

# County of Fairfax, Virginia

## MEMORANDUM

**TO:** Sharon Bulova, Chairman  
Fairfax County Board of Supervisors

**FROM:** Edward H. Blum, Chairman   
Fairfax County Information Technology Policy Advisory Committee (ITPAC)

**DATE:** March 28, 2014

**SUBJECT:** ITPAC's FY2015 Budget Letter to the Board of Supervisors

With DIT, ITPAC regularly reviews Fairfax County IT investments, resources, budget and service requirements. After the budget constraints of the last five years, it has become clear that year on year cost reductions and cost avoidance have created challenges which – if not addressed - can now actually raise costs as well as degrade critical operational and citizen services. Both user demands for rapid ramp-up of newer, support-intensive technologies and the cyber security issues generated outside DIT substantially increase resource needs and jeopardize County information integrity.

County IT has provided improved efficiencies for government and facilitated the on-line information, services, and engagement the public demands. To keep pace with demand and turn on technologies that enable County goals, the County needs financial approaches that facilitate appropriate replacement cycles in response to continual industry-driven changes. We commend the two year budget planning structure which allows for a more fluid and predictive fiscal view and better supports technology services delivery.

ITPAC members have extensive experience with ERP implementations. We see that the County's FOCUS ERP replaced legacy applications and delivered the planned initial critical core financial and payroll system needs for both the County government and the Schools, effectively and expeditiously. This was shown with a notable 18-month delivery, two years of successful annual CAFRs, and a clean FY 2013 KPMG system audit. With the base system stable and performing well, the next phase can now deliver end-user and other published functionality improvement opportunities. This ITPAC letter summarizes strategic priorities for Fairfax County IT that we believe are important in for the FY2015 budget and beyond.

**1. The FOCUS team should have the resources to aggressively implement the next phase and provide the end-user functionality.**

- Engage with the end-user community to ascertain their needs for reports and workflow support to begin to reduce the use of inefficient agency-created shadow systems. (These systems do not pose a security risk since they are protected within the county's IT security capabilities.)
- Determine priorities for implementing the next system changes that provide optimal return.
- Continue to look at business processes for opportunities to leverage additional SAP functionality.
- Plan for and perform regular product version upgrades avoiding expensive upgrades downstream.
- Review the imminent ITPAC-recommended, best-practice Independent Validation report to produce a roadmap for continuing to leverage ERP functionality.
- Use the DIT staff, well trained in the technical skills required to support the system, to avoid costly on-going post-production use of expensive ERP specialty firms.

**2. Equipment replacement cycle policy must support today's operation, expanded operational requirements, and the move to more flexible personal devices across the workforce.**

The County Executive's focus to modernize equipment lifecycle goals will keep necessary technology responses agile and avoid costly replacement processes down the road. Incremental investment is a strong way to accommodate rapid technological advances while supporting improved County services and efficiencies. Some specific replacement priorities are the following:

- PCs are still heavily used in the County. For productive use of them in conducting County work, in sharing information, and for receiving efficient technology support from DIT, these devices must have the same software versions and be within vendor currency cycles.
- New technology is required to implement systems replacing ancient applications no longer available or fixable.
- The public safety community requires frequent device updates to interface with improved technology and to meet Federal requirements. (PSTOC, relatively new, needs equipment to handle next-generation 911 mandated at the Federal level. It must also replace the PBX's because Avaya and Verizon are phasing out PBX support. The Police management system needs updated equipment and software to work with mobile technologies in the field.)
- Plans must be made to update the PC replacement program to include the wide variety of end-user devices and associated software compliance requirements to accommodate the growth in the County use of end-user devices which aligns with trends in other large organizations.

**3. Peripherals needed in increasingly networked operational functions require centralized (DIT) support to provide the optimum expertise, best security, and least County resource.**

Automation in non-traditional information systems such as video, security cameras, monitoring and control, and others are now part of the County's network. For lower overall support resources, these need to have centralized DIT technical management for supportability and economies of scale. This requires governance policies that show what resources need to be transferred to DIT and which not.

