

APPENDIX 5



Maryland
Transportation
Authority

DIVISION OF INFORMATION TECHNOLOGY:

IT TECHNICAL STANDARDS AND GUIDELINES

Version 1.4

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Document Control

Revision History

Version <#.#>	Date <mm-dd- YYYY>	<Name, Organization>	Changes <Section, Page(s), and content revised.>
1.0	07-06-2016	Steve Gwiazdowski, EAB	Baseline Document
1.1	07-13-16	Steve G/Kaushik D	Baseline Document
1.2	10-06-2017	MDTA EAB	<i>Via Track Changes</i>
1.3	03-05-2018	MDTA EAB	<i>Via Track Changes</i>
1.4	05-18-2018	MDTA EAB	Section 1.2, Google Chrome

Any software or hardware not compatible with the following MDTA IT technical standards must not be used unless the Enterprise Architecture Board approves an exception.

1 INFRASTRUCTURE STANDARDS

1.1 Operating System

- All new hardware and OS must be 64 bit
- All new software needs to work on x64 bit Windows 7, and Windows 10 (Anniversary Edition)
- Microsoft Windows 7 Enterprise Service Pack 1 (minimum) (x64) standard for physical desktops
- Microsoft Windows Server 2012 R2 (x64)(Server software) or higher

1.2 Web Browsing

- Internet Explorer 11 32 bit, Firefox or Chrome for software that requires Web browser interaction, plugins, or apps
- Microsoft Plugin Silverlight must be 5.1.4 or higher
- Java if used on a client must be 8u25 32 bit
- HTML 5 is preferred over plugins

1.3 IT Security

- McAfee Enterprise Anti-Virus 8.8 or later
- McAfee ePO agent at least 5.0.5 or later
- Cisco VPN AnyConnect software for teleworking/remote access from Windows Operating Systems
- Security Protocol standards are TLS 1.0, 1.1, 1.2.; no new solutions should use SSL.
- Active Directory is the standard method of authentication.
- All Mobile devices (laptops or tablets) must have McAfee Device Encryption

1.4 Productivity Software

- Microsoft Office 2013 or later
- If applicable, all new software going forward must integrate or be compatible with Office 2013, Office 2016 and/or Office 365
- Adobe Acrobat Standard, Professional DC for PDF Editing/Forms
- Adobe Acrobat Reader DC for PDF Viewing

1.5 E-Mail

- All new solutions/software must be compatible with Exchange/Outlook 2013 and Office 365

1.6 Media

- VLC 2.2 is standard media player for audio/video files and streaming

1.7 Virtualization

- VMWare Site Recovery Manager
- VMWare Horizon Mirage
- VMWare Horizon View
- VMware ESXi Host

2 Hardware Standards

2.1 End User Computing

- HP EliteDesk Desktop
- Lenovo ThinkCentre Micro PC
- Microsoft Surface Pro Tablet
- Panasonic Rugged Laptop
- HP Elitebook Laptop
- Panasonic Toughpad Rugged Tablet
- HP 22" monitors

2.2 Data Center

- NetApp Storage
- HP Enclosure with Virtual Connect
- HP Blade Servers
- Cisco Nexus 10GB Ethernet
- APC Infrastructure Enterprise Cooling and UPS
- APC Netshelter Rack System

3 Database Standards

- Microsoft SQL Server 2012 R2 (64 bit) or higher
- Clustered and non-clustered configurations are supported

4 Network Standards

- All Layer 3 devices must be Cisco (switches, routers, etc.)
- All WAN Core switches must be Cisco, 10GB, and have dual power supplies fed by an appropriately sized UPS.
- All Layer 2 devices hardened for highway use must be Hirschmann RS-20 ,RS-30,; or RS-40 switches
- All network devices and UPS devices must have the ability to be monitored via SNMP.
- All UPSs must work with APC Infrastructure software.
- All new LAN cabling must be blue CAT6.

- All new manufactured patch cabling must be blue at least CAT6.
- All new LAN Security cabling must be white.
- All new LAN Fire/Life Safety cabling must be red.
- All new LAN UPS/Environmental/ITS cabling must be green.
- All new “custom” LAN cabling such as “Bloomberg” or PBX must be yellow.
- All new LAN cabling for EZPass Operations must be purple.
- All new LAN cabling for Wireless Access Points must be orange.
- “Hubs” or small Netgear switches must only be installed as a temporary solution and are otherwise not allowed on the network.

5 Application Standards

5.1 Development

- Java, if used on a client, must be 8u25 32 bit
- .NET, if used, must be 3.5 or higher
- All software must run on virtual machines and/or virtual servers using VMWare. No physical servers unless otherwise approved.
- Active Directory is the standard method of authentication
- When using Microsoft Visual Studio, all new solutions must be at v2015
- Refer to section 1.1 for Operating System requirements
- Refer to section 1.5 for Email requirements

5.2 Document Management

- OpenText ECM
- Projectwise (Bentley CAD Engineering Files)
- Microsoft SharePoint

5.3 Cloud/SaaS

- Due to the diversity of technology, the Enterprise Architecture Board must review cloud based services/solution proposals for compatibility with systems, security, networking, desktop engineering, Web, and Databases as applicable. Strict SLAs must be written to govern data ownership, change management, and reliability/availability.
- Refer to section 1.2 for Web Browsing standards