



Fairfax County
VIRGINIA



STANDARDS

STANDARDS

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FAIRFAX COUNTY INFORMATION TECHNOLOGY STANDARDS

(June 2006)

OVERVIEW

The Department of Information Technology establishes, updates, and retires technical standards throughout the year to ensure alignment, consistency, and modernization in the selection and design of business solutions across the county.

A product or platform is established as a standard through a governance process. This approach enables DIT to define and develop a portfolio of technology solutions that can be effectively managed and supported given available resources. Typically, projects in the concept stage come before DIT's Architectural Review Board (ARB) to discuss the technical approach and business objectives. Where the concept relies on new products or non-standard configurations, the details are assessed to establish general conformity to enterprise objectives. The ARB may steer the solution back to conformance, or it may authorize the use of a new product or configuration by granting a waiver. The ARB may alternatively recommend that the new product replace an existing standard, or that it be added to the list of supported standards. When DIT's executive management approves a recommendation, the standards are updated accordingly. Once adopted, the new product and its former standard, if any, are further classified as emerging (new), current (established), twilight (becoming obsolete), or sunset (retiring from support as of a known date).

When a standard is established, it means that the designated technology will be supported by DIT as applicable, and that the selection is in alignment with broader IT goals, objectives, and strategic direction. In some cases, a standard may be adopted in advance of procurement or

deployment, to provide strategic direction for emerging business needs. Adoption of a standard is not intended to convey endorsement for, or recommendation against, any specific product.

Declaration of a standard indicates DIT's strongest recommendation for selection of the listed product(s) over any alternatives that may be similar or comparable. Generally, any solutions that will rely on the systems enterprise infrastructure, connect to the network, or depend upon DIT support must be fully conforming. Agencies using or selecting non-standard solutions may apply to the Architectural Review Board for a waiver on the basis of business needs and justification.

Standards are essential to sound cost controls in software licensing and maintenance, hardware, services, training, and integration. Having fewer platforms in use enables allocated resources to better support the information systems under management. Agencies are encouraged to invite DIT members to participate in selection and technical advisory committees for the Request for Proposal (RFP) process. In some cases, DIT and its ARB should be consulted in advance of an RFP, to help explain technical alternatives and develop the proposal language to support conformance with existing and emerging standards.

The standards shown here do not represent a comprehensive view of all the products in use across the County. The list is intended to convey the primary standards for the major solutions to be supported by DIT and/or delivered with DIT resources per the FY 2007 IT Strategic Plan.

FAIRFAX COUNTY INFORMATION TECHNOLOGY STANDARDS

(June 2006)

PLATFORM ARCHITECTURE STANDARDS: END USER SOFTWARE

DEVICE	MACHINE
Operating System	Windows XP/Vista
Word Processor	Microsoft Word 2003
Spreadsheets	Microsoft Excel 2003
Presentations	Microsoft PowerPoint 2003
Database	Microsoft Access 2003
E-Mail Client	Microsoft Outlook 2003/Outlook Web Access <i>(latest release)</i>
Project Management	Microsoft Project Professional 2003
Graphics	Microsoft Visio Professional 2003
Web Browser	Microsoft Internet Explorer <i>(latest release)</i>
Antivirus	Symantec AntiVirus <i>(latest release)</i> for Workstations and Servers
Patch Management	Microsoft Systems Management Server (SMS) Windows Server Update Services (SUS)
Mainframe Terminal Emulation	3270 Emulation
Thin Client Access	Citrix Presentation Server 4.0
Other	Must be approved for Business Unit standard image/requirements