**4. Expanding the use of social media and other consumer tools in addition to the website must serve the most citizens and be accompanied by the necessary cyber security protections.**

With the public using many other internet-based communication tools, County website use is up substantially – for information and for services such as tax payments, licenses, recreational management, and zoning matter. These services required many more personnel before the website support. Phone services in addition to the availability of publicly available internet access allow most income levels of citizens' access to needed County resources. ITPAC supports the extended use of social media as additional tools in engaging with the public, but with necessary, complex cyber security protections in place. Consumer cyber capabilities augment communications but do not replace solid technology systems the government, and other large enterprises, use for operations and information which must not be invaded by use of the new options.

**5. Growing cyber threats must be anticipated and managed with constant vigilance.**

Recent high profile cyber security events underscore that the County must keep up its vigilance. IT Security must protect County data, information, and operational integrity. Invasion could ultimately cost billions of dollars in addition to bringing high risk for liability and other exposures. IT Security is becoming more and more cyber-security. Today, remote controls for various operations are directed over the County's information system networks, building access is confirmed remotely, and transaction processing for most agencies is on mobile devices in the field. It is through glitches in these channels that the infamous security breaches occurred in the recent commercial cases. The IT security program, now in the marketplace known as Cyber Security, continues as a best practice model.

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The County must continue to monitor both the market and expanding sources of exposure to determine policy to provide the best operational security. The rapidly changing cyber landscape is changing requires continued investments in cyber-security management systems and protective tools for all agencies' purposes throughout the County. IT Disaster Recovery, part of the comprehensive cyber security threat mitigation capabilities, must continue to be managed. The disaster recovery (DR) plan implemented by DIT is modern and top quality.

**6. In Using Clouds the County must proceed with caution**

The County must carefully evaluate options commonly referred to as 'Clouds' which are outsourcing of key systems capabilities and data. While this marketplace is still volatile, there are some options that are good and proven. Because going to these solutions may increase annual operating costs and introduce exposures, the County should understand the total cost impact of any cloud plan, as well as the security and intellectual property implications. DIT has initiated initial exploration. These could make better use of limited resources with improved accountability. County agencies should not pursue cloud options on their own.

**7. Sponsor state legislation that recognizes and supports effective technology use**

Some laws antedating widespread computer and internet technology seriously limit the proper use of such technology. For example, certain requirements for actual signatures on a paper should be changed to allow electronic versions of signatures. Also, hand-held smart devices can replace information and ticketing now required to be on paper. County operational efficiencies can be enhanced and conform to what has become common practice.

**8. Follow the growing trend of reviewing and seizing opportunities to modernize the IT procurement process for greater efficiency, effectiveness and overall cost of delivery**

For the best overall delivery and least cost impact, IT procurements need to be agile. Contracting efforts should not bog down the ability to get quality, cost-effective solutions in place. This topic is being addressed by many national organizations such as the National Association of Counties and Center for Digital Government whose work may inform new County practice options.

**9. Replace/refresh/review outdated, unsupportable major agency systems**

ITPAC supports the set of IT Investments in the FY 15 Advertised IT Plan, recognizing limited available new funding. However, the County should invest in the replacement/refresh of major systems across agencies to improve or modernize services and make the systems supportable. County needs and industry capabilities mean a faster pace of change in the Country is necessary. However, the County's previous investments and accumulated knowledge can be leveraged to lower costs and expedite implementation. Priorities for FY 15 and 16 include:

- *Major public safety systems*, critical in managing incidents and emergencies, must respond to the evolution in the services and the advent of new capabilities for public support. This justifies a more aggressive lifecycle than the old paradigm. The County must carefully prepare for NextGen 911 and further integration with tools the public uses to communicate.
  - *Replacement Public Service Radio Systems* and equipment must start within the next two years to maintain the strong County capability. The two systems approach for these private wireless systems has proven beneficial and resilient. These County systems remained functional during the Derecho and other recent events when commercial options failed.
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- *Consolidating legacy applications that cut across multiple agencies* into the new capabilities that have mobility built-in has a huge payback. There are ultimate savings from investments that modernize and consolidate systems such as the various land development systems that are cobbled together. It should be done thoughtfully and in a timely manner.
- *A critical review of large legacy Human Services Systems* is recommended due to the current reliance on old state systems and the resulting inherent risk to County operations and data.

