						
114	Order Hardware	20 days	Fri 11/10/17	Thu 12/7/17	123FS-30 days	115						
115	Schedule equipment Installation with PSAP	3 days	Mon 1/8/18	Wed 1/10/18	114,121							
116	Ship PSAP Equipment to PSAP	5 days	Fri 12/8/17	Thu 12/14/17	123FS-10 days	117,132						
117	Installation of Hardware	2 days	Fri 12/22/17	Mon 12/25/17	116,123	125						
118	Equipment and Network Test and Turn-up	2 days	Thu 12/28/17	Fri 12/29/17	126	119						
119	Equipment Installation Complete	0 days	Fri 12/29/17	Fri 12/29/17	118	128,197FF						
120	Egress Network Ordering and Turn Up for PSAP #1	56 days	Fri 10/20/17	Fri 1/5/18		135						
121	Confirm PSAP #1 site remediation is complete	20 days	Mon 12/11/17	Fri 1/5/18	64	115						
122	PSAP #1 Circuits	49 days	Fri 10/20/17	Wed 12/27/17								
123	AVPN order #1 at PSAP #1	45 days	Fri 10/20/17	Thu 12/21/17	81	124SS,114FS						
124	AVPN order #2 at PSAP #1	45 days	Fri 10/20/17	Thu 12/21/17	123SS							
125	Circuit test and tum up	1 day	Tue 12/26/17	Tue 12/26/17	117,32	126						
126	IP tunnel provisioning and activation	1 day	Wed 12/27/17	Wed 12/27/17	125	118						
127	PSAP #1 Network Testing	1 day	Mon 1/1/18	Mon 1/1/18								
128	ESINet Interconnection test and network failover	1 day	Mon 1/1/18	Mon 1/1/18	119							
129	PSAP #1 Data Prov sioning	47 days	Wed 10/18/17	Thu 12/21/17		142,135						
130	Provision GIS Data in EGDMS	1 day	Mon 11/27/17	Mon 11/27/17	49	134						
131	Provision PSAP and PSAP Data in all additional	5 days	Wed 10/18/17	Tue 10/24/17	79,7	134						
132	Provision all ALI and ALI interface systems as needed	5 days	Fri 12/15/17	Thu 12/21/17	79,7,116	134						
133	Provision PSAP GIS Data Authority users in EGDMS	5 days	Wed 10/18/17	Tue 10/24/17	79,9	134						
134	Provisioning Complete	0 days	Thu 12/21/17	Thu 12/21/17	131,132,133,130	158,198FF						
135	Integration Phase Complete	0 days	Wed 1/10/18	Wed 1/10/18	83,88,113,120,129	138,147,154,1						
136	Deployment Phase - PSAP #1	24 days	Fri 12/22/17	Wed 1/24/18								
137	OSP Communication	10 days	Thu 1/11/18	Wed 1/24/18								
138	Create OSP Notification letter	4 days	Thu 1/11/18	Tue 1/16/18	135	139						
139	PSAP approval of OSP Notification letter	5 days	Wed 1/17/18	Tue 1/23/18	138	140						
140	Send OSP Notification of Voice Transition	1 day	Wed 1/24/18	Wed 1/24/18	139							
141	PSAP User Validation and Training	4 days	Wed 1/10/18	Mon 1/15/18								
142	Validate that users can access portal	2 days	Wed 1/10/18	Thu 1/11/18	165FS-10 days,129	143						
143	Train users on use of portal	2 days	Fri 1/12/18	Mon 1/15/18	142							
144	Pre-Cutover Planning and Testing	22 days	Fri 12/22/17	Mon 1/22/18								

NCR ATT ESInet Implementation Project Plan V4.mpp

ID	Task Name	Duration	Start	Finish	Predecessors	Successors	er 1	January 1		February 1		
							Week -2	Week 1	Week 3	Week 5	Week 7	Week 9
145	Planning	8 days	Thu 1/11/18	Mon 1/22/18								
146	Event Planning	8 days	Thu 1/11/18	Mon 1/22/18								
147	Confirm PSAP Site Readiness - CPE Installed	1 day	Thu 1/11/18	Thu 1/11/18	135	153,148						
148	Coordinate voice cutover schedule per	2 days	Fri 1/12/18	Mon 1/15/18	147	149						
149	Create Cutover Event Plan and Review with	4 days	Tue 1/16/18	Fri 1/19/18	148	150						
150	Schedule Migration Event with Internal	1 day	Mon 1/22/18	Mon 1/22/18	149	165,151						
151	Schedule Migration Event with Customer	0 days	Mon 1/22/18	Mon 1/22/18	150	165,200FF						
152	Pre-Cutover Systems Verification	6 days	Thu 1/11/18	Thu 1/18/18								
153	Verify Ingress Network and PSAP CPE ready per	2 days	Fri 1/12/18	Mon 1/15/18	147							
154	Verify ESInet systems ready per checklist	2 days	Thu 1/11/18	Fri 1/12/18	135	155						
155	Verify Monitoring in place	2 days	Mon 1/15/18	Tue 1/16/18	154	156						
156	Verify West NOC has NOC to NOC	2 days	Wed 1/17/18	Thu 1/18/18	155							
157	Testing	21 days	Fri 12/22/17	Fri 1/19/18								
158	Create Provisioning Pre-Test Plan	3 days	Fri 12/22/17	Tue 12/26/17	134	159						
159	Review and Approve Test Plan w/PSAP	5 days	Wed 12/27/17	Tue 1/2/18	158	160						
160	Schedule Pre-cutover testing with PSAP and CPE	3 days	Wed 1/3/18	Fri 1/5/18	159	161						
161	Setup test number dialer	4 days	Mon 1/8/18	Thu 1/11/18	160	162						
162	Perform call delivery testing	3 days	Fri 1/12/18	Tue 1/16/18	161,135	163						
163	Pre-Cutover Testing	3 days	Wed 1/17/18	Fri 1/19/18	162	165						
164	PSAP #1 Cutover	2 days	Tue 1/23/18	Wed 1/24/18								
165	Go / No Go for Cutover	1 day	Tue 1/23/18	Tue 1/23/18	150,151,163	166,142FS-10						
166	Systems Cutover Event	1 day	Wed 1/24/18	Wed 1/24/18	165	167						
167	Cutover Complete	0 days	Wed 1/24/18	Wed 1/24/18	166	168,201FF						
168	PSAP Voice Live	0 days	Wed 1/24/18	Wed 1/24/18	167	177,179,175,1						
169	Deployment Phase - All Remaining PSAPs	60 days	Thu 1/25/18	Wed 4/18/18								
170	Execute Integration and Deployment Project Plans for	3 mons	Thu 1/25/18	Wed 4/18/18	168							
171	Optional ECaTS i3 Logger Deployment	30 days	Mon 1/1/18	Fri 2/9/18		172						
172	ECaTS i3 Logger Training	1 day	Mon 2/12/18	Mon 2/12/18	171							
173	Maintenance Phase - Begins with PSAP #1 Live and	111 days	Tue 9/5/17	Wed 2/7/18								
174	Manage Regional OSP direct connections for the NCR	10 days	Wed 1/24/18	Wed 2/7/18								
175	Create target migration plan for OSP direct	10 days	Thu 1/25/18	Wed 2/7/18	168	176						
176	Facilitate OSP circuit orders	0 days	Wed 2/7/18	Wed 2/7/18	175	203FF						
177	Provision, test, and turn up OSP trunks	0 days	Wed 1/24/18	Wed 1/24/18	168	204FF						
178	Handoffs for ongoing System Maintenance and	111 days	Tue 9/5/17	Wed 2/7/18								
179	NOC monitoring and support begins	0 days	Wed 1/24/18	Wed 1/24/18	168,58	205FF						
180												

NCR ATT ESInet Implementation Project Plan V4.mpp

ID	Task Name	Duration	Start	Finish	Predecessors	Successors	er 1	January 1		February 1		Week 10
							Week -2	Week 1	Week 3	Week 5	Week 7	Week 9
181												
182	Service Order Request Received	0 days	Tue 9/5/17	Tue 9/5/17	20FF							
183	Review Service Order and Send Acceptance	0 days	Tue 9/5/17	Tue 9/5/17	22FF							
184	Send West PSAP IDs with Service Order	0 days	Tue 9/5/17	Tue 9/5/17	23FF							
185	Deliver PSAP Site Assessments to	0 days	Fri 11/24/17	Fri 11/24/17	35FF							
186	*MapSAG Install Complete	0 days	Mon 10/30/17	Mon 10/30/17	56FF							
187	*MapSAG Training Complete	0 days	Tue 11/7/17	Tue 11/7/17	58FF							
188	GIS - Initial error report provided	0 days	Fri 11/10/17	Fri 11/10/17	46FF							
189	GIS Data Preparation Complete	0 days	Fri 11/24/17	Fri 11/24/17	49FF							
190	Data Collection Complete	0 days	Fri 12/22/17	Fri 12/22/17	59FF							
191	Definition Phase Complete	0 days	Fri 12/22/17	Fri 12/22/17	60FF							
192	Ingress Network design finalized	0 days	Mon 9/25/17	Mon 9/25/17	73FF							
193	Finalize PSAP Customer Architecture	0 days	Tue 10/17/17	Tue 10/17/17	79FF							
194	Architecture Phase Complete	0 days	Thu 10/19/17	Thu 10/19/17	81FF							
195	FSR Circuit Testing Complete	0 days	Thu 12/14/17	Thu 12/14/17	102FF							
196	ESInet Implementation/Testing Complete	0 days	Thu 12/21/17	Thu 12/21/17	111FF							
197	PSAP Equipment Installation Complete	0 days	Fri 12/29/17	Fri 12/29/17	119FF							
198	Provisioning Complete	0 days	Thu 12/21/17	Thu 12/21/17	134FF							
199	Integration Phase Complete	0 days	Wed 1/10/18	Wed 1/10/18	135FF							
200	Schedule Migration Event with Customer	0 days	Mon 1/22/18	Mon 1/22/18	151FF							
201	Cutover Complete	0 days	Wed 1/24/18	Wed 1/24/18	167FF							
202	*PSAP Voice Live	0 days	Wed 1/24/18	Wed 1/24/18	168FF							
203	Facilitate OSP circuit orders	0 days	Wed 2/7/18	Wed 2/7/18	176FF							
204	Provision, test, and turn up OSP trunks	0 days	Wed 1/24/18	Wed 1/24/18	177FF							
205	NOC monitoring and support begins	0 days	Wed 1/24/18	Wed 1/24/18	179FF							



Annex H: Test Plan

Attached is a description of our Test Plan.





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Non-Live Provisioning Test Plan

<Test PSAP>

<Test Date>

INTRODUCTION

The AT&T ESInet Non Live Test Plan described in this document provides an overview of testing and a list and description of test cases for the implementation of the AT&T ESInet routing services. The objective for this test plan is to demonstrate the network and call processing equipment readiness to receive 9-1-1 traffic using the AT&T ESInet routing service. Test participants include <TEST PSAP> and AT&T service delivery.

The Non Live Test Cases will demonstrate feature functionality of the AT&T ESInet. The Test calls will deliver simulated "9-1-1" calls from the AT&T end office to the PSAPs over the ESInet to the call processing equipment installed at the <TEST PSAP>.

AT&T manages the testing process and coordinates all test calls documented in the AT&T ESInet Non Live Test Plan. The testing is scheduled in accordance with the PSAPs availability. The PSAP is asked to provide a resource to answer the test calls and may be asked to provide documentation (i.e. screen prints and recordings) for certain calls.

The list of standard tests demonstrates feature functionality of the AT&T ESInet 9-1-1 routing services to include:

- Operation of the AT&T PSAP equipment
- Call Processing:
 - o Call transfer and bridging functions
 - o Alternate and default routing
 - o Independent i3 component availability
 - o PSAP abandonment routing
- Text Processing:
 - o Text Routing

NG9-1-1 NON LIVE ACCEPTANCE TEST PLAN

NON LIVE ACCEPTANCE TEST CASES: AT&T ORIGINATED CALLS

Test #	Test Case	Type	Testing Criteria	Time	Pass/Fail and Comments
TEST LOCATION: <TEST PSAP> DATE & TIME: <DATE/TIME> CALL ORIGINATOR: AT&T			CALL TAKER: ON-DUTY CALL-TAKER ANI: <ANI>		
1	Wireline Call Routed to PSAP through AT&T ESInet	Equipment	Wireline test call sent to <TEST PSAP>. Caller confirms routing and audio quality.	<5 min	HH:MM MT - Test call generated from AT&T to <TEST PSAP>; good ANI, location and subscriber information, & Voice delivered. <PASS/FAIL>
2	Wireless Call Routed to PSAP through AT&T ESInet	Equipment	Wireless test call sent to <TEST PSAP>. Caller confirms routing and audio quality.	<5 min	HH:MM MT - Test call generated from AT&T to <TEST PSAP>; good ANI, location and subscriber information, & Voice delivered. <PASS/FAIL>
3	VOIP Call Routed to PSAP through AT&T ESInet	Equipment	VOIP test call sent to <TEST PSAP>. Caller confirms routing and audio quality.	<5 min	HH:MM MT - Test call generated from AT&T to <TEST PSAP>; good ANI, location and subscriber information, & Voice delivered. <PASS/FAIL>
4	CPE bids i3 Components	Call Processing	Test call sent to <TEST PSAP>. Call taker performs manual rebid on the ANI.	<5 min	HH:MM MT - HH:MM MT - Test call generated from AT&T to <TEST PSAP>; good ANI, location and subscriber information, ELT, & Voice delivered. AT&T verifies CPE can independently bid the ECRF, LIS, and ADR. <PASS/FAIL>

NG9-1-1 NON LIVE ACCEPTANCE TEST PLAN

Test #	Test Case	Type	Testing Criteria	Time	Pass/Fail and Comments
5	I3 Routing Fails, Routing via SRDB	Call Processing	Test call sent to <TEST PSAP>. Caller confirms routing and audio quality.	<10 min	HH:MM MT – TN removed from ALI/LIS then re-provisioned in the SRDB without X/Y data. Test call generated from AT&T to <TEST PSAP>; good ANI, location and subscriber information, & Voice delivered. <PASS/FAIL>
6	I3 Routing via ECRF	Call Processing	Test call sent to <TEST PSAP>. Caller confirms routing and audio quality.	<10 min	HH:MM MT – TN re-inserted to ALI/LIS. Test call generated from AT&T to <TEST PSAP>; good ANI, location and subscriber information, & Voice delivered. <PASS/FAIL>
7	I3 Transfer: Fixed Bridge Conferencing Confirmation	Call Processing	Test call transferred to <i3 TRANSFER PSAP (*XX)>. All parties on the bridge talk to confirm conferencing is established. Call taker at <TRANSFER PSAP> disconnects.	<5 min	HH:MM MT - Transfer to <TRANSFER PSAP (*XX)>; good ANI, location and subscriber information, & Voice delivered. <PASS/FAIL>
8	I3 Transfer: Fixed Bridge Conferencing Confirmation	Call Processing	Test call transferred to <i3 TRANSFER PSAP (URI)>. All parties on the bridge talk to confirm conferencing is established. Call taker at <TRANSFER PSAP> disconnects.	<5 min	HH:MM MT - Transfer to <TRANSFER PSAP (URI)>; good ANI, location and subscriber information, & Voice delivered. <PASS/FAIL>

NG9-1-1 NON LIVE ACCEPTANCE TEST PLAN

Test #	Test Case	Type	Testing Criteria	Time	Pass/Fail and Comments
9	EGDMS Provisioning	TN Provisioning	Update TN location and/or subscriber information via EGDMS. Test call sent to <TEST PSAP>. Caller confirms routing and audio quality.	<10 min	HH:MM – PSAP updates test record via EGDMS. Test call generated from AT&T to <TEST PSAP>; verify updated information is displayed. <PASS/FAIL>
10	S/R Transfer: Selective Bridge Conferencing Confirmation	Call Processing	Test call transferred to <Police, Fire or EMS>. All parties on the bridge talk to confirm conferencing is established. Call taker at <TRANSFER PSAP> disconnects.	<5 min	HH:MM MT - Transfer to correct agency for given TN record; good ANI, location and subscriber information, & Voice delivered. <PASS/FAIL>
11	S/R Transfer: Fixed Bridge Conferencing Confirmation	Call Processing	Test call transferred to <CAMA TRANSFER PSAP (*XX)>. All parties on the bridge talk to confirm conferencing is established. Call taker at <TRANSFER PSAP> disconnects.	<5 min	HH:MM MT - Transfer to <CAMA TRANSFER PSAP (*XX)>; good ANI, location and subscriber information, & Voice delivered. <PASS/FAIL>
12	S/R Transfer: Fixed Bridge Conferencing Confirmation	Call Processing	Test call transferred to <CAMA TRANSFER PSAP (URI)>. All parties on the bridge talk to confirm conferencing is established. Call taker at <TRANSFER PSAP> disconnects.	<5 min	HH:MM MT - Transfer to <CAMA TRANSFER PSAP (URI)>; good ANI, location and subscriber information, & Voice delivered. <PASS/FAIL>

NG9-1-1 NON LIVE ACCEPTANCE TEST PLAN

Test #	Test Case	Type	Testing Criteria	Time	Pass/Fail and Comments
13	S/R Transfer: Fixed Bridge Conferencing Confirmation	Call Processing	Test call transferred to <SIP TRANSFER PSAP (*XX)>. All parties on the bridge talk to confirm conferencing is established. Call taker at <TRANSFER PSAP> disconnects.	<5 min	HH:MM MT - Transfer to <SIPTRANSFER PSAP (*XX)>; good ANI, location and subscriber information, & Voice delivered. <PASS/FAIL>
14	S/R Transfer: Fixed Bridge Conferencing Confirmation	Call Processing	Test call transferred to <SIP TRANSFER PSAP (URI)>. All parties on the bridge talk to confirm conferencing is established. Call taker at <TRANSFER PSAP> disconnects.	<5 min	HH:MM MT - Transfer to <SIPTRANSFER PSAP (URI)>; good ANI, location and subscriber information, & Voice delivered. <PASS/FAIL>
15	PSTN Transfer: Fixed Bridge Conferencing Confirmation	Call Processing	Test call transferred to <TRANSFER PSAP (*XX)>. All parties on the bridge talk to confirm conferencing is established. Call taker at <TRANSFER PSAP> disconnects.	<5 min	HH:MM MT - Transfer to <TRANSFER PSAP (*XX)>; good ANI & Voice delivered. <PASS/FAIL>
16	Manual Transfer to valid local TN	Call Processing	Test call sent to <TEST PSAP>; Manual Transfer to local TN: <NPA-NXX-XXXX>	<5 min	HH:MM MT - Test call generated from AT&T to <TEST PSAP>; good ANI, location and subscriber information, & Voice delivered; manual transfer to <NPA.NXX.XXXX>; good Voice delivered; conferencing established. <PASS/FAIL>

NG9-1-1 NON LIVE ACCEPTANCE TEST PLAN

Test #	Test Case	Type	Testing Criteria	Time	Pass/Fail and Comments
17	Manual Transfer to valid long distance cell	Call Processing	Test call sent to <TEST PSAP>; Manual Transfer to long distance cell: <NPA-NXX-XXXX>	<5 min	HH:MM MT - Test call generated from AT&T to <TEST PSAP>; good ANI, location and subscriber information, & Voice delivered; manual transfer <NPA-NXX-XXXX>; good ANI & Voice delivered; conferencing established. <PASS/FAIL>
18	DTMF Transfer	Call Processing	Test call sent to <TEST PSAP>; Manual Transfer to DTMF Test Line TN: 720-494-6650, option 1 selected. Call taker verifies "Digit Verified" message reached.		HH:MM MT - Test call generated from AT&T to <TEST PSAP>; good ANI, location and subscriber information, & Voice delivered; manual transfer to 720-494-6650. Call taker hears recording and presses 1, verifies that they hear "digit verified" recording. <PASS/FAIL>
19	Alternate Routing	Call Processing	All trunks busied to force all calls to route to Alternate Route. Test call sent to <TEST PSAP>, call routed to <ALTERNATE ROUTE> as expected.	<10 min	HH:MM MT - Trunks busied out. HH:MM MT - Test call generated from AT&T to <TEST PSAP>; call routed to <ALTERNATE ROUTE> as expected. <PASS/FAIL>
20	Ring no Answer Timer	Call Processing	Test call sent to <TEST PSAP>, call is allowed to ring continuously until rolling over to Alternate route (RNA TIME); call routes to <ALTERNATE ROUTE> as expected.	<5 min	HH:MM: MT – Test call behaves as expected and rolls over to expected destination. <PASS/FAIL>
21	Abandonment Routing	Call Processing	PSAP is manually put into an abandoned state Test call sent to <TEST PSAP>, call routed to <ABANDONMENT ROUTE> as expected.	<20 min	HH:MM MT – PSAP Abandoned HH:MM MT - Test call generated from AT&T to <TEST PSAP>; call routed to <ABANDONMENT ROUTE> as expected with good ANI, location and subscriber information, & Voice delivered. <PASS/FAIL>

NG9-1-1 NON LIVE ACCEPTANCE TEST PLAN

Test #	Test Case	Type	Testing Criteria	Time	Pass/Fail and Comments
22	Un-Abandonment Routing	Call Processing	PSAP is manually put into an un-abandoned state Test call sent to <TEST PSAP>, call routed to <TEST PSAP> as expected.	<10 min	HH:MM MT - PSAP Un-Abandoned HH:MM MT - Test call generated from AT&T to <TEST PSAP>; call routed to <TEST PSAP> as expected with good ANI, location and subscriber information, & Voice delivered.. <PASS/FAIL>
23	Abandonment Routing – PAD Testing	Call Processing	PSAP is manually put into an abandoned state using the PSAP Abandonment Device. Test call sent to <TEST PSAP>, call routed to <ABANDONMENT ROUTE> as expected.	<20 min	HH:MM MT – PSAP Abandoned using PAD HH:MM MT - Test call generated from AT&T to <TEST PSAP>; call routed to <ABANDONMENT ROUTE> as expected with good ANI, location and subscriber information, & Voice delivered.. <PASS/FAIL>
24	Un-Abandonment Routing – PAD Testing	Call Processing	PSAP is manually put into an un-abandoned state Test call sent to <TEST PSAP>, call routed to <TEST PSAP> as expected.	<10 min	HH:MM MT - PSAP Un-Abandoned using PAD HH:MM MT - Test call generated from AT&T to <TEST PSAP>, call routed to <TEST PSAP> as expected with good ANI, location and subscriber information, & Voice delivered.. <PASS/FAIL>
25	Trunk Verification	Call Processing	One trunk manually busied out. Test call sent to <TEST PSAP>.	<5 min	HH:MM MT – Trunk(s) busied out HH:MM MT – Test call made to <TEST PSAP>, call routed to <TEST PSAP> as expected with good ANI, location and subscriber information, & Voice delivered.. <PASS/FAIL>

NG9-1-1 NON LIVE ACCEPTANCE TEST PLAN

Test #	Test Case	Type	Testing Criteria	Time	Pass/Fail and Comments
26	Trunk Verification	Call Processing	One trunk manually busied out. Test call sent to <TEST PSAP>.	<5 min	HH:MM MT – Trunks in service switched. HH:MM MT – Test call made to <TEST PSAP>, call routed to <TEST PSAP> as expected with good ANI, location and subscriber information, & Voice delivered.. <PASS/FAIL>
27	Trunk Verification	Call Processing	All Trunks put back in service	<5 min	HH:MM MT – Trunk(s) placed back into service. <PASS/FAIL>

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Annex I: Project Plan

Attached is a sample project plan.