PLATFORM ARCHITECTURE STANDARDS: END USER HARDWARE

COMPONENT	DESKTOPS	DESKTOPS/ HIGH END USERS	LAPTOPS	LAPTOPS/ HIGH END USERS
Power	Single	Single	Single	Single
CPU	Pentium IV 3.4 GHz 800 FSB	Pentium IV 3.4 GHz 800 FSB	Intel Core 2 Duo T7200 (2.00 GHz, 4 MB L2 Cache)	Intel Core 2 Duo T7200 (2.00 GHz, 4 MB L2 Cache)
Disk Configuration	80 GB Hard Drive 48X DVD CD-RW Combo Drive	80 GB Hard Drive 48X DVD CD-RW Combo Drive	80 GB Hard Drive 8X DVD +/-RW	80 GB Hard Drive 8X DVD +/-RW
Memory	2 GB RAM (2 DIMMS) expandable	2-4 GB RAM (2 DIMMS) expandable Graphics Accelerator	2 GB RAM (2DIMMS) expandable	2-4 GB RAM (2 DIMMS) Graphics Accelerator
Monitor	19" SVGA, Ultra Sharp, Flat Panel	19" SVGA, Ultra Sharp, Flat Panel	Active/Passive Matrix (dependent on laptop resident applications)	Active/Passive Matrix (dependent on laptop resident applications)
Interface Card(s)	Ethernet 10/100/1000 Base-T	Ethernet 10/100/1000 Base-T	Built-in Ethernet Card	Built-in Ethernet Card
Operating System	Windows XP/Vista	Windows XP/Vista	Windows XP/Vista	Windows XP/Vista
FILE SYSTEM	NTFS	NTFS	NTFS	NTFS
Maintenance	4 Year on-site, next business day	4 Year on-site, next business day	4 Year on-site, next business day	4 Year on-site, next business day
Additional Hardware Requirements	UL Approved Surge Processor (new) Sound Card 2 USB Ports	UL Approved Surge Processor (new) Sound Card 2 USB Ports Graphics Media Accelerator (as warranted)	UL Approved Surge Processor(new) Back-up Battery Docking Station (if used as desktop) Security Lock	UL Approved Surge Processor (new) Back-up Battery Docking Station (if used as desktop) Security Lock
Pre-install Options	All components (hardware) installed	All components (hardware) installed	All components (hardware) installed	All components (hardware) installed
Platform	Dell	Dell	Dell	Dell

PLATFORM ARCHITECTURE STANDARDS: HAND HELD MOBILE DEVICES

COMPONENT	CURRENT STANDARDS
Platform	RIMM/Blackberry
Software Compatibility	Outlook Exchange (Downloadable), Active Sync, Date Book, Address Book, To Do List, Memo Pad, Calculator
Connectivity	TCP/IP Internet or USB enabled

PLATFORM ARCHITECTURE STANDARDS: GENERAL SERVER STANDARDS

COMPONENT	CURRENT STANDARDS
Procurement	<p>Servers are procured by DIT as warranted by many factors, including current utilization of existing infrastructure, the requirements of planned projects, and the availability of specific funding for new equipment. Some platforms will share components and others will not, depending upon the unique circumstances for each project and product. Sharing and re-use are promoted when feasible.</p> <p>Agency Project Managers work with DIT to develop a technical task plan and budget estimate for the project's hardware, software, middleware, peripherals, storage, maintenance, and connectivity. DIT will assess the requirements in light of the current environment (and other factors) to confirm which components must be purchased, and which will be paid for through DIT funding.</p>
Operating System	<p>Microsoft Windows Server 2003 Standard Edition Microsoft Windows Server 2003 Enterprise Server (<i>clustering or servers with 4 processors or more</i>) Solaris (<i>latest release</i>) z/OS 1.4</p>
Thin Client Access	Citrix Presentation Server 4.0
Hardware	<p>Intel (<i>Windows</i>) SUN (<i>UNIX</i>) IBM Z-Series (<i>Mainframe</i>)</p>
Backup	<p>Tivoli Storage Manager 5.2 z/OS DFSMS</p>
Storage	SAN
E-Mail	<p>Microsoft Exchange Server 2003 Enterprise Edition L-Soft LISTSERV</p>
Web/Application Servers	<p>Preferred: Microsoft Internet Information Server (<i>latest release</i>) Apache Web Server (<i>if required by COTS package</i>) Tomcat (<i>if required by COTS package</i>) JBOSS (<i>for Jacada</i>) BEA Systems WebLogic</p>
Communications Protocol	TCP/IP
Configuration/Change Management	Infra Enterprise – ITIL Service Management

