Status of X-series Recommendations

(Revised 17 October 2012)

These tables give the status of the work program for the ITU-T X-series Recommendations under the responsibility of Study Group 17. These tables provide X-series Recommendations (approved and draft texts) including for each:

– Recommendation number

– Full title of Recommendation

– Approval year for current edition and, if not published, the location of the text

– An indication whether the current edition is common text (C) with ISO/IEC or twin (T) with ISO/IEC or other SDO or is not collaborative (I)

– Name of the editor

– Location of the latest text for on-going work

– Number of the ISO/IEC equivalent standard, if there is one

– Target date (date of study group or working party "*consent*" or “*determination*” meeting) for on-going work

– An indication whether the on-going work is intended to be common text (C) with ISO/IEC or twin (T) with ISO/IEC or other SDO or is not collaborative (I)

– Tentative assignment of drafts texts to X-subseries numbering spaces.

All X-series Recommendations are the responsibility of Study Group 17 except:

– Recommendations X.1 through X.25, X.28 through X.49, X.60 through X.84, X.90 through X.159, X.180 through X.199, X.272 and the X.300-series which are under the responsibility of Study Group 13

– Recommendations X.26 (V.10) and X.27 (V.11) which are under the responsibility of Study Group 16

– Recommendations X.50 through X.58, X.85/Y.1321, X.86/Y.1323 and X.87/Y.1324 which are under the responsibility of Study Group 15

– X.160-series, X.170-series and X.700-series of Recommendations which are under the responsibility of Study Group 2

– Recommendations X.600 through X.609 which are under the responsibility of Study Group 11

In addition to the X-series Recommendations, there are several Implementers’ Guides which reflect the status of work on defects discovered since publication.

*Notes to the tables:*

AAP denotes Last Call or Additional Review text

ISP denotes International Standardized Profile

LATEST TEXT\* denotes series of Recommendations subject to Implementers' Guide

TAP denotes determined text

TC denotes Technical Corrigendum

TR denotes Technical Report

**PUBLIC DATA NETWORKS**

Services and Facilities

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | ISO/IEC | TARGET | |
| No. | TITLE | PUBLICATION | | TEXT | EQUIVALENT | DATE | |
| X.1 | International user classes of service in, and categories of access to, public data networks and Integrated Services Digital Networks (ISDNs) | 2000 | I | 13 | 20 | Valentine Ossipov |  | None |  |  |
| X.2 | International data transmission services and optional user facilities in public data networks and ISDNs | 2000 | I | 13 | 20 | Valentine Ossipov |  | None |  |  |
| X.3 | Packet Assembly/Disassembly facility (PAD) in a public data network | 2000 | I | 13 | 20 | Edmond J. Blausten |  | None |  |  |
| X.4 | General structure of signals of International Alphabet No. 5 code for character oriented data transmission over public data networks | 1988 | I | 13 | 20 |  |  | related to ISO 1177 |  |  |
| X.5 | Facsimile Packet Assembly/Disassembly facility (FPAD) in a public data network | 1996 | I | 13 | 20 | Yasuhiro Obata |  | None |  |  |
| X.6 | Multicast service definition | 1997 | I | 13 | 20 | Samir Saad |  | None |  |  |
| X.6 Amd.1 | Frame relay PVC multicast service definition | Amd.1 (2000) | I | 13 | 20 | Kamlesh Tewani |  |  |  |  |
| X.7 | Technical characteristics of data transmission services | 2004 | I | 13 | 20 | Valentine Ossipov |  | None |  |  |
| X.8 | Multi-aspect PAD (MAP) framework and service definition | 1994 | I | 13 | 20 |  |  | None |  |  |
| X.10 | Categories of access for data terminal equipment (DTE) to public data transmission services | Withdrawn |  |  |  |  | See X.1 | None |  |  |
| X.15 | Definition of terms concerning public data networks | Withdrawn |  |  |  |  |  | None |  |  |