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NCR ATT ESInet Implementation Project Plan V4.mpp

ID	Task Name	Duration	Start	Finish	Predecessors	Successors	er 1	January 1		February 1		Week 9
								Week -2	Week 1	Week 3	Week 5	
1	NCR ESInet Implementation Project Plan, including PSAP	227 days	Tue 8/1/17	Wed 6/13/18								
2	Definition Phase	104 days	Tue 8/1/17	Fri 12/22/17								
3	Pre-Sale	25 days	Tue 8/1/17	Mon 9/4/17		19,59						
4	AT&T ESInet System, Core Site (6), and Aggregation	0 days	Tue 8/1/17	Tue 8/1/17								
5	PSAP and Regional Ingress Data Collection	25 days	Tue 8/1/17	Mon 9/4/17								
6	PSAP Data Collection Forms	20 days	Tue 8/1/17	Mon 8/28/17								
7	Work with PSAPs to complete Data Collection	20 days	Tue 8/1/17	Mon 8/28/17		132,131						
8	PSAP User Data Collection for Portals	20 days	Tue 8/1/17	Mon 8/28/17								
9	Collect User Data for West portal provisioning	20 days	Tue 8/1/17	Mon 8/28/17		133						
10	Regional Ingress Network Data Collection	25 days	Tue 8/1/17	Mon 9/4/17		67,68,69,70						
11	Create Regional OSP list and obtain contact	10 days	Tue 8/1/17	Mon 8/14/17		12						
12	Collect all information for both In-Region and	5 days	Tue 8/15/17	Mon 8/21/17	11	13,15,89						
13	Confirm Interconnection Agreements w/ OSPs	5 days	Tue 8/22/17	Mon 8/28/17	12							
14	Obtain signed PSAP LOAs from Customer	1 day	Tue 8/1/17	Tue 8/1/17								
15	Create Jurisdiction Rate Center Maps	10 days	Tue 8/22/17	Mon 9/4/17	12							
16	Confirm No HCAS Present	5 days	Tue 8/1/17	Mon 8/7/17								
17	Post-Sale	79 days	Tue 9/5/17	Fri 12/22/17		59						
18	Project Initiation	79 days	Tue 9/5/17	Fri 12/22/17								
19	Process and Send Service Order Requests, along	1 day	Tue 9/5/17	Tue 9/5/17	3	20						
20	Service Order Request Received	0 days	Tue 9/5/17	Tue 9/5/17	19	22,182FF						
21	Service Order Acceptance	0 days	Tue 9/5/17	Tue 9/5/17								
22	Review Service Order and Send Acceptance	0 days	Tue 9/5/17	Tue 9/5/17	20	23,39,25,41,1						
23	Send West PSAP IDs with Service Order	0 days	Tue 9/5/17	Tue 9/5/17	22	184FF						
24	Project Planning	13 days	Wed 9/6/17	Fri 9/22/17								
25	ESInet Project Kickoff	1 day	Wed 9/6/17	Wed 9/6/17	22	27,26						
26	Escalation and Contact Info sharing	1 day	Thu 9/7/17	Thu 9/7/17	25	27						
27	Introductory call with customer	1 day	Fri 9/8/17	Fri 9/8/17	26,25	30,28						
28	Collaborate on individual PSAP IPPs	10 days	Mon 9/11/17	Fri 9/22/17	27							
29	Customer Kick-Off Meeting	25 days	Mon 9/11/17	Fri 10/13/17								
30	Presentation, materials, and discussion - Project	10 days	Mon 9/11/17	Fri 9/22/17	27	31						
31	Conduct PSAP Customer Kickoffs	15 days	Mon 9/25/17	Fri 10/13/17	30	34,43FF+2 wks						
32	(Estimated) Optional Special Construction	75 days	Mon 9/11/17	Fri 12/22/17		125						
33	PSAP Site Survey	30 days	Mon 10/16/17	Fri 11/24/17								
34	Conduct PSAP site visits	20 days	Mon 10/16/17	Fri 11/10/17	31	35						
35	Complete site assessments	10 days	Mon 11/13/17	Fri 11/24/17	34	36,185FF						
36	Deliver PSAP Site Assessments to customers	0 days	Fri 11/24/17	Fri 11/24/17	35	63						

NCR ATT ESInet Implementation Project Plan V4.mpp

ID	Task Name	Duration	Start	Finish	Predecessors	Successors	er 1	January 1		February 1		Week 10
							Week -2	Week 1	Week 3	Week 5	Week 7	Week 9
37	Infrastructure Data Collection	5 days	Wed 9/6/17	Tue 9/12/17								
38	Aggregation Site Evaluation	5 days	Wed 9/6/17	Tue 9/12/17								
39	Aggregation Site Location identification for	5 days	Wed 9/6/17	Tue 9/12/17	22							
40	ESInet Network Requirements	5 days	Wed 9/6/17	Tue 9/12/17								
41	Identify Specific PSAP Requirements (carrier	5 days	Wed 9/6/17	Tue 9/12/17	22	75						
42	GIS Data Readiness	21 days	Fri 10/27/17	Fri 11/24/17								
43	Training session #1	1 day	Fri 10/27/17	Fri 10/27/17	31FF+2 wks	44FF+3 wks,45						
44	Training session #2	1 day	Fri 11/17/17	Fri 11/17/17	43FF+3 wks							
45	Customer submits GIS Data	1 day	Fri 11/10/17	Fri 11/10/17	43FF+2 wks	46,51						
46	Initial error report provided	0 days	Fri 11/10/17	Fri 11/10/17	45	47,188FF						
47	Work to correct errors and map fields	10 days	Mon 11/13/17	Fri 11/24/17	46	48FF						
48	Resubmit GIS Data	1 day	Fri 11/24/17	Fri 11/24/17	47FF,52	49						
49	GIS Data Preparation Complete	0 days	Fri 11/24/17	Fri 11/24/17	48	130,59,189FF						
50	NextGen Data Assesment	6 days	Mon 11/13/17	Mon 11/20/17								
51	ALI and MSAG data provided	2 days	Mon 11/13/17	Tue 11/14/17	31,45	52						
52	Comparison Report	4 days	Wed 11/15/17	Mon 11/20/17	51	48						
53	MapSAG	8 days	Fri 10/27/17	Tue 11/7/17								
54	Customer Kick-Off Meeting	1 day	Fri 10/27/17	Fri 10/27/17	31FF+2 wks	55						
55	Install MapSAG at PSAP #1	1 day	Mon 10/30/17	Mon 10/30/17	54	57FS+5 days,5						
56	MapSAG Install Complete at PSAP #1	0 days	Mon 10/30/17	Mon 10/30/17	55	186FF						
57	MapSAG Training	1 day	Tue 11/7/17	Tue 11/7/17	55FS+5 days	58						
58	MapSAG Training Complete	0 days	Tue 11/7/17	Tue 11/7/17	57	187FF,179						
59	Data Collection Complete	0 days	Fri 12/22/17	Fri 12/22/17	3,17,49	60,190FF						
60	Definition Phase Complete	0 days	Fri 12/22/17	Fri 12/22/17	59	191FF						
61	Architecture Phase	94 days	Tue 8/1/17	Fri 12/8/17								
62	PSAP Site Remediation	10 days	Mon 11/27/17	Fri 12/8/17								
63	Review Customer PSAP Site Requirements	5 days	Mon 11/27/17	Fri 12/1/17	36	64						
64	Identify Customer PSAP Site Remediation	5 days	Mon 12/4/17	Fri 12/8/17	63	121						
65	Network Design	56 days	Tue 8/1/17	Tue 10/17/17		80						
66	Regional Ingress Network Design for the NCR	40 days	Tue 8/1/17	Mon 9/25/17								
67	ILEC and other existing service provider	5 days	Tue 9/5/17	Mon 9/11/17	10	72,89						
68	Facilitate inter-local agreements	10 days	Tue 9/5/17	Mon 9/18/17	10	72						
69	Legacy SR and other existing service	10 days	Tue 9/5/17	Mon 9/18/17	10	72						
70	Split rate center design	10 days	Tue 9/5/17	Mon 9/18/17	10	72						
71	OSP interconnection design	20 days	Tue 8/1/17	Mon 8/28/17		72						
72	Ingress Network Design review	5 days	Tue 9/19/17	Mon 9/25/17	67,68,69,70,71	73						

NCR ATT ESInet Implementation Project Plan V4.mpp

ID	Task Name	Duration	Start	Finish	Predecessors	Successors	er 1	January 1		February 1		Week 10
							Week -2	Week 1	Week 3	Week 5	Week 7	Week 9
73	Ingress Network design finalized	0 days	Mon 9/25/17	Mon 9/25/17	72	192FF						
74	Egress Network Design (to PSAPs)	25 days	Wed 9/13/17	Tue 10/17/17								
75	Customer PSAP AVPN connection design	10 days	Wed 9/13/17	Tue 9/26/17	41	76,77						
76	Customer PSAP LAN design	10 days	Wed 9/27/17	Tue 10/10/17	75	78						
77	ESInet interconnection design	5 days	Wed 9/27/17	Tue 10/3/17	75	78						
78	ESINet Design Review	5 days	Wed 10/11/17	Tue 10/17/17	76,77	79						
79	Finalize PSAP Customer Architecture	0 days	Tue 10/17/17	Tue 10/17/17	78	131,132,133,1						
80	Architecture Review	2 days	Wed 10/18/17	Thu 10/19/17	65	81						
81	Architecture Phase Complete	0 days	Thu 10/19/17	Thu 10/19/17	80	123,85,86,194						
82	Integration Phase	87 days	Tue 9/12/17	Wed 1/10/18								
83	POI to Agg Site Network for Region	45 days	Fri 10/20/17	Thu 12/21/17		135						
84	Create POI Facility	45 days	Fri 10/20/17	Thu 12/21/17								
85	Physical Work	30 days	Fri 10/20/17	Thu 11/30/17	81							
86	POI to Agg Site Circuit Orders	30 days	Fri 10/20/17	Thu 11/30/17	81	87						
87	POI to Agg Site Trunk Orders	15 days	Fri 12/1/17	Thu 12/21/17	86							
88	FSR Interconnection Process for Region	73 days	Tue 9/12/17	Thu 12/21/17		135						
89	Confirm FSR 9-1-1 contacts	1 day	Tue 9/12/17	Tue 9/12/17	67,12	90						
90	Circuit orders to FSRs	45 days	Wed 9/13/17	Tue 11/14/17	89	93,94						
91	Connections to FSR & Transit Solution for Region	27 days	Wed 11/15/17	Thu 12/21/17								
92	Trunk orders	23 days	Wed 11/15/17	Fri 12/15/17								
93	Create Trunk Model Diagram	1 day	Wed 11/15/17	Wed 11/15/17	90	95						
94	FOC ILEC Trunk Orders	15 days	Wed 11/15/17	Tue 12/5/17	90	97						
95	Submit Originating and Transfer Trunk Orders	15 days	Thu 11/16/17	Wed 12/6/17	93	96						
96	Transfer Trunk Test and Turn Up	2 days	Thu 12/7/17	Fri 12/8/17	95	97						
97	Provision Trunks in ESInet	3 days	Mon 12/11/17	Wed 12/13/17	96,94	98,100						
98	Perform Unit Testing	2 days	Thu 12/14/17	Fri 12/15/17	97							
99	End to End Circuit testing with FSR	2 days	Thu 12/14/17	Fri 12/15/17								
100	FSR Circuit Testing	1 day	Thu 12/14/17	Thu 12/14/17	97	101,102						
101	Confirm gain settings	1 day	Fri 12/15/17	Fri 12/15/17	100							
102	FSR Circuit Testing Complete	0 days	Thu 12/14/17	Thu 12/14/17	100	104,195FF						
103	FSR Transit Routing Solution	5 days	Fri 12/15/17	Thu 12/21/17								
104	Submit Formal Transition request notification	1 day	Fri 12/15/17	Fri 12/15/17	102	105,107						
105	Determine routing ESN from FSR to West	2 days	Mon 12/18/17	Tue 12/19/17	104							
106	Test Transit Routing Solution with FSR ILEC	4 days	Mon 12/18/17	Thu 12/21/17								
107	Create Transit Test Plan	1 day	Mon 12/18/17	Mon 12/18/17	104	108						
108	Confirm Transit Test Plan w/ ILEC	1 day	Tue 12/19/17	Tue 12/19/17	107	109						

NCR ATT ESInet Implementation Project Plan V4.mpp

ID	Task Name	Duration	Start	Finish	Predecessors	Successors	er 1	January 1		February 1		Week 9
							Week -2	Week 1	Week 3	Week 5	Week 7	
109	Schedule Transit testing with ILEC	1 day	Wed 12/20/17	Wed 12/20/17	108	110						
110	Conduct Routing Solution testing	1 day	Thu 12/21/17	Thu 12/21/17	109	112FF,111						
111	ESINet Implementation/Testing Complete	0 days	Thu 12/21/17	Thu 12/21/17	110	196FF						
112	FSR Transit routing solution confirmed	1 day	Thu 12/21/17	Thu 12/21/17	110FF							
113	PSAP Equipment Installation - PSAP #1	44 days	Fri 11/10/17	Wed 1/10/18		135						
114	Order Hardware	20 days	Fri 11/10/17	Thu 12/7/17	123FS-30 days	115						
115	Schedule equipment Installation with PSAP	3 days	Mon 1/8/18	Wed 1/10/18	114,121							
116	Ship PSAP Equipment to PSAP	5 days	Fri 12/8/17	Thu 12/14/17	123FS-10 days	117,132						
117	Installation of Hardware	2 days	Fri 12/22/17	Mon 12/25/17	116,123	125						
118	Equipment and Network Test and Turn-up	2 days	Thu 12/28/17	Fri 12/29/17	126	119						
119	Equipment Installation Complete	0 days	Fri 12/29/17	Fri 12/29/17	118	128,197FF						
120	Egress Network Ordering and Turn Up for PSAP #1	56 days	Fri 10/20/17	Fri 1/5/18		135						
121	Confirm PSAP #1 site remediation is complete	20 days	Mon 12/11/17	Fri 1/5/18	64	115						
122	PSAP #1 Circuits	49 days	Fri 10/20/17	Wed 12/27/17								
123	AVPN order #1 at PSAP #1	45 days	Fri 10/20/17	Thu 12/21/17	81	124SS,114FS						
124	AVPN order #2 at PSAP #1	45 days	Fri 10/20/17	Thu 12/21/17	123SS							
125	Circuit test and tum up	1 day	Tue 12/26/17	Tue 12/26/17	117,32	126						
126	IP tunnel provisioning and activation	1 day	Wed 12/27/17	Wed 12/27/17	125	118						
127	PSAP #1 Network Testing	1 day	Mon 1/1/18	Mon 1/1/18								
128	ESINet Interconnection test and network failover	1 day	Mon 1/1/18	Mon 1/1/18	119							
129	PSAP #1 Data Prov sioning	47 days	Wed 10/18/17	Thu 12/21/17		142,135						
130	Provision GIS Data in EGDMS	1 day	Mon 11/27/17	Mon 11/27/17	49	134						
131	Provision PSAP and PSAP Data in all additional	5 days	Wed 10/18/17	Tue 10/24/17	79,7	134						
132	Provision all ALI and ALI interface systems as needed	5 days	Fri 12/15/17	Thu 12/21/17	79,7,116	134						
133	Provision PSAP GIS Data Authority users in EGDMS	5 days	Wed 10/18/17	Tue 10/24/17	79,9	134						
134	Provisioning Complete	0 days	Thu 12/21/17	Thu 12/21/17	131,132,133,130	158,198FF						
135	Integration Phase Complete	0 days	Wed 1/10/18	Wed 1/10/18	83,88,113,120,129	138,147,154,1						
136	Deployment Phase - PSAP #1	24 days	Fri 12/22/17	Wed 1/24/18								
137	OSP Communication	10 days	Thu 1/11/18	Wed 1/24/18								
138	Create OSP Notification letter	4 days	Thu 1/11/18	Tue 1/16/18	135	139						
139	PSAP approval of OSP Notification letter	5 days	Wed 1/17/18	Tue 1/23/18	138	140						
140	Send OSP Notification of Voice Transition	1 day	Wed 1/24/18	Wed 1/24/18	139							
141	PSAP User Validation and Training	4 days	Wed 1/10/18	Mon 1/15/18								
142	Validate that users can access portal	2 days	Wed 1/10/18	Thu 1/11/18	165FS-10 days,129	143						
143	Train users on use of portal	2 days	Fri 1/12/18	Mon 1/15/18	142							
144	Pre-Cutover Planning and Testing	22 days	Fri 12/22/17	Mon 1/22/18								

