

# TRM Standards and Specifications

Version 3.0

Standard	Classif.	Specification	Version	Include in
<i>Application Connectivity</i>				
	<b>Obsolete</b>	Telnet		No
<i>Authentication / Single Sign-on</i>				
	<b>Limited Use</b>	Yellow Pages		No
<i>Authenticaton</i>				
	<b>Preferred</b>	Kerberos for Authentication		Yes
		Private / Public Key		Yes
		Smartcards		Yes
		Strong Passwords		Yes
<i>Backbone Services</i>				
	<b>Preferred</b>	ATM		Yes
		<a href="http://www.iec.org/online/tutorials/atm_fund/">http://www.iec.org/online/tutorials/atm_fund/</a>		
		Dial-on-Demand		No
		DTS		Yes
		Frame Relay		Yes
		<a href="http://www.frforum.com/">http://www.frforum.com/</a>		
		Gig-Ethernet (GigE)		Yes
		ISDN		Yes
		<a href="http://www.eff.org/Infra/ISDN/">http://www.eff.org/Infra/ISDN/</a>		
		Packet over SONET/SDH (POS)		Yes
	<b>Obsolete</b>	X.25 [Backbone Services]		No
<i>Backup- Nearline</i>				

Standard	Classif.	Specification	Version	Include in
	<b>Preferred</b>	DVD		Yes
	<b>Limited Use</b>	CD		No
		Magneto Optical		No
		Tape		No
<i>Backup- Offline</i>				
	<b>Preferred</b>	SDLT (Super Digital Linear Tape)	SDLT 320,	Yes
	<b>Limited Use</b>	All others		No
		DAT tape		No
		DLT (Digital Linear Tape)	DLT 8000,	No
<i>Barcode Reader</i>				
	<b>Pending</b>	Symbol Barcode		No
<i>Certificates / Digital Signature</i>				
	<b>Preferred</b>	ANSI X930, 199x part 1 <a href="http://webstore.ansi.org/ansidocstore/subscriptions/dept.asp?">http://webstore.ansi.org/ansidocstore/subscriptions/dept.asp?</a>		Yes
		Digital Certificate Authentication		Yes
		FIPS 186-2 <a href="http://www.dice.ucl.ac.be/crypto/standards.html">http://www.dice.ucl.ac.be/crypto/standards.html</a>		Yes
		ISO/IEC JTC1/SC27/WG2		Yes
		Secure Sockets Layer (SSL) <a href="http://www.webopedia.com/TERM/S/SSL.html">http://www.webopedia.com/TERM/S/SSL.html</a>		Yes
		X509		Yes
<i>Collaboration Communications</i>				
	<b>Pending</b>			

Standard	Classif.	Specification	Version	Include in
		Distance Learning		No
<i>Content Rendering</i>				
	<b>Pending</b>	Virtual Reality Modeling Language (VRML)	1	No
<i>Data Exchange</i>				
	<b>Preferred</b>	EDI N/A ANSI X12		Yes
		Resource Description Framework (RDF)		Yes
		SOAP (Simple Object Access Protocol)	Version > 1.2	Yes
		Web Services User Interface (WSUI)		Yes
		XQuery		Yes
	<b>Research</b>	ebXML N/A OASIS <a href="http://www.ebxml.org/">http://www.ebxml.org/</a>		Yes
		XMI	>2.0	Yes
<i>Data Format / Classification</i>				
	<b>Preferred</b>	Ascii Text		No
		Electronic Data Interchange (EDI)		Yes
		HTML		Yes
		Industry Image File Formats (JPG, GIF, TIFF, PNG, SVG, BMP)		Yes
		PDF	>5.0	Yes
		specialized image formats (HDF, GeoTiff, PGM, HVHR (remote sensing unique format		Yes
		XML Linking Language (XLINK)		Yes