Interfaces

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | ISO/IEC | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | EQUIVALENT | DATE | |
| X.20 | Interface between Data Terminal Equipment (DTE) and Data Circuit-terminating Equipment (DCE) for start-stop transmission services on public data networks | 1988 | I | 13 | 20 |  |  | None |  |  |
| X.20*bis* | Use on public data networks of Data Terminal Equipment (DTE) which is designed for interfacing to asynchronous duplex V-Series modems | 1988 | I | 13 | 20 |  |  | None |  |  |
| X.21 | Interface between Data Terminal Equipment and Data Circuit-terminating Equipment for synchronous operation on public data networks | 1992 | I | 13 | 20 |  |  | None |  |  |
| X.21*bis* | Use on public data networks of Data Terminal Equipment (DTE) which is designed for interfacing to synchronous V-Series modems | 1988 | I | 13 | 20 |  |  | None |  |  |
| X.22 | Multiplex DTE/DCE interface for user classes 3-6 | 1988 | I | 13 | 20 |  |  | None |  |  |
| X.24 | List of definitions for interchange circuits between Data Terminal Equipment (DTE) and Data Circuit-terminating Equipment (DCE) on public data networks | 1988 | I | 13 | 20 |  |  | None |  |  |
| X.25 | Interface between Data Terminal Equipment (DTE) and Data Circuit-terminating Equipment (DCE) for terminals operating in the packet mode and connected to public data networks by dedicated circuit | 1996 Cor.1 (1998) | I I | 13 | 20 | Daniel Duclos |  | related to ISO/IEC 7776 and ISO/IEC 8208 |  |  |
| X.26/ V.10 | Electrical characteristics for unbalanced double-current interchange circuits operating at data signalling rates nominally up to 100 kbit/s | 1993 | I | 16 | 14 |  |  | None |  |  |
| X.27/ V.11 | Electrical characteristics for balanced double-current interchange circuits operating at data signalling rates up to 10 Mbit/s | 1996 | I | 16 | 14 |  |  | None |  |  |
| X.28 | DTE/DCE interface for a start-stop mode Data Terminal Equipment accessing the Packet Assembly/Disassembly facility (PAD) in a public data network situated in the same country | 1997 | I | 13 | 20 | R. Selma |  | None |  |  |
| X.28 Amd.1 | Extensions of PAD parameters settings and PAD service signals | Amd.1 (2000) | I | 13 | 20 | Edmond J. Blausten |  | None |  |  |
| X.29 | Procedures for the exchange of control information and user data between a Packet Assembly/Disassembly (PAD) facility and a packet mode DTE or another PAD | 1997 | I | 13 | 20 | R. Selma |  | None |  |  |
| X.30/ I.461 | Support of X.21, X.21*bis* and X.20*bis* based Data Terminal Equipments (DTEs) by an Integrated Services Digital Network (ISDN) | 1993 | I | 13 | 20 |  |  | None |  |  |
| X.31/ I.462 | Support of packet mode terminal equipment by an ISDN | 1995 | I | 13 | 20 |  |  | None |  |  |
| X.32 | Interface between Data Terminal Equipment (DTE) and Data Circuit-terminating Equipment (DCE) for terminals operating in the packet mode and accessing a Packet Switched Public Data Network through a public switched telephone network or an Integrated Services Digital Network or a Circuit Switched Public Data Network | 1996 | I | 13 | 20 | Trevor Davies |  | None |  |  |
| X.33 | Access to packet switched data transmission services via frame relaying data transmission services | 1996 | I | 13 | 20 | Samir Saad |  | None |  |  |
| X.34 | Access to packet switched data transmission services via B-ISDN | 1996 Cor.1 (2000) | I I | 13 | 20 | A. Kiyama |  | None |  |  |
| X.35 | Interface between a PSPDN and a private PSDN which is based on X.25 procedures and enhancements to define a gateway function that is provided in the PSPDN | 1993 | I | 13 | 20 |  |  | None |  |  |
| X.36 | Interface between Data Terminal Equipment (DTE) and Data Circuit-terminating Equipment (DCE) for public data networks providing frame relay data transmission service by dedicated circuit | 2003 | I | 13 | 12 | Claude Kawa |  | None |  |  |
| X.37 | Encapsulation in X.25 packets of various protocols including frame relay | 1995 | I | 13 | 20 | Pascal Ballouard |  | None |  |  |
| X.38 | G3 facsimile equipment/DCE interface for G3 facsimile equipment accessing the Facsimile Packet Assembly/Disassembly facility (FPAD) in a public data network situated in the same country | 1996 | I | 13 | 20 | Yasuhiro Obata |  | None |  |  |
| X.39 | Procedures for the exchange of control information and user data between a Facsimile Packet Assembly/Disassembly (FPAD) facility and a packet mode Data Terminal Equipment (DTE) or another FPAD | 1996 | I | 13 | 20 | Yasuhiro Obata |  | None |  |  |
| X.40 | Standardization of frequency-shift modulated transmission systems for the provision of telegraph and data channels by frequency division of a group | Withdrawn |  |  |  |  |  | None |  |  |
| X.42 | Procedures and methods for accessing a public data network from a DTE operating under control of a generalized polling protocol | 2003 | I | 13 | 20 | Miroslaw Kula |  | None |  |  |
| X.45 | Interface between data terminal equipment (DTE) and data circuit-terminating equipment (DCE) for terminals operating in the packet mode and connected to public data networks, designed for efficiency at higher speeds | 1996 | I | 13 | 20 | Pascal Ballouard |  | None |  |  |
| X.46 | Access to FRDTS via B-ISDN | 1998 | I | 13 | 20 |  |  | None |  |  |
| X.48 | Procedures for the provision of a basic multicast service for data terminal equipments (DTEs) using Recommendation X.25 | 1996 | I | 13 | 20 | Samir Saad |  | None |  |  |
| X.49 | Procedures for the provision of an extended multicast service for data terminal equipments (DTEs) using Recommendation X.25 | 1996 | I | 13 | 20 | Samir Saad |  | None |  |  |

Transmission, Signalling and Switching

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | ISO/IEC | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | EQUIVALENT | DATE | |
| X.50 | Fundamental parameters of a multiplexing scheme for the international interface between synchronous data networks | 1988 | I | 15 | 11 |  |  | None |  |  |
| X.50*bis* | Fundamental parameters of a 48-kbit/s user data signalling rate transmission scheme for the international interface between synchronous data networks | 1988 | I | 15 | 11 |  |  | None |  |  |
| X.51 | Fundamental parameters of a multiplexing scheme for the international interface between synchronous data networks using 10-bit envelope structure | 1988 | I | 15 | 11 |  |  | None |  |  |
| X.51*bis* | Fundamental parameters of a 48-kbit/s user data signalling rate transmission scheme for the international interface between synchronous data networks using 10-bit envelope structure | 1988 | I | 15 | 11 |  |  | None |  |  |
| X.52 | Method of encoding anisochronous signals into a synchronous user bearer | 1988 | I | 15 | 11 |  |  | None |  |  |
| X.53 | Numbering of channels on international multiplex links at 64 kbit/s | 1993 | I | 15 | 11 |  |  | None |  |  |
| X.54 | Allocation of channels on international multiplex links at 64 kbit/s | 1988 | I | 15 | 11 |  |  | None |  |  |
| X.55 | Interface between synchronous data networks using a 6 + 2 envelope structure and single channel per carrier (SCPC) satellite channels | 1988 | I | 15 | 11 |  |  | None |  |  |
| X.56 | Interface between synchronous data networks using an 8 + 2 envelope structure and single channel per carrier (SCPC) satellite channels | 1988 | I | 15 | 11 |  |  | None |  |  |
| X.57 | Method of transmitting a single lower speed data channel on a 64 kbit/s data stream | 1988 | I | 15 | 11 |  |  | None |  |  |
| X.58 | Fundamental parameters of a multiplexing scheme for the international interface between synchronous non-switched data networks using no envelope structure | 1988 | I | 15 | 11 |  |  | None |  |  |
| X.60 | Common channel signalling for circuit switched data applications | 1988 | I | 13 | 20 |  |  | None |  |  |
| X.61 | Signalling System No. 7 - Data user part | Withdrawn |  |  |  |  |  | None |  |  |
| X.70 | Terminal and transit control signalling system for start-stop services on international circuits between anisochronous data networks | 1988 | I | 13 | 20 |  |  | None |  |  |
| X.71 | Decentralized terminal and transit control signalling system on international circuits between synchronous data networks | 1988 | I | 13 | 20 |  |  | None |  |  |
| X.75 | Packet-switched signalling system between public networks providing data transmission services | 1996 Cor.1 (1998) | I I | 13 | 20 | Trevor Davies |  | None |  |  |
| X.76 | Network-to-network interface between public networks providing PVC and/or SVC frame relay data transmission service | 2003 | I | 13 | 12 | Claude Kawa |  | None |  |  |
| X.77 | Interworking procedures between PSPDNs via B-ISDN | 1997 Cor.1 (2000) | I I | 13 | 20 |  |  | None |  |  |
| X.78 | Interworking procedures between networks providing frame relay data transmission service via B-ISDN | 1999 Cor.1 (2000) | I I | 13 | 20 |  |  | None |  |  |
| X.80 | Interworking of interexchange signalling systems for circuit switched data services | 1988 | I | 13 | 20 |  |  | None |  |  |
| X.81 | Interworking between an ISDN circuit-switched and a circuit-switched public data network (CSPDN) | 1988 | I | 13 | 20 |  |  | None |  |  |
| X.82 | Detailed arrangements for interworking between CSPDNs and PSPDNs based on Recommendation T.70 | 1988 | I | 13 | 20 |  |  | None |  |  |
| X.84 | Frame relay – MPLS network interworking | 2004 | I | 13 | 12 | Claude Kawa |  | None |  |  |
| X.85/ Y.1321 | IP over SDH using LAPS | 2001 Cor.1 (2005) | I I | 15 | 11 | Shaohua Yu |  | None |  |  |
| X.85/ Y.1321 Amd.1 | Bit oriented method for LAPS | 2004 | I | 15 | 11 | Shaohua Yu |  | None |  |  |
| X.85/ Y.1321 Amd.2 | Additional SAPI values for encapsulated protocols | 2009 | I | 15 | 11 | Shaohua Yu |  | None |  |  |
| X.86/ Y.1323 | Ethernet over LAPS | 2001 | I | 15 | 11 | Shaohua Yu |  | None |  |  |
| X.86/ Y.1323 Amd.1 | Using Ethernet flow control as rate limiting | 2002 | I | 15 | 11 | Shaohua Yu |  | None |  |  |
| X.87/ Y.1324 | Multiple services ring based on RPR | 2003 | I | 15 | 11 | Shaohua Yu |  | None |  |  |