NCR ATT ESInet Implementation Project Plan V4.mpp

ID	Task Name	Duration	Start	Finish	Predecessors	Successors	er 1	January 1		February 1		
							Week -2	Week 1	Week 3	Week 5	Week 7	Week 9
145	Planning	8 days	Thu 1/11/18	Mon 1/22/18								
146	Event Planning	8 days	Thu 1/11/18	Mon 1/22/18								
147	Confirm PSAP Site Readiness - CPE Installed	1 day	Thu 1/11/18	Thu 1/11/18	135	153,148						
148	Coordinate voice cutover schedule per	2 days	Fri 1/12/18	Mon 1/15/18	147	149						
149	Create Cutover Event Plan and Review with	4 days	Tue 1/16/18	Fri 1/19/18	148	150						
150	Schedule Migration Event with Internal	1 day	Mon 1/22/18	Mon 1/22/18	149	165,151						
151	Schedule Migration Event with Customer	0 days	Mon 1/22/18	Mon 1/22/18	150	165,200FF						
152	Pre-Cutover Systems Verification	6 days	Thu 1/11/18	Thu 1/18/18								
153	Verify Ingress Network and PSAP CPE ready per	2 days	Fri 1/12/18	Mon 1/15/18	147							
154	Verify ESInet systems ready per checklist	2 days	Thu 1/11/18	Fri 1/12/18	135	155						
155	Verify Monitoring in place	2 days	Mon 1/15/18	Tue 1/16/18	154	156						
156	Verify West NOC has NOC to NOC	2 days	Wed 1/17/18	Thu 1/18/18	155							
157	Testing	21 days	Fri 12/22/17	Fri 1/19/18								
158	Create Provisioning Pre-Test Plan	3 days	Fri 12/22/17	Tue 12/26/17	134	159						
159	Review and Approve Test Plan w/PSAP	5 days	Wed 12/27/17	Tue 1/2/18	158	160						
160	Schedule Pre-cutover testing with PSAP and CPE	3 days	Wed 1/3/18	Fri 1/5/18	159	161						
161	Setup test number dialer	4 days	Mon 1/8/18	Thu 1/11/18	160	162						
162	Perform call delivery testing	3 days	Fri 1/12/18	Tue 1/16/18	161,135	163						
163	Pre-Cutover Testing	3 days	Wed 1/17/18	Fri 1/19/18	162	165						
164	PSAP #1 Cutover	2 days	Tue 1/23/18	Wed 1/24/18								
165	Go / No Go for Cutover	1 day	Tue 1/23/18	Tue 1/23/18	150,151,163	166,142FS-10						
166	Systems Cutover Event	1 day	Wed 1/24/18	Wed 1/24/18	165	167						
167	Cutover Complete	0 days	Wed 1/24/18	Wed 1/24/18	166	168,201FF						
168	PSAP Voice Live	0 days	Wed 1/24/18	Wed 1/24/18	167	177,179,175,1						
169	Deployment Phase - All Remaining PSAPs	60 days	Thu 1/25/18	Wed 4/18/18								
170	Execute Integration and Deployment Project Plans for	3 mons	Thu 1/25/18	Wed 4/18/18	168							
171	Optional ECaTS i3 Logger Deployment	30 days	Mon 1/1/18	Fri 2/9/18		172						
172	ECaTS i3 Logger Training	1 day	Mon 2/12/18	Mon 2/12/18	171							
173	Maintenance Phase - Begins with PSAP #1 Live and	111 days	Tue 9/5/17	Wed 2/7/18								
174	Manage Regional OSP direct connections for the NCR	10 days	Wed 1/24/18	Wed 2/7/18								
175	Create target migration plan for OSP direct	10 days	Thu 1/25/18	Wed 2/7/18	168	176						
176	Facilitate OSP circuit orders	0 days	Wed 2/7/18	Wed 2/7/18	175	203FF						
177	Provision, test, and turn up OSP trunks	0 days	Wed 1/24/18	Wed 1/24/18	168	204FF						
178	Handoffs for ongoing System Maintenance and	111 days	Tue 9/5/17	Wed 2/7/18								
179	NOC monitoring and support begins	0 days	Wed 1/24/18	Wed 1/24/18	168,58	205FF						
180												

NCR ATT ESInet Implementation Project Plan V4.mpp

ID	Task Name	Duration	Start	Finish	Predecessors	Successors	er 1	January 1		February 1		Week 9	
							Week -2	Week 1	Week 3	Week 5	Week 7	Week 9	
181													
182	Service Order Request Received	0 days	Tue 9/5/17	Tue 9/5/17	20FF								
183	Review Service Order and Send Acceptance	0 days	Tue 9/5/17	Tue 9/5/17	22FF								
184	Send West PSAP IDs with Service Order	0 days	Tue 9/5/17	Tue 9/5/17	23FF								
185	Deliver PSAP Site Assessments to	0 days	Fri 11/24/17	Fri 11/24/17	35FF								
186	*MapSAG Install Complete	0 days	Mon 10/30/17	Mon 10/30/17	56FF								
187	*MapSAG Training Complete	0 days	Tue 11/7/17	Tue 11/7/17	58FF								
188	GIS - Initial error report provided	0 days	Fri 11/10/17	Fri 11/10/17	46FF								
189	GIS Data Preparation Complete	0 days	Fri 11/24/17	Fri 11/24/17	49FF								
190	Data Collection Complete	0 days	Fri 12/22/17	Fri 12/22/17	59FF								
191	Definition Phase Complete	0 days	Fri 12/22/17	Fri 12/22/17	60FF								
192	Ingress Network design finalized	0 days	Mon 9/25/17	Mon 9/25/17	73FF								
193	Finalize PSAP Customer Architecture	0 days	Tue 10/17/17	Tue 10/17/17	79FF								
194	Architecture Phase Complete	0 days	Thu 10/19/17	Thu 10/19/17	81FF								
195	FSR Circuit Testing Complete	0 days	Thu 12/14/17	Thu 12/14/17	102FF								
196	ESInet Implementation/Testing Complete	0 days	Thu 12/21/17	Thu 12/21/17	111FF								
197	PSAP Equipment Installation Complete	0 days	Fri 12/29/17	Fri 12/29/17	119FF								
198	Provisioning Complete	0 days	Thu 12/21/17	Thu 12/21/17	134FF								
199	Integration Phase Complete	0 days	Wed 1/10/18	Wed 1/10/18	135FF								
200	Schedule Migration Event with Customer	0 days	Mon 1/22/18	Mon 1/22/18	151FF								
201	Cutover Complete	0 days	Wed 1/24/18	Wed 1/24/18	167FF								
202	*PSAP Voice Live	0 days	Wed 1/24/18	Wed 1/24/18	168FF								
203	Facilitate OSP circuit orders	0 days	Wed 2/7/18	Wed 2/7/18	176FF								
204	Provision, test, and turn up OSP trunks	0 days	Wed 1/24/18	Wed 1/24/18	177FF								
205	NOC monitoring and support begins	0 days	Wed 1/24/18	Wed 1/24/18	179FF								



Annex J: Sample Resume

Attached is a sample resume.





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AT&T Consultant Professional Services Biography

Senior Consultant – TM7609

Senior Consultant TM7609 has 38 years' experience in Telephony, Information Technology, Public Safety related technology, 3rd tier Technical Support, multiple NENA committees and standards development committees as a Senior Professional and Technical Manager.

TM7609 has extensive experience working with internal and external customers, local, state and federal government officials, senior leadership, suppliers and manufactures. TM7609 has managed, and participated in multi-million dollar projects and implementation teams. These included network upgrade roadmaps, major public safety 9-1-1 projects, network architecture, and design. TM7609 is seen as a Trusted Advisor to clients in the arena of E9-1-1 products and solutions.

CORE COMPETENCIES

▪ E9-1-1 Network Architecture & Design	▪ E9-1-1 Standards Development
▪ E9-1-1 and NG9-1-1 System Architecture, Design and Testing	▪ Project Design, Management and Implementation
▪ Product Design	

PROFESSIONAL EXPERIENCE

Senior Consultant, AT&T Consulting

- Provide Senior level "Trusted Advisor" NG9-1-1 services to customers, including strategic roadmap development, project lead, design & implementation, workflow process and procedures
- Conduct vulnerability assessments of technology risk, such as NG9-1-1 equipment configuration, network design and configuration
- Design custom solutions for E9-1-1 PSAP's (Public Safety Answering Point)
- Develop E9-1-1 standards and guidelines
- Perform complex failure investigations

Director of Telephony Solutions and Partner Management, InterAct Public Safety

- Managed and built business partner relationships, negotiated and monitored contracts
- Planned, researched, assisted in design and testing of NG9-1-1 telephony products
- Provided 3rd tier technical support for Telephony Products
- Provided company wide sales support, RFP support and system design for telephony products
- Researched and identified possible NG9-1-1 product providers for acquisition
- Supported Federal and International 9-1-1 sites

Director of Operations, SE Headquarters, InterAct Public Safety

- Oversaw and Directed 60 + Employees Performing Purchasing, Warehousing, Helpdesk, Technical Support, Field Support, Equipment Staging and Equipment Delivery for 500+ E9-1-1 Sites
- Managed and built business partner relationships, negotiated and monitored contracts
- Created and built E9-1-1 Staging Center
- Assisted in development of new products and features

Senior Analyst, BellSouth Telecommunications

- Provided 3rd tier support for 800+ 9-1-1 PSAP'S in the Southeast
- Conducted 9-1-1 system outages investigation's and reports for FCC reporting
- Participated in numerous 9-1-1 related project teams
- Performed product lab testing and certification on all 9-1-1 telephony products for BellSouth

Fire Fighter Engineer - EMT, City of Forest Park

- Firefighter and Pumper Engineer
- EMT – Advanced Emergency Medical Technician
- Crash Rescue

CURRENT CERTIFICATIONS and INDUSTRY POSITIONS

- NENA NGPP – Member of NENA Next Generation Partner Program
- NENA NG9-1-1 ICE – Voting Member of NENA NG9-1-1 Industry Collaboration Event Committee
- NENA PRC – Voting Member of NENA Process Review Committee
- Certified Fire Fighter – State of GA

Annex K: Service Level Agreements

This section contains our SLAs.

Response from Oral Presentation dated March 17, 2017

Q3. Your proposal included a proposed schedule for the Next Generation Core Services Solution (NGCS). What assurance would the participating jurisdictions have that your team can meet that schedule? Address any schedule overrun/delays your team has experienced on recent projects and describe why those same delays would not accrue to this proposed effort?

AT&T Response:

The implementation schedule of participating jurisdictions is assured by AT&T's On-Time PSAP Deployment Service Level Agreement (SLA). The AT&T ESInet™ service supports an on time provisioning Service Level Agreement (SLA) and will activate a new PSAP or Host location for the Service no later than the agreed upon Service Activation Committed Date.

If AT&T does not meet this performance objective for On-Time Provisioning PSAP Deployment, the PSAP customer may be entitled to a one time SLA credit equal to 100% of monthly recurring charge for the applicable AT&T ESInet™ Service site, after the installation is completed.

The AT&T ESInet™ is an established national solution with existing infrastructure built out across the country. The NCR can leverage AT&T's investment to accelerate NG9-1-1 adoption across participating jurisdictions, avoiding CAPEX build out and reducing operating expense. Implementation of the AT&T ESInet™ service is comprised of phased parallel activities. Phase 1 begins with connecting AT&T's national NGCS to the PSAPs and their Originating Service Providers (OSP) i.e., Carriers allowing PSAPs to go live. In Phase 2, AT&T works with OSPs to establish new end office trunk connections that allow decommissioning of the Selective Router.

- **Phase 1:** Upon contract signature, AT&T will begin ordering PSAP network and equipment. AT&T is a leader in providing AVPN connectivity throughout the world. The timeline for completion of that connectivity - which includes the physical circuits, testing and turn-up of that connectivity, as well as the equipment provisioning shipping and installation - is typically 90-120 days. In parallel, AT&T will establish connectivity to the existing legacy selective routers to utilize (for a limited amount of time) the Selective Routers as the initial aggregation site for the OSPs. AT&T will not only be the customer of record for all of the physical connectivity, but will also own the physical infrastructure as



well as the resources working to complete the effort. Once this work is completed, all existing traffic can flow from the current termination points into the AT&T ESInet™ core infrastructure. At this point the NGCS infrastructure will use i3 protocols and functions to deliver the voice and data to the PSAPs.

- **Phase 2:** In parallel with Phase 1, AT&T will establish the new Points of Interconnection (POI) for the OSP's. Once established, AT&T will work with the carriers to build new direct end office trunking into the AT&T ESInet™. In our experience, most carriers will cut over their traffic within 12-18 months of the PSAP request, but there typically are carriers that take longer. In these cases, the carriers will still have the capability to send traffic to the existing selective routers as an aggregation point. AT&T will work in partnership with NCR to cut over the OSPs as soon as possible. It would be preferred that this aligns with the original cutover of the PSAPs in Phase 1, but having the experience of cutting over 700 PSAPs across the country, AT&T understands that this is not usually the case and has created the above methodology to allow the PSAP to experience the ESInet and i3 benefits without allowing the OSPs to stop or slow the overall deployment.

Response from Clarification Questions dated March 27, 2017

2. In Annex K, Service Level Agreement, Section 3 SLA– PSAP Call Delivery please clarify what is considered a Valid Destination.

AT&T Response:

“Valid Destination” means correct primary or alternative PSAP, PSTN or tone/treatment.

Response from Clarification Questions dated March 27, 2017

3. In Annex K, Service Level Agreement, Section 3 SLA – Service Availability: please clarify what is considered the inbound Service demarcation point.

AT&T Response:

The inbound service demarcation point is the Point of Interface (POI) that connects to the Legacy Network Gateway (LNG).



Response from Clarification Questions dated March 27, 2017

4. Also on SLAs, please confirm there are no conflicts between Annex K and your RFP response per Section 4.11 Service Level Agreement (SLA). If such conflicts exist, please clarify where needed.

AT&T Response:

AT&T's proposal complies with the SLA requirements contained in Section 4.11. Annex K contains AT&T ESInet™ standard SLAs that are included with our offer, at no additional charge. AT&T's approach is to provide ESInet service assurance that combines 9-1-1 performance measures into meaningful service level agreements that reflect end to end operation of Next Generation Core Services (NGCS). The AT&T ESInet™ standard SLAs for Service Availability, Voice Quality, and PSAP Call Delivery encompass support of the system performance requirements specified in Section 4.11.

From AT&T's perspective, a minor variance exists between the RFP and Annex K regarding Incident Severity Level 1 and 2 Credits (section 4.11.7).

- Annex K: AT&T's standard SLA package supports service level objectives for incident restoration that do not specify penalty credits
- RFP: AT&T has agreed to comply with the Incident Severity Level 1 and 2 Penalty Credits as required in Section 4.11.7.

It is important to understand that in some cases AT&T's ESInet™ standard SLAs outperform the SLA requirements in the RFP:

1. AT&T's Standard SLA for Incident Management provides restoration of Severity Level 1 and Severity Level 2 incidents 50% faster than the required time durations specified in the RFP
2. AT&T's On-time provisioning SLA assures PSAP deployments remain on schedule
 - o AT&T supports an on time provisioning SLA and will activate a new PSAP or Host location for the Service no later than the agreed upon Service Activation Committed Date.
 - o Remedies: If AT&T does not meet this performance objective for On-Time Provisioning PSAP Deployment, Customer may be entitled to a one time SLA credit equal to 100% of monthly recurring charge for the applicable AT&T ESInet™ Service site, after the installation is completed.

Response from Negotiation Issues dated April 18, 2017

10. Also on SLAs, please update Annex K to mirror the AT&T response for Section 4.11 Service Level Agreement (SLA).



AT&T Response:

[AT&T has updated Annex K to mirror the AT&T response for Section 4.11 Service Level Agreement \(SLA\). Please see attached Annex K.](#)

Response from Negotiation Issues dated April 18, 2017

17. In Annex K, Service Level Agreement, Section 3 SLA – PSAP Call Delivery: please revise your proposal response to include a written definition of what is considered a Valid Destination.

AT&T Response:

[“Valid Destination” means correct primary or alternative PSAP, PSTN or tone/treatment. Revised proposal also contains the definition.](#)

Response from Negotiation Issues dated April 18, 2017

18. In Annex K, Service Level Agreement, Section 3 SLA – Service Availability: please revise your proposal response to include a written definition of what is considered the inbound Service demarcation point.

AT&T Response:

[The inbound service demarcation point is the Point of Interface \(POI\) that connects to the-Originating Service Provider \(OSP\). Revised proposal also contains the definition.](#)



Service Level Agreements (SLA)

1. General AT&T ESInet™ SLA Terms

1.1 SLA Administration

AT&T has established service levels AT&T ESInet™ Service. While AT&T does not guarantee the service levels. AT&T will provide credits to an eligible Customer when a service levels is not met, subject to the terms, definitions and any exclusions or limitation as stated herein.

Service Components eligible for SLA Credit:

- ESInet™ Call Routing

To be eligible for a service level credit, Customer must (a) open a trouble ticket within 2 weeks of the occurrence of the issue and (b) notify AT&T in writing of a claim within six (6) months of the day AT&T failed to meet the service level via the AT&T BusinessDirect® portal (<https://www.businessdirect.att.com>). All claims submitted by Customer shall include the date and time of the incident that Customer believes makes it eligible for a SLA service credit. AT&T shall, in its sole and reasonable determination, verify and determine Customer's eligibility for a SLA service credit.

Any SLA credit paid to Customer shall constitute the Customer's sole and exclusive remedy for AT&T's failure to meet a SLA. Customer may not receive credits totaling more than 100% of the monthly charge for any affected PSAP for a given calendar month.

1.2 SLA Exclusions

AT&T is not responsible for failure to meet an SLA resulting from:

- Negligent conduct or misuse of the Service by Customer;
- the failure or deficient performance of power, equipment, services or systems not provided by AT&T;
- conduct or performance of a third party service provider providing service to Customer;
- a PSAP/Host location that has not been actively in-use (calls made to or from the PSAP/Host location) for a minimum of 30 calendar days (PSAP Call Delivery, Voice Quality, Service Availability)
- service interruptions, deficiencies, degradations or delays;
 - associated with ESInet network connections or local access where complete physical access and POP diversity to the PSAP or Host location is not provided.
 - due to access lines or Customer Premises Equipment ("CPE") whether provided by AT&T or others (except as specifically provided in a particular SLA); including CPE trunk volume.
 - due to actions taken by Customer resulting in call quality issues (For example: CPE trunk volume power too high/low, customer equipment)
 - due to incapability with call handling equipment and software.
 - during any period in which AT&T or its agents are not afforded access to the premises where access lines associated with the AT&T transport service are terminated or AT&T CPE is located;
 - during any period when a Service Component is removed from Service for maintenance, replacement or rearrangement purposes or for the implementation of a Customer order;
 - Customer not ordering sufficient bandwidth/concurrent call capacity (see table in section XXX for AT&T port speed/concurrent call capacities)
 - Force Majeure conditions.
 - Customer's use of a Service Component without necessary testing and/or repair;

- test calls or call with a duration of less than 10 (ten) seconds;
- days where a PSAP receives less than 20 calls per day for purpose of the Voice Quality SLA.

In addition, AT&T ESInet™ SLAs do not apply:

- If Customer is entitled to other available credits, compensation or remedies under other service agreement for the same service interruption, deficiency, degradation or delay;
- If Customer is entitled to more than one SLA credit for the same service interruption, deficiency, degradation or delay; then only one SLA credit shall apply.

Use of Alternate Service: If Customer elects to use another means of communications during the period of interruption, Customer is solely responsible for the alternate communication service and any charges related to such.

2 SLA - On Time Provisioning- PSAP Deployment

Definition: The Service Activation Committed Date for AT&T ESInet is the date AT&T provides notice that the Service activation is complete and the Service is available for use by the PSAP or Host location.

SLA: AT&T will activate a new PSAP or Host location for the Service no later than the agreed upon Service Activation Committed Date.

Calculation Methodology: The SLA applies if Service is not activated to a new PSAP or Host location on the mutually agreed to Service Activation Committed Date.

Service Level Credits

If AT&T does not meet this performance objective for On-Time Provisioning PSAP Deployment, Customer may be entitled to a one time SLA credit equal to 100% of monthly recurring charge for the applicable AT&T ESInet Service site, after the installation is completed.

3 SLA- PSAP Call Delivery

Definition: The performance objective for the PSAP Call Delivery SLA are that all calls received into the Service in any given calendar month are delivered to a Valid Destination according to the service levels set forth in the table below. If the PSAP Call Delivery performance objective is not met in a given month (the "Failure Month") and AT&T fails to remedy the issues within one (1) month following the Failure Month, the Customer may be eligible for a PSAP Call Delivery SLA credit. "Valid Destination" means correct primary or alternative PSAP, PSTN, or tone/treatment.

SLA: The service level objective is (i) if fewer than 100,000 calls are presented in a calendar month, no more than one (1) call to the Service cannot be delivered to a Valid Destination; or (ii) if 100,000 or more calls are presented in a calendar month, no more than 0.001% of the total calls to the Service cannot be delivered to a Valid Destination.

Calculation Methodology: AT&T will compare the number of inbound calls into the AT&T ESInet Service and the number of calls delivered to each Valid Destination for each PSAP in a given calendar month.

Service Level Credits:

If the PSAP Call Delivery performance objective for a PSAP is not met in a given calendar month, then a PSAP call Delivery SLA credit of 5% for the monthly recurring charge for the ESInet Network Call Routing for the impacted PSAP (s) shall apply.

4 SLA- Voice Quality

Definition: AT&T will support a Voice Quality SLA by monitoring the IP audio packets from Aggregation sites (from the AT&T ESInet demarcation point) into the Core Call Processing Nodes and from the PSAP (from the Customer demarcation point) into the Core Call Processing Nodes.

SLA: The SLA objective is for the Daily Predicted MOS (PMOS) value per PSAP to not be less than a 3.5 threshold for G.711 codec as measured by AT&T, where the ideal PMOS score for the G.711 codec is 4.3 as measured by AT&T.

Calculation methodology: The Daily PSAP PMOS value will be based on an average of the per call PMOS scores over a 24 hour calendar day.

Service Level Credit: If the Voice Quality SLA falls below the target for three consecutive days in a calendar month and AT&T is unable to restore Service to the SLA target within 30 days, a 5% credit of the ESInet Call Routing for the impacted PSAP (s) shall apply.

5 Service Availability

Definition: The Service will support a Service availability SLA that measures the availability requirement of 99.999% for Call Processing ("Service Availability"). Call Processing is the ability of the Service to deliver calls from the inbound Service demarcation point into the Core Call Processing Nodes and from the Service demarcation point to a Valid Destination ("Call Processing"). The inbound service demarcation point is the Point of Interface (POI) that connects to the Originating Service Provider (OSP).

SLA: The Service Availability downtime will not exceed 26.3 seconds per month.

Calculation Methodology: The Service Availability is calculated from the time an issue is reported that impacts Call Processing ability, until such time that the Service Call Processing ability is restored.

