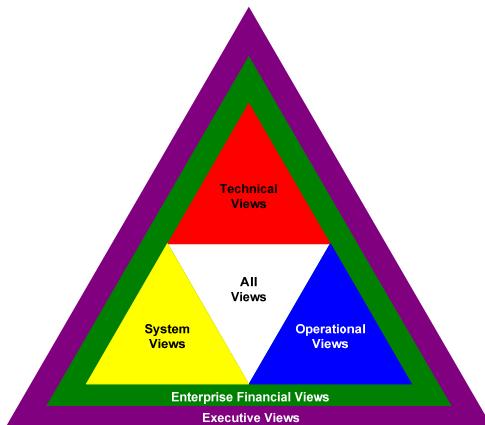




National Airspace System Enterprise Architecture (NAS EA)

Air Traffic Organization



**NextGen As-Is and To-Be
Enterprise-Level Architecture
Technical Standards Profile (TV-1)
And Technical Standards Forecast (TV-2)
Version 1.0
January 29, 2010**

Version History

Version	Publication Date	Primary Author(s)	Description of Change
1.0	January 29, 2010	George H. Gardner, III	Released Version

Table of Contents

Introduction	1
1.0 NASEA Policies and Guidance	2
2.0 Information Process Standards	2
2.1 System and Software Engineering Services	2
2.2 User Interface Services	2
2.3 Data Management Services	2
2.4 Document Exchange	2
2.5 Graphic Data Interchange	3
2.6 Graphic Services	3
2.7 Operating System Services	3
2.8 Internationalization Services	3
2.9 Remote-Procedure Computing	3
2.10 Geospatial Data Interchange	4
2.11 Data Interchange Storage Media	4
3.0 Information Transfer Standards	4
3.1 Host Service	4
3.2 Electronic Mail Service	4
3.3 Directory Services Service	5
3.4 File Transfer Service	5
3.5 Remote Terminal Service	5
3.6 Network Time Synchronization Service	5
3.7 Configuration Information Transfer	5
3.8 Web Services	5
3.9 Transport Services	6
3.10 Facsimile Services	7
3.11 Network Services	7
3.12 Local Area Network (LAN) Access	10
3.13 Point-to-Point Services	11
3.14 ISDN Services	11
3.15 Asynchronous Transfer Mode Services	12
3.16 Transmission Media	13
3.17 Data Communications Management	13
3.18 Telecommunications Management	14
3.19 Videoconferencing Services	14
4.0 Information Modeling, Meta Data and Information Exchange Standards	15
4.1 Activity Modeling	15
4.2 Data Modeling	15
4.3 NextGen Data Model Implementation	16
4.4 NextGen Data Definition	16
4.5 Binary Floating-Point Data Interchange	16
4.6 Object Modeling	17

5.0 Human Factors Standards	17
5.1 General Human Factors Standards	17
5.2 General Design Requirements	17
5.3 Automation	17
5.4 Designing Equipment for Maintenance	17
5.5 Displays and Printers	17
5.6 Controls and Visual Indicators	17
5.7 Alarms, Audio and Voice	17
5.8 Computer-Human Interface	17
5.9 Input Devices	17
5.10 Workstation and Workplace Design	17
5.11 System Security	17
5.12 Personnel Safety	18
5.13 Environmental	18
5.14 Anthropometry and Biomechanics	18
5.15 User Documentation	18
6.0 Information Security Standards	18
6.1 General Information Security Standards	18
6.2 Application Security	19
6.3 Cryptography	19
6.4 Enclave Boundary	19
6.5 Network and Infrastructure	20
6.6 Public Key Infrastructure	20
6.7 Key Management	20
6.8 Intrusion Detection	20
6.9 Common Evaluation Criteria	20
7.0 Aviation Related Standards	20
7.1 General Standards	20
7.2 Aircraft	21
7.3 NAS Automation	23
7.4 Weather	26
7.5 Communications	26
7.6 Navigation	30
7.7 Surveillance	33
7.8 Airspace and Procedures	35
7.9 Safety	36
7.10 Facilities	37
7.11 Human System Integration (HSI)	37
7.12 Environmental	37
Appendix A - Status Code Definitions	39
Appendix B - Sources of Standards	40

Introduction

The TV-1 (Technical Standards Profile) lists the rules, standards and conventions to be used by systems to implement the NextGen architecture.

The TV-2 (Technical Standards Forecast) lists the rules, standards and conventions expected to be used in the future by systems to implement the NextGen architecture.

This is a combined document containing existing and future standards in one table. Future standards will have an entry in the timeframe column, existing standards will not.

The standards are listed in a spreadsheet. General IT standards are listed in sections 1 through 6. Aviation specific standards organized by infrastructure roadmap categories are listed in section 7.

The Standards spreadsheet contains five columns:

Standard Designation – the standards organization and identifier of the standard

Standard Title – the full title of the standard

Standard Date – the date the standard was issued by the standards organization

Status – the status of the standard for the NextGen community. for definitions see Appendix A

Timeframe – blank for existing standards (TV-1); for future standards (TV-2), lists the timeframe for implementation: near-term (2012), mid-term (2018) and far-term (2025)

Standard Designation	Standard Title	Standard Date	Status	Timeframe
1.0 NASEA Policies and Guidance				
ITMRA of 1996	Information Technology Management Reform Act of 1996	February 10, 1996	active	
OMB Circular A-130	Management of Federal Information Resources	November 28, 2000	active	
	Federal Information Security Management Act Version II			Near-Term(2012)
2.0 Information Processing Standards				
2.1 System and Software Engineering Services				
ANSI/TAA EIA 632-2003	Processes for Engineering a System	September 1, 2003	active	
ANSI/ISO 9899-1999	ANSI Standard for the C Programming Language	1999	active	
FAA SEM v3.1	FAA System Engineering Manual Version 3.1	October 1, 2006	active	
FAA STD-018A	Computer Program Quality Program Requirements	September 30, 1987	active	
	Standard for Application and Management of the Systems Engineering Process	September 9, 2005	active	
IEEE 1220-2005	Programming Language C++	October 1, 2003	active	
ISO/IEC Std 14882:2003	System and Software Engineering - System Life Cycle Processes	2008	active	
MIL-STD-498	Software Development and Documentation	December 5, 1994	legacy	
	Standard for Information Technology-Software Life Cycle Processes	March 1, 1998	active	
IEEE Std 12207.0-1996	Software Life Cycle Processes - Life cycle data	April 1, 1998	active	
IEEE Std 12207.1-1997	Software Life Cycle Processes - Implementation considerations	April 1, 1998	active	
2.2 User Interface Services				
FED-STD-795	Uniform Federal Accessibility Standards (UFAS)	April 1, 1988	active	
	Portable Operating System Interface Part 1 - Library Routines.			
IEEE Std 1003.1	Systems Calls and Header Files		active	
	Information technology -- Portable Operating System Interface (POSIX) -- Part 1: Base Definitions	2003	active	
X11R6	C903, X Window System (X11R6); Protocol, The Open Group	July 1999	legacy	
X11R7.4	X Window System X.org Foundation	September 23, 2008	active	
OSF Motif 2.1	Motif 2.1 Window Manager (mwm) (IEEE 1295 API)		active	
OSF CDE 2.1	Common Desktop Environment Version 2.1		active	
2.3 Data Management Services				
ISO/IEC 9075-3:1995	Information Technology Database Languages SQL Part 3: Call-Level Interface (SQL/CLI).	1995	legacy	
ISO/IEC 9075:1992	Information Technology Database Language SQL with amendment 1, as modified by FIPS PUB 127-2:1993,	1996	legacy	
ISO/IEC 9075-3:2008	Information Technology Database Languages SQL Part 3: Call-Level Interface (SQL/CLI).	2008	active	
2.4 Document Interchange				
ISO 8879 (SGML): 1986,	Information processing – Text and office systems – Standard Generalized Markup Language (SGML) with Amendment 1.	1988	active	
IETF RFC 2616	Hypertext Transfer Protocol - HTTP/1.1	June 1, 1999	active	

Standard Designation	Standard Title	Standard Date	Status	Timeframe
XML v1.0 & v1.1	Extensible Markup Language (XML)	September 29, 2006	active	
XSD (working draft) v1.1	XML Schema Definition Language	June 20, 2008	active	
Xpath v1.0	XML Path Language	November 16, 1999	active	
Xquery	Xquery Version 1.0	January 23, 2007	active	
XSLT v1.0	XSL Transformations	November 16, 1999	active	
JMS v1.1	Java Message Service	May 18, 2002	active	
Active MQ v5.2.0	message oriented middleware-message broker	November 21, 2008	active	
JMBL v3.0	Joint METOC Broker Language (JMBL)		active	
ISO 32000-1:2008	Document Management - Portable Document Format - Part 1: PDF 1.7	July 1, 2008	active	
2.5 Graphic Data Interchange				
	Graphics Interchange Format (GIF), Version 89a, CompuServe Incorporated.	July 31, 1990	active	
ISO/IEC 10918-1:1994	Information technology -- Digital compression and coding of continuous-tone still images: Requirements and guidelines (JPEG)	February 15, 1994	active	
2.6 Graphic Services				
ANSI/ ISO/ IEC 9636-1,2, 3,4,5,6: 1991 (R1997)	Information Technology-Computer Graphics- Interfacing (CGI) Techniques for Dialogue with Graphics Devices	1991	active	
2.7 Operating System Services				
SVID4	System V Interface Definition, Fourth Edition		active	
ISO/IEC 9945-1:1996	Information Technology - Portable Operating System Interface (POSIX) - Part 1: System Application Program Interface (API) [C language] (Mandated Services)	1996	active	
ISO/IEC 9945-1:1996:(Thread Extensions) to ISO/IEC 9945-1:1996	Information Technology -Portable Operating System Interface (POSIX) - Part 1: System Application Program Interface (API) [C language] (Thread Optional Services).	1996	active	
ISO/IEC 9945-2:1993	Information Technology Portable Operating System Interface (POSIX) -Part 2: Shell and Utilities, as profiled by FIPS Pub 189:1994, Information Technology – Portable Operating System Interface (POSIX) - Recommendations (Section 12)	1993	active	
IEEE 1003.2d:1994	POSIX - Part 2: Shell and Utilities - Amendment: Batch Environment.	1994	active	
2.8 Internationalization Services				
ISO/IEC 10646-1:1993/Cor1:1996, Cor2:1998	Information Technology - Universal Multiple-Octet Coded Character Set (UCS) - Part 1: Latin Alphabet No. 1, Information Technology – 8-Bit Single-Byte Coded Graphic Character Sets – Part 1: Latin Alphabet No. 1.	1998	active	
ISO/IEC 8859-1:1998		1998	active	
2.9 Remote-Procedure Computing				
C311, DCE 1.1:	Authentication and Security Services, Open Group CAE Specification.	August 1, 1997	active	
C705, DCE 1.1:	Directory Services, Open Group CAE Specification.	August 1, 1997	active	

Standard Designation	Standard Title	Standard Date	Status	Timeframe
C706, DCE 1.1:	Remote Procedure Call, Open Group CAE Specification.	August 1, 1997	active	
C310, DCE 1.1:	Time Services Specification, X/Open CAE Specification.	November 1, 1994	active	
2.10 Geospatial Data Interchange				
NIST FIPS Pub 10-4	Countries, Dependencies, Areas of Special Sovereignty, and Their Principal Administrative Divisions, April 1995 through Change Notice 3	May 17, 1999	legacy	
ISO 19136:2007	Geographic Information - Geography Markup Language (GML)	2007	active	
OGC WCS 1.2	OpenGIS Web Coverage Service (WCS) Implementation Standard	April 29, 2008	active	
OGC WFS 1.1	OpenGIS Web Feature Service (WFS) Implementation Specification	May 3, 2005	active	
OGC WMS 1.3	OpenGIS Web Map Service (WMS) Implementation Specification	March 15, 2006	active	
OGC CSS 2	OpenGIS Catalogue Services Specification (CSS) Implementation Specification	July 19, 2007	active	
OGC SensorML 1	OpenGIS Sensor Model Language (SensorML)	July 24, 2007	active	
2.11 Data Interchange Storage Media				
ISO 9660:1988	Information processing – Volume and file structure of CD-ROM for information interchange	1988	active	
3.0 Information Transfer Standards				
3.1 Host Service				
International Telecommunication Union (ITU) H.323	Packet-based Multimedia Communications Systems	June 1, 2006	active	
IETF RFC 1122	Requirements for Internet Hosts - Communications Layers	October 1, 1989	active	
IETF RFC 1123	Requirements for Internet Hosts - Application and Support	October 1, 1989	active	
IETF RFC 3661 / 3435 / 2705	Media Gateway Control Protocol (MGCP)	various	active	
IETF RFC 3758 / 3309 / 2960	Stream Control Transmission Protocol (SCTP)	various	active	
IETF RFC 3853 / 3550 / 3266 / 3265 / 3264 / 3263 / 3262 / 3261 / 2327 / 2326	Session Initiation Protocol (SIP), Session Description Protocol (SDP), Real Time Streaming Protocol (RTSP), Transport Protocol for Real-time Applications	various	active	
3.2 Electronic Mail Service				
IETF RFC 1049	Content Type Header Field for Internet Messages	March 1, 1988	active	
IETF RFC 2045	Multipurpose Internet Mail Extensions (MIME) Part 1 - Format of Internet Message Bodies	November 1, 1996	active	
IETF RFC 2046	Multipurpose Internet Mail Extensions (MIME) Part 2 - Media Types	November 1, 1996	active	
IETF RFC 2047	Multipurpose Internet Mail Extensions (MIME) Part 3 - Message Header Extensions for Non-ASCII Text	December 1, 2005	active	
IETF RFC 4289 / 2048	Multipurpose Internet Mail Extensions (MIME) Part 4 - Registration Procedures	November 1, 1996	active	
IETF RFC 2049	Multipurpose Internet Mail Extensions (MIME) Part 5 - Conformance and Examples	November 1, 1996	active	
IETF RFC 2821 / 1869 / 821	Simple Mail Transfer Protocol	April 1, 2001	active	

Standard Designation	Standard Title	Standard Date	Status	Timeframe
IETF RFC 1870	SMTP Service Extension for Message Size Declaration	November 1, 1995	active	
3.3 Directory Services Service				
IETF RFC 1777	Lightweight Directory Access Protocol	March 1, 1995	legacy	
IETF RFC 3494	Lightweight Directory Access Protocol v2	March 1, 2003	active	
IETF RFC 2136	Dynamic Updates to the Domain Name System (DNS Update)	April 1, 1997	active	
IETF RFC 1034	Domain Names - Concepts and Facilities	November 1, 1987	active	
IETF RFC 1035	Domain Names - Implementation and Specification	November 1, 1987	active	
3.4 File Transfer Service				
IETF RFC 959	File Transfer Protocol	October 1, 1985	active	
IETF RFC 951	Bootstrap Protocol	September 1, 1985	active	
IETF RFC 1542 / 2132 / 1533 / 1497 / 906	Bootstrap Protocol (BOOTP), clarifications, extensions and loading using Trivial File Transfer Protocol (TFTP)	various	active	
3.5 Remote Terminal Service				
IETF RFC 1372 / 1091 / 1079 / 860 / 858 / 857 / 856 / 855 / 854 / 779	Telnet Remote Flow Control option, and options such as Echo Service, Flow control, Binary Transmission, terminal speed, etc.	various	active	
IETF RFC 1492	An Access Control Protocol, Sometimes Called TACACS	July 1, 1993	active	
	TN3270 Enhancements and Extensions for Luname and Printer Selection			
IETF RFC 2355 / 1646		various	active	
3.6 Network Time Synchronization Service				
IETF RFC 1305 / 1119	Network Time Protocol (NTP) v2 specification and implementation	various	active	
3.7 Configuration Information Transfer				
IETF RFC 2131	DHCP	March 1, 1997	active	
IETF RFC 3942 / 3495 / 3046 / 2132 / 2131 / 1534 / 3993 / 3527	DCHPv4 and its Options including Relay Agent	various	active	
3.8 Web Services				
FAA-STD-063	FAA Standard Practice XML Namespace	May 1, 2009	active	
FAA-STD-064	FAA Standard Practice Web Service Registration	May 1, 2009	active	
FAA-STD-065	FAA Standard Practice Web Service Description		draft	Near-Term(2012)
FAA-STD-066	FAA Standard Practice Taxonomies		draft	Near-Term(2012)
ATOM	The Atom Syndication Format	January 7, 2008	Proposed	Near-Term(2012)
BPMN V2.0	Business Process Modeling Notation V2.0	December 1, 2005	Proposed	Mid-Term(2018)
ebXML RIM v3.0.1	ebXML Registry Information Model	May 1, 2005	active	
ebXML RS v3.0.1	ebXML Registry Services	January 15, 2007	active	
EXI 1.0	Efficient XML Interchange	July 1, 2007	Proposed	Near-Term(2012)
IETF RFC 3986 / 4266 / 4248 / 1808 / 1738	Uniform Resource Identifiers (URI): Generic Syntax	various	active	
JSR 286	Java Portlet Specification V2.0	October 1, 2006	Proposed	Near-Term(2012)
MTOM	SOAP Message Transmission Optimization Mechanism	January 25, 2005	active	