Network Aspects

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | ISO/IEC | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | EQUIVALENT | DATE | |
| X.92 | Hypothetical reference connections for public synchronous data networks | 1988 | I | 13 | 20 |  |  | None |  |  |
| X.96 | Call progress signals in public data networks | 2000 | I | 13 | 20 | Valentine Ossipov |  | None |  |  |
| X.110 | International routing principles and routing plan for public data networks | 2002 | I | 13 | 20 | Kamlesh Tewani |  | None |  |  |
| X.111 | Routing between public frame relay networks | 2003 | I | 13 | 20 | Peter Hicks |  | None |  |  |
| X.115 | Definition of address translation capability in public data networks | 1995 | I | 13 | 20 | Kamlesh Tewani |  | None |  |  |
| X.115 Amd.1 | Refinements | Amd.1 (1996) | I | 13 | 20 | Kamlesh Tewani |  | None |  |  |
| X.116 | Address translation registration and resolution protocol | 1996 | I | 13 | 20 | Kamlesh Tewani |  | None |  |  |
| X.121 | International numbering plan for public data networks | 2000 | I | 13 | 20 | Peter Hicks |  | None |  |  |
| X.122/ E.166 | Numbering plan interworking for the E.164 and X.121 numbering plans | 1998 | I | 13 | 20 | Peter Hicks |  | None |  |  |
| X.123 | Mapping between escape codes and TOA/NPI for E.164/X.121 numbering plan interworking during the transition period | 1996 | I | 13 | 20 | Peter Hicks |  | None |  |  |
| X.124 | Arrangements for the interworking of the E.164 and X.121 numbering plans for frame relay and ATM networks | 1999 | I | 13 | 20 | Peter Hicks |  | None |  |  |
| X.125 | Procedure for the notification of the assignment of international network identification codes for public frame relay data networks and ATM networks numbered under the E.164 numbering plan | 1998 | I | 13 | 20 | Peter Hicks |  | None |  |  |
| X.130 | Call processing delays in public data networks when providing international synchronous circuit-switched data services | 1988 | I | 13 | 20 |  |  | None |  |  |
| X.131 | Call blocking in public data networks when providing international synchronous circuit-switched data services | 1988 | I | 13 | 20 |  |  | None |  |  |
| X.134 | Portion boundaries and packet layer reference events: basis for defining packet-switched performance parameters | 1997 | I | 13 | 20 | Garry Couch |  | None |  |  |
| X.135 includes Supp.1 | Speed of service (delay and throughput) performance values for public data networks when providing international packet-switched services | 1997 | I | 13 | 20 | Garry Couch |  | None |  |  |
| X.136 | Accuracy and dependability performance values for public data networks when providing international packet-switched services | 1997 | I | 13 | 20 | Garry Couch |  | None |  |  |
| X.137 | Availability performance values for public data networks when providing international packet-switched services | 1997 | I | 13 | 20 | Garry Couch |  | None |  |  |
| X.138 | Measurement of performance values for public data networks when providing international packet-switched services | 1997 | I | 13 | 20 | Garry Couch |  | None |  |  |
| X.139 | Echo, drop, generator and test DTEs for measurement of performance values in public data networks when providing international packet-switched services | 1997 | I | 13 | 20 | Garry Couch |  | None |  |  |
| X.140 | General quality of service parameters for communication via public data networks | 1992 | I | 13 | 20 |  |  | None |  |  |
| X.141 | General principles for the detection and correction of errors in public data networks | 1988 Cor. (1990) | I I | 13 | 20 |  |  | None |  |  |
| X.142 | Quality of service metrics for characterizing Frame Relay/ATM service interworking performance | 2003 | I | 13 | 12 | Peter Hicks |  | None |  |  |
| X.144 | User information transfer performance parameters for public frame relay data networks | 2003 | I | 13 | 12 | Garry Couch, Peter Hicks |  | None |  |  |
| X.145 | Connection establishment and dis-engagement performance parameters for public Frame Relay data networks providing SVC services | 2003 | I | 13 | 12 | Garry Couch, Peter Hicks |  | None |  |  |
| X.146 | Performance objectives and quality of service classes applicable to frame relay | 2000 | I | 13 | 12 | Garry Couch |  | None |  |  |
| X.147 | Frame relay network availability | 2003 | I | 13 | 12 | Peter Hicks |  | None |  |  |
| X.147 Amd.1 | Specification of values for availability objective | 2004 | I | 13 | 12 | Peter Hicks |  | None |  |  |
| X.148 | Procedures for the measurement of the performance of PDNS providing the international frame relay service | 2003 | I | 13 | 12 | Garry Couch |  | None |  |  |
| X.149 | Performance of IP networks when supported by public Frame Relay data networks | 2003 | I | 13 | 12 | Garry Couch, Peter Hicks |  | None |  |  |