PLATFORM ARCHITECTURE STANDARDS: FILE/PRINT/WEB SERVERS

COMPONENT	FILE/PRINT SERVERS	WEB SERVERS (INTEL)	WEB SERVERS (UNIX)
Type	INTEL	INTEL	INIX
Power	Redundant, UPS required if not EOC-resident	Redundant, UPS required if not EOC-resident	Redundant, UPS required if not EOC-resident
Fault Tolerance / Disk Configuration	Operating System Drives – Raid 1 (<i>Mirrored</i>) Database/Application Drives – Raid 5 utilizing SAN if EOC resident	Operating System Drives – Raid 1 (<i>Mirrored</i>) Database/Application Drives – Raid 5 utilizing SAN if EOC resident	Operating System Drives – Raid 1 (<i>Mirrored</i>) Database/Application Drives – Raid 5 utilizing SAN if EOC resident
CPU	Dual 3.0 MHz	Dual 3.0 MHz	Dual 1.5 GHz
Network Interface Cards	Dual Ethernet 1000 Base-T	Dual Ethernet 1000 Base-T	Dual Ethernet 1000 Base-T
Operation System(s)	Windows 2003 Server	Windows 2003 Server	Solaris (<i>latest release</i>)
Monitor	17" SVGA Color, if non-EOC site Not required if EOC resident	17" SVGA Color, if non-EOC site Not required if EOC resident	Rack mountable Flat LCD monitor Required if EOC resident
RAM	4 GB Minimum Cache 256MB	4 GB Minimum Cache – Database/Application specific	4 GB Minimum Cache – Database/Application specific
File Systems	NTFS	NTFS	Solaris
Third Party Software Requirements	Symantec Antivirus, Enterprise Edition MS SMS Client	Symantec Antivirus, Enterprise Edition eTrust SiteMinder Agent MS SMS Client	Symantec Antivirus, Enterprise Edition eTrust SiteMinder Agent
Web Server Software	N/A	Internet Information Server (<i>latest edition</i>) Tomcat (<i>if required by COTS package</i>) BEA Systems WebLogic	Apache (<i>if required by COTS package</i>) Tomcat (<i>if required by COTS package</i>)
Platform	Dell	Dell	Sun
Maintenance	5 Year, 24/7, 4 hour on-site, parts & labor included	5 Year, 24/7, 4 hour on-site, parts & labor included	5 Year, 24/7, 4 hour on-site, parts & labor included
Additional Hardware Requirements	Raid Controller Rack mountable rails if EOC resident Minimum 3 Open Slots to facilitate system expansion HBAs (<i>if connected to SAN</i>)	Raid Controller Rack mountable rails if EOC resident Minimum 3 Open Slots to facilitate system expansion HBAs (<i>if connected to SAN</i>)	Raid Controller Rack mountable rails if EOC resident Minimum 2 Open Slots to facilitate system expansion Dual HBAs (<i>if connected to SAN</i>); DVD-ROM & Tape Drive (DDS-4)
Pre-install Options	None	None	None
Storage And Backup	Tivoli Storage Manager	Tivoli Storage Manager	Tivoli Storage Manager