Service Level Credits:

If the Service Availability falls below the target of 99.999% in a calendar month then a Service Availability SLA credit of 5% of the monthly recurring charge for the ESInet Network Call Routing shall apply.

6 Restoration Time

Definition: AT&T will support an Incident Restoration SLA to measure the responsiveness of operations resources to restore Severity Level 1 and Severity Level 2 issues.

Severity Level 1 is defined as an incident whereby the Service or its components are completely inoperative or severely impacted:

Examples: (including but not limited to)

- PSAP not receiving calls
- All network down to a PSAP
- Total Service failure
- Loss of ANI / ALI to a PSAP for 15 or more minutes

Severity Level 2 is defined as an incident whereby the Service is functioning at a limited capacity or critical functions are no longer redundant.

Examples: (including but not limited to)

- PSAP reported line noise or interference
- Intermittent non delivery of voice
- Network to the PSAP one-sided (ESInet Network Connections)

Severity Level 3 is defined as a reported problem disabling specific non-essential functions or resulting in operator inconvenience; error condition is not critical to continuing operation and/or AT&T has determined a work-around for the error condition.

Examples: (including but not limited to)

- Loss of non-critical system component
- Legacy PSAP Gateway port loss
- Intermittent poor voice quality

Severity Level 4 is defined as an incident where the services are impaired and some functions are not operating, but the impairments are considered minor or cosmetic and have only a minor impact on usability. An informational request or questions of a general nature concerning the overall product suite functionality,

Examples: (including but not limited to)

- Report creation and formatting issues

- Loss of delivery of the CDR and provisioning data feed
- Non - Service affecting system anomalies that only occur once
- Non - Critical User Interface errors

SLA: AT&T ESInet™ SLA for Incident Response time for a trouble ticket opened by a Customer in the BusinessDirect portal in is summarized in the table below:

Incident Severity Level	Respond
Severity Level 1	30 mins
Severity Level 2	30 mins
Severity Level 3	8 hrs.
Severity Level 4	16 hrs.

Calculation Methodology: The incident response service level objectives, for all incident severity levels are measured by comparing the time of opening the trouble ticket to the time the Service was restored.

Service Level Credits:

The SLA Severity Level 1 and 2 Time to Restore Credit Percentages are summarized in the table below. There are no service level credits provided for Service Level 3 and 4 incidents.

AT&T ESInet™ Severity Restoration Time Objectives			
Incident Severity Level	Time to Restore		Credit Percentage
	Equal to or greater than:	To less than	
Severity Level 1	2 hours	4 hours	10%
	4 hours	8 hours	20%
	8 hours	> 16 hours	50%
Severity Level 2	4 hours	8 hours	10%
	8 Hours	16 hours	20%
	16 hours	> 32 hours	50%



Annex L: County Business License

Attached is a copy of AT&T's current business license for Fairfax county.





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2016

BUSINESS, PROFESSIONAL AND OCCUPATIONAL LICENSE
COUNTY OF FAIRFAX, DEPARTMENT OF TAX ADMINISTRATION (DTA)
PHONE: 703-222-8234 TTY: 703-222-7594 WEBSITE: www.fairfaxcounty.gov/dta

2016

AT&T CORPORATION
AT&T CORPORATION
1010 N SAINT MARY'S-TX DEPT ST 9-Q05
SAN ANTONIO TX 78215

Notice: This is your 2016 Business, Professional and Occupational License (BPOL). The bottom-half is perforated to allow you to tear off and post this license in your establishment. Please note, if your check is not honored by the bank, this license shall be invalid.

2016 LICENSE INFORMATION

ACCOUNT #:	000-03-6078	LICENSE PERIOD:	01/01/2016 - 03/01/2017
ORDINANCE CODE:	47232-00	LICENSE BASIS:	\$42,331,404
NAICS:	926130	LICENSE RATE:	\$.24 per \$100
LOCATION:	THROUGHOUT COUNTY	FED. I.D. OR E.I.N.:	13-4924710
CLASSIFICATION:	TELEPHONE COMPANY	LICENSE NUMBER:	1638302
DATE PAYMENT RECEIVED:	03/03/2016	INSTALLMENT(S):	

For any questions concerning this license, please call 703-222-8234 between the hours of 8:00 a.m. and 4:30 p.m. Monday - Friday (Hearing impaired persons may call TTY: 703-222-7594), or send us an e-mail through our website, www.fairfaxcounty.gov/dta.

As with all taxes, our goal is to administer the BPOL tax fairly and in accordance with State and County Codes. Our staff strives to provide professional assistance and quality customer service. Please let us know if we are not meeting your needs. Your satisfaction is important to us and your comments are always welcome.

Juan B. Rengel, Director
Personal Property and Business License Division
Department of Tax Administration

CC: Kevin C. Greenlief, Director
Department of Tax Administration

FAIRFAX COUNTY DEPARTMENT OF TAX ADMINISTRATION
2016 BUSINESS, PROFESSIONAL AND OCCUPATIONAL LICENSE
(BPOL) FOR ORDINANCE 47232-00 : TELEPHONE COMPANY

THIS LICENSE HAS BEEN ISSUED BY THE FAIRFAX COUNTY DEPARTMENT OF TAX ADMINISTRATION (DTA) AND IS GRANTED TO:

638302

AT&T CORPORATION
AT&T CORPORATION
1010 N SAINT MARY'S-TX DEPT ST 9-Q05
SAN ANTONIO TX 78215

THIS LICENSE IS VALID THRU
03/01/2017

Dept. Tax Administration, Suite 223
12000 Government Center Parkway
Fairfax, Va. 22035, Phone: 703-222-8234
Website: www.fairfaxcounty.gov/dta

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Post Submission Supplemental Responses

Response from Oral Presentation dated March 17, 2017

Q1. With a large complex project such as this we wish clarity on specific tasks that are the responsibility of the jurisdiction (individually) to perform and to plan for. We wish to make sure we understand the tasks your team will be performing with us as a part of the proposed project and which are accounted for in your technical and cost proposal. Yet, we wish clear direction from your team on what specific tasks and activities a jurisdiction is responsible to perform to make the project a workable solution from end-to-end. Do not put any dollar figures in this response as we wish this to be a clarification of technical proposal information.

Example: Are there specific upgrades to a jurisdiction's CPE equipment that are outside the scope of your proposal and what types of upgrades to equipment and or software might be required?

Please fill in a table similar to the below to assist the selection team in understanding these requirements.

AT&T Response:

AT&T proposes an extensive, feature and service rich inclusive solution to the National Capital Region. We recognize that this question arose out of a statement AT&T had made referencing customer responsibilities and believe it is a worthy discussion. Our intent with the statement in our RFP response was to acknowledge that the PSAP would have some responsibilities in order to ensure a successful outcome, but not meant to detract from the thoroughness of the AT&T offer. Provided below is the list as requested.

In-Scope Item No.	In-Scope Activities and Costs Accounted for in Offeror Proposal	Explanatory Notes (as needed)
National Capital Region ESINet AT&T Responsibilities and/or services included in the base price		
1	Redundant transport and Local Access connections	
2	Legacy Network Gateway (LNG)	
3	Legacy Public Safety Answering Point (PSAP) Gateway (LPG)	
4	Border Control Function (BCF)	



In-Scope Item No.	In-Scope Activities and Costs Accounted for in Offeror Proposal	Explanatory Notes (as needed)
National Capital Region ESINet AT&T Responsibilities and/or services included in the base price		
5	Emergency Services Routing Proxy (ESRP)	
6	Policy Routing Function (PRF)	
7	Emergency Call Routing Function (ECRF)	
8	Location Validation Function (LVF)	
9	Location Database (LDB)	
10	Spatial Interface (SI)	
11	9-1-1 Enterprise Geospatial Database Management System (9-1-1EGDMS)	
12	PSAP Interfaces	
13	Discrepancy Reporting	
14	Event Logging	
15	Time Server	
16	Geospatial call routing	
17	Text to 9-1-1 MSRP integration	
18	Customer Management Portal (CMP) reporting suite	
19	Single point of contact	
20	Service Level Agreements (SLAs)	
21	SLA Reporting	
22	Reason for Outage (RFO) Report	
23	AT&T Labs approved fully integrated solution	



In-Scope Item No.	In-Scope Activities and Costs Accounted for in Offeror Proposal	Explanatory Notes (as needed)
National Capital Region ESInet AT&T Responsibilities and/or services included in the base price		
24	Program and project management for solution delivery and PSAP deployment	
25	Full lifecycle management	Interconnection with existing West Safety Services (WSS) ESInet customers has no additional cost. Interconnection between WSS ESInet and AT&T ESInet already exists.
26	Standards based solution	Interconnection with existing WSS ESInet customers has no additional cost. Interconnection between WSS ESInet and AT&T ESInet already exists.
27	Loudoun County interconnection	
28	D.C. interconnection	
29	Migration of MWAA private ALI data into AT&T LDB	
30	Data management system (9-1-1 NET) that will allow MWAA to fully self-manage their private ALI DB records	
31	Public safety grade fully meshed highly available, highly redundant, IP network	
32	Operates on IPv4 or IPv6 network infrastructures	
33	Managed and measured voice quality	
34	Data centers with diverse entrances and redundant and diverse connections	
35	99.999% service availability	
36	Quality of Service (QoS)-managed private IP network	







In-Scope Item No.	In-Scope Activities and Costs Accounted for in Offeror Proposal	Explanatory Notes (as needed)
National Capital Region ESInet AT&T Responsibilities and/or services included in the base price		
50	Original Service Provider (OSP) interconnection	
51	Determine PSAP interoperations requiring E9-1-1 transfers and hand- offs	
52	Conduct legacy 9-1-1 service provider planning calls	
53	Create legacy 9-1-1 service provider interconnection architecture	
54	Test and turn-up legacy 9-1-1 service provider connectivity	
55	Conduct non-live PSAP interoperations testing	
56	Interoperability testing with neighboring non WSS ESInet deployments	
57	Local traffic aggregation (build new LNG and POI sites within 50-mile radius	
58	LNG with RTP recovery for mid-call failures	
59	Redundant commercial power	
60	Redundant backup generators	
61	Redundant uninterruptible power supplies (UPS)	
62	Redundant heating, ventilation, and air-conditioning (HVAC) systems	
63	Fire suppression systems	
64	Physical access security	
65	Physically separate communication service provider entry points	



In-Scope Item No.	In-Scope Activities and Costs Accounted for in Offeror Proposal	Explanatory Notes (as needed)
National Capital Region ESINet AT&T Responsibilities and/or services included in the base price		
66	Fully comprehensive 24x7x365 Network Operations Center (NOC) and Security Operations Center (SOC) for solution and network monitoring.	
67	Third-Party NOC/SOC support	
68	Locally trained service technicians	
69	Utilizes NENA and Communications Security, Reliability and Interoperability Council (CSRIC) specifications and "Best Practices"	
70	Compliant with NENA 75-001 (NENA Security for Next-Generation 9-1-1 Standard [NG-SEC]) and NENA 04- 503 (PSAP Security), as applicable	
71	Security Information and Event Management (SIEM)	
72	Security heuristic analysis	
73	External and internal security penetration testing	
74	SBC supporting Transport Layer Security over TCP (TLS-over-TCP), and Stream Control Transmission Protocol (SCTP)	
75	Customer Management Portal with 2-factor authentication	
76	Third part security audits	
77	Monthly security reports	
78	Performance and fault management	
79	Everbridge for mass outage notification	
80	Business direct portal for ticket management	



In-Scope Item No.	In-Scope Activities and Costs Accounted for in Offeror Proposal	Explanatory Notes (as needed)
National Capital Region ESInet AT&T Responsibilities and/or services included in the base price		
81	PSAP CPE interface	AT&T will provide all necessary equipment and resources to deliver a functional ESInet interface.
82	All necessary resources for data gathering, design, delivery, and support to deliver a complete end to end solution	
83	PSAP portal to customize and maintain PSAP PRF policies	
84	Support for Dual-Tone Multi- Frequency (DTMF)	
85	SIP monitoring via SIP "Options"	
86	i3 logs from all ESInet i3 components	
87	PSAP training	
88	"Interconnection to Commercial Additional Data Registries (ADR)"	
87	"Interconnection to Commercial Location Information Servers (LIS)"	

Response from Third Round and Fourth Round Negotiation Issues dated June 21, 2017 and July 5, respectively

- The County's understanding is that the AT&T ESInet provides interconnection to the ADR and the LIS. Please add the below two items (as items 88 and 89) to the "In Scope Table" prepared by AT&T which was contained starting on page 376 of the revised May 22, 2017 Technical Proposal:

- o "Interconnection to Commercial Additional Data Registries (ADR)"
- o "Interconnection to Commercial Location Information Servers (LIS)"

AT&T Response:

[AT&T confirms updates to the "in scope table" with the accompanying clarifications described below.](#)



Per the NENA STA.010.2, the LIS and ADR i3 functional elements and their data shall be the responsibility of the originating service provider (OSP) and is not part of the AT&T ESInet™ Service. However, the Service supports the HELD interface protocol that enables queries to the LIS functional elements and the Additional Data interface protocol that enables queries to the ADR functional elements.

Until LIS and ADR functional elements become standard in the marketplace, the i3 location information is undergoing a transition from legacy 9-1-1 databases. As the industry and standards evolve AT&T may modify the end state implementation to meet changing requirements.

During the NG9-1-1 transitional phase, the AT&T ESInet™ Service provides a LIS and ADR interface to connect to legacy location databases such as ALI when the originating service provider is unable to provide a LIS or ADR. Using this LIS/ADR interface, AT&T will utilize the legacy location database service (also known as ALI) to emulate the LIS/ADR functional elements for i3 calls. AT&T will provide ALI service access to the County via this LIS/ADR interface for i3 calls that do not contain either Location by Value or Location by Reference. For location re-bids on these calls, the PSAP will send their HELD and Additional Data queries to the AT&T ESInet™ Service, which will use the LIS/ADR interface to its legacy location database resources.

AT&T anticipates a NENA i3 end state implementation where emergency calls from an OSP to the AT&T

ESInet™ Service will be sent via IP with Location by Reference (LbR) data element. In this scenario, the Service will support and manage queries to the appropriate commercial ADR/LIS resources to obtain the caller's location and additional information. The call and the caller's dereference URI will be delivered to the PSAP. The PSAP will use the dereference URI to query for the caller's location. Per the NENA STA.010.2 standard, when the PSAP bids for a location update, the PSAP is responsible for managing and supporting the HELD query to the appropriate commercial LIS resources and the Additional Data query to the appropriate commercial ADR resource. PSAP Call Handling Equipment commonly support HELD and Additional Data queries to LIS and ADR functional elements respectively.

Fairfax County Response to #1. Accepted. Final contract documents should reflect the AT&T response noted immediately above to #1.

AT&T Response:

AT&T concurs and considers this item closed.



Out-of- Scope Item No.	Task each Jurisdiction Is responsible for and Is not included in Proposal	Explanatory Notes (as needed)
National Capital Region ESInet Customer Responsibilities and/or Customer Options (not in base price)		
1	Secondary military PSAP integration	This was requested in the RFP as an option and therefore was presented as such
2	Special construction to achieve local access diversity	With the exception of Metro Washington Airport Authority (MWAA), Special Construction is required to achieve Local Access Diversity for each redundant connection. If Special Construction is not contracted and purchased to achieve Local Access Diversity, then exceptions may apply to respective PSAP Service Level Agreements. Each PSAP would be contracted separately for the Special Construction optional service.
3	Call handling equipment upgrades and support and 3rd party PSAP vendor coordination	PSAP is responsible for all call handling equipment upgrades and support and all downstream application and equipment impact.
4	CPE Interconnection	PSAP is responsible to connect call handling equipment to the AT&T ESInet™ demarcation point.
5	GIS Data set	PSAP is responsible for providing validated GIS data for call routing functions. AT&T could assist PSAP with completion of dataset where requested.
6	GIS Data	PSAP is responsible for on-going GIS data maintenance



Out-of- Scope Item No.	Task each Jurisdiction Is responsible for and Is not included in Proposal	Explanatory Notes (as needed)
National Capital Region ESINet Customer Responsibilities and/or Customer Options (not in base price)		
7	Complete PSAP data collection form	PSAP will be provided a data collection form required for PSAP interconnection
8	Complete PSAP user data collection form	PSAP will be provided a data collection form for User data collection
9	Private ALI data error correction	MWAA will need to complete error correction of pre-validated data for migration of private ALI database to AT&T LDB
10	PSAP Technical Resource	Coordination with the technical resource for AT&T personnel to complete site survey and installation
11	Customer Project Interface	A PSAP Project Resource is requested to be assigned to the project to work with the AT&T project team
12	OSP Migration	The PSAP will need to assist AT&T in partnering with the OSP's to migrate their traffic to the ESINet™

Response from Oral Presentation dated March 17, 2017

Q7. What is the strategy for local support in terms of personnel, home base for such personnel, and response time and hours of coverage?

AT&T Response:

AT&T has an extensive, skilled and well experienced team of support personnel staffed and ready to support the NCR project as well as ongoing support post installation. AT&T supports mission critical solutions such as AT&T ESINet 24/7/365. AT&T ESINet personnel are strategically located throughout the United States, with local resources



available to quickly support installations or trouble resolutions located in the National Capital Region.

AT&T provides the following organizational detail.

AT&T ESInet™ Support Team

The AT&E ESInet™ support team is staffed with more than 350 people from the combined core and edge organizations, ready to support Fairfax County and the National Capital Region (NCR). The following paragraphs describe the roles and responsibilities for AT&T Support teams involved in system deployment, testing, implementation and longer term operation of the AT&T ESInet™ Service.

Program Manager

The AT&T Program Management team represents the lead for the entire AT&T ESInet™ delivery team. Fairfax County will benefit from working with a skilled AT&T Program Manager from the AT&T Public Safety Group who will lead the AT&T Transformation Team. The AT&T Program Manager is directly responsible for the transformation, and can reach out to other AT&T and West Corporation organizations to help smoothly transform Fairfax County's service. Fairfax County's transformation team will also include multiple subject matter experts (SMEs).

Fairfax County will benefit from the skills and experience of our Program Manager and Transformation Team. There will be a peered West Program Manager assigned to the team. Both program managers will work in concert to assure a smooth and timely delivery of services.

Program management focuses on integrating plans and milestones into the transformation schedule so AT&T can maintain project discipline and momentum. In addition, program management is responsible for managing transformation deliverables. Program management will manage transformation issues and will report issue status during status meetings.

AT&T has fully disciplined program management organization and would provide a dedicated Program Manager for Fairfax County and the NCR. The Program Manager would have overall responsibility for system deployment, testing, implementation and longer term operation of the system (Day 2 support).

The Program Management team consists of dedicated account personnel who oversee support activities to ensure all contractual obligations are met.

Project Management



Reporting to the AT&T and West Program Management office will be a host of Subject Matter Expert project managers. AT&T Project Management will be responsible for AT&T Customer PSAP implementation AT&T ESInet™. Throughout the process of implementing the service, AT&T Project and Program Management will collaborate with all parties to manage on-going ESInet critical component implementations. Project managers are associated with each of the following ESInet functional components: OSP (core), Call Routing (core), Security (core), Network (core), ALI DB (core/edge), GIS (core/edge) and PSAP (edge).

PSAP Project Manager Responsibilities include:

- Site Survey, scheduling and installation of new network equipment
- Ingress Network – Originating Service Providers (OSP) migration
- Network circuit ordering
- Data Collection - Call routing and GIS data
- Data Provision AT&T ESInet™ with data collection input
- Training customer support tools such as reports and GIS data imports
- Pre-cutover testing
- PSAP Migration
- Customer acceptance of AT&T ESInet™ solution
- Handoff off to AT&T Service Management for Lifecycle support

The Project Manager plays a key role in system deployment, testing, and implementation. Once the solution is fully deployed, project managers could be sourced on an as needed basis to support large scale changes, additions, etc.

9-1-1 Service Management

Upon completion of the ESInet installation, the AT&T Program Manager will transition into a dedicated Service Manager role and will be responsible for AT&T Customer Day Two Support for the service. The benefit of transitioning the program manager to service manager is that AT&T will have an intimately familiar and supremely qualified resource ready to manager all aspects of the ESInet service for the duration of the contract. AT&T 9-1-1 Service Management will collaborate with all parties to manage the customer relationship and basic routing changes as part of ongoing lifecycle management.



AT&T 9-1-1 Service Management will be responsible for AT&T Customer Day Two Support for the service. AT&T 9-1-1 Service Management will collaborate with all parties to manage the customer relationship and basic routing changes as part of ongoing lifecycle management. The Service Manager is the single point of contact for escalation requests and performs the following tasks on a regular basis

- Lead monthly operations meetings.
- Coordinate PSAP provisioning change requests.
- Provide upgrade and maintenance event notifications.
- Distribute software release notes, test cases, and test case results.
- Coordinate software release lab testing.
- Escalations.
- RCA reporting.
- Coordinate data center and aggregation site access for technical resources.
- Coordinate new user access to operational support tools e.g., customer web portal.
- Serve as Change Event Coordinators.
- Outage communications.
- Manage and monitor trouble ticket analysis and correlation.