Maintenance

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | ISO/IEC | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT\* | EQUIVALENT | DATE | |
| X.150 | Principles of maintenance testing for public data networks using Data Terminal Equipment (DTE) and Data Circuit-terminating Equipment (DCE) test loops | 1988 | I | 13 | 20 |  |  | related to ISO 9067 |  |  |
| X.151 | Frame Relay operations and maintenance – Principles and functions | 2003 | I | 13 | 12 | Peter Hicks |  | None |  |  |
| X.160 | Architecture for customer network management service for public data networks | 1996 | I | 2 | 7 |  |  | None |  |  |
| X.161 | Definition of customer network management services for public data networks | 1997 | I | 2 | 7 | Hiroshi Sunaga |  | None |  |  |
| X.162 | Definition of management information for customer network management service for public data networks to be used with the CNMc interface | 2000 | I | 2 | 7 | Tomoya Amie |  | None |  |  |
| X.163 | Definition of management information for customer network management service for public data networks to be used with the CNMe interface | 1995 | I | 2 | 7 | Tomoya Amie |  | None |  |  |
| X.170 | Network-network management architecture for data networks | 1999 | I | 2 | 7 | Hiroshi Sunaga |  | None |  |  |
| X.171 | Network-network management services for data networks | 2000 | I | 2 | 7 | Tomoya Amie |  | None |  |  |

Administrative Arrangements

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | ISO/IEC | TARGET | |
| No. | TITLE | PUBLICATION | | TEXT | EQUIVALENT | DATE | |
| X.180 | Administrative arrangements for international closed user groups (CUGs) | 1988 | I | 13 | 20 |  |  | None |  |  |
| X.181 | Administrative arrangements for the provision of international permanent virtual circuits (PVCs) | 1988 | I | 13 | 20 |  |  | None |  |  |

**OPEN SYSTEMS INTERCONNECTION**

Model and Notation

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | ISO/IEC | TARGET | |
| No. | TITLE | PUBLICATION | | TEXT\* | EQUIVALENT | DATE | |
| X.200 | Information technology – Open Systems Interconnection – Basic Reference Model: The basic model | 1994 | C | 17 | 15 | John Day |  | ISO/IEC 7498-1 |  |  |
| X.207 | Information technology – Open Systems Interconnection – Application Layer structure | 1993 | C | 17 | 15 | Cherry Tom |  | ISO/IEC 9545 |  |  |
| X.208 | Specification of Abstract Syntax Notation One (ASN.1) | Withdrawn |  |  |  |  | See X.680 | None |  |  |
| X.209 | Specification of Basic Encoding Rules for Abstract Syntax Notation One (ASN.1) | Withdrawn |  |  |  |  | See X.690 | None |  |  |

Service Definitions

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | ISO/IEC | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT\* | EQUIVALENT | DATE | |
| X.210 | Information technology – Open Systems Interconnection – Basic Reference Model: Conventions for the definition of OSI services | 1993 | C | 17 | 15 | Bryan Wood |  | ISO/IEC 10731 |  |  |
| X.211 | Information technology – Open System Interconnection – Physical service definition | 1995 | C | 17 | 15 |  |  | ISO/IEC 10022 |  |  |
| X.212 | Information technology – Open System Interconnection – Data Link service definition | 1995 | C | 17 | 15 | Kamlesh Tewani |  | ISO/IEC 8886 |  |  |
| X.213 | Information technology – Open Systems Interconnection – Network service definition | 2001 | C | 17 | 15 | Peter Hicks |  | ISO/IEC 8348 |  |  |
| X.214 | Information technology – Open Systems Interconnection –Transport service definition | 1995 | C | 17 | 15 | H. Lee |  | ISO/IEC 8072 |  |  |
| X.215 | Information technology – Open Systems Interconnection – Session service definition | 1995 Cor.1 (2000) | C C | 17 | 15 | Andrew Chandler |  | ISO/IEC 8326 |  |  |
| X.215 Amd.1 | Efficiency enhancements | Amd.1 (1997) | C | 17 | 15 | Andrew Chandler |  | ISO/IEC 8326/Amd.1 |  |  |
| X.215 Amd.2 | Nested connections functional unit | Amd.2 (1997) | C | 17 | 15 | Andrew Chandler |  | ISO/IEC 8326/Amd.2 |  |  |
| X.216 | Information technology – Open Systems Interconnection – Presentation service definition | 1994 | C | 17 | 15 | Grenville Taylor |  | ISO/IEC 8822 |  |  |
| X.216 Amd.1 | Efficiency enhancements | Amd.1 (1997) | C | 17 | 15 | Grenville Taylor |  | ISO/IEC 8822/Amd.1 |  |  |
| X.216 Amd.2 | Nested connections functional unit | Amd.2 (1997) | C | 17 | 15 | Grenville Taylor |  | ISO/IEC 8822/Amd.2 |  |  |
| X.217 | Information technology – Open Systems Interconnection – Service definition for the Association Control Service Element | 1995 | C | 17 | 15 | John Day |  | ISO/IEC 8649 |  |  |
| X.217 Amd.1 | Support of authentication mechanisms for the connectionless mode | Amd.1 (1996) | C | 17 | 15 | John Day |  | ISO/IEC 8649/Amd.1 |  |  |
| X.217 Amd.2 | Fast-associate mechanism | Amd.2 (1997) | C | 17 | 15 | John Day |  | 8649/Amd.2 |  |  |
| X.217*bis* | Information technology – Open Systems Interconnection – Service definition for the Application Service Object Association Control Service Element | 1998 | C | 17 | 15 | Stephen Van Trees |  | ISO/IEC 15953 |  |  |
| X.218 | Reliable Transfer: Model and service definition | 1993 | T | 17 | 15 |  |  | ISO/IEC 9066-1 |  |  |
| X.219 | Remote Operations: Model, Notation and service definition | 1988 | T | 17 | 15 |  | see X.880 and X.881 | ISO/IEC 9072-1 |  |  |