Standard Designation	Standard Title	Standard Date	Status	Timeframe
OSGI 4.2/ RFC 119, Distributed OSGi	OSGI 4.2/ RFC 119, Distributed OSGi.	January 7, 2008	Proposed	Near-Term(2012)
SML V1.1	Service Modeling Language V1.1	May 28, 2003	Proposed	Near-Term(2012)
SOAP v1.1 (SWIM)	Simple Object Access Protocol	May 8, 2000	active	
SOAP v1.2 (NNEW)	Simple Object Access Protocol	March 27, 2007	active	
SOAP-JMS 1.0	SOAP over Java Message Service (Draft)	February 1, 2009	Proposed	Mid-Term(2018)
UDDI 3.0.2	Universal Description Discovery & Integration (UDDI)	October 19, 2004	active	
WS-Addressing v1.0	Web Services Addressing Core	May 6, 2006	active	
WS-Atomic Transaction V1.2	WS-Atomic Transaction V1.2	May 28, 2003	Proposed	Near-Term(2012)
WS-Attachments	Web Service Attachments		active	
WS-BPEL V2.0(BPEL4WS)	Business Process Execution Language for Web Services 2.0	April 1, 2008	Proposed	Mid-Term(2018)
WS-Business Activity V1.2	WS-Business Activity V1.2	May 1, 2005	Proposed	Mid-Term(2018)
WS-CDL	Web Services Choreography Description Language	No-date provided	Proposed	Mid-Term(2018)
WS-Coordination V1.2	WS-Coordination V1.2	May 1, 2005	Proposed	Mid-Term(2018)
WSDL v1.1	Web Services Description Language	March 15, 2001	active	
WSDL v2.0	Web Services Description Language	July 26, 2007	active	
WSDM v1.1	Web Services Distributed Management	August 1, 2006	future	Near-Term(2012)
WS-Eventing	Web Services Eventing (Draft)	February 1, 2009	Proposed	Mid-Term(2018)
WS-I v1.2	Web Services Interoperability Basic Profile Version 1.2	March 1, 2007	active	
		September 19, 2008 (Working Draft)	future	Far-Term(2025)
WS-Manageability v1.0	Web Service Manageability Specification	February 1, 2009	Proposed	Mid-Term(2018)
WS-Metadata Exchange	Web Services Metadata Exchange (Draft)	October 1, 2006	future	Mid-Term(2018)
WSN V1.3	Web Services Notification	September 10, 2003	future	Mid-Term(2018)
WS-Policy Assertions v1.1	Web Service Policy Assertions	August 1, 2006	future	Mid-Term(2018)
WS-Policy Attachment v1.1	Web Services Policy Attachment	May 28, 2003	future	Mid-Term(2018)
WS-Policy Framework v1.1	Web Services Policy Framework	August 1, 2006	future	Mid-Term(2018)
WS-Resource Transfer v1/0	Web Service Resource Transfer	March 1, 2005	future	Mid-Term(2018)
WS-RM Policy v1.1	Web Services Reliable Messaging Policy	January 2, 2009	active	Mid-Term(2018)
WS-RM v1.2	Web Services Reliable Messaging	May 28, 2003	Proposed	Near-Term(2012)
WSRP 2.0	Web Services For Remote Portlets V2.0	March 7, 2009 (Early Draft)	Proposed	Mid-Term(2018)
WS-Transaction V1.1	WS-Transaction V1.1	February 12, 2009	Proposed	Mid-Term(2018)
WS-Transfer	Web Services Transfer (Draft)	April 28, 2009	Proposed	Mid-Term(2018)
XKMS V2.0	XML Key Management			
3.9 Transport Services				
IETF RFC 791	Internet Protocol	September 1, 1981	active	
IETF RFC 792	Internet Control Message Protocol (ICMP)	September 1, 1981	active	
IETF RFC 950	Internet Standard Subnetting Procedure	August 1, 1985	active	
IETF RFC 1112	Host Extensions for IP Multicasting	August 1, 1989	active	
IETF RFC 2236	Internet Group Management Protocol (IGMP) V2	November 1, 1997	legacy	
IETF RFC 3376	Internet Group Management Protocol (IGMP) V3	October 1, 2002	active	
IETF Informational RFC 1770	IPv4 Option for Sender Directed Multi-destination Delivery	March 1, 1995	active	

Standard Designation	Standard Title	Standard Date	Status	Timeframe
IETF RFC 793	TCP	September 1, 1981	active	
IETF RFC 2581 / 2001	TCP Congestion Control	April 1, 1999	active	
IETF RFC 919 / 922	Broadcasting Internet Datagrams, and in the Presence of Subnets (IP_BROAD)	various	active	
IETF RFC 768	User Datagram Protocol (UDP)	August 21, 1980	active	
IETF RFC 1056 / 1042	Serial Lines Internet Protocol (SLIP), IEEE 802 networks	various	active	
IETF RFC 793 / 896 / 879 / 863 / 862 / 813 / 1323 / 2018 / 3168	TCP, and Extensions for High Performance, Long Delay Paths, Congestion Control, Window and Acknowledgement Strategy, compressing headers for low-speed serial links, maximum segment size, Discard & Echo, etc.	various	active	
IETF RFC 2018	TCP Selective Acknowledgement Options	October 1, 1996	active	
IETF RFC 1006	ISO Transport Service on Top of the TCP: Version 3	May 1, 1987	active	
IETF RFC 1288	Finger User Information Protocol	December 1, 1991	active	
3.10 Facsimile Services				
EIA/TIA-465-A	Group 3 Facimile Apparatus for Document Transmission	June 1, 1995	active	
3.11 Network Services				
IETF RFC 791	Internet Protocol - DARPA - Internet Program Protocol Specification	September 1, 1981	active	
IETF RFC 2236	Internet Group Management Protocol (IGMP) v2	November 1, 1997	active	
IETF RFC 2460	IPv6	December 1, 1998	future	Near-Term(2012)
IETF RFC 4861 / 2461	Neighbor Discovery for IPv6	September 1, 2007	future	Near-Term(2012)
IETF RFC 4862 / 2462	IPv6 Stateless Address Auto-Configuration	September 1, 2007	future	Near-Term(2012)
IETF RFC 1574 / 1575 / 1123 / 2822 / 822 / 2474 / 1349 / 1700 / 1340 / 2181 / 1122 / 1112 / 1069 / 1054 / 995 / 994	ISO 8473 / Connectionless Network Protocol (CLNP), Requirements for Internet Hosts-Application and Support, Communication Layers, Extensions for Multi-casting, Assigned numbers	various	active	
IETF RFC 1812 / 1136	Requirements for IPv4 Routers, Model for routing in the internet	various	active	
IETF RFC 2453 / 2091 / 1722 / 1058	Routing Information Protocol (RIP), and triggered extensions to support Demand Circuits, Applicability Statement	various	active	
IETF RFC 4023	Generic Routing Encapsulation (GRE) / MPLS in IP	March 1, 2005	active	
IETF RFC 3147 / 1701 / 1702	GRE in general, and over IPv4, CLNP networks	various	active	
IETF RFC 1191, 3988	Maximum Transmission Unit (MTU) for Label Distribution Protocol (LDP), and Path MTU Discovery	various	active	
IETF RFC 3811 / 3812 / 3813 / 3814 / 3815 / 3469 / 3443 / 3032 / 3353 / 3270 / 3031	Multi-Protocol for Label Switching (MPLS)	various	active	
IETF RFC 2216 / 2215 / 2211	Network Element Service Specification Template, including Controlled Load, and its General Characterization Parameters	various	active	
IETF RFC 3612 / 3478 / 3215 / 3037 / 5036 / 3036	Label Distribution Protocol (LDP)	various	active	
IETF RFC 3035	MPLS using LDP and ATM VC Switching	January 1, 2001	active	

Standard Designation	Standard Title	Standard Date	Status	Timeframe
IETF RFC 3946 / 3945 / 3471 / 3469	Generalized Multi-Protocol Label Switching (GMPLS) Architecture, Extensions and Signals	various	active	
IETF RFC 4003 / 3473 / 3936 / 3477 / 3210 / 3209 / 3097 / 2961 / 2750 / 2749 / 2747 / 2745 / 2210 / 2209 / 2206 / 2205	Resource Reservation Protocol (RSVP) and Extensions for Signaling, Traffic Engineering (RSVP-TE), Label Switched Path (LSP) Tunnels, etc.	various	active	
IETF RFC 3768 / 2787	Virtual Router Redundancy Protocol (VRRP), including definitions of Managed Objects	various	active	
IETF RFC 3260 / 3168 / 2597 / 2474 / 2475	New Terminology, Clarifications, Architecture for Differentiated Services (DiffServ) including field definitions in IPv4 and IPv6	various	future	Near-Term(2012)
IETF RFC 2698 / 2697	Single Rate and Two Rate Three Color Markers	various	active	
IETF RFC 2332	NBMA Next Hop Resolution Protocol (NHRP)	March 1, 1998	active	
IETF RFC 3630 / 3623 / 3101 / 5250 / 2370 / 2328 / 4750 / 1850 / 1793 / 1765 / 1745 / 2178 / 1583 / 1403 / 1370	Open Shortest Path First (OSPF) v2 and Extensions Using ARP to implement transparent subnet gateways, Multi-LAN Address Resolution (Proxy ARP)	various	active	
IETF RFC 1027 / 925	IP Flow Information Export (IPFIX)	various	active	
IETF RFC 3917	IP Anycast Prefix for 6to4 Relay Routers	October 1, 2004	active	
IETF RFC 3068	The Naming Authority Pointer (NAPTR) Record, Location of Services (DNS SRV), Dynamic Updates (DNS UPDATE), Network Service Access Point (NSAP), Serial Number Arithmetic, for Domain Name Server (DNS), and Mail Routing	June 1, 2001	active	
IETF RFC 4033 / 4034 / 4035 / 3401 / 3402 / 3403 / 3404 / 3007 / 2821 / 2782 / 2136 / 1982 / 1706 / 1101 / 1035 / 1034 / 982	Inverse Address Resolution Protocol, and Reverse Address Resolution Protocol (RARP)	various	active	
IETF RFC 2390 / 903	Address Allocation for Private Internets	various	active	
IETF RFC 1918	Classless Inter-Domain Routing (CIDR): an Address Assignment and Aggregation Strategy	February 1, 1996	active	
IETF RFC 4632 / 1519	Trace route using an IP option	September 1, 1993	active	
IETF RFC 1393	ICMP and Router Discovery Message including internet standard subnetting procedure	August 1, 2006	active	
IETF RFC 1256 / 792 / 950	Network Address Translation (NAT)	various	active	
IETF RFC 4008 / 3519 / 3022 / 3152 / 2766	Source Address Selection for the Multicast Listener Discovery (MLD) Protocol	various	active	
IETF RFC 3590 / 2710	IPv6 Address	various	future	Near-Term(2012)
IETF RFC 4007 / 3513 / 3484 / 2464 / 2462 / 2460 / 2373	IPv6 over Ethernet	various	future	Near-Term(2012)
IETF RFC 2464	Multi-cast Listener Discovery Version 2 (MLDv2) for IPv6	December 1, 1998	future	Near-Term(2012)
IETF RFC 1981	MTU Discovery for IPv6	August 1, 1996	future	Near-Term(2012)
IETF RFC 3697	IPv6 Flow Label	March 1, 2004	future	Near-Term(2012)

Standard Designation	Standard Title	Standard Date	Status	Timeframe
IETF RFC 3956 / 3306	Embedding the Rendezvous Point (RP) address in IPv6 Multicast address	various	future	Near-Term(2012)
IETF RFC 3775	Mobility Support in IPv6	June 1, 2004	future	Near-Term(2012)
IETF RFC 3646 / 3633 / 3319	DHCP for IPv6 (DHCPv6)	various	future	Near-Term(2012)
IETF RFC 4443 / 2463	ICMP for IPv6 (ICMPv6)	March 1, 2006	future	Near-Term(2012)
IETF RFC 2740	OSPF for IPv6	December 1, 1999	future	Near-Term(2012)
IETF RFC 3596	DNS Extensions to support IPv6	February 1, 2004	future	Near-Term(2012)
IETF RFC 3587 / 2374	IPv6 Unicast Address format	various	future	Near-Term(2012)
IETF RFC 2080	RIP for IPv6	January 1, 1997	future	Near-Term(2012)
IETF RFC 2590	Transmission of IPv6 packets over Frame Relay Networks	May 1, 1999	future	Near-Term(2012)
IETF RFC 3056 / 2529	Connection of IPv6 domains via IPv4	various	future	Near-Term(2012)
IETF RFC 2765	Stateless IP/ICMP Translation (SIIT) Algorithm	February 1, 2000	active	
IETF RFC 3493	Basic Socket Interface Extensions for IPv6	February 1, 2003	future	Near-Term(2012)
IETF RFC 2473	Generic Packet Tunneling in IPv6	December 1, 1998	future	Near-Term(2012)
IETF RFC 2545	BGP-4 Multi-Protocol Extensions for IPv6 inter-domain routing	March 1, 1999	future	Near-Term(2012)
IETF RFC 3749 / 3546 / 3268 / 2818 / 2817 / 2712 / 2616 / 2246	Transport Layer Security (TLS) Protocol	various	active	
IETF RFC 3985 / 3916	Pseudo Wire Emulation Edge-to-Edge (PWE3)	various	active	
IETF RFC 3376	Internet Group Management Protocol (IGMP) v3	October 1, 2002	active	
IETF RFC 3272 / 2702	Traffic Engineering (TE), including over MPLS	various	active	
IETF RFC 3260 / 3246 / 2597	Expedited Forwarding (EF) and Assured Forwarding Per-Hop-Behavior (PHB)	various	active	
IETF RFC 3180	GLOP addressing in 233/8	September 1, 2001	active	
IETF RFC 3168	The Addition of Explicit Congestion Notification (ECN) to IP	September 1, 2001	active	
IETF RFC 3575 / 3162 / 2868 / 2865	Remote Authentication Dial in User Service (RADIUS), including in IPv6	various	future	Near-Term(2012)
IETF RFC 3847 / 3787 / 3784 / 3719 / 1349 / 1236 / 1195 / 1108 / 815 / 790	Interoperable IP Networks and Extensions using Intermediate System to Intermediate System (IS-IS)	various	active	
IETF RFC 2507 / 2508	IP Header Compression in general, and IP / UDP / RTP headers for low-speed serial links	various	active	
IETF RFC 2365 / 4601 / 2362 / 1075	Administratively Scoped IP Multi-cast, Protocol Independent Multicast Sparse Mode (PIM-SM) Protocol Specification, Distance Vector Multicast routing protocol	various	active	
IETF RFC 2003	IP Encapsulation within IP	October 1, 1996	active	
IETF RFC 1624 / 1141	Computing the internet checksum, and Incremental updating	various	active	
IETF RFC 1070	Use of the Internet as a sub-network	February 1, 1989	active	
IETF RFC 4031 / 4026 / 3809	Provider Provisioned VPN	various	active	
IETF RFC 4384 / 2547	BGP / MPLS VPNs	February 1, 2006	active	
IETF RFC 3609	Tracing Requirements for Generic Tunnels	September 1, 2003	active	
IETF RFC 2661 / 2341	Layer 2 Tunneling Protocol (L2TP), Cisco Layer 2 Forwarding Protocol	various	active	
IETF RFC 1234	Tunneling IPX traffic through IP networks	June 1, 1991	active	