### *Data Types / Validation*

Standard	Classif.	Specification	Version	Include in
	<b>Preferred</b>	Metadata Parser and Vailidator. (ARC Catalog)		Yes
		XML Schema N/A W3C, SAX (Simple API for XML), DOM (Document Object Model)		Yes
<i>Database</i>				
	<b>Preferred</b>	Access <a href="http://office.microsoft.com/en-us/default.aspx">http://office.microsoft.com/en-us/default.aspx</a>	Version > 97	Yes
<i>Database Connectivity</i>				
	<b>Preferred</b>	JDBC	>2.0	Yes
		ODBC		Yes
<i>Desktop</i>				
	<b>Preferred</b>	Intel X86 Architecture [Servers/ Computers / Desktop]		Yes
	<b>Pending</b>	Unix OS [Application Servers -Operating System- Unix Design]		No
	<b>Limited Use</b>	RISC Architecture [Servers/Computers -		No
<i>Dynamic / Server-Side Display</i>				
	<b>Preferred</b>	JSP (Java Server Pages)		No
<i>Enterprise Application Integration</i>				
	<b>Preferred</b>	Business Process Management		Yes
<i>Hosting</i>				
	<b>Preferred</b>	Internal (within Agency)		Yes
<i>Intrusion Detection Systems</i>				
	<b>Preferred</b>			

Standard	Classif.	Specification	Version	Include in
		Content Filtering		Yes
<i>LAN (Local area Network) /Intranet</i>				
	<b>Preferred</b>	Ethernet		Yes
		<a href="http://grouper.ieee.org/groups/802/3/">http://grouper.ieee.org/groups/802/3/</a>		
		Virtual LAN (VLAN)		Yes
		<a href="http://www.ieee802.org/1/pages/802.1Q.html">http://www.ieee802.org/1/pages/802.1Q.html</a>		
	<b>Limited Use</b>	Token Ring		Yes
		<a href="http://www.8025.org/">http://www.8025.org/</a>		
<i>Laptop</i>				
	<b>Preferred</b>	Intel X86 Architecture [Servers/ Computers / Laptop]		No
	<b>Limited Use</b>	RISC Architecture [Servers/Computers -		No
<i>Legislative / Compliance</i>				
	<b>Preferred</b>	FISM Requirements		Yes
		NIST Common Criteria		Yes
		NIST Guidance		Yes
		Privacy: Liberty Alliance		Yes
		Section 508		Yes
	<b>Pending</b>	Privacy Act		Yes
<i>Middleware</i>				
	<b>Preferred</b>	Object Request Broker (ORB): Distributed Component Object Model (DCOM)		Yes
		OGC		Yes

Standard	Classif.	Specification	Version	Include in
		Remote Procedure Call (RPC)		Yes
<i>Modeling</i>				
	<b>Preferred</b>	Case Management <a href="http://www.sei.cmu.edu/legacy/case/case_what.html">http://www.sei.cmu.edu/legacy/case/case_what.html</a>		Yes
		MVC		Yes
		UML <a href="http://www.omg.org/gettingstarted/what_is_uml.htm">http://www.omg.org/gettingstarted/what_is_uml.htm</a>	(Version . 1.5)	Yes
<i>Network Devices / Standards</i>				
	<b>Preferred</b>	Gateway		Yes
		Hub		Yes
		Intrusion Detection		No
	<b>Pending</b>	FDDI	N/A	Yes
		modems		No
		Point-to-Point Microwave		No
		Serial Line		No
<i>Non-Backbone Services</i>				
	<b>Preferred</b>	Cable		No
		Digital subscriber line (DSL) <a href="http://www.faqs.org/faqs/datacomm/xdsl-faq/">http://www.faqs.org/faqs/datacomm/xdsl-faq/</a>		Yes
		ISDN PTP		Yes
		Satellite		Yes
	<b>Research</b>	Wireless		No
	<b>Obsolete</b>	X.25 [Non-Backbone Services]		No