Connection-mode Protocol Specifications

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | ISO/IEC | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT\* | EQUIVALENT | DATE | |
| X.220 | Use of X.200-Series protocols in CCITT applications | 1993 | I | 17 | 15 |  |  | None |  |  |
| X.222 | Use of the X.25 LAPB-compatible Data Link procedures to provide the OSI connection-mode Data Link service | 1995 | T | 17 | 15 | Kamlesh Tewani |  | ISO/IEC 11575 |  |  |
| X.222 Amd.1 | Frame relay mapping | Amd.1 (1996) | I | 17 | 15 | Kamlesh Tewani |  | None |  |  |
| X.223 | Use of X.25 to provide the OSI connection-mode Network service for ITU-T applications | 1993 | T | 17 | 15 | Fred Burg |  | ISO/IEC 8878 |  |  |
| X.223 Amd.1 | Transit delay and other refinements | Amd.1 (1996) | T | 17 | 15 | Fred Burg |  | ISO/IEC TC1 + TC2 + TC3 |  |  |
| X.224 | Information technology – Open Systems Interconnection – Protocol for providing the connection-mode transport service | 1995 | C | 17 | 15 | H. Lee |  | ISO/IEC 8073 |  |  |
| X.224 Amd.1 | Relaxation of class conformance requirements and expedited data service feature negotiation | Amd.1 (1997) | C | 17 | 15 | H. Lee |  | ISO/IEC 8073/Amd.1 |  |  |
| X.225 | Information technology – Open Systems Interconnection – Connection-oriented Session protocol: Protocol specification | 1995 Cor.1 (2000) | C C | 17 | 15 | Andrew Chandler |  | ISO/IEC 8327-1 |  |  |
| X.225 Amd.1 | Efficiency enhancements | Amd.1 (1997) | C | 17 | 15 | Andrew Chandler |  | ISO/IEC 8327-1/Amd.1 |  |  |
| X.225 Amd.2 | Nested connections functional unit | Amd.2 (1997) | C | 17 | 15 | Andrew Chandler |  | ISO/IEC 8327-1/Amd.2 |  |  |
| X.226 | Information technology – Open Systems Interconnection – Connection-oriented Presentation protocol: Protocol specification | 1994 | C | 17 | 15 | Grenville Taylor |  | ISO/IEC 8823-1 |  |  |
| X.226 Amd.1 | Efficiency enhancements | Amd.1 (1997) | C | 17 | 15 | Grenville Taylor |  | ISO/IEC 8823-1/Amd.1 |  |  |
| X.226 Amd.2 | Nested connections functional unit | Amd.2 (1997) | C | 17 | 15 | Grenville Taylor |  | ISO/IEC 8823-1/Amd.2 |  |  |
| X.227 | Information technology – Open Systems Interconnection – Connection-oriented protocol for the Association Control Service Element: Protocol specification | 1995 | C | 17 | 15 | John Day |  | ISO/IEC 8650-1 |  |  |
| X.227 Amd.1 | Incorporation of extensibility markers | Amd.1 (1996) | C | 17 | 15 | John Day |  | ISO/IEC 8650-1/Amd.1 |  |  |
| X.227 Amd.2 | Fast-associate mechanism | Amd.2 (1997) | C | 17 | 15 | John Day |  | ISO/IEC 8650-1/Amd.2 |  |  |
| X.227*bis* | Information technology – Open Systems Interconnection – Connection-mode protocol for the Application Service Object Association Control Service Element | 1998 | C | 17 | 15 | Stephen Van Trees |  | ISO/IEC 15954 |  |  |
| X.228 | Reliable Transfer: Protocol specification | 1988 Cor.1 (2000) | T T | 17 | 15 |  |  | ISO/IEC 9066-2 |  |  |
| X.229 | Remote Operations: Protocol specification | 1988 | T | 17 | 15 |  | see X.882 | ISO/IEC 9072-2 |  |  |

Connectionless-mode Protocol Specifications

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | ISO/IEC | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT\* | EQUIVALENT | DATE | |
| X.233 | Information technology – Protocol for providing the connectionless-mode network service: Protocol specification | 1997 | C | 17 | 15 | Alan Chambers |  | ISO/IEC 8473-1 |  |  |
| X.234 | Information technology – Protocol for providing the OSI connectionless-mode transport service | 1994 | C | 17 | 15 | H. Lee |  | ISO/IEC 8602 |  |  |
| X.234 Amd.1 | Addition of connectionless-mode multicast capability | Amd.1 (1995) | C | 17 | 15 | H. Lee |  | ISO/IEC 8602/Amd.1 |  |  |
| X.235 | Information technology – Open Systems Interconnection – Connectionless Session protocol: Protocol specification | 1995 | C | 17 | 15 | Andrew Chandler |  | ISO/IEC 9548-1 |  |  |
| X.235 Amd.1 | Efficiency enhancements | 1999 | C | 17 | 15 | Stephen Van Trees |  | ISO/IEC 9548-1/Amd.1 |  |  |
| X.236 | Information technology – Open Systems Interconnection – Connectionless Presentation protocol: Protocol specification | 1995 | C | 17 | 15 | Grenville Taylor |  | ISO/IEC 9576-1 |  |  |
| X.236 Amd.1 | Efficiency Enhancements | 1999 | C | 17 | 15 | Stephen Van Trees |  | ISO/IEC 9576-1/Amd.1 |  |  |
| X.237 | Information technology – Open Systems Interconnection – Connectionless protocol for the Association Control Service Element: Protocol specification | 1995 | C | 17 | 15 | John Day |  | ISO/IEC 10035-1 |  |  |
| X.237 Amd.1 | Incorporation of extensibility markers and authentication parameters | Amd.1 (1996) Cor.1 (1999) | C C | 17 | 15 | John Day |  | 10035-1/Amd 1 |  |  |
| X.237*bis* | Information technology – Open Systems Interconnection – Connectionless protocol for the Application Service Object Association Control Service Element | 1998 | C | 17 | 15 | Stephen Van Trees |  | ISO/IEC 15955 |  |  |