Standard Designation	Standard Title	Standard Date	Status	Timeframe
IETF RFC 3666	Session Initiation Protocol (SIP) Public Switched Telephone Network (PSTN) call flows	December 1, 2003	active	
IETF RFC 3910	The Services in PSTN Requesting Internet Services (SPIRITS) protocol	October 1, 2004	active	
IETF RFC 3344 / 3115 / 3024 / 4721 / 3012 / 2794 / 2290	IP mobility support for IPv4 and extensions, including Reverse Tunneling	various	active	
IETF RFC 3963	Network Mobility (NEMO) Basic Support Protocol	January 1, 2005	active	
IETF RFC 2467 / 1390	IPv6 Transmission of IP and ARP over FDDI	various	future	Near-Term(2012)
IETF RFC 2615 / 2592 / 2558	PPP over Synchronous Optical Network / Synchronous Digital Hierarchy (SONET/SDH), Managed Objects for the interface type	various	active	
IETF RFC 4171 / 1771	A Border Gateway Protocol 4 (BGP-4)	January 1, 2006	active	
IETF RFC 1772	Application of the Border Gateway Protocol in the Internet	March 1, 1985	active	
IETF RFC 2460	IPv6	December 1, 1998	future	Near-Term(2012)
IETF RFC 4861 / 2461	Neighbor Discovery for IPv6	September 1, 2007	future	Near-Term(2012)
IETF RFC 4862 / 2462	IPv6 Stateless Address Auto-Configuration	September 1, 2007	future	Near-Term(2012)
IETF RFC 3260 / 3168 / 2597 / 2474 / 2475	New Terminology, Clarifications, Architecture for Differentiated Services (DiffServ) including field definitions in IPv4 and IPv6	various	future	Near-Term(2012)
IETF RFC 4007 / 3513 / 3484 / 2464 / 2462 / 2460 / 2373	IPv6 Address	various	future	Near-Term(2012)
IETF RFC 2464	IPv6 over Ethernet	December 1, 1998	future	Near-Term(2012)
IETF RFC 3810 / 2710	Multi-cast Listener Discovery Version 2 (MLDv2) for IPv6	various	future	Near-Term(2012)
IETF RFC 1981	MTU Discovery for IPv6	August 1, 1996	future	Near-Term(2012)
IETF RFC 3697	IPv6 Flow Label	March 1, 2004	future	Near-Term(2012)
IETF RFC 3956 / 3306	Embedding the Rendezvous Point (RP) address in IPv6 Multicast address	various	future	Near-Term(2012)
IETF RFC 3775	Mobility Support in IPv6	June 1, 2004	future	Near-Term(2012)
IETF RFC 3646 / 3633 / 3319	DHCP for IPv6 (DHCPv6)	various	future	Near-Term(2012)
IETF RFC 4443 / 2463	ICMP for IPv6 (ICMPv6)	March 1, 2006	future	Near-Term(2012)
IETF RFC 2740	OSPF for IPv6	December 1, 1999	future	Near-Term(2012)
IETF RFC 3596	DNS Extensions to support IPv6	February 1, 2004	future	Near-Term(2012)
IETF RFC 3587 / 2374	IPv6 Unicast Address format	various	future	Near-Term(2012)
IETF RFC 2080	RIP for IPv6	January 1, 1997	future	Near-Term(2012)
IETF RFC 2590	Transmission of IPv6 packets over Frame Relay Networks	May 1, 1999	future	Near-Term(2012)
IETF RFC 3056 / 2529	Connection of IPv6 domains via IPv4	various	future	Near-Term(2012)
IETF RFC 3493	Basic Socket Interface Extensions for IPv6	February 1, 2003	future	Near-Term(2012)
IETF RFC 2473	Generic Packet Tunneling in IPv6	December 1, 1998	future	Near-Term(2012)
IETF RFC 2545	BGP-4 Multi-Protocol Extensions for IPv6 inter-domain routing	March 1, 1999	future	Near-Term(2012)
IETF RFC 3575 / 3162 / 2868 / 2865	Remote Authentication Dial in User Service (RADIUS), including in IPv6	various	future	Near-Term(2012)
3.12 Local Area Network (LAN) Access				
IEEE Std 802.2 - 1989	Institute for Electrical and Electronics Engineers (IEEE) Standard 802.2 (Local Area Networks: Logical Link Control)	1989	active	

Standard Designation	Standard Title	Standard Date	Status	Timeframe
ISO/IEC 8802-3:2000 (IEEE 802.3)	Ethernet (CSMA/CD) - 10BaseT, 100BaseT, 1000BaseT Ethernet Address Resolution Protocol and transmission of IP datagrams over Ethernet	various	active	
IETF RFC 895 / 894 / 826	Distributed Computer Network (DCN) local network protocols	various	active	
IETF RFC 891	IP Multicast over Token-Ring Local Area Networks	December 1, 1983	active	
IETF RFC 1469		June 1, 1993	active	
3.13 Point-to-Point Services				
IETF RFC 2472	IPv6 over Point-to-Point Protocol (PPP)	December 1, 1998	future	Near-Term(2012)
IETF RFC 3518	PPP Bridge Control Protocol (BCP)	April 1, 2003	active	
IETF RFC 2686 / 1990	PPP Multi-link Protocol (MP) and its Multi-class extension	various	active	
IETF RFC 2484 / 2433 / 1994	PPP Challenge Handshake Authentication Protocol (CHAP) including Microsoft	various	active	
IETF RFC 2364	PPP over Asynchronous Transfer Mode (ATM) Adaptive Layer 5 (AAL5)	July 1, 1998	active	
IETF RFC 3241 / 2794 / 2290 / 3220 / 2002 / 1877 / 1332 / 1548 / 1331	Mobile IPv4 Configuration Option and extensions for Name Server for PPP Internet Protocol Control Protocol (IPCP)	various	active	
IETF RFC 2294 / 1994	PPP Authentication Protocol and extensions	various	active	
IETF RFC 2125	PPP Bandwidth Allocation Protocol (BAP) / Bandwidth Allocation Control Protocol (BACP)	March 1, 1997	active	
IETF RFC 2484 / 1989 / 1570 / 1661 / 1548	PPP Link Quality Monitoring and Link Control Protocol (LCP) extensions including transmission of multi-protocol Datagrams	various	active	
IETF RFC 3544 / 2294 / 1974 / 1973 / 1967 / 1962	PPP Compressions including Stac LZS / LZS-DCP, IP Header, and Microsoft Point-to-Point Compression (MPPC) Protocol	various	active	
IETF RFC 2153 / 1973 / 1762 / 1663 / 1662 / 1661 / 1638 / 1552 / 1378 / 1377	PPP, including HDLC-like framing, Reliable Transmission, Frame Relay, AppleTalk, Internetworking Packet Exchange Control Protocol (IPXCP), OSI Network Layer Control Protocol (OSINLCP), DECnet Phase IV Control Protocol (DNCP), bridging	various	active	
EIA/TIA-232-F	Interface Between Data Terminal Equipment and Data Circuit Terminating Equipment Employing Serial Binary Data Interchange		active	
EIA/TIA-530-A	High Speed 25-Position Interface for Data Terminal Equipment and Data Circuit Terminating Equipment, June 1992, Including Alternate 26-Position Connector, (This calls out EIA 422B and 423B).		active	
3.14 ISDN Services				
IETF RFC 3807 / 3057	ISDN Q.921-User Adaptation Layer	various	active	
IETF RFC 4733 / 2833	Real Time Protocol (RTP) payload for DTMF Digits, Telephony Tones, and Signals	December 1, 2006	active	
IETF RFC 1618	PPP over ISDN	May 1, 1994	active	
IETF RFC 1634 / 1553 / 874	Novell IPX Over Various WAN Media (IPXWAN), Compressing IPX Headers Over WAN Media (CIPX), and Critique	various	active	

Standard Designation	Standard Title	Standard Date	Status	Timeframe
IETF RFC 1613, 1356	Cisco Systems X.25 over TCP (XOT), Multi-protocol Interconnect on X.25 and ISDN in the Packet Mode	various	active	
ITU-T E.164	Numbering Plan for the ISDN Era	May 1997	active	
ANSI T1.601	ISDN Basic Access Interface for Use on Metallic Loops for Application on the Network Side of the NT (Layer 1 Specification)	1992	active	
ANSI T1.605	ISDN Basic Access Interface for S and T Reference Points - Layer 1 Specification	1991	active	
ANSI T1.602	ISDN Data Link Signaling Specification for Application at the User Network Interface	1996	active	
ANSI T1.408	ISDN Primary Rate – Customer Installation Metallic Interfaces (Layer 1 Specification)	1990	active	
ANSI T1.610	DSS1 - Generic Procedures for the Control of ISDN Supplementary Services	1994	active	
ANSI T1.607	Digital Subscriber Signaling System No. 1 (DSS1) - Layer 3 Signaling Specification for Circuit Switched Bearer Service	1998	active	
ANSI T1.619a	Supplement	1994	active	
ANSI T1.619	Multi-Level Precedence and Preemption (MLPP) Service, ISDN Supplementary Service Description	1992	active	
3.15 Asynchronous Transfer Mode Services				
IETF RFC 3038	VCID notification over ATM link for LDP	January 1, 2001	active	
IETF RFC 2684	Multi-protocol encapsulation over AAL5	September 1, 1999	active	
IETF RFC 2337	Intra-LIS (Intra-Logical IP Subnet) IP multicast among routers over ATM using Sparse Mode PIM (Protocol Independent Multicast)	April 1, 1998	active	
IETF RFC 2225 / 1755	Classical IP and ARP over ATM, including signaling support for IP	various	active	
IETF RFC 2492	IPv6 over ATM networks	January 1, 1999	future	Near-Term(2012)
ATM Forum, af-vtoa-0078.000	Circuit Emulation Service Interoperability Specification, Version 2.0	January 1997	active	
ATM Forum, af-lane-0021.000	Local Area Network Emulation (LANE) Over ATM, Version 1.0	January 1995	active	
ATM Forum, af-lane-0038.000	LAN Emulation Client Management Specification	September 1995	active	
ATM Forum, af-lane-0050.000	LANE Over ATM, Version 1.0 Addendum	December 1995	active	
ATM Forum, af-lane-0057.000	LANE Servers Management Specification 1.0	March 1996	active	
ATM Forum, af-mpoa-0087.000	Multi-Protocol Over ATM, Version 1.0	July 1997	active	
ATM Forum, af-uni-0010.002	ATM UNI Specification V 3.1. (Section 4:ILMI for UNI 3.1)	September 1994	active	
ATM Forum, af-ilmi-0065.000	Integrated Local Management Interface (ILMI) Specification, Version 4.0	September 1996	active	
ATM Forum, af-sig-0061.000	ATM UNI Signaling Specification, Version 4.0	July 1996	active	
ATM Forum, af-uni-0010.002	ATM UNI Specification V3.1	September 1994	active	
ATM Forum, af-phy-0040.000	Physical Interface Specification for 25.6 Mbps over Twisted Pair Cable	November 1995	active	
ATM Forum, af-uni-0010.002	ATM UNI Specification V 3.1, Section 2.1 and 2.4	September 1994	active	
ATM Forum, af-phy-0054.000	DS3 Physical Layer Interface Specification	January 1996	active	
ATM Forum, af-phy-0015.000	ATM Physical Medium Dependent Interface for 155 Mbps over Twisted Pair Cable	September 1994.	active	

Standard Designation	Standard Title	Standard Date	Status	Timeframe
ATM Forum, af-phy-0046.000	622.08 Mbps Physical Layer Specification	January 1996	active	
ATM Forum, af-phy-0064.000	E1 Physical Interface Specification	September 1996	active	
	A Cell-based Transmission Convergence Sublayer for Clear Channel Interfaces			
ATM Forum, af-phy-0043.000		November 1995	active	
ATM Forum, af-phy-0016.000	DS1 Physical Layer Specification	September 1994	active	
ATM Forum, af-pnni-0055.000	Private Network to Network Interface (PNNI) Specification, Version 1.0	March 1996	active	
ATM Forum, af-pnni-0066.000	PNNI Specification, Version 1.0 Addendum (Soft PVC MIB)	September 1996	active	
ATM Forum, af-tm-0056.000	Traffic Management Specification, Version 4.0	April 1996	active	
	B-ISDN ATM Adaptation Layer Specification: Type 1 ATM Adaptation Layer (AAL1)			
ITU-T I.363.1		August 1996	active	
	B-ISDN ATM Adaptation Layer Specification: Type 5 ATM Adaptation Layer (AAL5)			
ITU-T I.363.5		August 1996	active	
3.16 Transmission Media				
ANSI T1.105-1995	Telecommunications - Synchronous Optical Network (SONET) Basic Description Including Multiplex Structure, Rates and Formats		active	
ANSI T1.107-2002 (R2006)	Digital Hierarchy - Formats Specifications	2006	active	
ANSI T1.117-1991 (R1997)	Digital Hierarchy - Optical Interface Specifications	1997	active	
ANSI/TIA/EIA 568-B.1	Commercial Building Telecommunications Cabling Standards - Part 1: General Requirements	April 1, 2001	active	
IETF RFC 2467 / 1390	IPv6, Transmission of IP and ARP over FDDI	various	future	Near-Term(2012)
3.17 Data Communications Management				
IETF RFC 1157	Simple Network Management Protocol (SNMP)	May 1, 1990	active	
IETF RFC 1212 / IETF RFC 1155 / IETF RFC 1213	Management Information Base (MIB)	various	active	
IETF RFC 1525 / 4188 / 1493	Definitions of Managed Objects for Bridges	various	active	
IETF RFC 2127 / 2115 / 2737 / 2037 / 4022 / 2012	MIB using SMIv2 (Structure of Management Information v2) for ISDN, Frame Relay, TCP	various	active	
IETF RFC 2573	SNMP Applications	April 1, 1999	active	
	Conformance Statements, and Definitions of Managed Objects for ATM Management v8.0, Data Link Switching, IP Mobility Support, RS232-like devices, BGP-4, Ethernet-like Interface types, using Structure of Management Information v2 (SMIv2)	various	active	
IETF RFC 2580 / 2515 / 2665 / 2358 / 2024 / 2006 / 1659 / 4273 / 1657				
IETF RFC 2819	Remote Network Monitoring MIB	May 1, 2000	active	
	Transport Mappings, Protocol Operations, View Based Access Control Model (VACM), User based Security Model (USM), Message Processing and Dispatching for SNMP, including an Architecture for defining SNMP frameworks, SNMP applications	various	active	