Standard	Classif.	Specification	Version	Include in
<i>Other Electronic Channels</i>				
	<b>Preferred</b>	Uniform Resource Locator (URL)		Yes
<i>Platform Dependent</i>				
	<b>Preferred</b>	.NET <a href="http://www.microsoft.com/net/products/default.asp">http://www.microsoft.com/net/products/default.asp</a>	1.1	Yes
		Windows <a href="http://www.microsoft.com/windows/default.msp">http://www.microsoft.com/windows/default.msp</a>	2000	Yes
<i>Platform Independent</i>				
	<b>Preferred</b>	J2EE <a href="http://java.sun.com/j2ee/download.html#platformspec">http://java.sun.com/j2ee/download.html#platformspec</a>		Yes
		Linux <a href="http://www.linux.org/">http://www.linux.org/</a>		Yes
		Web Services for Remote Portals (WSRP)		Yes
<i>Privacy</i>				
	<b>Pending</b>	ID-WSF <a href="http://www.projectliberty.org/">http://www.projectliberty.org/</a>	1.1	Yes
		Platform for Privacy Preferences (P3P) <a href="http://www.w3.org/P3P/">http://www.w3.org/P3P/</a>		Yes
<i>Programming Languages</i>				
	<b>Preferred</b>	JAVA		Yes
		SQL 92+		Yes
	<b>Limited Use</b>	C		No
		C++		No
<i>Radio</i>				
	<b>Preferred</b>	APCO 25 <a href="http://www.apcointl.org/frequency/project25/information.html">http://www.apcointl.org/frequency/project25/information.html</a>		Yes
		Digital Land Mobile Narrow band		Yes
	<b>Obsolete</b>			

Standard	Classif.	Specification	Version	Include in
		Digital and Analog Land Mobile Non-Narrow		No
<i>Reporting and Analysis</i>				
	<b>Preferred</b>	eXtensible Business Reporting Language		Yes
		JOLAP		Yes
		OLAP		Yes
<i>Routed LAN protocols</i>				
	<b>Preferred</b>	Multicast Suite [Routed LAN protocols]		Yes
	<b>Research</b>	TCP/IP <a href="http://www.ietf.org/rfc/rfc2460.txt">http://www.ietf.org/rfc/rfc2460.txt</a>	6	Yes
	<b>Limited Use</b>	Internetwork Packet exchange (IPX) Suite		No
		Microsoft (NetBeui) Suite		No
		SNA Suite [Supporting Network Services - Routed LAN protocols]		No
<i>Routed WAN protocols</i>				
	<b>Preferred</b>	TCP/IP <a href="http://www.ietf.org/rfc/rfc0793.txt">http://www.ietf.org/rfc/rfc0793.txt</a>	4	Yes
	<b>Limited Use</b>	DecNET Suite		No
		SNA Suite [Supporting Network Services - Routed WAN protocols]		No
	<b>Obsolete</b>	AppleTalk Suite		No
		X.25 Suite		No
<i>Routing protocols</i>				
	<b>Preferred</b>			

Standard	Classif.	Specification	Version	Include in
		Hot Standby Router Protocol (HSRP)		Yes
		Multi-protocol Label Switching Protocol		Yes
		Open Shortest Path First Protocol (OSPF)		Yes
	<b>Limited Use</b>	Enhanced Interior Gateway Routing Protocol (EIGRP)		No
		Routing Information Protocol (RIP)		No
	<b>Obsolete</b>	Interior Gateway Routing Protocol (IGRP)		No
<i>Server Software-Unix Design</i>				
	<b>Pending</b>	X-Windows		No
<i>Servers</i>				
	<b>Pending</b>	RISC Architecture [Servers/Computers -		No
<i>Service Description / Interface</i>				
	<b>Preferred</b>	Application Program Interface (API) / Protocol		No
		Web Services Description Language (WSDL)		Yes
<i>Service Discovery</i>				
	<b>Preferred</b>	Universal Data Description Interface (UDDI)	>3.0	Yes
<i>Service Transport</i>				
	<b>Preferred</b>	File Transfer Protocol (FTP)		Yes
		<a href="http://www.w3.org/Protocols/rfc959/Overview.html">http://www.w3.org/Protocols/rfc959/Overview.html</a>		
		Hyper Text Transfer Protocol (HTTP)		Yes
		<a href="http://www.w3.org/Protocols/">http://www.w3.org/Protocols/</a>		
		Hyper Text Transfer Protocol Secure (HTTPS)		Yes
		<a href="http://www.w3.org/Protocols/Specs.html">http://www.w3.org/Protocols/Specs.html</a>		