PICS Proformas

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | ISO/IEC | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | EQUIVALENT | DATE | |
| X.244 | Procedure for the exchange of protocol identification during virtual call establishment on Packet Switched Public Data Networks | Withdrawn |  |  |  |  | See X.263 | None |  |  |
| X.245 | Information technology – Open Systems Interconnection – Connection-oriented Session protocol: Protocol Implementation Conformance Statement (PICS) proforma | 1995 | C | 17 | 15 | P. Henri |  | ISO/IEC 8327-2 |  |  |
| X.246 | Information technology – Open Systems Interconnection – Connection-oriented Presentation protocol: Protocol Implementation Conformance Statement (PICS) proforma | 1996 | C | 17 | 15 | John Morris-Best |  | ISO/IEC 8823-2 |  |  |
| X.247 | Information technology – Open Systems Interconnection – Protocol specification for the Association Control Service Element: Protocol Implementation Conformance Statement (PICS) proforma | 1996 | C | 17 | 15 | John Morris-Best |  | ISO/IEC 8650-2 |  |  |
| X.248 | Information technology – Open Systems Interconnection – Reliable Transfer: Protocol Implementation Conformance Statement (PICS) proforma | 1995 | C | 17 | 15 | Bengt Ackzell |  | ISO/IEC 9066-3 |  |  |
| X.249 | Information technology – Open Systems Interconnection – Remote Operations: Protocol Implementation Conformance Statement (PICS) proforma | 1995 | C | 17 | 15 | Bengt Ackzell |  | ISO/IEC 9072-4 |  |  |
| X.255 | Information technology – Open Systems Interconnection – Connectionless Session protocol: Protocol Implementation Conformance Statement (PICS) proforma | 1995 | C | 17 | 15 | John Morris-Best |  | ISO/IEC 9548-2 |  |  |
| X.256 | Information technology – Open Systems Interconnection – Connectionless Presentation protocol: Protocol Implementation Conformance Statement (PICS) proforma | 1995 | C | 17 | 15 | John Morris-Best |  | ISO/IEC 9576-2 |  |  |
| X.257 | Information technology – Open Systems Interconnection – Connectionless protocol for the Association Control Service Element: Protocol Implementation Conformance Statement (PICS) proforma | 1995 | C | 17 | 15 | John Morris-Best |  | ISO/IEC 10035-2 |  |  |
| X.257 Amd.1 | Support of authentication parameters | Amd.1 (1996) | C | 17 | 15 | John Morris-Best |  | ISO/IEC 10035-2/Amd.1 |  |  |

Protocol Identification

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | ISO/IEC | TARGET | |
| No. | TITLE | PUBLICATION | | TEXT | EQUIVALENT | DATE | |
| X.260 | Information technology – Framework for protocol identification and encapsulation | 1996 | C | 17 | 15 | Fred Burg |  | ISO/IEC 14765 |  |  |
| X.263 | Information technology – Protocol identification in the Network Layer | 1998 | C | 17 | 15 | Alan Chambers |  | ISO/IEC TR 9577 |  |  |
| X.264 | Transport protocol identification mechanism | 1993 | T | 17 | 15 | H. Lee |  | ISO/IEC 11570 |  |  |

Security Protocols

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | ISO/IEC | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT\* | EQUIVALENT | DATE | |
| X.273 | Information technology – Open Systems Interconnection – Network layer security protocol | 1994 | C | 17 | 15 | Nick Pope |  | ISO/IEC 11577 |  |  |
| X.274 | Information technology – Telecommunications and information exchange between systems – Transport layer security protocol | 1994 | C | 17 | 15 | Dale Walters |  | ISO/IEC 10736 |  |  |

Layer Managed Objects

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | ISO/IEC | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | EQUIVALENT | DATE | |
| X.281 | Information technology – Elements of management information related to the OSI Physical Layer | 1999 | C | 17 | 15 |  |  | ISO/IEC 13642 |  |  |
| X.282 | Elements of management information related to the OSI Data Link Layer | 1999 | T | 17 | 15 | Monica Stahl |  | ISO/IEC 10742 + Amds. 1, 2, 3 |  |  |
| X.283 | Information technology – Elements of management information related to the OSI Network Layer | 1997 | C | 17 | 15 | M. Shand |  | ISO/IEC 10733 |  |  |
| X.284 | Information technology – Elements of management information related to the OSI Transport Layer | 1997 | C | 17 | 15 | H. S. Lee |  | ISO/IEC 10737 |  |  |
| X.287 | Information technology – Open Systems Interconnection – Structure of management information: Managed objects for supporting upper layers | 1999 | C | 17 | 15 | Laura Redmann |  | ISO/IEC 10165-8 |  |  |

Conformance Testing

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | ISO/IEC | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | EQUIVALENT | DATE | |
| X.290 | OSI conformance testing methodology and framework for protocol Recommendations for ITU-T applications - General concepts | 1995 | T | 17 | 14 | C. H. Yim |  | ISO/IEC 9646-1 |  |  |
| X.291 | OSI conformance testing methodology and framework for protocol Recommendations for ITU-T applications - Abstract test suite specification | 1995 | T | 17 | 14 | C. H. Yim |  | ISO/IEC 9646-2 |  |  |
| X.292 | OSI conformance testing methodology and framework for protocol Recommendations for ITU-T applications - The Tree and Tabular Combined Notation (TTCN) | 2002 | T | 17 | 14 | Ostap Monkewich |  | ISO/IEC 9646-3 |  |  |
| X.293 | OSI conformance testing methodology and framework for protocol Recommendations for ITU-T applications - Test realization | 1995 | T | 17 | 14 | C. H. Yim |  | ISO/IEC 9646-4 |  |  |
| X.294 | OSI conformance testing methodology and framework for protocol Recommendations for ITU-T applications -Requirements on test laboratories and clients for the conformance assessment process | 1995 | T | 17 | 14 | C. H. Yim |  | ISO/IEC 9646-5 |  |  |
| X.295 | OSI conformance testing methodology and framework for protocol Recommendations for ITU-T applications - Protocol profile test specification | 1995 | T | 17 | 14 | C. H. Yim |  | ISO/IEC 9646-6 |  |  |
| X.296 | OSI conformance testing methodology and framework for protocol Recommendations for ITU-T applications - Implementation conformance statements | 1995 | T | 17 | 14 | C. H. Yim |  | ISO/IEC 9646-7 |  |  |