Standard Designation	Standard Title	Standard Date	Status	Timeframe
IETF RFC 3635 / 3896 / 2496 / 3895 / 2495 / 1643 / 1623 / 1407 / 1406 / 1398	Definitions of Managed Objects for the Ethernet-like, DS1/E1, DS3/E3 Interface Types	various	active	
IETF RFC 3644	Policy Quality of Service (QOS) Information Model Information Model for Describing Network Device QOS Data path Mechanisms	November 1, 2003	active	
IETF RFC 3670	Remote Monitoring (RMON) MIB modules	January 1, 2004	active	
IETF RFC 3737 / 2819		various	active	
IETF RFC 3812 / 3416 / 2737 / 2013 / 2012 / 2011 / 1904 / 1757 / 1748 / 1743 / 1742 / 1724 / 1593 / 1573 / 1559 / 1512 / 1285 / 1450 / 1449 / 1448 / 1447 / 1445 / 1382 / 1381 / 1285 / 1253 / 1215 / 1213 / 1212 / 1157	Simple Network Management Protocol (SNMP) and associated Management Information Base (MIB) Modules including RIPv2, SNA, DECNet, FDDI, X.25, OSPF, AppleTalk, Token Ring, TE	various	active	
IETF RFC 2790 / 1514	Host Resources MIB Open Shortest Path First (OSPF) Version 2 Management Information Base	March 1, 2000	active	
JMX V1.4	Java Management Extensions	December 1, 2006	active	
OSGi Service Platform rel 4.1	Open Services Gateway Initiative	November 9, 2006	active	
JBI v1.1	Java Business Integration	October 1, 2005	active	
		August 1, 2005	active	
3.18 Telecommunications Management				
DOT H 1350.2 (DIRMM)	Chapter 5 - Telecommunications Management		active	
	TMN management service: maintenance aspects of B-ISDN management			
ITU-T M.3207.1		1996	active	
	TMN management service: Fault and performance management of the ISDN access			
ITU-T M.3211.1		1996	active	
ITU-T M.3400	TMN Management Functions	1997	active	
	Information Technology: Open Systems Interconnection Common Management Information Protocol (CMIP): Protocol Implementation Conformance Statement (PICS) performance			
ISO/IEC 9596-2:1993		1993	active	
	Information Technology: Open Systems Interconnection Common Management Information Protocol (CMIP) Part 1: Specification.			
ISO/IEC 9596-1:1998		1998	active	
	Information Technology: Open Systems Interconnection Common Management Information Services (CMIS)			
ISO/IEC 9595:1998	OAM&P Upper Layer Protocols for TMN Interfaces Between Operations Systems and Network Elements	1998	active	
ANSI T1.208		1997	active	
	OAM&P Lower Layer Protocols for TMN Interfaces Between Operations Systems and Network Elements			
ANSI T1.204		1997	active	
3.19 Videoconferencing Services				
ITU-T G.711 w/App1&App2	Pulse Code Modulation (PCM) of Voice Frequencies	February 1, 2000	active	
ITU-T H.261 / H.263 / H.264	Video CODEC for Audio Visual Services	various	active	

Standard Designation	Standard Title	Standard Date	Status	Timeframe
ITU-T T.81w/corr1	Digital Compression and Coding of Continuous-tone Still Images Coded representation of Picture and Audio Information - Progressive	January 1, 2004	active	
ITU-T T.82 w/corr1&corr2	Bi-level Image Compression	March 1, 2001	active	
ITU-T T.120	Data Protocols for Multi-media Conferencing	January 1, 2007	active	
ITU-T T.122	Multipoint Communications Service - Service Definition	February 1, 1998	active	
ITU-T T.124	Generic Conference Control	July 12, 2007	active	
ITU-T T.125	Multi-point Communications Service Protocol Specification	February 1, 1998	active	
ITU-T H.323	Packet-based Multi-media Communications	June 1, 2006	active	
ITU-T H.320	Narrow-band visual telephone systems and terminal equipment Coding of Speech at 16 Kbit/s using Low Delay Code Excited Linear	March 1, 2004	active	
ITU-T G.728w/Amend1	Prediction	May 1, 2006	active	
ITU-T G.722	7 KHz Audio Coding within 64 Kbit/s	July 1, 2007	active	
ITU-T T.123	Network - Specific Data Protocol Stacks for Multimedia Conferencing Framing structure of a videoconferencing transmission over a 64 to	January 1, 2007	active	
ITU-T H.221 w/Amend1	1920 Kbits/sec channel	September 1, 2005	active	
ITU-T H.230 w/Amend1	Controlling the synchronization of videoconferencing frames	October 1, 2005	active	
ITU-T H.242 w/Amend1	Establishment, maintenance and tear down of audio channels Procedures for establishing communication between three or more	September 1, 2005	active	
ITU-T H.243	audiovisual terminals using digital channels up to 1920 Kbit/s	October 1, 2006	active	
ITU-T H.244	Aggregating two audio channels to achieve half-rate channels	July 1, 1995	active	
4.0 Information Modeling, Meta Data and Information Exchange Standards				
4.1 Activity Modeling				
IEEE 1320.1	IEEE Standard for Functional Modeling Language-Syntax and Semantics of IDEF0	1998	active	
4.2 Data Modeling				
FGDC-STD-001-1998	Content Standard for Digital Geospatial Metadata	1998	active	
FIPS Pub 184	Integration Definition of Information Modeling (IDEF1X)	December 1, 1993	legacy	
ISO 19115:2003	Geographic Information - Metadata	2003	active	
ISO 19115:2006	Geographic Information - Metadata - Corrigendum 1	2006	active	
ISO 19139:2007	Geographic Information - Metadata - XML Schema Implementation	2007	active	
ISO/IEC 11179-1	Information Technology - Metadata Registries Part 1 Framework	September 15, 2004	active	
ISO/IEC 11179-2	Information Technology - Metadata Registries Part 2 Classification for	November 15, 2005	active	
ISO/IEC 11179-3	Information Technology - Metadata Registries Part 3 Basic Attributes of Data Elements	August 17, 2004	active	
ISO/IEC 11179-4	Information Technology - Metadata Registries Part 4 Rules and Guidelines for the Formulation of Data Definitions	July 15, 2005	active	
ISO/IEC 11179-5	Information Technology - Metadata Registries Part 5 Naming and Identification Principles for Data Elements	September 1, 2005	active	
ISO/IEC 11179-6	Information Technology - Metadata Registries Part 6 Registration of Data Elements	January 15, 2005	active	

Standard Designation	Standard Title	Standard Date	Status	Timeframe
4.3 NextGen Data Model Implementation				
FAA Order/Policy 1375.1D	Information/Data Management	July 25, 2006	active	
Eurocontrol AIXM v5	Aeronautical Information Exchange Model (AIXM) v5	October 3, 2008	active	
Eurocontrol WXXM v1.0.1	Weather Exchange Model (WXXM) Version 1.0.1	May 1, 2007	active	
Eurocontrol WXXS v1.1	Weather Exchange Schema (WXXS) Version 1.1	May 1, 2007	active	
Eurocontrol WXCM v1.0.1	Weather Exchange Conceptual Model (WXCM) Version 1.0.1	May 1, 2007	active	
ISO/IEC 11179-1:2004	Information technology -- Metadata registries (MDR) -- Part 1: Framework	2004	active	
ISO/IEC 11179-2:2005	Information technology -- Metadata registries (MDR) -- Part 2: Classification	2005	active	
ISO/IEC 11179-3:2003/Cor 1:2004	Information technology -- Metadata registries (MDR) -- Part 3: Registry metamodel and basic attributes	2004	active	
ISO/IEC 11179-4:2004	Information technology -- Metadata registries (MDR) -- Part 4: Formulation of data definitions	2004	active	
ISO/IEC 11179-5:2005	Information technology -- Metadata registries (MDR) -- Part 5: Naming and identification principles	2005	active	
ISO/IEC 11179-6:2005	Information technology -- Metadata registries (MDR) -- Part 6: Registration	2005	active	
4.4 NextGen Data Definition				
FAA Order 1800.66 W/Chg1&2	Configuration Management Policy	September 19, 2007	active	
FAA HDBK-007	FAA Data Standardization	January 4, 2008	active	
FAA STD-025F	Preparation of Interface Documentation	November 30, 2007	active	
FAA STD-060B	Data Standard for The National Airspace System (NAS)	March 8, 2004	active	
ISO 19101:2002	Geographic Information - Reference Model	2002	active	
ISO 19103:2005	Geographic Information - Conceptual Schema Language	2005	active	
ISO 19107:2005	Geographic Information - Spatial Schema	2005	active	
ISO 19108:2002	Geographic Information - Temporal Schema	2002	active	
ISO 19108:2006	Geographic Information - Temporal Schema - Corrigendum 1	2006	active	
ISO 19109:2005	Geographic Information - Rules for Application Schema	2005	active	
ISO 19110:2005	Geographic Information - Methodology for Feature Cataloging	2005	active	
ISO 19111:2007	Geographic Information - Spatial Referencing by Coordinates	2007	active	
ISO 19118:2005	Geographic Information - Encoding	2005	active	
ISO 19119:2005	Geographic Information - Services	2005	active	
ISO 19121:2000	Geographic Information - Imagery and gridded data	2000	active	
ISO 19123:2005	Geographic Information - Schema for coverage geometry and functions	2005	active	
ISO 19127:2005	Geographic Information - Geodetic codes and Parameters	2005	active	
ISO 8601:2004	Data elements and interchange formats - Representation of dates and times	2004	active	
4.5 Binary Floating-Point Data Interchange				
ANSI/IEEE 754-1985	IEEE Standard for Binary Floating-Point Arithmetic	March 21, 1985	active	

Standard Designation	Standard Title	Standard Date	Status	Timeframe
4.6 Object Modeling	Object Management Group (OMG) Unified Modeling Language (UML) Specification, Version 1.3	June 1, 1999	active	
OMG UML Spec v1.3				
5.0 Human Factors Standards				
5.1 General Human Factors Standards				
FAA Order 9550.8	Human Factors Policy	October 27, 1993	active	
5.2 General Design Requirements				
FAA HF-STD-001 Chapt 2	Human Factors Design Standard - Chapter 2 "General Design Requirements"	May 1, 2003	active	
5.3 Automation				
FAA HF-STD-001 Chapt 3	Human Factors Design Standard - Chapter 3 "Automation"	May 1, 2003	active	
5.4 Designing Equipment for Maintenance				
FAA HF-STD-001 Chapt 4 w/errata	Human Factors Design Standard - Chapter 4 "Designing Equipment for Maintenance"	February 1, 2005	active	
5.5 Displays and Printers				
FAA HF-STD-001 Chapt 5	Human Factors Design Standard - Chapter 5 "Displays and Printers"	May 1, 2003	active	
	Human Factors Criteria for Displays: A Human Factors Design Standard Update of Chapter 5			
DOT/FAA/TC-07/11		May 1, 2007	active	
MIL-HDBK-1908B	Definition of Human Factors Terms	August 16, 1999	active	
MIL-STD-1787C	Aircraft Display Symbology	January 5, 2001	active	
FAA HF-STD-002	Baseline Requirements for Color Use in Air Traffic Control Displays	April 26, 2007		Near-Term(2012)
5.6 Controls and Visual Indicators				
FAA HF-STD-001 Chapt 6	Human Factors Design Standard - Chapter 6 "Controls and Visual Indicators"	May 1, 2003	active	
5.7 Alarms, Audio and Voice				
FAA HF-STD-001 Chapt 7	Human Factors Design Standard - Chapter 7 "Alarms, Audio and Voice"	May 1, 2003	active	
FAA HF-STD-003	Alarms and Alerts in the Technical Operations Environment			Near-Term(2012)
5.8 Computer-Human Interface				
FAA HF-STD-001 Chpt 8 w/errata	Human Factors Design Standard - Chapter 8 "Computer-Human Interface"	January 1, 2005	active	
5.9 Input Devices				
FAA HF-STD-001 Chpt 9	Human Factors Design Standard - Chapter 9 "Input Devices"	May 1, 2003	active	
5.10 Workstation and Workplace Design				
FAA HF-STD-001 Chpt 10 w/amendment	Human Factors Design Standard - Chapter 10 "Workstation and Workplace Design"	June 1, 2006	active	
5.11 System Security				

Standard Designation	Standard Title	Standard Date	Status	Timeframe
FAA HF-STD-001 Chapt 11	Human Factors Design Standard - Chapter 11 "System Security"	May 1, 2003	active	
5.12 Personnel Safety				
FAA HF-STD-001 Chapt 12	Human Factors Design Standard - Chapter 12 "Personnel Safety"	May 1, 2003	active	
5.13 Environmental				
FAA HF-STD-001 Chapt 13	Human Factors Design Standard - Chapter 13 "Environmental"	May 1, 2003	active	
5.14 Anthropometry and Biomechanics				
FAA HF-STD-001 Chapt 14 w/errata	Human Factors Design Standard - Chapter 14 "Anthropometry and Biomechanic"	October 1, 2004	active	
5.15 User Documentation				
FAA HF-STD-001 Chapt 15	Human Factors Design Standard - Chapter 15 "User Documentation"	May 1, 2003	active	
6.0 Information Security Standards				
6.1 General Security Standards				
DOT H 1350.250	Guide to Establishing An Information System Protection Program	April 13, 1999	active	
DOT H 1350.251	Department Guide for Developing an Information Systems Security Plan	August 29, 2002	active	
FAA Order 1370.82A	Information Systems Security (ISS) Program	September 11, 2006	active	
FAA Order 1370.92	Password and Pin Management	June 28, 2004	active	
FAA Order 1600.1E	Personnel Security Program	July 25, 2005	active	
FAA Order 1600.54B	The FAA Automated Information Systems Handbook	February 1, 1989	superceded by FAA Order 1370.82	
FAA Order 1600.69B w/Chg1	FAA Facility Security Management Program	March 29, 2005	active	
FAA Order 1600.8E	Communications Security (COMSEC) and Secure Voice	November 28, 2005	active/restricted	
FAA STD-045A	National Airspace System (NAS) Open Systems Interconnection (OSI) Security Protocols and Mechanisms	March 11, 2005	active	
NIST FIPS Pub 199	Standards for Security Categorization of Federal Information and Information Systems	February 1, 2006	active	
NIST FIPS Pub 200	Minimum Security Requirements for Federal Information and Information Systems	March 1, 2006	active	
NIST FIPS Pub 201	Personal Identification Verification (PIV) of Federal Personnel and Contractors	March 1, 2006	active	
NIST SP 800-18 Rev1	Guide for Developing Security Plans for Federal Information Systems	February 1, 2006	active	
NIST SP 800-26	Security Self-Assessment Guide for Information Technology Systems	August 1, 2002	Superceded by NIST SP 800-53A	
NIST SP 800-30	Risk Management Guide for Information Technology Systems	July 1, 2002	active	
NIST SP 800-37	Guide for the Security Certification and Accreditation of Federal Information Systems	May 1, 2004	active	Near-Term(2012)
NIST SP 800-37 Rev1	DRAFT Guide for Security Authorization of Federal Information Systems: A Security Lifecycle Approach	August 19, 2008	draft	
NIST SP 800-40 Ver2	Creating a Patch and Vulnerability Management Program	November 1, 2005	active	
NIST SP 800-53 Rev 3	Recommended Security Controls for Federal Information Systems	August 1, 2009	active	