#### **10. DIT Staff Spartan resource capacity should be addressed**

The County's overall IT performance and reputation as high functioning best practices model is acknowledged by several industry organizations such as the Center for Digital Government and National Association of Counties. This is attributed to the exceptionally dedicated and skilled IT staff as well as the IT governance and investments strategies. However, ITPAC again notes that DIT resources are critically strained after years of budget reductions in staff and services resources. At the same time the inventory of county technology systems and capabilities which must be adequately maintained and supported has grown dramatically. Examples include:

- Many county agencies now require 24 x 7 support for critical infrastructure such as Public Safety and Health and Human Services safety net functions, the public web-site, critical radio systems for county emergency and law enforcement operations, and FOCUS. Due to the 24x7 agency access needs and lack of shift staff, DIT SAP technical staff has worked 96 consecutive weekends. Certain DIT operational staff has worked 24 x 7 which is unreasonable.
- Fairfax County involvement in regional IT efforts provides grants that mean additional monies supporting important mutual capabilities, especially for homeland security. These add to DIT workload without budget compensation. DIT has done as much as can be reasonably expected in leveraging remaining staff capacity.

ITPAC is concerned that extended reliance on the base staff will, have a negative impact on county service effectiveness and dramatically increase liability risk to include employee health.

To provide background demonstrating the value and efficiency of DIT operations and agency support, an attachment summarizes some important, cost saving or revenue producing actions. DIT mostly operates behind the scenes. But it has become the central enabler for much of what the County does and what County citizens see. IT provides the ability to maintain critical services and deliver high-quality, responsive functions and open government in response to growth in demand and public expectations—allowing County agencies directly providing services to do more with less.

Cc:

Information Technology Policy Advisory Committee  
Edward L. Long, Jr., County Executive  
David J. Molchany, Deputy County Executive  
Wanda Gibson, Chief Technology Officer  
Susan Datta, Chief Financial Officer

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## ATTACHMENT TO ITPAC BUDGET LETTER TO THE COUNTY EXECUTIVE: FY 2015-2016

### ROI Examples

1. **IT Security**, related infrastructure Investments and awareness programs have made Fairfax a best practice example which helped to reduce the overall cyber security threat level and contributed to 99% uptime for County systems access and County data integrity. The program resulted in a 47% drop in security incidents over the past three years with a significant portion of the drop due to technology improvements, such as better URL filtering, SPAM control, device management, and anti-virus applications.

ITPAC supports on-going diligence in this area for keeping up with necessary investments in security and support for strong security policy especially as more outside Internet based resources are implemented. As time moves forward, new threats and attack vectors emerge. This constant state of flux within the threat landscape necessitates a continued investment in new security technology solutions, for example Next Generation Firewall systems.