The Service Manager is primarily responsible for Day 2 support.

Technical Planning & Engineering

AT&T Technology Planning and Engineering (TP&E) will participate in architectural design planning, transport procurement and installation, OSP interconnection coordination, and on-going capacity planning.

The TPE resources play a key role in system deployment, testing, and implementation.

Field Technicians

The AT&T Field Technicians will install the AT&T Customer PSAP network edge equipment and provide Day 2 on-site maintenance support at the PSAPs.

The Field technician resources play a key role in system deployment, testing, implementation and Day 2 support. From a local field technician perspective, AT&T maintains a force of technicians ready and available to support the NCR deployment.



AT&T supports Public Safety solutions 24/7/365. At present, AT&T has 7 technicians in the Fairfax/D.C. area, with 3 additional techs (Richmond, York and Delaware) available to support the National Capital Region AT&T ESInet™.

AT&T's technician location and availability expectation is to have a technician available to respond and be on site as necessary within two hours of dispatch.

Data center/Legacy Network Gateway (LNG) Technicians

The AT&T Data center/LNG Technicians will deploy, test, install and maintain core equipment located at AT&T aggregation centers (one located in Northern Virginia) and Tier IV data centers.

The Data center and LNG technician resources play a key role in system deployment, testing, implementation and Day 2 support.

ALI Database Management System, Platform, Network and Data Integrity Unit

The ALI Database group is responsible for the ALI platform (IT), ALI Data, Updates and reporting.

The ALI DBMS, platform and DIU resources play a key role in system deployment, testing, and implementation during the transition to NG9-1-1 databases and Day 2 support.

AT&T Labs

AT&T Labs will be responsible for testing the AT&T ESInet™ and interfaces within the public safety ecosystem. This includes not only software upgrade and release testing on an on-going basis, but also forward looking initiatives e.g., new standards development. Test engineers will collaborate with all relevant parties in the creation, review, and execution of test cases as part of the implementation process.

AT&T employs several levels of testing, including individual application testing, system integration, and load testing. This testing is done in our AT&T Labs. This group of testers includes past programmers, experienced former call takers and other 'real-world' users. This helps to ensure that the software is exercised in as many probable and hypothetical scenarios as possible.

Fully integrated, end-to-end testing is performed and tested in AT&T Labs according to a Test Plan and associated set of Test Cases. Testing is done under many different configurations, including configurations that a majority of our customers employ. The



Test Plan and Test Cases are developed based on software system requirements and are constantly reviewed and updated to reflect changes to the software system.

- **Application Testing.** Each application is individually tested to ensure its stability and lack of critical defects.
- **Integration Testing.** After each application is tested individually integration testing is performed. This helps ensure that each version of our applications work well together.
- **Hardware/Software Validation.** Products are constantly validated against new hardware and software, including operating systems, service packs and updates.

Load testing is performed to ensure that the system stays stable and consistent even under peak demand. Specialized software allows us to create any number of simultaneous calls.

Performance is benchmarked both with statistics as well as having users navigate the application interface and answer calls while under load. This assures that not only are the statistical values acceptable, but perhaps more importantly, the user experiences no negative behavior.

The AT&T lab resources play a key role in system deployment, testing, implementation and Day 2 support.

AT&T 9-1-1 Resolution Center

The AT&T 9-1-1 Resolution Center is responsible for accepting incoming trouble reports. This group is the first line of support for PSAPs and OSPs. The AT&T 9-1-1 Resolution Center personnel will perform the initial troubleshooting and triage and, if necessary, will engage all appropriate teams for technical assistance.

AT&T 9-1-1 Resolution Center Responsibilities:

- SPOC for PSAP customer trouble reporting and support.
- Coordination with all teams in support of resolving an issue or question
- Customer PSAP abandonment requests and test calls
- Emergency Customer PSAP re-route requests
- Coordination of field dispatch for PSAP Network Edge Equipment.
- Outage response and reporting.
- Application, Platform and IP Network Monitoring.



- Trouble reporting, Incident Management and follow-up.
- Customer PSAP abandonment requests and test calls (shared).
- Emergency Customer PSAP re-route requests (shared).
- Call log requests (packet traces are available for all packets that traverse the core only (IP ingress to IP egress)).
- Voice quality troubleshooting support.
- CDR assistance.
- MOS score monitoring.
- Tier 1-4 technical support

The AT&T 9-1-1 Resolution Center is the first contact for the customer in providing for Day 2 support.

Technology Reliability Center

The Technology Reliability Center (TRC) is responsible for monitoring and supporting the ingress network for the Service and managing outage communication.

Transport Resolution Center Responsibilities:

- Monitoring of connectivity between legacy interconnections and the Aggregation Sites.
- Ingress network trouble support.
- Call completion monitoring.
- OSP trouble reporting and support.
- Inventory database management.
- Capacity and Performance management
- Change management
- Security monitoring and reporting

The AT&T TRC resources provide Day 2 support.

Account, Contract and Solution Support

The local AT&T Sales team, AT&T Public Safety team, AT&T Product Management and AT&T Technical Support organizations are responsible for entire account and contract



management. This group will interface with the NCR throughout the negotiation and contracting process. Once contracts are executed, this group will then define the parameters for program management kick off (Requirements, deliverables, etc.) This team will act as the customer advocate throughout the installation phase and through the lifecycle management phase.

Response from Oral Presentation dated March 17, 2017

Q9. What would be the process for integrating a commercial LIS, such as RapidSOS's NG911 Clearinghouse, into the call flow to utilize location information for geospatial call routing? What are the potential benefits and challenges of using supplemental location data for call routing?

AT&T Response:

AT&T would integrate these Originating Service Providers and their 3rd party LIS providers just as any other i3 capable OSP provider using their own LIS. The Carrier would be responsible for validating any CIVIC address through the AT&T provided Location Validation Function. If the provider is providing a Latitude and Longitude, the carrier would need to provide a valid dispatchable X and Y. The location would need to be presented by one of the two NENA i3 identified means (location by value or location by reference). When a customer uses location by reference, it is the reference information in the i3 protocol itself that indicates to the AT&T ESInet where and how to query for the location information. The physical path that this query will take will be configured and tested prior to go live.

AT&T will work to integrate the customers LVF connectivity as well as their IP connectivity as part of a normal customer interconnection. For LVF, the protocols are defined by NENA standards and typically uses the internet for a physical path. As for the SIP/RTP voice and data, the customers will have the choice to either connect into the AT&T ESInet™ core infrastructure using a MPLS provider or through direct trunking..

Response from Oral Presentation dated March 17, 2017

Q12. What is the expected timeframe for removing the legacy selective routers from the call flow?

AT&T Response:

AT&T anticipates that the majority of the traffic can be migrated within the first 12-18 months. But, NCR must understand that some aspects of the deployment are outside the control of AT&T. AT&T looks forward to a strong partnership with NCR to



coordinate with the OSPs and surrounding PSAPS to realize the benefits of deploying this NG lifesaving infrastructure.

There are three things to keep in mind when discussing the removal of the Selective Router from the call flow.

OSP existing connectivity

AT&T will provide the OSPs 2 POIs (as previously described). AT&T's expectation is that the carriers will create new connectivity to these POIs as soon as possible. AT&T has planned for this connectivity and will have resources to support the establishment of this connectivity as well as the test, turn-up and migration of the carrier's traffic.

Understanding that, AT&T has experienced that not all carriers are quick to move and (potentially) absorb new costs surrounding ESInet deployments. In the past although a majority of carriers cutover within 12-18 months of a project starting, it has also been a common theme that some smaller carriers take longer to establish this connectivity due to additional costs and resource constraints. This is one of the many reasons that AT&T allows for the S/R to continue to send calls to the new AT&T ESInet™. It enables a quick turn-up of services from a PSAP perspective, while still allowing for OSP timetable delays. AT&T will continue to work with NCR and the OSPs throughout the life of the contract until the last OSP is cut over to the new system.

Split Rate Centers/End Offices

A common situation with deployments in an area where not all the PSAPs are migrating to a new ESInet provider is the possibility of a Split Rate Center. In this situation, a rate center is not fully contained by one PSAP. If that rate center also serves a PSAP outside of the ESInet, understanding that rate centers do not have the capability to be selectively routed, then calls may have to be sent to the legacy S/R to determine to which PSAP the call should be sent. In these situations, legacy selective routers will still need to be in the call flow until all PSAPs in split rate centers are cut over to the ESInet solution.

Call Transfers

In the NCR deployment, legacy PSAPs will still be served using the legacy selective routers. In order for the NCR PSAPs to be able to transfer to non-NCR legacy PSAPs, selective router connectivity will still need to be maintained.



Response from Oral Presentation dated March 17, 2017

Q13. What assurances, if any, can you provide that legacy selective routing and ALI service fees will be drastically reduced (80%+) or eliminated within 3 months of successful migration to the NGCS/ESInet?

AT&T Response:

AT&T will work diligently to install the AT&T ESInet for Fairfax County and the National Capital Region. The services provided in many ways replace the legacy selective routing and ALI service in place today.

AT&T recommends that any remaining legacy charges be confirmed with your legacy 9-1-1 provider. AT&T will work closely with the NCR to detail services provided and project dates. This should lead to a productive dialogue with the legacy 9-1-1 provider on expected future rates, their reduction or elimination and timeframes associated.

Response from Oral Presentation dated March 17, 2017

Q14. As indicated in the RFP, the region has a NG9-1-1 Spatial Interface (SI) Project underway to prepare the data that will be used in the NGCS solution to support geo-spatial routing of 9-1-1 calls which is our expectation for the proposed solution. As of Mid-February 2017, the project team has received datasets from jurisdictions that include road centerlines, address points, MSAG and ALI data and PSAP polygons and Emergency Service zone polygons. Efforts will continue for the next year to work through more Quality Control Checks and make further improvements to the data. The current matches rates are as follows:

- MSAG to GIS Name Match Rate – 98.7%
- ALI to GIS Name Match Rate – 98.63%
- ALI to GIS Address Match – 92.13%
- ALI to Road Centerline Name Match – 98.63%
- MSAG to Road Centerline Match – 98.90%
- ALI to Address Point Match – 92.13%

Please describe in your presentation what procedures and steps your team will take to maximize the use of the data that has thus far been prepared and describe what is a recommended way to mesh the current SI efforts with the offeror's proposed solution. Our interest is to minimize any disruption to current workflows for providing GIS handoffs to NG9-1-1 and understanding better how the proposed solution and procedures will work with each jurisdiction to establish effective workflows on a going forward basis.

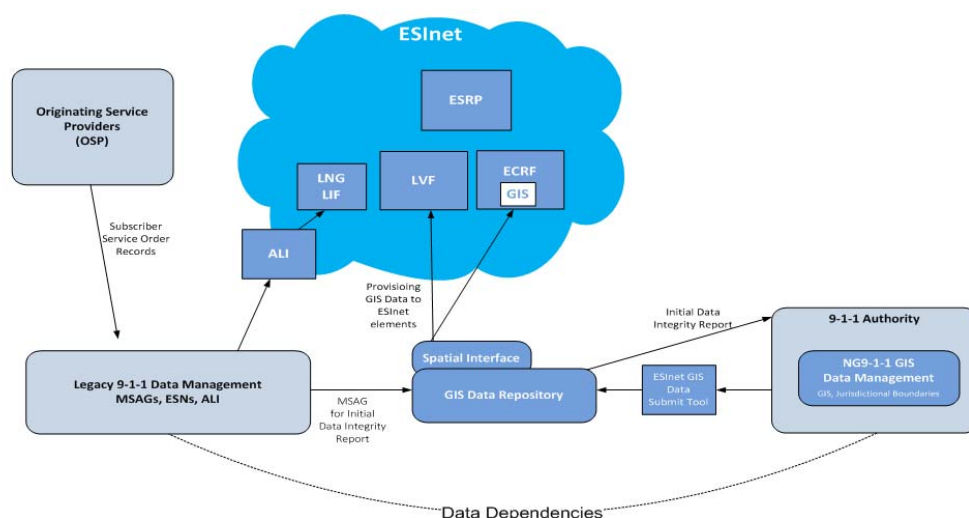


AT&T Response:

The above match rates are impressive, and are in line with NENAs GIS match rate recommendations. There are 2 possible paths for NCR to take when deploying the ESInet solution. As it should be understood, until the OSPs become fully i3 compliant, the ESInet core location validation and routing will be split into a GIS/LVF infrastructure and a legacy MSAG infrastructure. The OSPs who are not ready for i3 will still depend on sending information to the NG system using legacy means (512 SOI files for validation).

This legacy support requires that an MSAG must still be maintained by NCR until the last carrier has transitioned to the LVF (i3) validation and owns and operates their own LIS. The AT&T ESInet™ has been built to support this transitional solution, and has the appropriate interfaces to take the MSAG validated information and create i3 protocols and interfaces to the ESRF, ESRP, and PSAP (terminating ESRP). But, it still means that the PSAP needs to maintain these separate interfaces and if there is a mismatch of existing data, calls could default route since the MSAG and GIS information does not match.

AT&T offers an additional service called Transitional Data Management. With this service, AT&T will (pre-deployment) run MSAG/GIS reconciliations. Any fallout that occurs will be fixed by AT&T personnel. From that point further, NCR will only have to manage the GIS dataset. When that GIS dataset is modified through the AT&T SI, automatic updates will be sent and updated to the transitional MSAG management data. This will allow for a continuous 100% match rate between the carrier side MSAG validations and the ECRF side GIS routing database. All calls will route without the possibility of a mismatch.



Response from Clarification Questions dated March 27, 2017

1. The region is currently participating in a project to synchronize MSAG and ALI datasets with GIS address point and centerline datasets and to develop a PSAP boundary dataset for the purposes of supporting NG9-1-1 services. Within a year, this project will no longer be in place. While this project will produce high data match rates, the continued development in the region will require frequent addressing and GIS updates and as a result, continued QC to ensure MSAG and ALI to GIS synchronization. At this time, additional software and tools have not been acquired to continue current QA/QC practices to support NG9-1-1 requirements.
 - a. How does AT&T plan to continue ongoing maintenance and synchronization of the MSAG and ALI to GIS address point and centerline datasets at both a local and regional level?
 - 1) What GIS services are included?
 - 2) Does AT&T provide this service by running the QA/QC then providing error reports for discrepancy resolution at the local and regional level?
 - 3) Does AT&T expect all QA/QC to be done at the local/regional level before providing data? If so, what software, tools, and support maybe be required in addition to what is included in the scope of the proposal.

AT&T Response:

The RFP response assumed that the local jurisdiction will either maintain that synchronization between the GIS data and the MSAG themselves or choose the Transitional Data Management Services, where the legacy tabular MSAG is replaced with a GIS-based MSAG (geoMSAG). A geoMSAG is kept in the legacy tabular format, but is based on the Road Centerlines in the GIS data. With the Transitional Data Management Services, every time GIS data is uploaded via the 9-1-1EGDMS portal, any changes that impact the geoMSAG are detected and processed automatically. There is no need to make corresponding MSAG Change Requests (MSAG CRs) manually. If there are GIS changes that negatively impact any ALI records, that change will be isolated and held until it's determined what the proper course of action should be.

As geoMSAG changes are made, any associated ALI subscriber records are automatically updated and re-provisioned to the ALI database with the associated updates.

If the local jurisdiction decides to maintain synchronization themselves, it is recommended that as GIS changes are made that impact the MSAG, MSAG CRs will be created in a timely fashion using 9-1-1 NET to parallel the GIS data changes. Alternatively, MSAG to GIS comparisons (QA/QC error reports) can be performed periodically to identify discrepancies between the two and similarly, MSAG CRs can be entered by the local/regional authorities to close the gap. This latter method is discouraged as changes to the MSAG will lag changes to the GIS and will typically be requested in bulk, leading to a longer processing time to incorporate into the MSAG. If Transitional Data Management Services are chosen, periodic geoMSAG to GIS Road



Centerline comparisons become far less relevant, but still recommended periodically to verify a high level of synchronization is still in place.

Regardless of the method chosen, each time the GIS data is uploaded to the Spatial Interface (SI) portal, a series of basic validation services are run to ensure the data is suitable to be loaded into the ECRF and LVF. Critical errors that may prevent new data from being loaded will be reported immediately.

If Transitional Data Management Services are chosen, there are various reports that are designed to ensure high data quality before moving to a geoMSAG or turning on i3 (ECRF) routing.

Other than the data validations that are run each time the GIS data is uploaded to the SI portal, it is expected that all QA/QC be done at the local/regional level. AT&T offers a wide variety of optional GIS professional services for any jurisdiction that chooses to outsource that work.

- GIS Data Professional Services can include but are not limited to the following:
 - NG9-1-1 GIS Data Assessment, Analysis and Recommendations Report
 - GIS data analysis and reports
 - Database creation—design, conversion, attribution
 - Data collection and field verification
 - Cleansing and validation
 - Education/Workshops
 - Consultation – workflow analysis & recommendations

In addition, AT&T can offer an optional GIS data editing tool that runs in conjunction with Esri ArcGIS Desktop and is specifically designed for creation, validation and maintenance of 9-1-1 specific GIS data. This tool includes a validation report for identifying MSAG to GIS Road Centerline discrepancies as well as ALI to Site/Structure Address Point comparison to identify where Site/Structure Address Points may need to be added to the GIS data. This tool has over 30 proprietary validations that help users find and fix errors.

- b. What formats are used to report any GIS errors that may be found in participant's data? Is it possible to get a sample copy of such an error report(s)? What is the proposed workflow for the discrepancy of errors?

AT&T Response:

GIS data errors that are found during SI validation are reported via PDF summary reports and in shapefile format. The shapefiles are per layer (in the data source's native



schema), and include the feature(s) in error with error type added to the attribute table as seen in the screenshot below:

ST_NAME	ST_TYP	SUF_DIR	L_MSAG_CO	R_MSAG_CO	FULL_NAME	UNIQUE_ID	L_FSN	R_FSN	ADDR_LF	ADDR_LT	ADDR_RF	ADDR_RT	ERRORTYPE	ERRORDNAME	REASON
ATKIN	ST		NEW YORK	NEW YORK	ATKIN ST	1142	4839	4839	810	805	811	809	11	Address Range Overlap	Address Range Overlap
ROUGHTON	ST		NEW YORK	NEW YORK	ROUGHTON ST	1134	4839	4839	0	390	0	399	11	Address Range Overlap	Address Range Overlap
ROUGHTON	ST		NEW YORK	NEW YORK	ROUGHTON ST	464	4839	4839	200	206	201	209	11	Address Range Overlap	Address Range Overlap
ATKIN	ST		NEW YORK	NEW YORK	ATKIN ST	200	4839	4839	700	000	701	011	11	Address Range Overlap	Address Range Overlap
232	RD		BARCELONA	BARCELONA	SE 232 RD	544	4842	4842	10001	11999	10000	11999	4	Outside Authoritative Boundary	
N	RD		NEW YORK	NEW YORK	NW N RD	940	4040	4040	10000	11999	10001	11999	4	Outside Authoritative Boundary	
P	RD		NEW YORK	NEW YORK	NW P RD	1317	4831	4831	10000	10668	10001	10668	4	Outside Authoritative Boundary	
156 HIGHWAY			NEW YORK	NEW YORK	NW 156 HIGHWAY	1364	4031	4031	10000	10990	10001	10999	4	Outside Authoritative Boundary	
283 HIGHWAY			NEW YORK	NEW YORK	NE 283 HIGHWAY	460	4839	4839	0	0	33000	33898	4	Outside Authoritative Boundary	
211	RD		NEW YORK	NEW YORK	SW 211 RD	477	4032	4032	10001	11999	10000	11990	4	Outside Authoritative Boundary	

This allows errors to be viewed and corrected in the local data source's GIS data editing software, and then resubmitted to the SI. The below screenshots show examples of an Upload Summary PDF report:

9-1-1 EGDMS GIS Data Upload Report

Date and Time of Data Submission: 3/22/2017 17:30

Processing started: 3/22/2017 17:32

Processing completed: 3/22/2017 17:37

For questions regarding this report, please contact: tgifford@west.com

Upload Summary:

Agency Layer Name	Total Count	Changed/Added Feature Count	Critical Error Count
AB	1	1	0
ADDRESS_POINTS	524	524	10
ROADS	1,004	1,004	41

* These features did not proceed to production, and should be reviewed as soon as possible.

This report is prepared from sources and data which is believed to be reliable and provided by users of this product, but AT&T makes no representation as to its accuracy or completeness. The report is provided solely for informational purposes and is not to be construed as providing advice, recommendations, endorsements, representations or warranties of any kind whatsoever, subject to the confidentiality terms under the NDA.

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9-1-1 EGDMS GIS Data Upload Report

Validation Error Summary:

Agency Layer Name	Error Code	Error Count
ADDRESS_POINTS	Attribute Duplicate	10
	Total	10
ROADS	Address Range Overlap	4
	Outside Authoritative Boundary	37
	Total	41

NOTE: The above counts represent the total number of errors for each feature class. It is possible for features to have multiple errors thus making these counts higher than the number of error features.