Standard Designation	Standard Title	Standard Date	Status	Timeframe
NIST SP 800-53A	Guide for Assessing the Security Controls in Federal Information Systems	September 1, 2008	active	
NIST SP 800-60 Rev1	Guide for Mapping Types of Information and Information Systems to Security Categories: (2 Volumes) - Volume 1: Guide Volume 2: Appendices	August 1, 2008	active	
NIST SP 800-63 v1.0.2	Electronic Authentication Guideline	August 1, 2006	active	
NIST SP 800-70	Security Configuration Checklists Program for IT Products: Guidance for Checklists Users and Developers	May 1, 2005	active	Near-Term(2012)
NIST SP 800-70 Rev1	DRAFT National Checklist Program for IT Products--Guidelines for Checklist Users and Developers	September 19, 2008	draft	
NIST SP 800-73-2	Interfaces for Personal Identity Verification	September 1, 2008	active	
NIST SP 800-76-1	Biometric Data Specification for Personal Identity Verification	January 1, 2007	active	
NIST SP 800-83	Guide to Malware Incident Prevention and Handling	November 1, 2005	active	
NIST SP 800-86	Guide to Integrating Forensic Techniques into Incident Response	August 1, 2006	active	
NIST SP 800-92	Guide to Computer Security Log Management	September 1, 2006	active	
6.2 Application Security				
IETF RFC 4422 / 2222 / 2444	Simple Authentication Security Layer (SASL)	various	active	
NIST SP 800-95	Guide to Secure Web Services	September 1, 2007	active	
SSL	Secure Socket Layer v3.0 (Internet Draft)	November 18, 1996	legacy	
TLS	Transport Layer Protocol (RFC 2246)	January 1, 1999	active	
WS-Security v1.1	Web Services Security	February 1, 2006	active	
X.509 Certificates	Internet X.509 Public Key Infrastructure Certificate and CRL Profile (RFC 2459)	January 1, 1999	active	
SAML v2.0	Security Access Markup Language	March 15, 2005	future	Mid-Term(2018)
WS-Security Policy v1.2	Web Services Security Policy	July 1, 2007	future	Near-Term(2012)
WS-Trust V1.3	Web Services Trust	March 19, 2007	future	Near-Term(2012)
XACML v2.0	Extensible Access Control Markup Language	March 1, 2005	future	Mid-Term(2018)
WS-I Security v1.1	Web Services Interoperability Basic Security Profile Version 1.1	February 1, 2007	active	
6.3 Cryptography				
NIST FIPS Pub 140-2 w/chgs 1&2	Security Requirements for Cryptographic Modules	December 3, 2002	active	
NIST FIPS Pub 140-3 (draft)	Security Requirements for Cryptographic Modules	July 13, 2007	draft	Near-Term(2012)
NIST SP 800-78-1	Cryptographic Algorithms and Key Sizes for Personal Identity Verification	August 1, 2007	active	
6.4 Enclave Boundary				
IETF RFC 3392 / 3107 / 3065 / 2918 / 2858 / 2796 / 2439 / 1997 / 1966 / 1771 / 1657 / 1655 / 1268	Border Gateway Protocol (BGP), and its application	various	active	
IETF RFC 827 / 888/ 904	Exterior Gateway Protocol (EGP) including STUB	various	active	
NIST SP 800-41 Rev1	Guidelines on Firewalls and Firewall Policy	September 1, 2009	active	

Standard Designation	Standard Title	Standard Date	Status	Timeframe
6.5 Network and Infrastructure				
IETF RFC 1209	Transmission of IP Datagrams over the Switched Multimegabit Data Service (SMDS)	March 1, 1991	active	
IETF RFC 1413	Authentication Server	February 1, 1993	active	
IETF RFC 4120 / 1510	Kerberos Network Authentication Service v5	July 1, 2005	active	
IETF RFC 2166 / 1795	Advanced Peer-to-Peer Networking (APPN) Implementer's Workshop (AIW) Closed Pages Document Data-Link Switching (DLS)	various	active	
IETF RFC 2427	Multi-protocol Interconnect over Frame Relay	September 1, 1998	active	
NIST SP 800-41 Rev1	Guidelines on Firewalls and Firewall Policy	September 1, 2009	active	
NIST SP 800-52	Guidelines for the Selection and Use of Transport Layer Security (TLS) Implementations	June 1, 2005	active	
NIST SP 800-77	Guide to IPsec VPNs	December 1, 2005	active	
NIST SP 800-81	Secure Domain Name System (DNS) Deployment Guide	May 1, 2006	active	
6.6 Public Key Infrastructure				
IETF RFC 3826	The Advanced Encryption Standards (AES) Cipher Algorithm in the SNMP User based Security Model	June 1, 2004	active	
IETF RFC 4303 / 2406 / 2402 / 4301 / 2401 / 3137 / 2393 / 1829 / 1828 / 1321	IP Encapsulation Security Payload (ESP), IP Authentication Header, and the Security Architecture for the IP, and the IP Payload Compression Protocol (IPComp), Data Encryption Standard-Cipher Block Chaining (DES-CBC) Transform, IP Authentication using			
	keyed MD5 and MD5 Message-Digest Algorithm	various	active	
IETF RFC 2560	X.509 Internet Public Key Infrastructure (PKI) Online Certificate Status Protocol-OCSP	June 1, 1999	active	
6.7 Key Management				
IETF RFC 4309 / 2409 / 2408 / 2407	The Internet Key Exchange (IKE), and Internet Security Association and Key Management Protocol (ISAKMP)	various	active	
6.8 Intrusion Detection				
NIST SP 800-31	Intrusion Detection Systems superceded by NIST 800-94	November 1, 2001	Superceded by NIST SP 800-94	
NIST SP 800-94	Guide to Intrusion Detection and Prevention Systems (IDPS)	February 1, 2007	active	
6.9 Common Evaluation Criteria				
ISO/IEC 15408-1:2005	Information technology -- Security techniques -- Evaluation criteria for IT security -- Part 1: Introduction and general model	2005	active	
ISO/IEC 15408-2:2008	Information technology -- Security techniques -- Evaluation criteria for IT security -- Part 2: Security functional components	2008	active	
ISO/IEC 15408-3:2008	Information technology -- Security techniques -- Evaluation criteria for IT security -- Part 3: Security assurance components	2008	active	
7.0 Aviation Related Standards				
7.1 General Standards				

Standard Designation	Standard Title	Standard Date	Status	Timeframe
FAA AC 20-152	Design Assurance Guidance for Airborne Electronic Hardware (DO-254)	July 5, 2005	active	
FAA AIP 19th Ed w/amend 1-3	AIP - Aeronautical Information Publication - United States of America	July 1, 2008	active	
FAA Order JO 7110.65S w/Chg2	Air Traffic Control	February 14, 2008	active	
ICAO Doc 8126 6th Ed.	Aeronautical Information Services Manual	2003	active	
ICAO Doc 8697 2nd Ed.	Aeronautical Chart Manual	1987	active	
RTCA DO-178B	Software Considerations in Airborne Systems and Equipment Certification Guidelines for Communications, Navigation, Surveillance, and Air Traffic Management (CNS/ATM) Systems Software Integrity Assurance	December 1, 1992 March 5, 2002	active active	
RTCA DO-278	Air Traffic Management	2007	active	
ICAO Doc 4444 15th Ed.				
7.2 Aircraft				
FAA AC 00-63	Use of Cockpit Displays of Digital Weather and Operational Information	September 24, 2004	active	
FAA AC 20-67B	Airborne VHF Communication Equipment Installations	January 16, 1986	active	
FAA AC 20-130A	Advisory Circular Airworthiness Approval of Navigation or Flight Management Systems Integrating Multiple Navigation Sensors	June 14, 1995	active	
FAA AC 20-152	Design Assurance Guidance for Airborne Electronic Hardware (DO-254)	July 5, 2005	active	
FAA Order 8260.40B	Flight Management System (FMS) Instrument Procedures Development	December 31, 1998	active	
FAA TSO-C115b	Airborne Area Navigations Equipment Using Multi-Sensor Inputs	September 30, 1994	active	
FAA TSO-C129a	Technical Standard Order Airborne Supplemental Navigation Equipment Using the GPS	February 20, 1996	active	
FAA TSO-C144	Passive Airborne Global Navigation Satellite System (GNSS) Antenna	March 30, 2007	active	
FAA TSO-C145c	Technical Standards Order Airborne Navigation Sensors Using the GPS Augmented by the Wide Area Augmentation System Technical Standards Order Stand-Alone Airborne Navigation Equipment Using the GPS Augmented by the Wide Area Augmentation System	May 2, 2008 May 9, 2008	active active	
FAA TSO-C146c	Avionics Supporting Next Generation Satellite Systems (NGSS)	September 20, 2004	active	
FAA TSO-C159				
FAA TSO-C190	Active Airborne Global Navigation Satellite System (GNSS) Antenna Minimum Operational Characteristics-Airborne ATC Transponder Systems	March 20, 2007	active	
RTCA DO-144A	Environmental Conditions and Test Procedures for Airborne Equipment	October 2, 2008	active	
RTCA DO-160F	Minimum Operational Performance Standards - Airborne Ground Proximity Warning System	December 6, 2007	active	
RTCA DO-161A		May 27, 1976	active	

Standard Designation	Standard Title	Standard Date	Status	Timeframe
RTCA DO-163	Minimum Performance Standards-Airborne HF Radio Communications Transmitting and Receiving Equipment Operating within the Radio-Frequency Range of 1.5 to 30 Megahertz	March 19, 1976	active	
RTCA DO-178B	Software Considerations in Airborne Systems and Equipment Certification	December 1, 1992	active	
RTCA DO-181D	Minimum Operational Performance Standards for Air Traffic Control Radar Beacon System/Mode Select (ATCRBS/Mode S) Airborne Equipment	October 2, 2008	active	
RTCA DO-185Bw/errata	Minimum Operational Performance Standards for Traffic Alert and Collision Avoidance System II (TCAS II) Airborne Equipment	July 14, 2008	active	
RTCA DO-186B	Minimum Operational Performance Standards for Airborne Radio Communication Equipment	November 8, 2005	active	
RTCA DO-189	Minimum Operational Performance Standards for Airborne Distance Measuring Equipment (DME) Operating within the Radio Frequency Range of 960-1215 MHz	September 20, 1985	active	
RTCA DO-192	Minimum Operational Performance Standards for Airborne ILS Glide Slope Receiving Equipment Operating within the Radio Frequency Range of 328.6-335.4 Megahertz	July 18, 1986	active	
RTCA DO-195	Minimum Operational Performance Standards for Airborne ILS Localizer Receiving Equipment Operating within the Radio Frequency Range of 108- 112 Megahertz	November 17, 1986	active	
RTCA DO-196	Minimum Operational Performance Standards for Airborne VOR Receiving Equipment Operating within the Radio Frequency Range of 108- 117.95 Megahertz	November 17, 1986	active	
RTCA DO-208 w/chg1	Minimum Equipment Performance Standards (MOPS) for Airborne Supplemental Navigation Equipment Using Global Positioning System (GPS)	September 21, 1993	active	
RTCA DO-218B	Minimum Operational Performance Standards for the Mode S Airborne Data Link Processor	June 12, 2001	cancelled	
RTCA DO-228 w/Chng 1	Minimum Operational Performance Standards for Global Navigation Satellite Systems (GNSS) Airborne Antenna Equipment	January 11, 2000	active	
RTCA DO-229Dw/errata	Minimum Operational Performance Standards for Global Positioning System/Wide Area Augmentation System Airborne Equipment	July 31, 2008	active	
RTCA DO-253C	Minimum Operational Performance Standards for Global Positioning System/Local Area Augmentation System Airborne Equipment	December 16, 2008	active	
RTCA DO-254	Design Assurance Guidelines for Airborne Electronic Hardware	April 19, 2000	active	
RTCA DO-263	Application of Airborne Conflict Management: Detection, Prevention, & Resolution	December 14, 2000	active	

Standard Designation	Standard Title	Standard Date	Status	Timeframe
RTCA DO-297	Integrated Modular Avionics (IMA) Development Guidance and Certification Requirements	November 8, 2005	active	
RTCA DO-301	Minimum Operational Performance Standards for Global Navigation Satellite System (GNSS) Airborne Active Antenna Equipment for the L1 Frequency Band	December 13, 2006	active	
RTCA DO-310	Minimum Operating Performance Standards for GPS-based Regional Augmentation Airborne Equipment Aerospace Recommended Practice - Guidelines and Method for Conducting Safety Assessment Process on Airborne Systems and Equipment	March 13, 2008	active	
SAE ARP4761	Aerospace Recommended Practice - Guidelines and Method for Conducting Safety Assessment Process on Airborne Systems and Equipment	December 1, 1996	active	
ICAO Doc 4444 update	Update ICAO PANS ATM to include standards on trajectory flight data	2010		Near-Term(2012)
ICAO Doc 9776 update	Update VHF Digital Link (VDL) Mode 2 with data link standards	2010		Near-Term(2012)
New ICAO document	Develop detailed technical specifications for Aeronautical Telecommunications Network (ATN) using ISO/OSI standards and protocols; maintain technical specifications for ATN using IDS standards and protocols	2014		Mid-Term(2018)
ICAO Annex 10 update	Update with C-Band wireless communications standards	2012		Near-Term(2012)
ICAO Annex 10 update	Ensure automated data exchanges between AOC and dispatch with ANSP is included	2013		Mid-Term(2018)
ICAO Doc 8168 update	Changes to support SBAS approaches to 200 feet for WAAS	2009		Near-Term(2012)
ICAO Doc 9613 update	Update PBN RNAV manual to include advanced RNP	2012		Near-Term(2012)
ICAO Annex 6 update	Redefine the terms Category I, II and III operations to allow for Category IV	2017		Mid-Term(2018)
FAA AC 210-28C update	Redefine the terms Category I, II and III operations to allow for Category IV	2017		Mid-Term(2018)
FAA AC 120-29A update	Redefine the terms Category I, II and III operations to allow for Category IV	2017		Mid-Term(2018)
ICAO Doc 8168 update	Update ICAO PANS OPS with ADS-B separation standards	2010		Near-Term(2012)
7.3 NAS Automation				
404L-50464-CP-112 w/App 1-7	Computer Program Product Specification Operational Software CPC1 Digital Bright Radar Indicator Tower Equipment (DBRITE)		active	
404L-50464-CI-114	Prime Item Development Specification for Digital Bright Indicator Tower Equipment (DBRITE)		active	
404L-50464-CI-115	Critical Item Product Fabrication Spec. for DBRITE Tower Display Unit for Digital Bright Radar Indicator Equipment		active	
ATC-92-1188	FDIO Phase II COTS Dot Matrix Printer Functional Specification		active	
ATC-92-1189	FDIO Phase II COTS Display Functional Specification		active	
DA093V1-BCC25-H1	Display System Replacement/DSR System Support Complex (DSR/DSSC) System/Segment Specification		active	
DA093V2-BCC25-C2	System Segment Specification - Display System Replacement/DSR System Support Complex (DSR/DSSC) (SADD)		active	