INTERWORKING BETWEEN NETWORKS

General

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | ISO/IEC | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | EQUIVALENT | DATE | |
| X.300 | General principles for interworking between public networks and between public networks and other networks for the provision of data transmission services | 1996 | I | 13 | 20 |  |  | None |  |  |
| X.301 | Description of the general arrangements for call control within a subnetwork and between subnetworks for the provision of data transmission services | 1996 | I | 13 | 20 | Trevor Davies |  | None |  |  |
| X.302 | Description of the general arrangements for internal network utilities within a subnetwork and intermediate utilities between subnetworks for the provision of data transmission services | 1988 | I | 13 | 20 |  |  | None |  |  |
| X.305 | Functionalities of subnetworks relating to the support of the OSI connection-mode network service | 1988 | I | 13 | 20 |  |  | None |  |  |
| X.320 | General arrangements for interworking between Integrated Services Digital Networks (ISDNs) for the provision of data transmission services | 1996 | I | 13 | 20 |  |  | None |  |  |
| X.321/ I.540 | General arrangements for interworking between Circuit-Switched Public Data Networks (CSPDNs) and Integrated Services Digital Networks (ISDNs) for the provision of data transmission services | 1996 | I | 13 | 20 |  |  | None |  |  |
| X.322 | General arrangements for interworking between Packet-Switched Public Data Networks (PSPDNs) and Circuit-Switched Public Data Networks (CSPDNs) for the provision of data transmission services | 1988 | I | 13 | 20 |  |  | None |  |  |
| X.323 | General arrangements for interworking between Packet-Switched Public Data Networks (PSPDNs) | 1988 | I | 13 | 20 |  |  | None |  |  |
| X.324 | General arrangements for interworking between Packet-Switched Public Data Networks (PSPDNs) and public mobile systems for the provision of data transmission services | 1988 | I | 13 | 20 |  |  | None |  |  |
| X.325/ I.550 | General arrangements for interworking between Packet-Switched Public Data Networks (PSPDNs) and Integrated Services Digital Networks (ISDNs) for the provision of data transmission services | 1996 | I | 13 | 20 |  |  | None |  |  |
| X.326 | General arrangements for interworking between Packet-Switched Public Data Networks (PSPDNs) and Common Channel Signalling Network (CCSN) | 1988 | I | 13 | 20 |  |  | None |  |  |
| X.327 | General arrangements for interworking between Packet-Switched Public Data Networks (PSPDNs) and private data networks for the provision of data transmission services | 1993 | I | 13 | 20 |  |  | None |  |  |
| X.328 | General arrangements for interworking between Public Data Networks providing frame relay data transmission services and Integrated Services Digital Networks (ISDNs) for the provision of data transmission services | 1996 | I | 13 | 20 | Samir Saad |  | None |  |  |
| X.329 | General arrangements for interworking between networks providing frame relay data transmission services and B-ISDN | 2000 | I | 13 | 20 |  |  | None |  |  |
| X.340 | General arrangements for interworking between a Packet-Switched Public Data Network (PSPDN) and the international telex network | 1993 | I | 13 | 12 |  |  | None |  |  |

Satellite Data Transmission Systems

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | ISO/IEC | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | EQUIVALENT | DATE | |
| X.350 | General interworking requirements to be met for data transmission in international public mobile satellite systems | 1997 | I | 13 | 20 |  |  | None |  |  |
| X.351 | Special requirements to be met for Packet Assembly/Disassembly facilities (PADs) located at or in association with coast earth stations in the public mobile satellite service | 1988 | I | 13 | 20 |  |  | None |  |  |
| X.352 | Interworking between Packet-Switched Public Data Networks and public maritime mobile satellite data transmission systems | 1988 | I | 13 | 20 |  |  | None |  |  |
| X.353 | Routing principles for interconnecting public maritime mobile satellite data transmission systems with public data networks | 1988 | I | 13 | 20 |  |  | None |  |  |
| X.361 | Connection of VSAT systems with Packet-Switched Public Data Networks based on X.25 procedures | 1996 | I | 13 | 20 |  |  | None |  |  |

IP-based networks

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | ISO/IEC | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | EQUIVALENT | DATE | |
| X.370 | Arrangements for the transfer of internetwork management information | Withdrawn |  |  |  |  |  | None |  |  |
| X.371/ Y.1402 | General arrangements for interworking between Public Data Networks and the Internet | 2001 | I | 13 | 20 | Yukio Hiramatsu |  | None |  |  |