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- c. Is the Spatial Interface operator AT&T or a third-party? If there are issues with the GIS data going into the SI, how will that workflow / trouble ticket process work (is this AT&T GIS staff, West GIS staff, someone else?). As a follow-up, what type of experience do the GIS staff have in supporting 9-1-1 systems, and what are the hours for the GIS staff supporting questions / troubleshooting regarding loading data to the SI?

AT&T Response:

The Spatial Interface (SI) is operated by West Safety Services. This is a managed service and West GIS staff will provide support for the initial GIS data upload and configuration including attribute field mapping. Support for ongoing GIS data uploads after the initial GIS data load will be supported by West staff. West GIS staff contact information is included in email notifications that are automatically generated by the SI if there are issues found during data validation. West GIS staff have a combined 250 years of experience working with GIS specifically for 9-1-1 including 9-1-1 GIS data and systems, PSAP map display software, addressing/GIS data error correction and technical support for GIS products. SI support is available during business hours, 6:00AM-6:00PM Mountain Time.

- d. What additional optional GIS services are available to support the GIS data QC, validation, and error reporting and resolution process?

AT&T Response:

AT&T offers a variety of optional GIS services to support the GIS data QC and error resolution process. If an agency requires additional support, this is available as a professional service including the following services:

- NextGen 9-1-1 GIS data fitness, preparedness or transition assistance (schema, data elements, etc.)
- GIS data analysis, assessment and error correction
- Workflow process reviews and recommendations
- Enterprise GIS database management system design
- Public safety, 9-1-1, and/or GIS training

- e. Slide 19 of the Oral presentation slides states that an MSAG must still be maintained by the NCR. Please provide additional clarification on the recommended approach and how this may relate to either the current MSAG maintained by the NCR or the MCS referenced by NENA.



AT&T Response:

The response to question 1a describes the approaches for maintaining the MSAG as well as the preferred methods. Per NENA STA-010.2, section 2.6 addressing recommendations for future development work, “Note that the specification of the MSAG Conversion Service is underspecified and will be addressed in a future revision of this document.” The Transitional Data Management Service fulfills the spirit of the automated conversion of GIS data into a legacy MSAG format, which will be needed for the foreseeable future until Originating Service Providers convert their legacy subscriber management systems into Next Generation subscriber management systems that conform to the NG9-1-1 GIS data model and other NENA requirements as laid out in NENA STA-010.2.

- f. The graphic in slide 11 of the Oral presentation references the GIS data and ECRF however it doesn't reference the LVF. Could you provide clarification where the LVF is located and in this graphic and whether it's included in another item on the slide.

AT&T Response:

The AT&T ESInet™ LVFs will be located coincident with the CSS sites and isolated from the ECRFs. Though the ECRFs and LVFs are LoST protocol servers and share the same code base, the ECRF is a call- path function and protected to provide critical call-time activities. These geo-redundant sites are located in Southfield, Michigan and San Diego, California.

Response from Second Round Negotiation Issues dated May 11, 2017

4. Does the pricing proposed include a PSAP abandonment device for each jurisdiction? (Appendix D, Section 2.1.2, page 4) refers to “if ordered”). Please clarify.

AT&T Response:

Yes. Pricing for the PSAP Abandonment Device (PAD) is included for each PSAP where AT&T ESInet™ network termination equipment is installed.

Response from Second Round Negotiation Issues dated May 22, 2017

5. The AT&T proposal included a generic Project Plan in Appendix B and D (that plan includes Installation, Data Collection, Provision AT&T ESInet, Training, Ingress Network, Pre-cutover Testing, PSAP migration, Customer Acceptance, and Close of the Project). Separately a list of milestone phases on page 295 of the proposal was included (referencing Definition, Architecture, Integration, Deployment, and Maintenance showing each phase with various sub



tasks). Fairfax County requests that a revised single Project Plan be presented that would include the ECaTS, MapSAG, and any other solution components as a part of the overall project plan, as the current Milestones phases and Project Plan are not yet clear in description to the County. Fairfax County understands that specific dates are not known with certainty until an award is made and a start date for the project established. We also wish to have clarity on the specific written deliverables AT&T will be presenting to the County for review and acceptance and an understanding of when such deliverables will be delivered in the context of the other tasks on the project. This information is necessary to allow Fairfax County and AT&T to establish a Payment Schedule for project related funds (e.g., grants) that will be spent, prior to any PSAP migration, on behalf of Part A jurisdictions so the funds can be disbursed within the guidelines and timeframes associated with the grants before the grants expire. Please clarify the above and which Project Plan should be referred to.

AT&T Response:

AT&T has updated the project plan to include ECaTS i3 Logger, MapSAG, and Special Construction deliverables and dates in the context of the overall project plan. AT&T traditionally presents billing for services upon Cutover. The exception would be Special Construction which is billed upon contract execution. In the project plan, AT&T has identified activation date(s) for each service. If the County prefers a more accelerated billing milestone schedule, AT&T can accommodate such a request. AT&T welcomes a discussion with the County on payment schedules associated with the project.

Please see Annex I for updated Implementation Plan.

Response from Second Round Negotiation Issues dated May 22, 2017

6. Please provide an updated set of documents including an updated Services Guide, Scope of Work (SOW), Training Plan and all other contractual documentation for review that will be added to the RFP, Technical and Price proposal to form the contract for this RFP effort. Please note that the current Draft Services Guide is lacking sufficient information about the services and requires additional details about the protocols, interfaces and NENA i3 functionality that were committed to in AT&T's December 15th Proposal. To simplify the documentation, the updated Services Guide may reference specific sections of the proposal's Technical Requirements.

AT&T Response:

AT&T has provided updated technical response content including all communications and negotiations as notations in this document. Additionally, the technical proposal responses provide applicable references to the AT&T ESInet Service Guide.



ATT Emergency
Service IP (ATT ESInet)



Training Plan.docx



Response from Second Round Negotiation Issues dated May 11, 2017

7. Attached is a replacement form for the IT Services Provider Consultant/Contractor Agreement originally provided in the RFP. Someone from AT&T will need to sign this form (versus each individual employee or contractor). The signatory must be a real employee of AT&T with signature authority. Please advise if there are any exceptions to this revised form.

AT&T Response:

AT&T requests that the language be modified to state that AT&T will comply “either with the County’s IT Security Policy or a comparable policy.” There are two references to the IT Security Policy in the first paragraph that would need to be addressed. AT&T adheres to the AT&T Security Policies and Requirements (ASPR), which are mapped closely to COBITS 4.1, PCI DSS .3.1, NIST 800-53 and ISO 27001. ASPR is a comprehensive set of security control standards which encompasses our network operations centers, all Data Centers, as well as our Hosting and Cloud Services. AT&T is continually reevaluating and modifying ASPR to ensure that we are observing the highest levels of security. ASPR is based on the leading industry security standards and is ASPR ISO27000 certified; adopting inconsistent standards could interfere with that certification. In this regard, AT&T suggests that it would be helpful for our respective Security personnel to confer on the issue and satisfy themselves that ASPR and the Fairfax Policy are sufficiently comparable.

We have reviewed the Fairfax County IT Security Policy in order to verify that ASPR compliance would also represent compliance with the Fairfax Security Policy. However, that Policy references several other policies, many of which do not appear to have valid links: DIT Change Management Policy Memorandum #9; County System Hardening Standards; and Fairfax County Configuration and Change Management Procedures.

Response from Second Round Negotiation Issues dated May 11, 2017

8. Please address the impact of the recent announcement of Apollo Global Management LLC negotiating to acquire West Corp. should that negotiation be successful. Does it in any way affect your current proposal and any solution services which you rely on from West Corp?

AT&T Response:

Any such change in ownership would have no impact on the offer or the delivery of West services.



Response from Second Round Negotiation Issues dated May 11, 2017

9. In AT & T's response to issue #1 listed in the negotiation letter dated March 31, 2017, AT&T stated that auxiliary agreements may be required if County elects to add optional services. Please provide all auxiliary agreements including third party agreements that the County may be required to sign for any services that may be procured under the resultant contract, in editable format such as Microsoft Word.

AT&T Response:

The only additional agreement that requires signature is for Special Construction. The Contract of which can be found within the answer to question 10 below.

Response from Second Round Negotiation Issues dated May 11, 2017

10. In AT & T's response to issue #2 listed in the negotiation letter dated March 31, 2017, AT & T stated that optional services or additional services which may be added via contract amendment may require additional terms and conditions and that special construction, where needed, would require a separate special construction agreement. Please confirm that these additional terms and conditions (including those contained in the special construction agreement) will not conflict with the terms and conditions of the resultant contract.

AT&T Response:

AT&T has attached the Special Construction Agreement which does reference a Service Guide link. AT&T has attached this Service Guide and Special Construction Contract below. Also, please note the MapSAG Service Guide is attached as well.



Response from Second Round Negotiation Issues dated May 11, 2017

14. All other exceptions and clarifications are subject to review and approval by the County Attorney and the Department of Procurement and Material Management.

AT&T Response:

AT&T understands and agrees.



Response from Second Round Negotiation Issues dated May 11, 2017

15. Please acknowledge that AT & T's designations of proprietary information must be reviewed and approved by the County Attorney to ensure that designations have been made in accordance with Virginia Freedom of Information Act.

AT&T Response:

AT&T understands and agrees.

Response from Third and Fourth Round Negotiation Issues dated June 21, 2017 and July 5, 2017, respectively.

2. Please define or include in the Price Proposal what the Minimum Payment Period for each service component is as Minimum Payment Period was referenced in the service Guide. We seek clarification.

AT&T Response:

The Minimum Payment Period will not apply to the County.

Fairfax County Response to #2. Accepted. Previously addressed above.

AT&T Response:

AT&T concurs and considers this item closed.

3. The service guide, Section 1.5, talks about Text-to-9-1-1 and speaks about the AT&T ESInet service as 'The Service's designated TCC', but within the service guide the text never says that the West TCC is the 'Service's designated TCC'. In either the Service Guide or the Technical and Price proposal please explicitly indicate that the West TCC is 'The Service's designated TCC'.

AT&T Response:

AT&T confirms the West Text Control Center (TCC) is the Service's designated TCC. In section 4.10.3 of the AT&T technical proposal, the response excerpt listed below provides additional information:

The West managed TCC has interconnections to all current TCC providers and their respective customers. As NCR ESInet deployment progresses, Carrier initiated emergency text messages can be aggregated at the West managed TCC and integrated with ESInet transport and NGCS.



Fairfax County Response to #3. Accepted. Final contract documents, section 4.10.3, should reflect the AT&T response stating that the West Text Control Center (TCC) is the Service's designated TCC per the Service Guide.

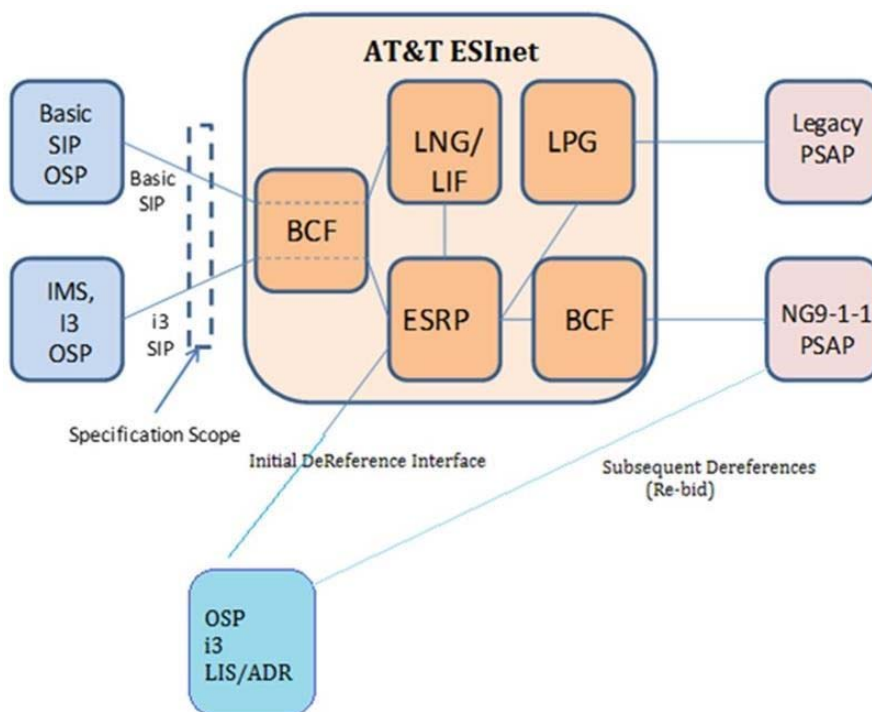
AT&T Response:

AT&T concurs and considers this item closed.

4. The diagram in the Executive Summary on page 1 of the OSP Network SIP Interconnection Specification indicates that the Dereferencing Interface is "Out of Scope." Please confirm that other dereferencing interfaces are indeed in scope of the AT&T ESInet services being procured and the reference in the Executive Summary is solely in the context of the dereferencing interface between the Originating Service Providers and the ESInet.

AT&T Response:

AT&T confirms that the interfaces used for dereferencing Location by Reference URI to obtain the i3 PDIF-LO structure used in the initial routing of i3 calls to the PSAP are in scope for the AT&T ESInet™ Service. As the industry and standards evolve AT&T may modify the end state implementation to meet changing requirements.



Fairfax County Response to #4. Accepted. Final contract documents should reflect the AT&T response noted immediately above to #4.

AT&T Response:

AT&T concurs and considers this item closed.

5. AT&T's response to question 7 in the Second Round of Negotiation dated May 11, 2017 requested language modification. AT&T asked for three documents from your review of the Fairfax County IT Security Policy document. Although AT&T asked about three documents, in fact there are only two documents, the System Hardening Standard and the DIT Change Management Policy. The reference to the Memorandum #9 was in fact meant to be a reference to the Change Management Policy. The two requested documents are attached.

AT&T Response:

Thanks for providing these two documents.

Fairfax County Response to #5. Accepted. No action necessary.

AT&T Response:

AT&T concurs and considers this item closed.

6. Continuing with AT&T's response to question 7 in the Second Round of Negotiation dated May 11, 2017 and the request for modification, the County will allow an AT&T representative with Signature Authority to sign the IT form versus each employee signing the form. The language in the most recently provided form cannot be changed as the provided form was approved by the County Attorney. Your response indicates that the County's Security Policy is compliant (subject to review of the two attached standards and their content) with the referenced ASPR policy of AT&T. This indicates we are in compliance with regard to the IT form, Fairfax County Security Policy, and its content once AT&T reviews the two standards just provided.

AT&T Response:

AT&T believes that it materially complies with the Fairfax County Security Policy. Because it is not completely clear how each element of the policy applies to the AT&T ESInet™ Service, AT&T requests a meeting between our respective security personnel to confer on the issue and satisfy themselves that ASPR and the Fairfax Policy are sufficiently comparable.

Fairfax County Response to #6. Accepted. Fairfax County is satisfied the policies are comparable, particularly given that Fairfax County is procuring a service under the contract. With the appropriate AT&T signature on the IT Security Form no further action or meeting is necessary.



AT&T Response:

AT&T agrees to sign the IT Services Provider Consultant/Contractor Agreement. For further clarification please refer paragraph 18 of the Memorandum of Negotiations.

7. With regard to the price proposal and the AT&T reference to Fauquier County and any relation to City of Manassas and Manassas Park, Va. Fauquier County was never associated as a secondary to Fauquier County in the RFP. Referring to Attachment A of the RFP, when a PSAP did not need to be included for pricing, we did not indicate a population figure. If a secondary PSAP was directly connected to a primary PSAP we made such an indication in the far right column (using the example of Vienna, the table indicates Vienna is a remote off of Fairfax County – indicating only Fairfax needs an ESInet connection and Vienna does not). In the pricing template spreadsheet provided, the City of Manassas and Manassas Park are shown as needing ESInet connections by virtue of their being listed in the template. In Attachment A, we did not indicate that Manassas Park and City of Manassas were remotes off of Fauquier. We included call counts and population figures for Manassas City and Manassas park and listed their CPE that needed connection to the ESInet in the far right column (City of Manassas will be implementing a VESTA 9-1-1 system later this year).

The state of Virginia 9-1-1 board does not consider the City of Manassas and Manassas Park, VA as primary PSAPs from a funding standpoint (that is why the table shows 'SEC' (for secondary) in their column). Both of those PSAPs do take 9-1-1 wireline calls directly into their PSAP (in that manner they are primary PSAPs operationally) and thus will need connections directly from their PSAP to the ESInet. Because Prince William takes their wireless calls initially, and then transfers, when needed, wireless calls to each respective Manassas location, the table indicates the City of Manassas and Manassas Park are associated with Prince William. Fauquier is very geographically distant from the two Manassas locations and they are not secondaries off of Fauquier.

AT&T misunderstood perhaps the 'SEC' notation in the attachment, but AT&T have provided a cost estimate just as if these two locations were primary PSAPs so the County does not see an issue. Our request for the pricing template update was just a cosmetic change to remove the reference to Fauquier. There is no additional information that AT&T could use to change the pricing for these two PSAPs as there is no association at all with Fauquier. The Manassas locations just happened to be listed after Fauquier in the table and in the pricing table they have been treated as a direct connection to the ESInet just like the other PSAPs.

AT&T Response:

Please refer to revised pricing spreadsheet in the Cost Proposal.

Fairfax County Response to #7. Accepted. No further action is necessary.

AT&T Response:

AT&T concurs and considers this item closed.



8. Accepting your latest cost proposal dated May 22, 2017 will translate to a more than 50% increase in annual cost from what the County is currently paying for the legacy network connection, which is a significant increase. For this reason, the County requests another consideration of the cost proposal on the Annual Recurring Costs for the AT&T ESInet service for Part A, B, and C jurisdictions for additional savings.

AT&T Response:

AT&T responded to the County's Best and Final request on May 22 with our best and final offer. AT&T feels strongly that our Best and Final Offer (BAFO) is extremely competitive for the solution being offered. The AT&T ESInet™ represents a significant improvement in architecture, features, functionality, redundancy, diversity, program management and long term capability when compared to the legacy services that are being replaced. AT&T has presented the County with our Best Pricing as requested on May 22. We are open to discussing further the improvements and benefits of the AT&T offer as compared to the legacy 9-1-1 platform being replaced.

Fairfax County Response to #8. Accepted. No further action is necessary.

AT&T Response:

AT&T concurs and considers this item closed.

9. The most recent update from AT&T indicated terms or leasing options were being sought for the Oakton POI. Please advise when AT&T expects such terms to be known with certainty.

AT&T Response:

AT&T will provide the location of a POI at [REDACTED] within Fairfax County. Upon further analysis, locating the Legacy Network Gateway (LNG) and regional Aggregation Site within Fairfax County is neither technically nor economically feasible, or responsible of AT&T to recommend. The initial recommended location at [REDACTED] is the only AT&T owned location where the site and respective equipment will be built without additional risk in providing the desired level of Network reliability for a 9-1-1 Emergency Service.

Fairfax County Response to #9. Accepted. No further action is necessary at this time.

AT&T Response:

AT&T concurs and considers this item closed.

12. This is a new change for AT&T to consider



As indicated in previous discussions there is a grant fund from the State of Virginia with Fairfax County as the primary grant holder. The attached VITA Grant Spend Plan document is provided as a proposed distribution of the funds to AT&T as a project expense managed by Fairfax County on behalf of the participating Part A jurisdictions. This Grant Spend Plan is different from most billing which will occur under the contract. Most billing will be directly to individual jurisdictions (not all funneled through Fairfax County) and such direct billing will cover the recurring costs of the AT&T ESInet service, Special Construction Costs as estimated by AT&T, and for other optional items selected under the contract.

The attached VITA Grant Spend Plan document would be best arranged by billing Fairfax County for the items in the document with an understanding that, where indicated per the line items in the Plan, certain jurisdictions would have pre-paid some costs of the contractual services even before their transition to the AT&T ESInet. As an example, Fauquier would have pre-paid certain expenses. Thus when they actually would transition onto the ESInet, AT&T would have billing credits which they would apply to items such as the ESInet Startup fee, Special Construction costs, etc.

Please indicate your acceptance of this general plan. The information in the Plan is current as of this writing but the specific amounts might vary slightly on a line items basis. The overall total for the prepaid amount of \$1,225,000 will not be changing. AT&T and Fairfax County can agree to have the total amount billed to Fairfax County over several installments (dates to be mutually determined) but the complete billing will need to be completed before February 1, 2018 so that Fairfax County can seek reimbursement from VITA for the invoice payments Fairfax County will be making in advance for the grant.

AT&T Response:

Please refer to paragraph 26 of the Memorandum of Negotiations.





Appendices from Oral Presentation dated March 17, 2017

Appendix A: Sample PSAP

Please see the following page for a sample PSAP.





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SAMPLE PSAP*

AT&T 9-1-1 Resolution Center

1-844-378-0911 (8)Reroute (1)New Trouble (2)Status

The AT&T 9-1-1 Resolution Center is a 24 x 7 x 365 AT&T Coordinated Service Center designated as the single point of contact for 9-1-1 Public Safety customers in the State of Connecticut.