Standard Designation	Standard Title	Standard Date	Status	Timeframe
DA094G-C	System Segment Specification - Display System Replacement/DSR System Support Complex (DSR/DSSC) Prime Item Development		active	
DA094M-D	Data Item Development Specification for Enhanced Direct Access Radar Channel (EDARC) System Interface (ESI)		active	
DOTS-RD-1.1.1	DOTS Plus (DOTS+) Requirements Document		active	
DSP-HAD-09-2008	Departure Spacing Program (DSP) Tech Refresh Hardware Architecture Documents (HAD) for the TFM-M Program		active	
ERPO-SYE-ERIDS-07-003A	Software Requirements Specification for En Route Information Display System (ERIDS)		active	
FA-10095	Flight Data Input/Output System		active	
FA-10220	Digital Bright Radar Indicator Tower Equipment (DBRITE)		active	
FA-10221	D-BRITE I Subsystem		active	
FA-10222	D-BRITE II Subsystem (ARTS IIA Interface)		active	
FA-10223	D-BRITE III Subsystem (ARTS IIIA Interface)		active	
FA-10224	D-BRITE IV Subsystem (TPX-42 Interface)		active	
FAA AR1E SS	Automated Radar Terminal System (ARTS-1E) System Spec		active	
FAA AR2E SS	Automated Radar Terminal System (ARTS-2E) System Spec		active	
FAA AR3E SS	Automated Radar Terminal System IIIE System Spec		active	
FAA-13400	Standard Terminal Automation Replacement System (STARS) System Spec		active	
FAA-4102-4H	NAS En Route - Computer Program Functional Specification - System Checkout of Peripheral Equipment 2		active	
FAA-4106L-1H	NAS En Route - Computer Program Functional Specification - Data and Error Rate Program D7452		active	
FAA-4116-H	NAS En Route - Computer Program Functional Specification - Printer Control Unit Subsystem		active	
FAA-4117-H	NAS En Route - Computer Program Functional Specification - Central Control Unit Subsystem		active	
FAA-4199-1H	NAS En Route Stage A Computer Program Functional Spec Common Adaptation for Maintenance Programs		active	
FAA-E-2570	Automated Radar Terminal Air Traffic Control System (ARTS-IIA)		active	
FAA-E-2711A	Flight Data Input/Output (FDIO) System Spec		active	
FAA-E-2713 & Att 1A	Offshore Flight Data Processing System (OFDPS)		active	
FAA-E-2759	ARTS IIIE Functional Specification		active	
FAA-E-2904A	Standard Terminal Automation Replacement System (STARS) NAS Subsystem Level Specification		active	
FAA-E-2916	Prime Item Product Specification for the Host Interface Device/NAS Local Area Network System		active	
FAA-E-2926	Host and Oceanic Computer System Replacement (HOCSR) Program (Phases 1 & 2)		active	
FAA-E-2927	Automated Flight Service Station (AFSS) Console Replacement		active	

Standard Designation	Standard Title	Standard Date	Status	Timeframe
FAA-E-2971K	System Specification - Traffic Management Advisor (TMA)		active	
FAA-E-2972K	Computer Human Interface Specification - Traffic Management Advisor (TMA)		active	
FAA-E-2985 Volumes 0 thru 3	Functional Baseline Specification - Departure Spacing Program (DSP)		active	
FAA-E-2986	Departure Spacing Program (DSP) System/Subsystem Design Description (S/DD)		active	
FAA-E-2994	Flight Data Processor (FDP) 2000 - ZAN Rehost of Offshore Computer System (OCS) System Requirements Document (SRD)		active	
FAA-E-3005	En Route Distribution System (EDDS) System Specification Document Display System Replacement (DSR) System Specification Document (SSD)		active	
FAA-ER-130-006D	Host Computer Engineering Requirements		active	
FAA-ER-2776B	User Request Evaluation Tool (URET)		active	
FAA-ER-2929D	En Route Communications Gateway (ECG) System Specification Document		active	
FAA-ER-2947D	En Route Automation Modernization (ERAM) System Specification Document		active	
FAA-ER-2979B	NAS Open System Environment (OSE) Application Services	July 27, 1997	active	
FAA HDBK-003	Operational Requirements System Descriptions of the Traffic Management System Phase II Enhancements		active	
FAA-OR-2783C	Software Development for the National Airspace System	June 1, 2001	active	
FAA STD-026A	FAA NAS Open Systems Architecture and Protocols	August 14, 2003	active	
FAA STD-039C	Electronic Flight Strip Transfer System (EFSTS) Requirements		active	
FRS-EFSTS-0001 rev 01	North American Common Coordination Interface Control Document	March 18, 2002	active	
NAM-ICD Volume 1	National Airspace System Master Configuration Index Subsystem		active	
NAS-MD-001	Baseline Configuration and Documentation Listing		active	
NAS-MD-310 thru 321, 325, 326, 348, 349	NAS En Route CM Document - Computer Program Functional Specification - Central Control Unit Subsystem		active	
NAS-MD-322P	Real Time Quality Control of Radar Data		active	
NAS-MD-323P0	Dynamic Simulation of Radar Data		active	
NAS-MD-324Q	Display Channel Interface Requirements		active	
NAS-MD-450	NAS En Route ICD - NAS En Route Host Computer System (HCS) - Non-U.S. Automated Facilities - Model A5F1.6		active	
NAS-MD-530	Flight Data Input/Output (FDIO) Program		active	
NAS-MD-581-2007	Flight Data Input/Output (FDIO) Program, Software Interface Control Document (SICD) - Model A5F1.0		active	
NAS-MD-631 thru 651	Common ARTS Computer Program Functional Specification		active	
NAS-MD-670 thru 692	Computer Functional Specification - Microprocessor En Route Automated Radar Tracking System (Micro EARTS)		active	
NAS-MD-750	ICD NIN/NAS Interface - Model A5F1.6		active	

Standard Designation	Standard Title	Standard Date	Status	Timeframe
NAS-MD-793A	Remote Maintenance Monitoring System Remote Monitoring Subsystem Requirements		active	
NAS-MD-850	ICD Central Flow Automation Facility - NAS En Route Host Computer System (HCS) - Model A5F1.6		active	
NAS-MD-5309 thru 5318, 5326, 5347 thru 5349	Offshore Flight Data Processing System (OFDPS)		active	
NAS-MD-6309 thru 6318, 6349 thru 6349	Flight Data Processor (FDP) Model F5.06		active	
S-LITE	STARS Lite		active	
TMPA-0040-014/a	D_BRITE Internal Interface Document (IID)		active	
Eurocontrol ED-133 FOIPS	Flight Object Interoperability Specification	2009		Near-Term(2012)
FAA A/G Data Exchange Framework	Air - Ground Data Exchange Framework	2010		Near-Term(2012)
ICAO Doc 4444 update	Update ICAO PANS ATM to include standards on ERAM	2010		Near-Term(2012)
ICAO Doc 4444 update	Update ICAO PANS ATM to include standards on trajectory flight data management	2010		Near-Term(2012)
ICAO Doc 7784 update	Update ICAO Document for 2012 Flight Object Specification Mandate	2012		Near-Term(2012)
ICAO Doc 7789 update	Update ICAO Document for 2012 Flight Processing Mandate	2012		Near-Term(2012)
7.4 Weather				
WMO No 386	World Meteorological Organization, Manual on the Global Telecommunication System	July 1, 2007	active	
7.5 Communications				
FAA AC 20-140	Guidelines for Design Approval of Aircraft Data Communications Systems	August 16, 1999	active	
FAA AC 20-150	Satellite Voice Equipment as a Means for Air Traffic Services Communications	February 10, 2006	active	
FAA AC 20-67B	Airborne VHF Communication Equipment Installations	January 16, 1986	active	
FAA AC 90-50D	Requirements for 760-Channel VHF Radio for Aeronautical Operations Operational Authorization Process for Use of Data Link Communications Systems	April 9, 1992	active	
FAA AC 120-70A	Communications	August 13, 2005	active	
FAA HDBK-003	System Management	June 27, 1997	active	
FAA HDBK-004	NAS Internet Protocol Suite	September 4, 1997	active	
FAA STD-029D	Selection and Implementation of Telecommunications Standards	December 22, 1995	active	
FAA STD-039C	FAA NAS Open Systems Architecture and Protocols	August 14, 2003	active	
FAA STD-042A	National Airspace System (NAS) Naming and Addressing Structure for	March 11, 2005	active	
FAA STD-047	National Airspace System (NAS) Open Systems Interconnection (OSI) Conformance Testing	December 29, 1993	active	
FAA STD-048	National Airspace System (NAS) Open Systems Interconnection (OSI)	July 7, 1995	active	

Standard Designation	Standard Title	Standard Date	Status	Timeframe
FAA STD-43A	National Airspace System (NAS) Open Systems Interconnection (OSI) Priority	May 10, 1994	active	
FAA TSO C158	Aeronautical Mobile High Frequency Data Link (HFDL) Equipment	August 19, 2004	active	
FAA TSO C163	VDL Mode 3 Communications Equipment Operating Within The Frequency Range 117.975 To 137.000 Megahertz	August 31, 2007	active	
FAA TSO C169a	VHF Radio Communications Transceiver Equipment Operating Within Radio Frequency Range 117.975 To 137.000 Megahertz	September 28, 2007	active	
FAA TSO C170	High Frequency (HF) Radio Communications Transceiver Equipment Operating Within the Radio Frequency Range 1.5-30 Megahertz	December 20, 2004	active	
FAA TSO-C31d	High Frequency (HF) Radio Communications Transmitting Equipment Operating Within the Radio Frequency Range 1.5-30 Megahertz International Civil Aviation Organization (ICAO) Annex 10, Volume 1 - Areronautical Telecommunication - Part 1 Equipment Services	April 30, 1982	active	
ICAO Annex 10 Volume 1, 6th Ed.	International Civil Aviation Organization (ICAO) Annex 10, Volume II, 6th Edition	July 1, 2006	active	
ICAO Annex 10, Volume II, 6th Ed.	International Civil Aviation Organization (ICAO) Annex 10, Volume III, 6th Edition	July 1, 2006	active	
ICAO Annex 10, Volume III, 6th Ed.	International Civil Aviation Organization (ICAO) Annex 10, Volume III, 6th Edition	July 1, 2007	active	
ICAO Doc 7030	Regional Supplementary Procedures	2008	active	
ICAO Doc. 8259 5th Ed.	Manual on the Planning and Engineering of the Aeronautical Fixed Telecommunication Network	1991	active	
ICAO Doc 9694	Manual of Air Traffic Services Data Link Applications	1999	active	
ICAO Doc 9705AN/956 2nd Ed.	Manual of Technical Provisions for the Aeronautical Telecommunications Network (ATN)	1999	active	
ICAO Doc 9739	Comprehensive Aeronautical Telecommunication Network (ATN) Manual	2000	active	
ICAO Doc 9741	Manual on HF Data Link	2000	active	
ICAO Doc 9776	Manual on VHF Digital Link (VDL) Mode 2	2001	active	
ICAO Doc 9804	Manual on Air Traffic Services (ATS) Ground-to-Ground Voice Switching and Signaling	2002		
ICAO Doc 9805	Manual on VHF Digital Link (VDL) Mode 3	2002	active	
ICAO Doc 9816	Manual on VHF Digital Link (VDL) Mode 4	2004	active	
ICAO Doc 9880	Manual of Technical Provisions for the Aeronautical Telecommunication Network	Late 2010	draft	Near-Term(2012)
RTCA COCR	Communications Operating Concept and Requirements (COCR) for the Future Radio System (FRS) Version 1.0	March 6, 2006	active	
RTCA DO-136	Universal Air-Ground Digital Communications Systems Standards	March 7, 1968	active	
RTCA DO-163	Minimum Performance Standards-Airborne HF Radio Communications Transmitting and Receiving Equipment Operating within the Radio-Frequency Range of 1.5 to 30 Megahertz	March 19, 1976	active	
RTCA DO-186B	Minimum Operational Performance Standards for Airborne Radio Communications Equipment	November 8, 2005	active	

Standard Designation	Standard Title	Standard Date	Status	Timeframe
RTCA DO-210Dw/Chg1&2&3	Minimum Operational Performance Standards for Geosynchronous Orbit AMSS Avionics	September 16, 2006	active	
RTCA DO-215Aw/Chg1	Guidance on Aeronautical Mobile Satellite Service (AMSS) End-to-End System Performance	September 28, 1998	active	
RTCA DO-219	Minimum Operational Performance for ATC Two-Way Data Link Communications	August 27, 1993	active	
RTCA DO-224B	Signal-in-Space Minimum Aviation System Performance Standards (MASPS) for Advanced VHF Digital Data Communications Including Compatibility with Digital Voice Techniques Design Guidelines and Recommended Standards for the Implementation and Use of AMS(R)S Voice Services in a Data Link Environment	August 3, 2005	active	
RTCA DO-231	Human Engineering Guidance for Data Link Systems	March 13, 1996	active	
RTCA DO-238	Minimum Operational Performance Standards for Aeronautical Telecommunication Network (ATN) Avionics	April 2, 1997	active	
RTCA DO-240	Guiding Principles for Air Traffic Services Provided via Data Communications Utilizing the ATN, Builds I and IA U.S. National Airspace System (NAS) Plan for Air Traffic Services Data Link (Phase 1, En Route CONUS Implementation)	July 29, 1997	active	
RTCA DO-250	Minimum Human Factors Standards for Air Traffic Services Provided Via Data Communications Utilizing the ATN, Builds I and IA Interoperability Requirements for ATS Applications Using ARINC 622	January 11, 2000	active	
RTCA DO-251	Data Communications	January 11, 2000	active	
RTCA DO-256	Minimum Operational Performance Standards for Avionics Supporting Next Generation Satellite Systems (NGSS)	February 6, 2000	active	
RTCA DO-258Aw/errata	Minimum Operational Performance Standards for Avionics Supporting NGSS – including Iridium Satellite Normative Appendix	January 11, 2008	active	
RTCA DO-262	Guidelines for Approval of the Provision and Use of Air Traffic Services Supported by Data Communications	December 14, 2000	legacy	
RTCA DO-264	Minimum Operational Performance Standards for Aeronautical Mobile High Frequency Data Link (HFDL)	December 14, 2000	active	
RTCA DO-265	Concepts For Services Integrating Flight Operations and Air Traffic Management Using Addressed Data Link	December 14, 2000	active	
RTCA DO-269	Minimum Aviation System Performance Standards (MASPS) for the Aeronautical Mobile-Satellite (R) Service (AMS(R)S) as Used in Aeronautical Data Links	June 12, 2001	active	
RTCA DO-270w/Chg1	Minimum Operational Performance Standards for Aircraft VDL Mode 3 Transceiver Operating in the Frequency Range 117.975-137.000 MHz	April 14, 2009	active	
RTCA DO-271C	Minimum Operational Performance Standards for Aircraft VDL Mode 3 Transceiver Operating in the Frequency Range 117.975-137.000 MHz	November 8, 2005	active	