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		Internet Protocol (IP) <a href="http://www.faqs.org/rfcs/rfc1349.html">http://www.faqs.org/rfcs/rfc1349.html</a>		Yes
		Wireless Application Protocol (WAP) <a href="http://www.wapforum.org/">http://www.wapforum.org/</a>		Yes
<i>Single Sign-on</i>				
	<b>Limited Use</b>	ACS Radius <a href="http://www.ietf.org/rfc/rfc2058.txt?number=2058">http://www.ietf.org/rfc/rfc2058.txt?number=2058</a>		Yes
		Kerberos for single sign-on		No
		TACACS+ <a href="http://www.ietf.org/rfc/rfc1492.txt?number=1492">http://www.ietf.org/rfc/rfc1492.txt?number=1492</a>		No
<i>Software Configuration Management</i>				
	<b>Preferred</b>	Regression Testing		No
<i>Standards</i>				
	<b>Research</b>	CWM (Common Warehouse Metamodel) <a href="http://www.omg.org/technology/cwm/">http://www.omg.org/technology/cwm/</a>		No
		CWMI (Common Warehouse Metadata Interchange)		No
		Intra-governmental Group on Geographic Information		No
		METS for Metadata Encoding & Transmission Standard		No
<i>Static Display</i>				
	<b>Preferred</b>	html, xhtml, pdf, doc, ASCII Text - (see data format/class for image files)		Yes
<i>Storage</i>				
	<b>Pending</b>	Ultrium LTO tape technology·	UNK	No
<i>Support Platforms</i>				
	<b>Preferred</b>			

Standard	Classif.	Specification	Version	Include in
		ECMA Script		Yes
<i>Supporting Network Services</i>				
<b>Preferred</b>				
		Border Gateway Protocol (BGP) <a href="http://www.arin.net/library/rfc/rfc1771.txt">http://www.arin.net/library/rfc/rfc1771.txt</a>		Yes
		Directory Services (X.500) <a href="http://www.faqs.org/rfc/rfc2116.txt">http://www.faqs.org/rfc/rfc2116.txt</a>		Yes
		Domain Name System (DNS) <a href="http://www.icann.org/icp/icp-1.htm">http://www.icann.org/icp/icp-1.htm</a>		Yes
		Dynamic Host Configuration Protocol (DHCP) <a href="http://ietfreport.isoc.org/rfc/rfc2300.txt">http://ietfreport.isoc.org/rfc/rfc2300.txt</a>		Yes
		Extended Simple Mail Transfer Protocol <a href="http://ietfreport.isoc.org/rfc/rfc1869.txt">http://ietfreport.isoc.org/rfc/rfc1869.txt</a>		Yes
		H.323 <a href="http://www.imtc.org/h323.htm">http://www.imtc.org/h323.htm</a>		Yes
		IMAP / POP3 <a href="http://www.imap.org/papers/docs/rfc2060.html">http://www.imap.org/papers/docs/rfc2060.html</a>		Yes
		Internet Message Access Protocol / Post Office Protocol (IMAP / POP3)		Yes
		LDAP <a href="http://www.opengroup.org/directory/branding/ldap2000/x99">http://www.opengroup.org/directory/branding/ldap2000/x99</a>		No
		Management Information Base (MIB)	II	Yes
		Multipurpose Internet Mail Extensions (MIME) <a href="http://www.mhonarc.org/~ehood/MIME/2045/rfc2045.html">http://www.mhonarc.org/~ehood/MIME/2045/rfc2045.html</a>		Yes
		Simple Mail Th3.2ransfer Protocol (SMTP) <a href="http://rfc.net/rfc821.html">http://rfc.net/rfc821.html</a>		Yes
		Simple Network Management Protocol <a href="http://www.ietf.org/rfc/rfc2570.txt?number=2570">http://www.ietf.org/rfc/rfc2570.txt?number=2570</a>		Yes
		T.120 <a href="http://www.imtc.org/t120body.htm">http://www.imtc.org/t120body.htm</a>		Yes
		X.400 <a href="http://www.faqs.org/rfcs/rfc1327.html">http://www.faqs.org/rfcs/rfc1327.html</a>		Yes
	<b>Pending</b>	FTP	RFC959	Yes
		Multiprotocol Label Switching (MPLS)	N/A	No
		NetBEUI		No