PLATFORM ARCHITECTURE STANDARDS: DATABASE/APPLICATION SERVERS

COMPONENT	DATABASE SERVERS (INTEL)	DATABASE SERVERS (UNIX)	APPLICATION SERVERS (INTEL)	APPLICATION SERVERS (UNIX)
Power	Redundant, UPS required if not EOC-resident	Redundant, UPS required if not EOC-resident	Redundant, UPS required if not EOC-resident	Redundant, UPS required if not EOC-resident
Fault Tolerance/ Disk Configuration	Operating System Drives – Raid 1 (<i>Mirrored</i>) Database/Application Drives – Raid 5 (<i>utilizing SAN if EOC resident</i>)	Operating System Drives – Raid 1 (<i>Mirrored</i>) Database/Application Drives – Raid 5 (<i>utilizing SAN if EOC resident</i>)	Operating System Drives – Raid 1 (<i>Mirrored</i>) Database/Application Drives – Raid 5 (<i>utilizing SAN if EOC resident</i>)	Operating System Drives – Raid 1 (<i>Mirrored</i>) Database/Application Drives – Raid 5 (<i>utilizing SAN if EOC resident</i>)
CPU	Quad 3.0 MHz	Quad 3.0 MHz	Dual 3.0 MHz	Quad 3.0 MHz
Network Interface Cards	Dual Ethernet 1000 Base-T	Dual Ethernet 1000 Base-T	Dual Ethernet 1000 Base-T	Dual Ethernet 1000
Operation System(s)	Windows 2003 Server Windows 2003 Advanced Server (<i>Clustering</i>)	Solaris (<i>latest release</i>)	Windows 2003 Server Windows 2003 Advanced Server (<i>Clustering</i>)	Solaris (<i>latest release</i>)
Monitor	17" SVGA Color, if non-EOC site Not required if EOC resident	Rack Mountable LCD Flat monitor Not required if EOC resident	17" SVGA Color, if non-EOC site Not required if EOC resident	Rack Mountable LCD Flat monitor Not required if EOC
RAM	8.0 GB Minimum Cache – Database/Application specific	8.0 GB Minimum Cache – Database/Application specific	8.0 GB Minimum Cache – Database/Application specific	4.0 GB Minimum Cache – Database/Application specific
File Systems	NTSF	Solaris	NTSF	Solaris
Third Party Software Requirements	Symantec Antivirus, Enterprise Edition MS SMS Client	Symantec Antivirus, Enterprise Edition	Symantec Antivirus, Enterprise Edition MS SMS Client	Symantec Antivirus, Enterprise Edition
Platform Manufacturer	Dell	SUN	Dell	SUN
Maintenance	5 Year, 24/7, 4 hour on-site, parts & labor included	5 Year, 24/7, 4 hour on-site, parts & labor included	5 Year, 24/7, 4 hour on-site, parts & labor included	5 Year, 24/7, 4 hour on-site, parts & labor included
Additional Hardware Requirements	Raid Controller Rack mountable rails if EOC resident Minimum 3 Open Slots to facilitate system expansion HBAs (<i>if connected to SAN</i>)	Raid Controller Internal Tape Drive for Root Volume Backup Minimum 2 Open Slots to facilitate system expansion HBAs (<i>if connected to SAN</i>)	Raid Controller Rack mountable rails if EOC resident Minimum 3 Open Slots to facilitate system expansion HBAs (<i>if connected to SAN</i>)	Raid Controller Internal Tape Drive for Root Volume Backup Minimum 2 Open Slots to facilitate system expansion Dual HBAs (<i>if connected to SAN</i>); DVD-ROM, Tape Drive (<i>DDS-4</i>)
Storage And Backup Hardware/Software	Tivoli Storage Manager Enterprise Backup Client TDP for Oracle or SQL server	Tivoli Storage Manager Enterprise Backup Client TDP for Oracle or SQL server	Tivoli Storage Manager Enterprise Backup Client	Tivoli Storage Manager Enterprise Backup Client

PLATFORM ARCHITECTURE STANDARDS: APPLICATION DEVELOPMENT

COMPONENT	MAINFRAME	UNIX	INTEL	INERNET/INTRANET	GIS
Database	DB2,	Oracle 10g	SQL Server <i>(latest release)</i> Oracle 10g	N/A	Oracle 10g Oracle Spatial DB
Application Development Frameworks	N/A	Java	.NET Framework <i>(latest release)</i> Java	.NET Framework <i>(latest release)</i> Java	.NET Framework <i>(latest release)</i> ESRI
Virtualization	N/A	VMware <i>(Linus)</i>	VMware	VMware	N/A
Software and Development Tools <i>(Report Writing Products are listed on page 8.)</i>	COBOL CICS TSO JCL	N/A	Microsoft Visual Studio 2005 Eclipse	Microsoft Visual Studio 2005 Eclipse	ArcGIS 9.1 & Extensions ERDAS 9.0 ARC Internet Map Server 4.0/9s.1 ArcSDE 8.3/9.1 ArcPad 7 Microsoft Visual Studio 2005
Version and Release Control	Custom Process	PVCS	PVCS	PVCS	PVCS
LDAP/Directory/Authentication	RACF	Native Operating System <i>(Solaris, Linus, AIX)</i>	Active Directory Enterprise Solution TBD	Active Directory e-Trust SiteMinder	Native Operating System
Data and Process Modeling	MS Visio Professional 2003 Allfusion Erwin Data Modeler				
Middleware <i>(EAI)</i>	webMethods Jacada	webMethods	webMethods	webMethods Jacada	N/A
Workstation Requirements	3270 Emulation TCP/IP Connectivity	Oracle Client Suite ODBC Drivers	Oracle Client Suite ODBC Drivers	MS Internet Explorer <i>(latest release)</i>	Terminal Server Client Citrix Metaframe Client Active X Plug-in Active Directory Tools