2. On-going investment in use of **GIS technologies** which are in use by many County agencies. Results demonstrate that depending on which County operations use GIS the associated work efficiency has improved by 1-24 hours of work effort/week per employee, with 82% indicating the criticality of maintaining the GIS data frequently that will improve the effectiveness of their work. Some examples:
    - Savings to Tax Assessors: DTA has been able to reduce field time and staff because they can now view aerial imagery of properties at their desktop. This imagery is refreshed every 2 years.
    - Public Safety Dispatch and Response – over 1000 County police, fire and rescue and sheriff's vehicles have GIS maps running in them. The dispatchers use GIS in the 911/CAD system to identify the closest unit by response time – saving time and potentially lives.
    - Response planning: Fire and Rescue use GIS to enable them to optimize the placement of specialized equipment to reduce their response time and therefore save lives.
    - FRD uses GIS to save about 50% staff time in answering queries about fire hydrant distances from properties.
    - Police Department use GIS to analyze crime patterns and find and arrest criminals – saving constituents time, money and sometimes health.
    - Police also are starting to evaluate the actual travel patterns of cruisers in relation to crime in their patrol areas – to respond more quickly and effectively to crime which should ultimately reduce it.
    - OEM – Emergency preparedness was used extensively in planning responses to flooding in Huntington. It enabled determination of properties at risk and assisted field staff as a result.
    - Health Department – using GIS to analyze County needs they were able to identify underserved areas and were able to obtain a \$767,000 grant to open a new health service access point.
    - DPWES uses GIS in a number of areas. We highlight use of GIS with Miss Utility to identify areas of risk when digging is planned – saving in staff time and potentially substantial costs of unexpectedly destroying underground utilities and fines from the state for non-timely response. This unit can deal with over a thousand requests per day. Without GIS more staff would be needed to accomplish work.
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- Waste Water uses GIS to more quickly locate the caller, the pipe(s) involved in the problem and dispatch crews more quickly to fix the problem; Sanitary sewer has digitized all of its plans and profiles to the GIS which has saved substantial research time by staff when constituents and builders request documents. DPWES has received positive feedback from its customers on the speed and the amount of information the County provides compared to other jurisdictions.
  - Stormwater depends on GIS to do the runoff modeling necessary for its permits. Failing to obtain and comply with the permit would incur significant penalties from EPA. Stormwater also uses GIS to improving the ability to appropriately maintain equipment.
  - Urban Forestry uses GIS to monitor pest outbreaks and plan spraying when needed – significantly reducing the planning time, flight time and pesticide use because GIS enables precision application
  - Department of Transportation uses GIS to now serve out trail information via the web to desktop and mobile. Previously they had to print costly maps which were instantly out of date.
  - DPZ uses GIS to speed analysis of zoning enforcement issues; they use it to speed analysis of building size and impact on neighboring properties, enabling them to make more informed decisions about proposed construction.
3. **On-line/web permit applications:** can apply, pay for and print your permits 24 hours,/7 days a week . Table below reflects # of permits applied for via the web. These have gone up in the past three years from 5,139 to 25,165.
4. **Government transparency:** the Land Use data-warehouse provides search and extract capabilities for over 5 million Land Use records from six Land Use Systems (permits, inspections, development plans, and zoning plans). The parcel history profiles support economic growth and real estate transactions. The public can search County construction activities by address, parcel #, permit or project # or any relevant phrase which promotes.
5. With the explosive growth in **mobile technology** and consumer use of smart devices, Fairfax County Government is reshaping its public's experience with use of governmental information and services on mobile devices like iPhone/iPad, Android and Blackberry. In enhancing the County's long standing goal that citizens should access their government 24/7 without walls, door or clocks, Fairfax County now places government in the palm of their hands with the introduction of mobile apps. Fairfax County Government's mobile app:
- Enable public instant connectivity to their government
  - Provide them the benefit of getting services and information from anywhere at anytime by delivering information in a more conveniently accessible platform
  - Enhances the adoption of online governmental services by citizens by reaching a larger and wider user base. The applications developed by DIT connects citizens with key information and services like personal property and real estate tax payments, building permits, voter registration information, emergency alerts, news, contact information, location with GPS maps, calendar of events, library features, social media links, transportation resources, and access to their Board of Supervisors.
6. **Infrastructure:** with DIT further consolidating enterprise-wide servers has produced savings in hardware costs by over \$2 million, and \$720, 000 in database software license obligations. ITPAC still sees that the County's overall cost for IT is below the industry average for enterprise of similar size, scale and complexity.
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