Standard	Classif.	Specification	Version	Include in
<i>Supporting Security Services</i>				
	<b>Preferred</b>	3DES <a href="http://csrc.nist.gov/publications/fips/fips46-3/fips46-3.pdf">http://csrc.nist.gov/publications/fips/fips46-3/fips46-3.pdf</a>		Yes
		AES <a href="http://csrc.nist.gov/publications/fips/fips197/fips-197.pdf">http://csrc.nist.gov/publications/fips/fips197/fips-197.pdf</a>		Yes
		S/Mime <a href="http://www.ietf.org/html.charters/smime-charter.html">http://www.ietf.org/html.charters/smime-charter.html</a>		Yes
		Secure Shell (SSH)		Yes
		Simple Key Management Protocol (SKIP)		Yes
		Transport Layer Security (TLS)		Yes
		Web Services Security (WS-Security)		Yes
		WS-Security		Yes
	<b>Pending</b>	OFB-DES	TSB102.AA	No
		TLS		No
<i>Tape Libraries</i>				
	<b>Preferred</b>	Network/ Multiple Server		No
	<b>Limited Use</b>	Individual Server		No
<i>Test Management</i>				
	<b>Preferred</b>	Usability Testing (508 Testing)		Yes
<i>Video Conferencing</i>				
	<b>Preferred</b>	Bridge		No
		H.320 Video		Yes
<i>Virtual Private Network (VPN)</i>				
	<b>Preferred</b>			

Standard	Classif.	Specification	Version	Include in
		IPSEC protocol <a href="http://www.ietf.org/html.charters/ipsec-charter.html">http://www.ietf.org/html.charters/ipsec-charter.html</a>		Yes
<i>Web Services</i>				
	<b>Preferred</b>	XML	>1.0	Yes
<i>Wireless / Mobile</i>				
	<b>Preferred</b>	Wireless Fidelity (WiFi) <a href="http://grouper.ieee.org/groups/802/11/">http://grouper.ieee.org/groups/802/11/</a>	802.11G	Yes
	<b>Pending</b>	Bluetooth Stack <a href="http://www.bluetooth.org/spec/">http://www.bluetooth.org/spec/</a>		Yes
		Multiplexer		No
	<b>Research</b>	J2ME [Wireless / Mobile] <a href="http://java.sun.com/j2me/docs/">http://java.sun.com/j2me/docs/</a>		Yes
	<b>Limited Use</b>	Wireless Fidelity (WiFi)	<802.11GB	No
<i>Wireless / Mobile / Voice</i>				
	<b>Preferred</b>	CSS <a href="http://www.w3.org/TR/REC-CSS2">http://www.w3.org/TR/REC-CSS2</a>		Yes
		DHTML <a href="http://msdn.microsoft.com/workshop/author/dhtml/dhtml.asp">http://msdn.microsoft.com/workshop/author/dhtml/dhtml.asp</a>		Yes
		JSP	2.0	Yes
		Voice XML (VXML)		Yes
		Wireless Markup Language (WML)		Yes
		XHTML		Yes
		XSLT [Content Rendering]	Version > 2.0	Yes
	<b>Pending</b>	SVG (Scalable Vector Graphics)		No
		WML		Yes

Standard	Classif.	Specification	Version	Include in
<i>Wiring-Coaxial</i>				
	<b>Preferred</b>	WAN usage		No
	<b>Obsolete</b>	LAN usage		No
<i>Wiring-Fiber Optic</i>				
	<b>Preferred</b>	Any mode Fiber Optic		Yes
<i>Wiring-Unshielded Twisted Pair</i>				
	<b>Preferred</b>	CAT7, CAT6, CAT5E		No
	<b>Limited Use</b>	CAT5		No
	<b>Obsolete</b>	CAT4, CAT3		No