PLATFORM ARCHITECTURE STANDARDS: ENTERPRISE SOLUTION PLATFORMS

PLATFORM	CURRENT STANDARDS
Report Writing: Departmental Reporting Needs	Business Objects Microsoft SQL Reporting Easytrieve Plus
Statistical Analysis	SAS
Enterprise Reporting Business Intelligence	Selection Pending
Document Scanning/Imaging	Document Enterprise Content Management
Web Content Management	Document Web Content Management
Web Search Engine	Verity K2 Enterprise
Survey Instrument Software	SNAP 8.0 ProNet Edition (w/Scanning module)
Correspondence Tracking	Intranet Quorum
CRM	Siebel
IT Services Management	Infra Enterprise — ITIL Service Directory
GIS	ArcGIS 9.1 & Extensions ERDAS 9.0 ARC Internet Map Server 4.0/9.1 ArcSDE 8.3/9.1 ArcPad 7

FAIRFAX COUNTY DATA COMMUNICATIONS STANDARDS

NETWORK INTERFACE CARDS

MOTHER BOARD	PRIMARY NIC	SECONDARY NIC	LASER PRINTER NIC
Ethernet	3COM	IBM	HP Jet Direct
<p><i>The exact make and model is determined by the end-station standard.</i></p> <p><i>Secondary NIC is a backup product in case of difficulty with the availability of the Primary NIC or special end-node requirements.</i></p> <p><i>All IP-addressable printers.</i></p>			

NETWORK PROTOCOLS

CURRENT	FUTURE
TCP/IP	TCP/IP only
SNA (DLSW)	
OSPF	

CABLING STANDARDS (Structured cabling based on the ANSI/TIA/EIA and ISO standards)

Horizontal (cabling and pathways)

CURRENT	FUTURE
CAT5/5e UTP and SCTP	CAT6 UTP and SCTP

Outlets

CURRENT	FUTURE
Category 5 / 5e Cabling	Category 6 Cabling
Siemens 4 outlet modular faceplates	
Color-coded inserts <i>(to identify the media being used in each outlet)</i>	
Voice and data terminated at the same faceplate	

Between Buildings/Backbone

CURRENT	FUTURE
Dependent on Distance	Investigating wireless between buildings and within certain areas of buildings
12 strand "single-mode" OFNP, single mode optical fiber.62.5/125 and 5/125 OFNP multi-mode and single-mode optical fiber	

FAIRFAX COUNTY DATA COMMUNICATIONS STANDARDS

NETWORK HARDWARE

ROUTING
Cisco 2600 Family
Cisco 4500 Family (<i>Layer 3</i>)
Cisco 6500 Family (<i>MSF C</i>)

ROUTING
Cisco 6500 Family — Core Applications (<i>MDF</i>)
Cisco 4500 Family — Wire Closet (<i>Medium to Large IDF</i>)
Cisco 2950 Family — Wire Closet (<i>Small to Medium IDF</i>)

Fairfax County Enterprise Network LAN infrastructure is a purely switched environment. The size of the switch used is based on the size of the workforce supported. The fixed chassis switches such as the 2948G, 2950/24, and the 2950/48 are used only in cases where the workforce supported is less than 48 total devices. After that breakpoint a chassis style switch is used.

FIREWALLS
Cisco Cisco PIX Family

CONTENT/CACHING ENGINE
Cisco 7305-K9

CONTENT SERVICES SWITCHING/LOAD BALANCING
Cisco CSS-11000 Family