Standard Designation	Standard Title	Standard Date	Status	Timeframe
RTCA DO-274	Next Generation Air/Ground Communications (NEXCOM) Principles of Operation	October 12, 2001	active	
RTCA DO-277	Minimum Aviation System Performance Standards (MASPS) for the High Frequency Data Link Operating in the Aeronautical Mobile (Route) Service (AM (R)S)	March 5, 2002	active	
RTCA DO-279	Next Generation Air/Ground Communications (NEXCOM) Principles of Operation VDL Mode 3	March 5, 2002	active	
RTCA DO-280B	Interoperability Requirements Standard For ATN Baseline 1 (INTEROP ATN B1)	June 26, 2007	active	
RTCA DO-281A	Minimum Operational Performance Standards for Aircraft VDL Mode 2 Physical, Link and Network Layer	November 8, 2005	active	
RTCA DO-284w/Chg1	Physical, Link and Network Layer Next Generation Air/Ground Communication System (NEXCOM) Safety and Performance Requirements (SPR)	June 25, 2003	active	
RTCA DO-285	Next Generation Air/Ground Communications (NEXCOM) VDL Mode 3 Interoperability	April 10, 2003	active	
RTCA DO-287	Plans and Principles for the Implementation of Aeronautical Data Link System (ADLS) Edition 1. Aeronautical Telecommunication Network (ATN) Baseline 1 Implementation and ADSL Build IIA & IIB	June 25, 2003	active	
RTCA DO-288	Next Generation Air/Ground Communication System (NEXCOM) Implementation Considerations: Factors and Issues to be Considered in Planning for the Transition to Air/Ground, ICAO, VDL Mode 3 Based Integrated Voice Data Comm. in the U.S. Nat. Airspace Sys.	October 28, 2003	active	
RTCA DO-290wChng1&Chng2	Safety and Performance Requirements Standard for Air Traffic Data Link Services in Continental Airspace (Continental SPR Standard) Safety Requirements for Aeronautical Operational Control (AOC)	June 26, 2007	active	
RTCA DO-296	Datalink Messages	October 19, 2004	active	
RTCA DO-305	Future Air Navigation System 1/A (FANS 1/A) - Aeronautical Telecommunication Network (ATN) Interoperability Standard	June 26, 2007	active	
RTCA DO-306	Safety and Performance Standard for Air Traffic Data Link Services in Oceanic and Remote Airspace (Oceanic SPR Standard)	October 11, 2007	active	
ICAO Doc 9880	Manual of Technical Provisions for the Aeronautical Telecommunication Network	Late 2010	draft	Near-Term(2012)
ICAO Doc 4444 update	Update ICAO PANS ATM to include standards on trajectory flight data	2010		Near-Term(2012)
ICAO Doc 9776 update	Update VHF Digital Link (VDL) Mode 2 with data link standards	2010		Near-Term(2012)
New ICAO document	Develop detailed technical specifications for Aeronautical Telecommunications	2014		Mid-Term(2018)
ICAO Annex 10 update	Update with C-Band wireless communications standards	2012		Near-Term(2012)
ICAO Annex 10 update	Ensure automated data exchanges between AOC and dispatch with ATN	2013		Mid-Term(2018)
RTCA Doc www	Airport Surface Wireless Communications System Standard based on RTCA DO-280B	2011		Near-Term(2012)
RTCA Doc xxx	Safety and Performance Standard for Advanced ATS Data Communications	December 1, 2001		Near-Term(2012)

Standard Designation	Standard Title	Standard Date	Status	Timeframe
RTCA Doc yyy	Interoperability Standard for Data Communication Via ATN	December 1, 2001		Near-Term(2012)
RTCA Doc zzz	Interoperability Standard for Data Communication Via a Mix of ATN and other protocols	December 1, 2001		Near-Term(2012)
7.6 Navigation				
DOD GPS SPSPS	Global Positioning System Standard Positioning Service Performance Standard	September 1, 2008	active	
FAA WAASPS	Global Positioning System Wide Area Augmentation System (WAAS) Performance Standard	October 31, 2008	active	
	[Large AC] United States (U.S.) National Aviation Standard for the Very High Frequency Omnidirectional Radio Range (VOR)/Distance Measuring Equipment (DME)/Tactical Air Navigation (TACAN) Systems			
FAA AC 00-31A		September 20, 1982	active	
FAA AC 20-57A	Automatic Landing Systems (ALS)	January 12, 1971	active	
FAA AC 20-129	Airworthiness Approval of Vertical Navigation (VNAV) Systems for use in the U.S. National Airspace System (NAS) and Alaska	September 12, 1998	active	
FAA AC 20-130A	Advisory Circular Airworthiness Approval of Navigation or Flight Management Systems Integrating Multiple Navigation Sensors	June 14, 1995	active	
FAA AC 20-138A	Advisory Circular Airworthiness Approval of GPS Navigation Equipment for Use as a VFR and IFR Navigation System	December 22, 2003	active	
FAA AC 20-152	Design Assurance Guidance for Airborne Electronic Hardware (DO-254)	July 5, 2005	active	
FAA AC 90-45A w/chg 2	Approval of Area Navigation Systems for use in the U.S. National Airspace System	February 21, 1975	active	
FAA AC 90-58C	VOR Course Errors Resulting from 50 kHz Channel Mis-Selection	April 7, 1975	active	
FAA AC 90-79	Recommended Practices and Procedures for the Use of Electronic Long-Range Navigation	July 14, 1980	active	
FAA AC 90-94	Advisory Circular Guidelines for Using GPS Equipment	December 14, 1994	cancelled	
	Approval of U.S. Operators and Aircraft to Operate Under Instrument Flight Rules (IFR) in European Airspace Designated for Basic Area Navigation (B-RNAV) and Precision Area Navigation (P-RNAV)			
FAA AC 90-96A		January 13, 2005	active	
FAA AC 90-100A	U.S Terminal and En Route Area Navigation (RNAV) Operations	March 1, 2007	active	
FAA AC 90-101	Approval Guidance for RNP Procedures with SAAAR	December 15, 2005	active	
FAA AC 91-16	Category II Operations - General Aviation Airplanes	August 7, 1967	active	
FAA AC 120-28D	Criteria for Approval of Category III Weather Minima for Takeoff, Landing, and Rollout	July 13, 1999	active	
FAA AC 120-29A	Criteria for Approval of Category I and Category II Weather Minima for Takeoff, Landing, and Rollout	August 12, 2002	active	
FAA Order 8260.3B w/Chg20	United States Standard for Terminal Instrument Procedures (TERPS)	December 3, 2001	active	
FAA Order 8260.38A	Civil Utilization of Global Positioning System (GPS)	April 5, 1995	superceded by order 8260.54A	
FAA Order 8260.44 w/Chg2	Civil Utilization of Area Navigation (RNAV) Departures Procedures	March 23, 2000	active	

Standard Designation	Standard Title	Standard Date	Status	Timeframe
FAA Order 8260.48	Area Navigation (RNAV) Approach Construction Criteria United States Standard for Wide Area Augmentation System (WAAS)	April 8, 1999	superceded by order 8260.54A	
FAA Order 8260.50	LPV Approach Procedure Contruction Criteria	September 6, 2002	active	
FAA Order 8260.51	U.S. Standard for Required Navigation (RNP) Instrument Approach U.S. Standard for RNP Approach Procedures With Special Aircraft & Aircrew Authorization Required (SAAAP)	December 30, 2002	superceded by order 8260.54A	
FAA Order 8260.52	The United States Standard for Area Navigation (RNAV)	July 3, 2005	active	
FAA Order 8260.54A		December 7, 2007	active	
FAA Order 8400-12A	Required Navigation Performance 10 (RNP-10) Operational Approval ILS Glide Slope Receiving Equipment Operating Within the Radio Frequency Range of 328.6-335.4 MHz	February 9, 1998	active	
FAA TSO-C34e	VOR Receiving Equipment Operating Within The Radio Frequency Range Of 108-117.95 Megahertz (MHz)	August 13, 2004	active	
FAA TSO-C40c	Distance Measuring Equipment (DME) Operating Within The Radio Frequency Range of 960-1215 Megahertz	January 1, 1994	active	
FAA TSO-C66c	Airborne Area Navigations Equipment Using Multi-Sensor Inputs	November 8, 2005	active	
FAA TSO-C115b	Technical Standard Order Airborne Supplemental Navigation Equipment Using the GPS	September 30, 1994	active	
FAA TSO-C129a		February 20, 1996	active	
FAA TSO-C144	Passive Airborne Global Navigation Satellite System (GNSS) Antenna Technical Standards Order Airborne Navigation Sensors Using the GPS Augmented by the Wide Area Augmentation System	March 30, 2007	active	
FAA TSO-C145c	Technical Standards Order Stand-Alone Airborne Navigation Equipment Using the GPS Augmented by the Wide Area Augmentation System	May 2, 2008	active	
FAA TSO-C146c	Avionics Supporting Next Generation Satellite Systems (NGSS) Ground Based Augmentation System Positioning and Navigation Equipment	May 9, 2008	active	
FAA TSO C159	Ground Based Augmentation System Very High Frequency Data Broadcast Equipment	September 20, 2004	active	
FAA TSO C161		May 30, 2003	active	
FAA TSO C162		May 30, 2003	active	
FAA TSO-C190	Active Airborne Global Navigation Satellite System (GNSS) Antenna	March 20, 2007	active	
FAA-E-2892Bw/chg1&2	Wide Area Augmentation System (WAAS) Specification	August 13, 2001	active	
FAA-E-2963	WAAS Geostationary Communications and Control Segment (GCCS) (Draft)	June 1, 2002	active	
FAA-E-2976	Wide Area Augmentation System Procurement Specification Preplanned Product Improvements for Full LPV Performance	June 23, 2007	active	
FAA-E-AJW44-2937A	Category I Local Area Augmentation System Ground Facility	October 21, 2005	active	
ICAO Annex 10 Volume 1, 6th Ed.	International Civil Aviation Organization (ICAO) Annex 10, Volume 1 - Aeronaautical Telecommunication - Part 1 Equipment Services	July 1, 2006	active	

Standard Designation	Standard Title	Standard Date	Status	Timeframe
ICAO Doc 9613 3rd Ed.	Performance Based Navigation Manual, 3rd Edition	2008	active	
ICAO Doc 9849	Global Navigation Satellite System (GNSS) Manual	2005	active	
IS-GPS-200 RevD with IRN-200C-001	Navstar GPS Space Segment/Navigation User Interfaces	March 7, 2006	active	
IS-GPS-705 with IRN-705-001,002,003	NavstarGOS Space Segment/User Segment L5 Interfaces	September 22, 2005	active	
IS-GPS-800	Navstar GPS Space Segment/User Segment L1C Interfaces Environmental Conditions and Test Procedures for Airborne Equipment		draft	
RTCA DO-160F	Minimum Operational Performance Standards for Airborne Distance Measuring Equipment (DME) Operating within the Radio Frequency Range of 960-1215 MHz	December 6, 2007	active	
RTCA DO-189	Minimum Operational Performance Standards for Airborne ILS Glide Slope Receiving Equipment Operating within the Radio Frequency Range of 960-1215 MHz	September 20, 1985	active	
RTCA DO-192	Minimum Operational Performance Standards for Airborne ILS Localizer Receiving Equipment Operating within the Radio Frequency Range of 328.6-335.4 Megahertz	July 18, 1986	active	
RTCA DO-195	Minimum Operational Performance Standards for Airborne VOR Receiving Equipment Operating within the Radio Frequency Range of 108- 112 Megahertz	November 17, 1986	active	
RTCA DO-196	Minimum Operational Performance Standards for Airborne VOR Receiving Equipment Operating within the Radio Frequency Range of 108- 117.95 Megahertz	November 17, 1986	active	
RTCA DO-208 w/chg1	Minimum Equipment Performance Standards (MOPS) for Airborne Supplemental Navigation Equipment Using Global Positioning System (GPS)	September 21, 1993	active	
RTCA DO-228 w/Chng 1	Minimum Operational Performance Standards for Global Navigation Satellite Systems (GNSS) Airborne Antenna Equipment	January 11, 2000	active	
RTCA DO-229Dw/errata	Minimum Operational Performance Standards for Global Positioning System/Wide Area Augmentation System Airborne Equipment	July 31, 2008	active	
RTCA DO-235B	Assessment of Radio Frequency Interference Relevant to the GNSS L1 Frequency Band	March 13, 2008	active	
RTCA DO-236B	Minimum Aviation Systems Performance Standards: Required Navigation Performance for Area Navigation	October 28, 2003	active	
RTCA DO-245A	Minimum Aviation System Performance Standards for the Local Area Augmentation System (LAAS)	December 9, 2004	active	
RTCA DO-246D	GNSS Based Precision Approach Local Area Augmentation System (LAAS) Signal-in-Space Interface Control Document (ICD)	December 16, 2008	active	
RTCA DO-247	The Role of the Global Navigation Satellite System (GNSS) in Supporting Airport Surface Operations	January 7, 1999	active	

Standard Designation	Standard Title	Standard Date	Status	Timeframe
RTCA DO-253C	Minimum Operational Performance Standards for Global Positioning System/Local Area Augmentation System Airborne Equipment	December 16, 2008	active	
RTCA DO-254	Design Assurance Guidelines for Airborne Electronic Hardware	April 19, 2000	active	
RTCA DO-261	NAVSTAR GPS L5 Signal Specification	December 14, 2000	active	
RTCA DO-262	Minimum Operational Performance Standards for Avionics Supporting Next Generation Satellite Systems (NGSS)	November 28, 2001	legacy	
RTCA DO-262A	Minimum Operational Performance Standards for Avionics Supporting NGSS – including Iridium Satellite Normative Appendix	December 16, 2008	active	
RTCA DO-262A	Minimum Operational Performance Standards for Required Navigation Performance for Area Navigation	October 28, 2003	active	
RTCA DO-262A	Assessment of Radio Frequency Interference Relevant to the GNSS L5/E5A Frequency Band	July 29, 2004	active	
RTCA DO-301	Minimum Operational Performance Standards for Global Navigation Satellite System (GNSS) Airborne Active Antenna Equipment for the L1 Frequency Band	December 13, 2006	active	
RTCA DO-310	Minimum Operating Performance Standards for GPS-based Regional Augmentation Airborne Equipment	March 13, 2008	active	
IS-GPS-800	Navstar GPS Space Segment/User Segment L1C Interfaces		draft	Near-Term(2012)
	Multi-constellation GNSS Avionics	-2014		Mid-Term(2018)
	Dual Frequency SBAS/WAAS Avionics	-2014		Mid-Term(2018)
	Dual Frequency GBAS/LASS Avionics	-2014		Mid-Term(2018)
ICAO Doc 8168 update	Changes to support SBAS approaches to 200 feet for WAAS	2009		Near-Term(2012)
ICAO Doc 9613 update	Update PBN RNAV manual to include advanced RNP	2012		Near-Term(2012)
ICAO Annex 6 update	Redefine the terms Category I, II and III operations to allow for Category II operations on Type I ILS equipment	2017		Mid-Term(2018)
FAA AC 210-28C update	Redefine the terms Category I, II and III operations to allow for Category II operations on Type I ILS equipment	2017		Mid-Term(2018)
FAA AC 120-29A update	Redefine the terms Category I, II and III operations to allow for Category II operations on Type I ILS equipment	2017		Mid-Term(2018)
7.7 Surveillance				
EUROCONTROL	Surveillance Data Exchange - Part 1 - All purpose STructured Eurocontrol SuRveillance Information eXchange format (ASTERIX)	November 1, 2007	active	
	Safety and Interoperability Requirements for Initial Domestic Flight Information Service - Broadcast			
FAA AC 20-149	Aircraft Surveillance Systems and Applications	August 31, 2005	active	
FAA AC 120-86	Universal Access Transceiver (UAT) Automatic Dependent Surveillance - Broadcast (ADS-B) Equipment	September 15, 2005	active	
FAA TSO C154b	Technical Standards Order Automated Dependent Surveillance - Broadcast (ADS-B) and Traffic Information Service - Broadcast (TIS-B) Equipment Operating in Frequency 1090 Megahertz (MHz)	December 21, 2006	active	
FAA TSO C166a		December 21, 2006	active	