When reporting trouble, please provide the 9-1-1 Resolution Center with the following information:

- o Location of trouble, e.g., "Sample PSAP on ABC Street"
- o Description of trouble including the following:
 - The impact to services, e.g., "cannot receive 9-1-1 calls", "not receiving location information", etc.
 - The impact to equipment, e.g., "router at Bridgeport is offline"
 - **Call examples including date/time, phone number, position**
- o Name & call back number of the person reporting the trouble.
- o Actions that were already taken (if any) to resolve the trouble.

PSAP Information

Pseudo Circuit ID (Informational Only)	21/EGNC/911502//
Transfer DN	xxx-xxx-xxxx

***Escalation and Contact Information for AT&T Resolution Center**

In the event the 9-1-1 Resolution Center has not resolved a trouble with satisfactory results or has not resolved a trouble in an acceptable timeframe, the PSAP is advised to follow the escalation process listed below:

<u>Escalation Level</u>	<u>Contact</u>
Level 1	<u>National E911 Resolution Center Manager</u> 9-1-1 Resolution Center: 1-844-378-0911 , Option 2
Level 2	<u>E911 Resolution Center Lead Manager</u> 9-1-1 Resolution Center: 1-844-378-0911 , Option 2 • Request to speak to Lead or Supervisor on Duty
Level 3	<u>9-1-1 Resolution Center Area Manager (or Delegate)</u> Bridget Behrens Office: 312-382-5104 Cell: 312-316-4465 Oscar Holliday (Midnight – 08:00 EST) Office: 404-986-1391 Cell: 678-641-0334 and
Level 3	<u>AT&T 9-1-1 Service Executive for PSAP</u> Sample USE Name Cell: xxx-xxx-xxxx Email: use@att.com
Level 4	<u>Director-Network Operations Centers</u> Director Name Office: xxx-xxx-xxxx Cell: xxx-xxx-xxxx
Level 5	<u>Associate Vice President-Network Services</u> AVP Name Office: xxx-xxx-xxxx

PSAP: Moves, Adds, Changes, and Deletions (MACDs)

Simple/ Complex MACD's : Contact **AT&T Technical Sales Manager** <insert name>at xxx-xxx-xxxx or email@att.com

Ordering additional or replacement 911 equipment (headsets, handsets, cords, etc.), moving a workstation internally, requesting a site survey, etc.

Requesting an additional position, integrating admin lines, PSAP remodel, 9-1-1 routing changes, moving a PSAP, PSAP consolidation, etc.

CPR (PSAP Billing Account Number): 12345678

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Appendix B: NCR AT&T ESInet Transition Plan

AT&T ESInet employs a solution lifecycle implementation methodology (see description below) to ensure that all project areas of change are properly defined, designed, integrated, and deployed. The solution lifecycle implementation methodology has been developed and refined based on experience and the lessons learned migrating hundreds of agency systems to next generation 9-1-1. The methodology provides a blueprint for managing system migration and includes a project plan, templates, examples, diagrams, forms, and project communications. These project tools are tailored during the project definition phase to address the specific attributes of each next generation system implementation, and then refined during the subsequent project phases.

The chart below provides a visual of the phased approach that will be used for the NCR region, with specifics that will be discussed in the following sections.

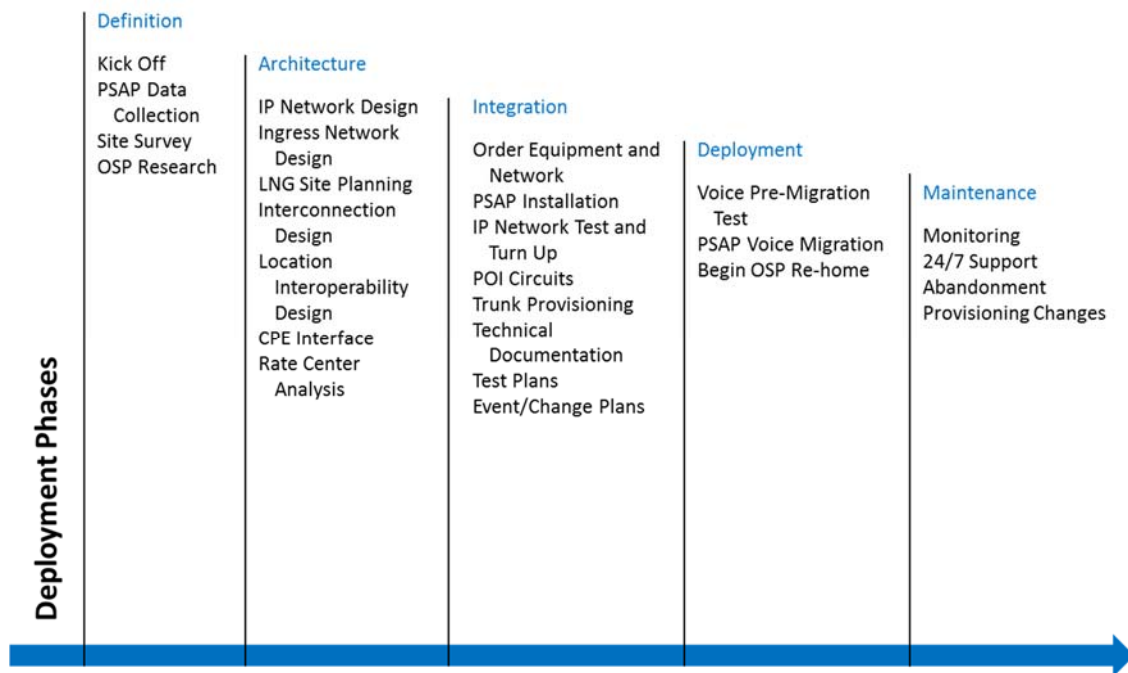


Figure 2: Sample PSAP Deployment Process

Solution Definition

The first phase in the solution lifecycle is the Solution Definition phase, which begins with the kickoff and alignment process and is critical to the overall success of the next generation 9-1-1 initiative within the NCR. During this process, key members of the joint



project team unite to identify roles, responsibilities, critical success factors, project challenges, elaborate on specific strategies and project options, confirm E9-1-1 project scope, and finalize plans to expedite solution delivery plans and resources. The proposed solution is reviewed in order to align each primary stakeholder with a common vision and strategy for unified team design and planning.

The Solution Definition phase principally represents administrative, organization, and discovery tasks necessary to align the team's roles and responsibilities with project deliverables. During this phase, the team determines the aspects of the 9-1-1 system that are subject to change within the scope of the project. Much of this entails identifying and collecting information from project stakeholders such as the NCR, existing 9-1-1 service providers, public safety agencies, and Originating Service Providers (OSPs).

Prior to collecting detail information that will be used in the course of the project, it is important for the team to understand the overall project goals and the criteria that will govern their decision-making. Project "Principles and Constraints" represent beliefs that span and guide all phases of the project, and which will eventually determine the success of the project. The project principles and constraints are communicated to all team members so that all design, integrations, and deployment decisions can be assessed in their light. Guided by the project principles and constraints, more detail information is then collected during the Solution Definition phase. This includes conducting site visits and readiness assessments of Public Safety agency facilities. Information also may be obtained by telephone and email exchange. Where it is possible, the team provides information ahead of time for the agency personnel to validate. A high percentage of PSAP data can be verified in this manner rather than collected from scratch. Every effort is made to obtain the necessary data in a manner that is efficient, respectful, and does not interfere with PSAP operations.

Information collection methods include interviews, questionnaire forms, review of documentation developed by the NCR during earlier project phases, and research utilizing both public and proprietary data sources. The information is captured in Microsoft Office documents including Word, Excel, Project, and Visio. It is then organized, correlated, and stored in a secure project repository. Some of the information is plotted using geographic information systems (GIS) so that relationships between public safety agency jurisdictions and communication service provider networks can be more readily analyzed and communicated. The project Communications Plan guides the dissemination and sharing of this information based on a project RACI chart.

Information collected from or validated with PSAP representatives during the Solution Definition phase includes:



- PSAP Contact Information
- PSAP Jurisdiction Boundaries
- Existing 9-1-1 Service Provider and Legacy Selective Router Information
- PSAP Services and Trunk Types
- PSAP CPE and Positions
- PSAP Equipment Configuration; Power; HVAC
- PSAP ALI Information; Format
- PSAP GIS Layers
- PSAP Community; Back-Up; Alternate; E9-1-1 and PSTN Transfers

In parallel with the above PSAP data collection tasks, a corresponding research and data collection effort is conducted to gather Originating Service Provider (OSP) information. Again, much of this information is first obtained from public or proprietary industry data bases, and subsequently augmented and annotated with feedback from service provider representatives.

Information collected from or validated with OSP representatives during the Solution Definition phase includes:

- Comprehensive Inventory of OSPs serving the NCR; ILECs; Independent Operating Companies (ICOs); CLECs; Wireless; VoIP; Private Switch Customers
- OSP Contact Information; Network Planning; Trunk Ordering; ALI Data
- OSP Code Sets; CLLI Codes; Point Codes; ACNAs; OCN; NENA IDs
- OSP Switch Information; Type, CLLI Codes; Rate Centers Served
- OSP Trunk Information; Quantities; SS7; CAMA; PRI; SIP
- Embedded existing 9-1-1 service provider system interconnection
- Tariff Information
- Interconnection Agreements

Other general types of information collected or used during the Solution Definition phase includes:

- Candidate POI (point of interface) locations
- Site Surveys



Based upon the project principles and constraints, as well as information collected during the Solution Definition phase, the team begins to distribute “network change” notifications to communications service providers. Network change notifications generally provide at least six months lead time for carriers to meet new trunking arrangements. Notifications may be issued on NCR or agency letterhead, and may be emailed as well as posted online. The initial notification to communications service providers may provide general information and time frames, with details to follow as additional instructions are developed during the architecture phase.

The “network change” notifications will be specifically tailored for OSPs. It likely also will be necessary to provision outbound circuits from the LNGs to the embedded existing 9-1-1 service provider systems and legacy selective routers to support interoperability of the legacy and next generation systems during the migration process.

Solution Architecture

During the Solution Architecture phase, the detailed solution design is finalized based on confirmed requirements. During this phase, the team analyzes the current systems, operations, and operational procedures, identifies the human factors needs, considers implementation options, and with the customer, commits the detailed solution design and implementation schedule.

The Solution Architecture phase represents the design and documentation of all solution components and interrelationships. The objective of the Solution Architecture phase is for all project stakeholders to understand the requirements for which they are responsible and have the information necessary to obtain approvals, procure equipment, submit trunk orders, and arrange connectivity during the Solution Integration phase. During this phase, the team creates and distributes more detailed communications to OSPs that provide trunk ordering instructions and due dates.

To achieve these objectives, Solution Architecture entails creating logical and physical network diagrams and spreadsheets that depict the entity relationships between all system components. Logical entities include the OSP end offices, legacy selective routers, other 9-1-1 service provider systems, data centers, legacy network gateways (LNGs), points of interface (POIs), next generation selective routers, etc. Additional dimensions considered during Solution Architecture are LATAs, rate centers, exchange boundaries, and PSAP jurisdiction boundaries. Using information collected during the Solution Definition phase, the team estimates the type and quantity of network capacity required to accommodate ingress trunks from all OSPs to the LNGs. The team designs and sizes egress trunk groups from the LNGs back to the legacy systems in accordance with interconnection agreements to support interoperability of the legacy 9-1-1 system



with the next generation system during the system migration period. The team identifies service addresses where Common Line Location Identifier (CLLI) codes will be required from Telcordia.

Solution Integration

During the Solution Integration phase, the components of the solution, including processes, applications, servers, network components, and data flow, are engineered and readied for deployment. All network, regional, and customer premises components are delivered, and the equipment rooms and other facilities are readied.

Coordination with telephone service providers is an essential part of this stage to plan for the 9-1-1 services management transition. OSPs receive all necessary information and detail to order trunks to the LNGs.

Based on the due dates the project team provides, OSPs submit facility orders (usually DS1) to point of interface (POIs) to access the LNGs and trunk group orders (DSOs) to the next generation selective routers. The trunk types include CAMA, PRI, and SIP. If possible, some pre-provisioning may be performed to collapse time frames. An example of this might be the collection of OSP point code information necessary to begin ISUP orders to support pre-provisioning of the OSP SS7 signaling to facilitate trunk group builds. It may be determined that OSPs already connected to the AT&T ESInet to serve non-NCR PSAP jurisdictions may be able to leverage such connectivity to deliver traffic intended for the NCR. This would jump-start the connection process for some OSPs by allowing them to add trunk groups for PSAPs to existing facilities.

In general, most OSPs are likely to order trunk groups in quantities and configurations that replicate their existing connectivity to the legacy selective routers. OSPs may be able to aggregate more trunk groups on fewer overall facilities due to changes in the number and location of the LNGs. OSPs will be instructed to order diverse (primary and alternate) trunk groups to the next generation selective routers. OSPs will be instructed to configure their primary and alternate call paths so as to achieve a balance between the AT&T ESInet point codes in order to distribute the load between the pair.

The team coordinates with the NCR and OSPs to ensure that each trunk group is associated with the appropriate default PSAP. The default PSAP is the PSAP where calls received over the trunk group will be routed in the event that the ANI is missing or location information for routing is not found. Agencies generally determine the default PSAP based on the relationship between the OSP's originating rate center, the PSAP jurisdiction(s) boundaries, and the PSAP(s) call-taker capacity and ability to dispatch or



transfer calls. A baseline for default PSAP determination may be the legacy system relationship between OSP trunk groups, rate centers, and PSAPs.

As trunk orders complete, OSPs contact the AT&T ESInet team to schedule call-through testing. Each trunk is tested as well as overflow and alternate call path logic. Depending on the timing relative to the planned in-service date, traffic may be cut-over to the new trunk groups or the trunks may be turned down until the PSAP(s) served by the groups are ready to receive calls from the new system.

In parallel with network provisioning, the project team implements the PSAP connectivity and works with the PSAP to ensure CPE configuration is complete. PSAPs are provisioned in the AT&T ESInet to support call transfers, star code lists, alternate, overflow, and abandonment routing. A common statewide PSAP directory may be utilized to enable 9-1-1 call transfers to any PSAP as authorized.

Working closely with the NCR and stakeholder groups, the project team designs customized provisioning plans (including incoming trunk route plans, bridge lists, alternate and backup policies and dialing plans). Additionally, the documentation developers customize the user and process documents to meet the needs of the NCR and PSAPs.

Solution Deployment

Site Cutover Approach

During the Solution Deployment phase, all network components and equipment connectivity is validated and acceptance tests are performed, and metrics tracking and reporting are initiated. After all non-live call testing is completed, a series of transition events are executed to cut-over live 9-1-1 traffic to the AT&T ESInet.

In preparation for deployment and in partnership with the NCR, the AT&T ESInet Project Manager finalizes the cutover plan, including procedures for notification concerning schedule specifics. To minimize impact to the PSAPs, each PSAP is cutover by receiving traffic directly from the legacy selective routers as well as any OSP end offices that have completed pre-migration provisioning and testing prior to the date of the scheduled cut. The PSAP is flash cut using procedures outlined below, and then any additional OSP traffic and end offices are rehomed post-PSAP cut. Prior to the commencement of the cutover event for the legacy selective router and OSP switches, the project team members hold a cutover meeting, and OSPs are provided a set of methods and procedures for the switch transition. The purpose of this meeting is to discuss the progress of activities, cutover readiness, and the cutover plan.



During the scheduled cutover, all parties both on- and off-site join a bridge that will be managed by an AT&T ESInet Change Manager. Legacy selective router and end office migration of live traffic is performed on a switch by switch basis. At the scheduled time and in accordance with the 9-1-1 service transition plan, the OSP translations representative executes a predefined set of switch translations (script) to redirect calls from their legacy trunks to the new trunk groups to the AT&T ESInet. Generally, the OSP will busy-out their primary legacy call path, thus sending all calls to the alternate legacy call path. The OSP then cuts over the primary trunk group to the AT&T ESInet and calls are validated. The OSP then repeats the procedure for the alternate call path. The actual switch transition event occurs smoothly and transparently to 9-1-1 callers as all systems have been previously tested with non-live calls.

After live traffic has been cut, the system will then undergo a system acceptance test and quality walkthrough, including re-validation of a subset of testing that had been performed prior to the migration, including call transfers. Once complete, and in agreement with the Customer, the service is accepted and the maintenance period begins.

In the event that the PSAP must revert back, this may be accomplished by the OSPs reversing the translations and directing traffic sent to the new LNGs back to the prior legacy network paths.

Solution Maintenance

The Solution Maintenance phase begins once live traffic is transferred onto any part of the system. During this phase, AT&T ESInet provides ongoing tiered support services to monitor service level performance, manage help desk requests, escalate support procedures, and support the Customer to reach the highest level of operational excellence. The solution support team is in place to receive, analyze, and rectify problems and information requests.

Ongoing OSP rehomes will occur during this phase as well. Any OSP traffic that continues to route to the PSAP through the legacy selective to the AT&T ESInet must be moved to direct connections to the AT&T ESInet LNGs. AT&T will continue to manage these individual migrations at no impact to the PSAPs.

Risk Management Plan

Risk areas and mitigation steps may include:



Risk	Mitigation
PSAP Space for network termination equipment	Work with PSAP to plan and mitigate back room space and environmental.
OSP trunks are not configured properly to deliver calls to new solution.	Establish OSP trunks to new LNGs in parallel with existing trunking to current legacy switches. Perform validation testing before cutting over to new trunks and leave existing trunks in place for a validation period before removal. Stay prepared to cut traffic back to incumbent system if major anomalies are encountered.
Unidentified impacts to new system migration.	Execute a detailed plan with decision points based on meeting milestones that demonstrate success and validate solution.
Network failures	Design and install network redundancy and diversity.
Circuit Delays	Identify network node locations early to initiate circuit orders as early as possible.
PSAP Last Mile Diversity	Work with local network providers to identify last mile options. If not feasible, design robust alternate route scenarios with neighboring PSAPs.
Legacy Network interconnection	Provide standards based interconnection specifications to support all major common protocols.

Figure 3: Risk Areas and Mitigation Steps

Phased Migration and Parallel Operation

AT&T ESInet has performed hundreds of PSAP migrations to ESInet services. Each has its own unique requirements and dependencies. AT&T ESInet works with all stakeholders to plan and execute migrations in phases and in parallel with the embedded 9-1-1 service. AT&T ESInet supports interconnection using standards based legacy tandem to tandem interfaces and next generation SIP interfaces to enable originating traffic, handoffs and transfers within the ESInet and legacy networks.





Appendix E: PSAP Site Survey Form

Please see the attached for our PSAP Site Survey Form.





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PSAP Site Survey Form

**Site survey
Prepared for:**

Fairfax County, VA

Site:

Fairfax County
Public Safety Communications Center
4890 Alliance Dr
Fairfax, VA 22030

Table of Contents

Section 1 – Instructions

Section 2 – Contact Information

Section 2 – Site Information

Section 3 – Appendixes

Section 1 : Instructions

The following information is required in order for AT&T to document the physical attributes of the PSAP. This information will be utilized to determine the site readiness of the PSAP.

Contact Information

- A. Survey Requestor – This is the contact information of the individual that has requested the site survey be performed.
- B. PSAP Information – This is the physical address and contact information for the PSAP where the PSAP Network Edge equipment will be installed. This information will be used to document the physical location of the equipment for maintenance planning and to coordinate physical access to the facility.
- C. Technical Site Contact Information – This individual will be consulted on all of the technical aspects of the physical installation and any subsequent clarifications needed.
- D. Site Survey Technical Contact Information – This is the contact information of the technician performing the site survey. This information will be used to gather initial site information and subsequent clarifications

Site Information

- A. Site Photos – Photographs that provide a representation of what the installation team can expect during the delivery and installation of the Next Generation 9-1-1 equipment
- B. Site Drawings – See list of relevant information in Appendix B.
- C. Raised Floors – Indicate whether the Cabinet/Rack is/will be installed on to a raised floor. This will aid in the specifying of Seismic Bracing and cable routing.
- D. Seismic Bracing Required – Indicate whether Seismic Bracing is required. If yes, document the type of bracing required and whether bracing of the top, bottom, or both is required.
- E. A/C Circuits available – Is A/C for the proposed readily available
 - a. Is the A/C power capable of being delivered by isolated power panels?
 - b. Are there 2 A/C receptacles available or will facility need to perform a build out?
 - c. Is the A/C power to be delivered above (top), or below (bottom) of the cabinet?
- F. Emergency Backup Generator – Document whether the facility is protected by an Emergency Backup Generator in the event of the loss of commercial power.
 - a. How many generators are available
 - b. Document the size(s) of the Emergency Generator(s)
 - c. List make and model of Emergency Backup Generator
 - d. Document the total fuel capacity and refueling strategy for extended generator run times.
- G. Facility based UPS available – Document whether the facility is protected by a Facility Based UPS in the event of the loss of commercial power.
 - a. How many UPS's are available? Document the size(s) of the UPS(s)
 - b. List make and model of UPS(s)
 - c. Document the total run time for the UPS under full load.
- H. Work Lighting -- should be a minimum of 500 lux (50 foot-candles as measured 3 ft above the finished floor.

- I. Fire Suppression – Document the type of fire suppression system utilized within the facility.
- J. Grounding System available – Document whether a ground system is available within the equipment room.
- K. Document the type of Ground System being utilized within the facility. No Ground System being used within the facility must be documented within the notes section.
- L. Document the distance from the proposed cabinet location and the Ground System.
- M. Document the demarcation method used for the 911 trunks in to the 9-1-1 CPE
- N. Document the distance between the NG9-1-1 cabinet and the trunk termination.
- O. Notes – capture any specific information

Appendixes

- A. Site Photos – Capture photographs of the following:
 - a. Front Entrance
 - b. Loading Dock (if any)
 - c. Travel path through building
 - d. Door to Equipment room
 - e. Cabinet Location
 - f. Grounding Termination
 - g. Telco Demarcation
 - h. Telco/CPE Back board
- B. Floor Plan -- Include the following on drawing:
 - a. Drawing Scale
 - b. Door(s)
 - c. Cabinet Location – Include cabinet measurements if customer supplied cabinet is to be used.
 - d. Grounding location
 - e. Telco termination location
 - f. Expected cable path
 - g. 9-1-1 CPE termination block location
 - h. Anticipated cable path(s)
 - i. Any relevant environmental items
 - i. Stairs
 - ii. HVAC
 - iii. Obstructions

Section 2 : Contact Information

Survey Requestor

Survey Requested by:	
Company	
Address 1	
Address 2	
City, State, Zip Code	
Phone	
Fax	

PSAP Information

Agency (PSAP Name)	
Local Contact Name	
Address 1	
Address 2	
City State, Zip Code	
Phone	
Fax	
e-mail	

Technical Site Contact Information

Name	
Address 1	
Address 2	
City State, Zip Code	
Phone	
Fax	
e-mail	

Site Survey Technician Contact

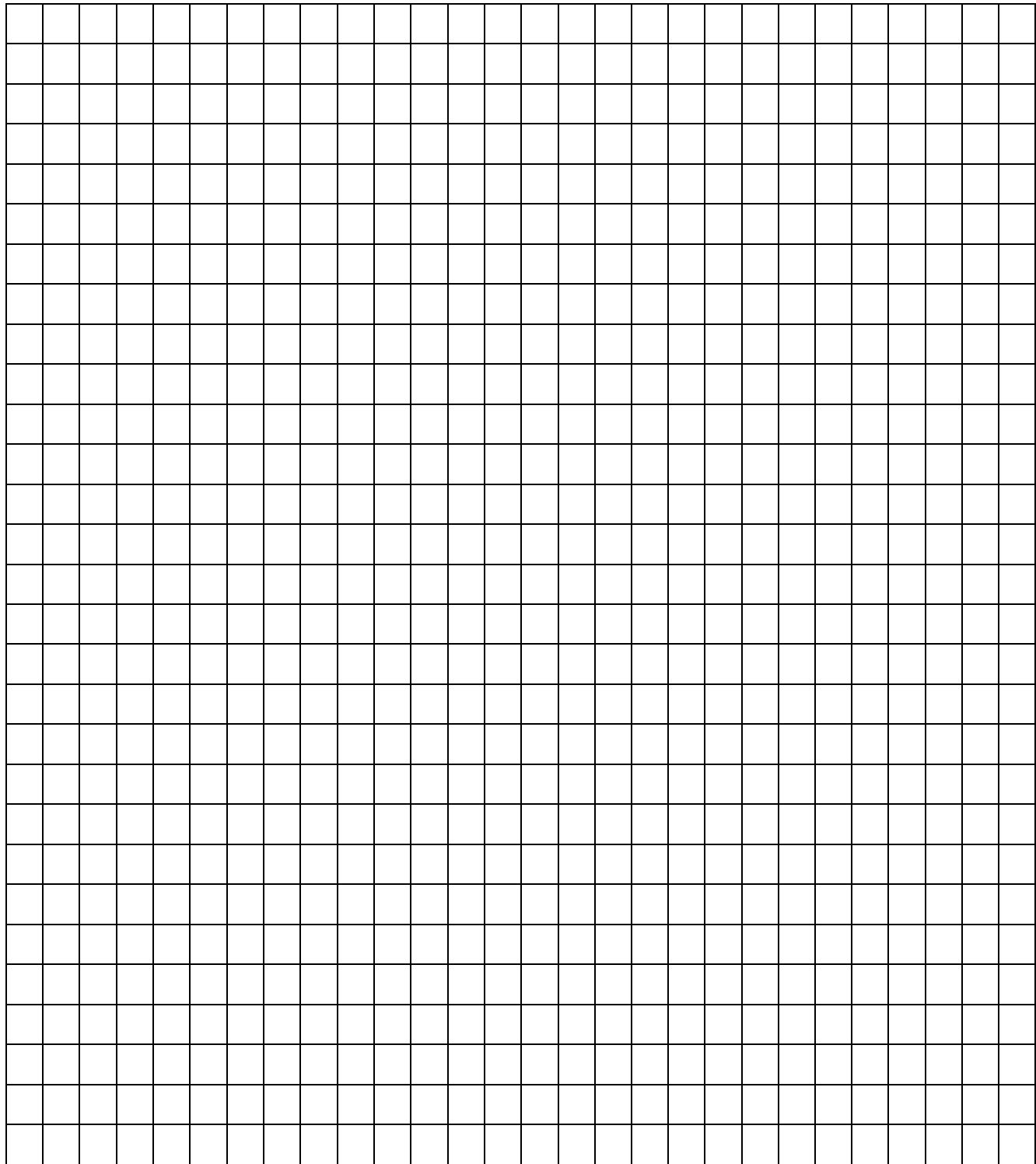
Name	
Company	
Address	
City State, Zip Code	
Phone	
Fax	
e-mail	

Section 3 Site Information

1. Site Photos	Appendix A	
2. Site Drawings	Appendix B	
3. Raised Floors	☐ Y	☐ N
4. Seismic Bracing Required	☐ Y	☐ N
5. A/C Circuits available? (L520R Required)	☐ Y	☐ N
☐ Diverse Feeds	☐ Y	☐ N
☐ How many are available	1 Electrical Panel on protected and dedicated UPS	
☐ Location of A/C Receptacle	☐ Top ☐ Middle ☐ Bottom ☐ Outside cabinet (NOTE: Max distance is 5 ft)	
6. Emergency Backup Generator available?	☐ Y	☐ N
• Quantity		
• Size(s)		
• Manufacturer (If available)		
• Fuel Capacity		
7. Facility based UPS available?	☐ Y	☐ N
• Quantity		
• Size(s)		
• Manufacturer (If available)		
• Run Time Under Load		
8. Work Lighting	☐ Y	☐ N
9. Type of fire suppression		
10. Ground System Available	☐ Y	☐ N
10a. What kind of grounding is available in the Equipment room?	☐ Ground Rod ☐ Water Pipe ☐ Ground Buss ☐ Electrical Box Ground ☐ N/A	
10b. What is the length of the 6 AWG Ground Wire required?	(NOTE: maximum distance is 15 ft from cabinet)	
11. External Connectivity Termination method (CAMA)	☐ 66 Block ☐ 110 Block ☐ Patch Panel	
11a. Distance from Telco Room to equipment cabinet. (Routers)		
11b. Extended demarc needed. If yes, please provide details	☐ Y	☐ N

Appendix A
Site picture(s)

Appendix B
Site drawing (Floor Plan)



ACCEPTED AND AGREED
PSAP: _____
By:
Printed Name:
Title:
Date Signed:



Appendix F: Pre-Migration Test Plan Template

Please see the attached for a template of our pre-migration test plan.





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Non-Live Provisioning Test Plan

Fairfax County, VA

<Test Date>

Trademark Ownership

All trademarks used herein are the property of their respective owners.

Non-Disclosure

The information contained in this document and provided to PSAP is Corporate Confidential in its entirety. This restricts the disclosure of any information herein to a third-party and other terms and conditions under the terms of a Non-Disclosure Agreement.

Open Records Act Request

PSAP will immediately advise in writing of any Open Records Act type of requests as it may relate to this proposal or any information contained herein.

INTRODUCTION

The AT&T ESInet Non Live Test Plan described in this document provides an overview of testing and a list and description of test cases for the implementation of the AT&T ESInet services. The objective for this test plan is to demonstrate the network and call processing equipment readiness to receive 9-1-1 traffic using the AT&T ESInet service. Test participants include Fairfax County PSAP and AT&T ESInet Service Delivery.

The AT&T ESINET Non Live Test Cases will demonstrate feature functionality of the AT&T ESInet. The Test calls will deliver simulated "9-1-1" calls from the AT&T end office to the PSAPs over the AT&T ESInet to the call processing equipment installed at the Fairfax County PSAP.

AT&T manages the testing process and coordinates all test calls documented in the AT&T ESInet Non Live Test Plan. The testing is scheduled in accordance with the PSAP's availability. The PSAP is asked to provide a resource to answer the test calls and may be asked to provide documentation (i.e. screen prints and recordings) for certain calls.

The list of standard tests demonstrates feature functionality of the AT&T ESInet to include:

- Operation of the AT&T ESInet PSAP Network Edge equipment
- Call Processing:
 - o Call transfer and bridging functions
 - o Alternate and default routing
 - o Independent i3 component availability
 - o PSAP abandonment routing
 - o PAD abandonment routing

AT&T ESINET 9-1-1 NON LIVE ACCEPTANCE TEST PLAN

NON LIVE ACCEPTANCE TEST CASES: AT&T ESINET ORIGINATED CALLS

Test #	Test Case	Type	Testing Criteria	Time	Pass/Fail and Comments
TEST LOCATION: Fairfax County PSAP DATE & TIME: <DATE/TIME> CALL ORIGINATOR: AT&T			CALL TAKER: ON-DUTY CALL-TAKER ANI: <ANI>		
1	Wireline Call Routed to PSAP through AT&T ESInet	Equipment	Wireline test call sent to Fairfax County PSAP. Caller confirms routing and audio quality.	<5 min	HH:MM MT - Test call generated from AT&T to Fairfax County PSAP; good ANI, location and subscriber information, & Voice delivered. <PASS/FAIL>
2	Wireless Call Routed to PSAP through AT&T ESInet	Equipment	Wireless test call sent to Fairfax County PSAP. Caller confirms routing and audio quality.	<5 min	HH:MM MT - Test call generated from AT&T to Fairfax County PSAP; good ANI, location and subscriber information, & Voice delivered. <PASS/FAIL>
3	VOIP Call Routed to PSAP through AT&T ESInet	Equipment	VOIP test call sent to Fairfax County PSAP. Caller confirms routing and audio quality.	<5 min	HH:MM MT - Test call generated from AT&T to Fairfax County PSAP; good ANI, location and subscriber information, & Voice delivered. <PASS/FAIL>
4	CPE bids i3 Components	Call Processing	Test call sent to Fairfax County PSAP. Call taker performs manual rebid on the ANI.	<5 min	HH:MM MT - HH:MM MT - Test call generated from AT&T to Fairfax County PSAP; good ANI, location and subscriber information, ELT, & Voice delivered. AT&T verifies CPE can independently bid the ECRF, LIS, and ADR. <PASS/FAIL>

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Test #	Test Case	Type	Testing Criteria	Time	Pass/Fail and Comments
5	I3 Routing Fails, Routing via SRDB	Call Processing	Test call sent to Fairfax County PSAP . Caller confirms routing and audio quality.	<10 min	HH:MM MT – TN removed from ALI/LIS then re-provisioned in the SRDB without X/Y data. Test call generated from AT&T to Fairfax County PSAP ; good ANI, location and subscriber information, & Voice delivered. <PASS/FAIL>
6	I3 Routing via ECRF	Call Processing	Test call sent to Fairfax County PSAP . Caller confirms routing and audio quality.	<10 min	HH:MM MT – TN re-inserted to ALI/LIS. Test call generated from AT&T to Fairfax County PSAP ; good ANI, location and subscriber information, & Voice delivered. <PASS/FAIL>
7	I3 Transfer: Fixed Bridge Conferencing Confirmation	Call Processing	Test call transferred to <i3 TRANSFER PSAP (*XX)> . All parties on the bridge talk to confirm conferencing is established. Call taker at <TRANSFER PSAP> disconnects.	<5 min	HH:MM MT - Transfer to <TRANSFER PSAP (*XX)> ; good ANI, location and subscriber information, & Voice delivered. <PASS/FAIL>
8	I3 Transfer: Fixed Bridge Conferencing Confirmation	Call Processing	Test call transferred to <i3 TRANSFER PSAP (URI)> . All parties on the bridge talk to confirm conferencing is established. Call taker at <TRANSFER PSAP> disconnects.	<5 min	HH:MM MT - Transfer to <TRANSFER PSAP (URI)> ; good ANI, location and subscriber information, & Voice delivered. <PASS/FAIL>

AT&T ESINET 9-1-1 NON LIVE ACCEPTANCE TEST PLAN

Test #	Test Case	Type	Testing Criteria	Time	Pass/Fail and Comments
9	EGDMS Provisioning	TN Provisioning	Update TN location and/or subscriber information via EGDMS. Test call sent to Fairfax County PSAP . Caller confirms routing and audio quality.	<10 min	HH:MM – PSAP updates test record via EGDMS. Test call generated from AT&T to Fairfax County PSAP ; verify updated information is displayed. <PASS/FAIL>
10	S/R Transfer: Selective Bridge Conferencing Confirmation	Call Processing	Test call transferred to <Police, Fire or EMS> . All parties on the bridge talk to confirm conferencing is established. Call taker at <TRANSFER PSAP> disconnects.	<5 min	HH:MM MT - Transfer to correct agency for given TN record; good ANI, location and subscriber information, & Voice delivered. <PASS/FAIL>
11	S/R Transfer: Fixed Bridge Conferencing Confirmation	Call Processing	Test call transferred to <CAMA TRANSFER PSAP (*XX)> . All parties on the bridge talk to confirm conferencing is established. Call taker at <TRANSFER PSAP> disconnects.	<5 min	HH:MM MT - Transfer to <CAMA TRANSFER PSAP (*XX)> ; good ANI, location and subscriber information, & Voice delivered. <PASS/FAIL>
12	S/R Transfer: Fixed Bridge Conferencing Confirmation	Call Processing	Test call transferred to <CAMA TRANSFER PSAP (URI)> . All parties on the bridge talk to confirm conferencing is established. Call taker at <TRANSFER PSAP> disconnects.	<5 min	HH:MM MT - Transfer to <CAMA TRANSFER PSAP (URI)> ; good ANI, location and subscriber information, & Voice delivered. <PASS/FAIL>

AT&T ESINET 9-1-1 NON LIVE ACCEPTANCE TEST PLAN

Test #	Test Case	Type	Testing Criteria	Time	Pass/Fail and Comments
13	S/R Transfer: Fixed Bridge Conferencing Confirmation	Call Processing	Test call transferred to <SIP TRANSFER PSAP (*XX)>. All parties on the bridge talk to confirm conferencing is established. Call taker at <TRANSFER PSAP> disconnects.	<5 min	HH:MM MT - Transfer to <SIPTRANSFER PSAP (*XX)>; good ANI, location and subscriber information, & Voice delivered. <PASS/FAIL>
14	S/R Transfer: Fixed Bridge Conferencing Confirmation	Call Processing	Test call transferred to <SIP TRANSFER PSAP (URI)>. All parties on the bridge talk to confirm conferencing is established. Call taker at <TRANSFER PSAP> disconnects.	<5 min	HH:MM MT - Transfer to <SIPTRANSFER PSAP (URI)>; good ANI, location and subscriber information, & Voice delivered. <PASS/FAIL>
15	PSTN Transfer: Fixed Bridge Conferencing Confirmation	Call Processing	Test call transferred to <TRANSFER PSAP (*XX)>. All parties on the bridge talk to confirm conferencing is established. Call taker at <TRANSFER PSAP> disconnects.	<5 min	HH:MM MT - Transfer to <TRANSFER PSAP (*XX)>; good ANI & Voice delivered. <PASS/FAIL>
16	Manual Transfer to valid local TN	Call Processing	Test call sent to Fairfax County PSAP; Manual Transfer to local TN: <NPA-NXX-XXXX>	<5 min	HH:MM MT - Test call generated from AT&T to Fairfax County PSAP; good ANI, location and subscriber information, & Voice delivered; manual transfer to <NPA.NXX.XXXX>; good Voice delivered; conferencing established. <PASS/FAIL>

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Test #	Test Case	Type	Testing Criteria	Time	Pass/Fail and Comments
17	Manual Transfer to valid long distance cell	Call Processing	Test call sent to Fairfax County PSAP ; Manual Transfer to long distance cell: <NPA-NXX-XXXX>	<5 min	HH:MM MT - Test call generated from AT&T to Fairfax County PSAP ; good ANI, location and subscriber information, & Voice delivered; manual transfer <NPA-NXX-XXXX> ; good ANI & Voice delivered; conferencing established. <PASS/FAIL>
18	DTMF Transfer	Call Processing	Test call sent to Fairfax County PSAP ; Manual Transfer to DTMF Test Line TN: 720-494-6650, option 1 selected. Call taker verifies "Digit Verified" message reached.		HH:MM MT - Test call generated from AT&T to Fairfax County PSAP ; good ANI, location and subscriber information, & Voice delivered; manual transfer to 720-494-6650. Call taker hears recording and presses 1, verifies that they hear "digit verified" recording. <PASS/FAIL>
19	Alternate Routing	Call Processing	All trunks busied to force all calls to route to Alternate Route. Test call sent to Fairfax County PSAP , call routed to <ALTERNATE ROUTE> as expected.	<10 min	HH:MM MT - Trunks busied out. HH:MM MT - Test call generated from AT&T to Fairfax County PSAP ; call routed to <ALTERNATE ROUTE> as expected. <PASS/FAIL>
20	Ring no Answer Timer	Call Processing	Test call sent to Fairfax County PSAP , call is allowed to ring continuously until rolling over to Alternate route (RNA TIME): call routes to <ALTERNATE ROUTE> as expected.	<5 min	HH:MM: MT – Test call behaves as expected and rolls over to expected destination. <PASS/FAIL>

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Test #	Test Case	Type	Testing Criteria	Time	Pass/Fail and Comments
21	Abandonment Routing	Call Processing	PSAP is manually put into an abandoned state Test call sent to Fairfax County PSAP, call routed to <ABANDONMENT ROUTE> as expected.	<20 min	HH:MM MT – PSAP Abandoned HH:MM MT - Test call generated from AT&T to Fairfax County PSAP; call routed to <ABANDONMENT ROUTE> as expected with good ANI, location and subscriber information, & Voice delivered. <PASS/FAIL>
22	Un-Abandonment Routing	Call Processing	PSAP is manually put into an un-abandoned state Test call sent to Fairfax County PSAP, call routed to Fairfax County PSAP as expected.	<10 min	HH:MM MT - PSAP Un-Abandoned HH:MM MT - Test call generated from AT&T to Fairfax County PSAP; call routed to Fairfax County PSAP as expected with good ANI, location and subscriber information, & Voice delivered.. <PASS/FAIL>
23	Abandonment Routing – PAD Testing	Call Processing	PSAP is manually put into an abandoned state using the PSAP Abandonment Device. Test call sent to Fairfax County PSAP, call routed to <ABANDONMENT ROUTE> as expected.	<20 min	HH:MM MT – PSAP Abandoned using PAD HH:MM MT - Test call generated from AT&T to Fairfax County PSAP; call routed to <ABANDONMENT ROUTE> as expected with good ANI, location and subscriber information, & Voice delivered.. <PASS/FAIL>
24	Un-Abandonment Routing – PAD Testing	Call Processing	PSAP is manually put into an un-abandoned state Test call sent to Fairfax County PSAP, call routed to Fairfax County PSAP as expected.	<10 min	HH:MM MT - PSAP Un-Abandoned using PAD HH:MM MT - Test call generated from AT&T to Fairfax County PSAP, call routed to Fairfax County PSAP as expected with good ANI, location and subscriber information, & Voice delivered.. <PASS/FAIL>

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Test #	Test Case	Type	Testing Criteria	Time	Pass/Fail and Comments
25	Trunk Verification	Call Processing	One trunk manually busied out. Test call sent to Fairfax County PSAP.	<5 min	HH:MM MT – Trunk(s) busied out HH:MM MT – Test call made to Fairfax County PSAP, call routed to Fairfax County PSAP as expected with good ANI, location and subscriber information, & Voice delivered.. <PASS/FAIL>
26	Trunk Verification	Call Processing	One trunk manually busied out. Test call sent to Fairfax County PSAP.	<5 min	HH:MM MT – Trunks in service switched. HH:MM MT – Test call made to Fairfax County PSAP, call routed to Fairfax County PSAP as expected with good ANI, location and subscriber information, & Voice delivered.. <PASS/FAIL>
27	Trunk Verification	Call Processing	All Trunks put back in service	<5 min	HH:MM MT – Trunk(s) placed back into service. <PASS/FAIL>