Standard Designation	Standard Title	Standard Date	Status	Timeframe
ICAO Annex 10, Vol IV, 6th Ed.	Convention on International Civil Aviation Aeronautical Telecommunication, Annex 10, Volume IV, 6th Edition	July 1, 2007	active	
ICAO Doc 9476w/amdt1&2	Manual for Surface Movement Guidance and Control Systems (SMGCS)	June 1, 2007	active	
ICAO Doc 9684	Manual on the Secondary Surveillance Radar (SSR) Systems.	2004	active	
ICAO Doc 9688	Manual on Mode S Specific Services, 2nd Edition	2004	active	
	Manual of Regulations and Procedures for Federal Radio Frequency Management January 2008 Edition May 2008 Revision	May 1, 2008	active	
NTIA Redbook	Minimum Operational Characteristics-Airborne ATC Transponder Systems	October 2, 2008	active	
RTCA DO-144A	Minimum Operational Performance Standards for Air Traffic Control Radar Beacon System/Mode Select (ATCRBS/Mode S) Airborne Equipment	October 2, 2008	active	
RTCA DO-181D	Minimum Operational Performance Standards for the Mode S Airborne Data Link Processor	October 2, 2008	active	
RTCA DO-218B	Operations Concepts for Data Link Applications of Flight Information Services	June 12, 2001	cancelled	
RTCA DO-232	Minimum Operational Performance Standards for Traffic Information Service (TIS) Data Link Communications	March 13, 1996	active	
RTCA DO-239	Operational Concepts and Data Elements Required to Improve Air Traffic Management (ATM) Aeronautical Operational Control (AOC) Ground-Ground Information Exchange to Facilitate Collaborative Decision Making	April 2, 1997	active	
RTCA DO-241	Minimum Aviation System Performance Standards for Automated Dependent Surveillance Broadcast (ADS-B)	October 6, 1997	active	
RTCA DO-242A w/Chng1	Development and Implementation Planning Guide for Automatic Dependent Surveillance Broadcast (ADS-B) Applications	December 13, 2006	active	
RTCA DO-249	Minimum Operational Performance Standards for 1090 MHz Extended Squitter Automated Dependent Surveillance - Broadcast (ADS-B) and Traffic Information Services - Broadcast (TIS-B)	October 6, 1999	active	
RTCA DO-260Aw/Chg1&Chg2	Application of Airborne Conflict Management: Detection, Prevention, & Resolution	December 13, 2006	active	
RTCA DO-263	Minimum Aviation System Performance Standards (MASPS) for Flight Information Service - Broadcast (FIS-B) Data Link	December 14, 2000	active	
RTCA DO-267A	Minimum Operational Performance Standards for Universal Access Transceiver (UAT) Automated Dependent Surveillance - Broadcast (ADS-B)	April 29, 2004	active	
RTCA DO-282Aw/Chg1	Minimum Aviation System Performance Standards (MASPS) for Traffic Information Service - Broadcast (TIS-B)	July 29, 2006	active	
RTCA DO-286B	Minimum Aviation System Performance Standards for Aircraft Surveillance Applications (ASA) Change 1	October 11, 2007	active	
RTCA DO-289w/Chg1	Minimum Aviation System Performance Standards for Aircraft Surveillance Applications (ASA) Change 1	December 13, 2006	active	

Standard Designation	Standard Title	Standard Date	Status	Timeframe
RTCA DO-302	Minimum Operational Performance Standard for Surveillance Transmitting System (STS)	December 13, 2006	active	
RTCA DO-303 ICAO Doc 8168 update	Safety, Performance and Interoperability Requirements Document for the ADS-B Non-Radar Airspace (NRA) Application Update ICAO PANS OPS with ADS-B separation standards	December 13, 2006 2010	active	Near-Term(2012)
7.8 Airspace and Procedures				
DOT Order 5610.1w/Chg 1 & 2	Procedures for Considering Environmental Impacts	July 30, 1985	active	
FAA Airspace Handbook V2.2	FAA Airspace Management Handbook Version 2.2	December 1, 2005	active	
FAA Order 1050.1E w/Chg1	Environmental Impacts: Policies and Procedures	March 20, 2006	active	
FAA Order 1110.139B	Performance-Based Operations Aviation Rulemaking Committee	March 10, 2008	active	
FAA Order 1110.147	ADS-B Aviation Rulemaking Committee	July 15, 2007	cancelled	
FAA Order 1110.149	Takeoff/Landing Performance Assessment Aviation Rulemaking Committee	October 12, 2007	active	
FAA Order 5050.4	National Environmental Policy Act (NEPA) Implementing Instructions for Airports	April 28, 2006	active	
FAA Order 7100.9D	Standard Terminal Arrival Program and Procedures	December 11, 2003	active	
FAA Order 7130.3A	Holding Pattern Criteria	March 18, 1998	active	
FAA Order JO 7210.3V w/Chg2	Facility Operation and Administration	February 14, 2008	active	
FAA Order 7210.60	Policies and Procedures for Validating New/Revised Sectors/Positions in Terminal and Enroute Air Traffic Facilities	October 15, 2003	active	
FAA Order JO 7400.2G	Procedures for Handling Airspace Matters	April 10, 2008	active	
FAA Order 8260.15E	United States Army Terminal Instrument Procedures Service	February 2, 2007	active	
FAA Order 8260.16	Airport Obstruction Surveys	July 25, 1969	active	
FAA Order 8260.19Dw/Chg1	Flight Procedures and Airspace	July 11, 2008	active	
FAA Order 8260.23	Calculation of Radio Altimeter Height	September 6, 1971	active	
FAA Order 8260.26D	Establishing and Scheduling Civil Public-Use Standard Instrument Procedure Effective Dates	August 9, 2004	active	
FAA Order 8260.3B w/Chg20	United States Standard for Terminal Instrument Procedures (TERPS)	December 3, 2001	active	
FAA Order 8260.38A	Civil Utilization of Global Positioning System (GPS)	April 5, 1995	superceded by order 8260.54A	
FAA Order 8260.31B	Foreign Terminal Instrument Procedures	March 11, 1985	active	
FAA Order 8260.32D	U.S. Air Force Terminal Instrument Procedures Service	September 7, 2004	active	
FAA Order 8260.37	Heliport Civil Utilization of Collocated Microwave Landing System (MLS)	September 27, 1991	active	
FAA Order 8260.40B	Flight Management System (FMS) Instrument Procedures Development	December 31, 1998	active	
FAA Order 8260.42A	Helicopter Global Positioning System (GPS) Nonprecision Approach Criteria	June 11, 1997	active	
FAA Order 8260.43A	Flight Procedures Management Program	October 22, 2001	active	
FAA Order 8260.44 w/Chg2	Civil Utilization of Area Navigation (RNAV) Departures Procedures	March 23, 2000	active	
FAA Order 8260.45A	Terminal Arrival Area (TAA) Design Criteria	July 14, 2000	active	

Standard Designation	Standard Title	Standard Date	Status	Timeframe
FAA Order 8260.46D	Instrument Departure Procedure (DP) Program	August 20, 2009	active	
FAA Order 8260.48	Area Navigation (RNAV) Approach Construction Criteria	April 8, 1999	superceded by order 8260.54A	
FAA Order 8260.49	Simultaneous Offset Instrument Approach (SOIA)	June 23, 2006	active	
FAA Order 8260.51	U.S. Standard for Required Navigation (RNP) Instrument Approach U.S. Standard for RNP Approach Procedures With Special Aircraft & Aircrew Authorization Required (SAAAP)	December 30, 2002	superceded by order 8260.54A	
FAA Order 8260.52	Standard Instrument Departures That Use Radar Vectors to Join RNAV Routes	July 3, 2005	active	
FAA Order 8260.53	The United States Standard for Area Navigation (RNAV)	July 25, 2005	active	
FAA Order 8260.54A	Big Airspace Study - On-Going Operational Test	December 7, 2007	active	
ICAO Doc 8168 update	Update ICAO PANS OPS with ADS-B separation standards Policies and procedures need to be developed for approving operating procedures based on information derived from non-government sources; Insure ICAO PRN manual is consistent with US priorities in FAA Notice 8260.66	2010 2011		Near-Term(2012)
FAA Notice 8260.66	Refine terms non-precision, approach and vertical guidance, precision approach and landing operation to 2D and 3D operations	2012		Near-Term(2012)
ICAO Annex 6 update	Update to include separation criteria	2012		Near-Term(2012)
ICAO Annex 6 update	Update or amend to decrease speed variations	2012		Near-Term(2012)
ICAO Annexes 6 & 8 updates	Include contaminated runway takeoff and landing performance requirements	2015		Mid-Term(2018)
ICAO Doc 8168 update	Update ICAO PANS OPS to include ADS-C in-trail procedures	2014		Mid-Term(2018)
ICAO Annex 6 update	Update or amend to progress RVSM long-term monitoring standards	2014		Mid-Term(2018)
ICAO Annex 6 update	Redefine the terms Category I, II and III operations to allow for Category II operations on Type I ILS equipment	2017		Mid-Term(2018)
FAA AC 210-28C update	Redefine the terms Category I, II and III operations to allow for Category II operations on Type I ILS equipment	2017		Mid-Term(2018)
FAA AC 120-29A update	Redefine the terms Category I, II and III operations to allow for Category II operations on Type I ILS equipment	2017		Mid-Term(2018)
General and Safety Standards	See Sections 7.1 and 7.9			
7.9 Safety				
FAA NAS Mod SSMP	NAS Modernization System Safety Management Program	March 24, 2003	superceded by the SRMGSA	
FAA AC 25.1309-1A	System Design and Analysis	June 21, 1988	active	
FAA ATO	Safety Management System Manual, Version 2.1	May 1, 2008	active	
FAA Order 1100.161 w/Chg1	Aviation Safety Oversight	August 11, 2006	active	
FAA Order 8040.4	Safety Risk Management	June 26, 1998	active	
FAA Order 8740.1E	Aviation Safety Team Program Manager's Handbook	May 30, 2007	active	
FAA Order JO 1000.37	Air Traffic Organization Safety Management System	March 19, 2007	active	

Standard Designation	Standard Title	Standard Date	Status	Timeframe
FAA SRMGSA V1.4a	Safety Risk Management Guidance for System Acquisitions	February 8, 2007	active	
FAA SSH	System Safety Handbook	December 30, 2000	active	
ICAO Annex 11, 13th Ed.	Convention on International Civil Aviation Aeronautical Telecommunication, Annex 11, 13th Edition, Section 2.26	July 1, 2001	active	
ICAO Doc 9859 AN/460	ICAO Safety Management Manual (SMM)	2006	active	
RTCA DO-178B	Software Considerations in Airborne Systems and Equipment Certification Guidelines for Approval of the Provision and Use of Air Traffic Services Supported by Data Communications	December 1, 1992	active	
RTCA DO-264	Guidelines for Communications, Navigation, Surveillance, and Air Traffic Management (CNS/ATM) Systems Software Integrity	December 14, 2000	active	
RTCA DO-278	Assurance Aerospace Recommended Practice - Guidelines and Method for Conducting Safety Assessment Process on Airborne Systems and Equipment	March 5, 2002	active	
SAE ARP4761	Update the Collision Risk Model (CRM); support expansion of CRM to other phases of flight	December 1, 1996	active	
ICAO Doc 8168 update		2010		Near-Term(2012)
New ICAO document	Develop an ICAO database for Operations Specifications Data	2016		Mid-Term(2018)
7.10 Facilities				
FAA	General Services Delivery Point Preliminary Requirements Document (pRD)	not yet released	proposed	
FAA	Business Continuity Strategy	not yet released	proposed	
FAA HDBK-001	Design Handbook for Energy Efficiency and Water Conservation in NAS Facilities	December 30, 1997	active	
FAA Order JO 7210.3V w/Chg2	Facility Operation and Administration	February 14, 2008	active	
FAA STD-019E	Lightning and Surge Protection, Grounding, Bonding and Shielding Requirement for Facilities and Electrical Equipment	December 22, 2005	active	
FAA STD-032	Design Standards for National Airspace System Facilities	August 1, 1996	active	
FAA	General Services Delivery Point Preliminary Requirements Document (pRD)	not yet released	proposed	Near-Term(2012)
FAA	Business Continuity Strategy	not yet released	proposed	Near-Term(2012)
See also Section 7.12 Environmental				
7.11 Human-System Integration (HSI)				
FAA HF-STD-004	Requirements for a Human Factors Program	June 1, 2009	active	
	See also Section 5.0 Human Factors Standards			
7.12 Environmental				
JPDO Paper No. 08-009	Environmental Management System Strategy and Framework for the Next Generation Transportation System	8/15/2008	active	
FAA Order 1050.1E w/Chg1	Environmental Impacts: Policies and Procedures	3/20/2006	active	
FAA EMS	Environmental Management System (EMS)		active	

Standard Designation	Standard Title	Standard Date	Status	Timeframe
FAA AMS (energy & env clauses)	FAA Acquisition Management System (energy and environment clauses)		active	
NEPA	National Environmental Policy Act (for construction, etc.)		active	
14 CFR 36	Noise Standards, Aircraft Type and Airworthiness Certification		active	
40 CFR 87	Environmental Protection-Control of Air Pollution from Aircraft and Aircraft Engines, EPA		active	
14 CFR 34	Aeronautics and Space-Fuel Venting and Exhaust Emission Requirements for Turbine Engine Powered Airplanes, FAA		active	

Appendix A - Status Code Definitions

Active	Published standard currently in used by the FAA; mandatory for new system/program starts unless waivered
Cancelled	No longer used in FAA legacy systems
Draft	Standard under development by the related standards body, but not yet published
Future	Published standard approved for mandated, future use by the FAA
Legacy	Published standard not required for new system/project starts, but was required for some FAA legacy systems
Needed	A standard required for the eventual implementation of the Next Generation Air Transportation System or one of its components
Proposed	Published standard under discussion for future use by the FAA
Superseded	Published standard replaced by another document

Appendix B - Sources of Standards

ANSI – American National Standards Institute

1819 L Street, NW, Washington, DC 20036

www.ansi.org Standards are available for purchase.

ATM Forum – now the IP/MPLS Forum

48377 Fremont Blvd., Suite 117, Fremont, CA 94538

www.ipmplsforum.org/tech/atm_specs.shtml Standards are free.

DOT Orders – Documents are on the Tech Ctr Library intranet page

EIA – Electronics Industries Alliance

Standards available for purchase from Global Engineering Documents or Information Handling Services (IHS).

EUROCONTROL – The European Organization for The Safety of Air Navigation

Rue de la Fusée 96, B-1130 Brussels, Belgium

www.eurocontrol.int Standards are free.

FAA Advisory Circulars and Technical Standards Orders

rgl.faa.gov

FAA Handbooks and Standards

ato-p.se-apps.faa.gov/faastandards/

FAA HF Standards

hf.tc.faa.gov/hfds/

FAA NAS Documents

actlibrary.tc.faa.gov/nasdoc.html

FAA Orders

See employees.faa.gov “Orders and Notices”.

FAA Specifications

Nasdigitallibrary.amc.faa.gov on the intranet and/or contract the appropriate FAA program office.

ICAO Publications and Annexes – International Civil Aviation Organization

ICAO, 999 University Street, Montréal, Quebec H3C 5H7, Canada

www.icao.org Standards are available for purchase.

IEEE – (started as the Institute of Electrical and Electronics Engineers now just referred to as IEEE)
www.ieee.org Standards are available for purchase.

IETF – Internet Engineering Task Force
www.ietf.org or www.faqs.org Standards are free.

ISO – International Organization for Standardization
www.iso.org Standards are available for purchase.

ITU – International Telecommunications Union
www.itu.int Standards are free.

JAVA Documents – Available through the JAVA Community Process
www.jcp.org Standards are free

Military Standards (MIL Standards)
assist.daps.dla.mil/quicksearch/ Standards are free

NIST FIPS Publications
csrc.nist.gov/publications/PubsFIPS.html Standards are free

NIST Special Publications
csrc.nist.gov/publications/PubsSPs.html Standards are free

OGC -- The Open Geospatial Consortium
www.opengeospatial.org/standards Standards are free.

OMG – The Object Management Group
www.omg.org/omg_specifications/index.htm Standards are free.

Open Group
www.opengroup.org Standards are available for purchase.

RTCA, Inc (started as Radio Technical Commission for Aeronautics now referred to as just RTCA)
1828 L Street, NW, Suite 805, Washington, DC 20036
www.rtca.org Standards are available for purchase
Standards are on the Tech Center Library intraweb page

SAE International – (started as Society of Automotive Engineers now referred to as just SAE)
SAE World Headquarters, 400 Commonwealth Drive,
Warrendale, PA 15096-0001
www.sae.org Standards are available for purchase