MESSAGE HANDLING SYSTEMS

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | ISO/IEC | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT\* | EQUIVALENT | DATE | |
| X.400/ F.400 | Message handling services: Message handling system and service overview | 1999 | T | 17 | 15 | Herman Silbiger |  | ISO/IEC 10021-1 |  |  |
| X.402 | Information technology – Message Handling Systems (MHS): Overall architecture | 1999 | C | 17 | 15 | Jim Craigie |  | ISO/IEC 10021-2 |  |  |
| X.403 | Message handling systems: conformance testing | Withdrawn |  |  |  |  |  | None |  |  |
| X.404 | Information technology – Message Handling Systems (MHS): MHS routing – Guide for messaging system managers | 1999 | C | 17 | 15 | Robert Willmott |  | ISO/IEC TR 10021-11 |  |  |
| X.407 | Message handling systems: Abstract service definition conventions | Withdrawn |  |  |  |  |  | None |  |  |
| X.408 | Message handling systems: Encoded information type conversion rules | 1988 | I | 17 | 15 |  |  | None |  |  |
| X.410 | Message handling systems: remote operations and reliable transfer server | Withdrawn |  |  |  |  |  | None |  |  |
| X.411 | Information technology – Message Handling Systems (MHS): Message transfer system – Abstract service definition and procedures | 1999 | C | 17 | 15 | Jim Craigie |  | ISO/IEC 10021-4 |  |  |
| X.412 | Information technology – Message Handling Systems (MHS): MHS routing | 1999 | C | 17 | 15 |  |  | ISO/IEC 10021-10 |  |  |
| X.413 | Information technology – Message Handling Systems (MHS): Message Store – Abstract service definition | 1999 | C | 17 | 15 | Sandy Shaw |  | ISO/IEC 10021-5 |  |  |
| X.419 | Information technology – Message Handling Systems (MHS): Protocol specifications | 1999 | C | 17 | 15 | Jim Craigie |  | ISO/IEC 10021-6 |  |  |
| X.420 | Information technology – Message Handling Systems (MHS): Interpersonal messaging system | 1999 | C | 17 | 15 | Jim Craigie |  | ISO/IEC 10021-7 |  |  |
| X.421 | Message handling systems: COMFAX use of MHS | 1999 | I | 17 | 15 | Yasuhiro Obata |  | None |  |  |
| X.435 | Information technology – Message Handling Systems (MHS): Electronic data interchange messaging system | 1999 | C | 17 | 15 | Sandy Shaw |  | ISO/IEC 10021-9 |  |  |
| X.440 | Message handling systems: Voice messaging system | 1999 | I | 17 | 15 | Richard Jesmajian |  | None |  |  |
| X.445 | Asynchronous protocol specification – Provision of OSI connection mode network service over the telephone network | 1995 | I | 17 | 15 | S. Albadine |  | None |  |  |
| X.446 | Common messaging call API | 1997 | I | 17 | 15 |  |  | None |  |  |
| X.460 | Information technology – Message Handling Systems (MHS) Management: Model and architecture | 1995 | C | 17 | 15 | P. Contant |  | ISO/IEC 11588-1 |  |  |
| X.462 | Information technology – Message Handling Systems (MHS) Management: Logging Information | 1996 | C | 17 | 15 | Jean Tessier |  | ISO/IEC 11588-3 |  |  |
| X.467 | Information technology – Message Handling Systems (MHS) Management: Message Transfer Agent management | 1996 | C | 17 | 15 | P. Contant |  | ISO/IEC 11588-8 |  |  |
| X.480 | Message handling systems and directory services - conformance testing | Withdrawn |  |  |  |  |  | None |  |  |
| X.481 | Messaging handling systems – P2 protocol PICS proforma | 1999 | T | 17 | 15 | Bengt Ackzell |  | ISO/IEC ISP 12062-2 |  |  |
| X.482 | Messaging handling systems – P1 protocol PICS proforma | 1999 | T | 17 | 15 | Bengt Ackzell |  | ISO/IEC ISP 10611-3 |  |  |
| X.483 | Messaging handling systems – P3 protocol PICS proforma | 1999 | T | 17 | 15 | Bengt Ackzell |  | ISO/IEC ISP 10611-4 |  |  |
| X.484 | Messaging handling systems – P7 protocol PICS proforma | 1999 | T | 17 | 15 | Bengt Ackzell |  | ISO/IEC ISP 10611-5 & ISO/IEC ISP 10611-6 |  |  |
| X.485 | Message handling systems: Voice messaging system Protocol Implementation Conformance Statement (PICS) proforma | 1992 | I | 17 | 15 |  |  | None |  |  |
| X.486 | Message handling systems – Pedi protocol PICS proforma | 1999 | T | 17 | 15 | Bengt Ackzell |  | ISO/IEC ISP 12063-2 |  |  |
| X.487 | Message handling systems – IPM-MS attributes PICS proforma | 1999 | T | 17 | 15 |  |  | ISO/IEC ISP 12062-6 |  |  |
| X.488 | Message handling systems – EDI-MS attributes PICS proforma | 1999 | T | 17 | 15 |  |  | ISO/IEC ISP 12063-5 |  |  |

DIRECTORY

| RECOMMENDATION | | CURRENT | | SG | Q | | EDITOR | | LATEST | | ISO/IEC | | TARGET | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT\* | | EQUIVALENT | | DATE | | | |
| X.500 | Information technology – Open Systems Interconnection – The Directory: Overview of concepts, models and services | 2012 | C | 17 | 11 | | Erik Andersen | |  | | ISO/IEC 9594-1 | |  | |  | |
| X.501 | Information technology – Open Systems Interconnection – The Directory: Models | 2012 | C | 17 | 11 | | Erik Andersen, Jean-Paul Lemaire | |  | | ISO/IEC 9594-2 | |  | |  | |
| X.509 | Information technology – Open Systems Interconnection – The Directory: Public-key and attribute certificate frameworks | 2012 | C | 17 | 11 | | Erik Andersen, Jean-Paul Lemaire | |  | | ISO/IEC 9594-8 | |  | |  | |
| X.511 | Information technology – Open Systems Interconnection – The Directory: Abstract service definition | 2012 | C | 17 | 11 | | Erik Andersen, Jean-Paul Lemaire | |  | | ISO/IEC 9594-3 | |  | |  | |
| X.518 | Information technology – Open Systems Interconnection – The Directory: Procedures for distributed operation | 2012 | C | 17 | 11 | | Erik Andersen, Jean-Paul Lemaire | |  | | ISO/IEC 9594-4 | |  | |  | |
| X.519 | Information technology – Open Systems Interconnection – The Directory: Protocol specifications | 2012 | C | 17 | 11 | | Erik Andersen, Jean-Paul Lemaire | |  | | ISO/IEC 9594-5 | |  | |  | |
| X.520 | Information technology – Open Systems Interconnection –The Directory: Selected attribute types | 2012 | C | 17 | 11 | | Erik Andersen, Jean-Paul Lemaire | |  | | ISO/IEC 9594-6 | |  | |  | |
| X.521 | Information technology – Open Systems Interconnection – The Directory: Selected object classes | 2012 | C | 17 | 11 | | Erik Andersen, Jean-Paul Lemaire | |  | | ISO/IEC 9594-7 | |  | |  | |
| X.525 | Information technology – Open Systems Interconnection – The Directory: Replication | 2012 | C  C | 17 | 11 | | Erik Andersen, Jean-Paul Lemaire | |  | | ISO/IEC 9594-9 | |  | |  | |
| X.530 | Information technology – Open Systems Interconnection – The Directory: Use of systems management for administration of the Directory | 2008 | C | 17 | 11 | | Erik Andersen, Jean-Paul Lemaire | |  | | ISO/IEC 9594-10 | |  | |  | |
| X.581 | Information technology - Open Systems Interconnection - The Directory: Directory Access Protocol - Protocol Implementation Conformance Statement (PICS) proforma | Withdrawn |  |  |  | |  | |  | | None | |  | |  | |
| X.582 | Information technology - Open Systems Interconnection - The Directory: Directory System Protocol - Protocol Implementation Conformance Statement (PICS) proforma | Withdrawn |  |  |  | |  | |  | | None | |  | |  | |
| X.583 | Information technology – Open Systems Interconnection – The Directory: Protocol Implementation Conformance Statement (PICS) proforma for the Directory Access Protocol | Withdrawn |  |  |  | |  | |  | | None | |  | |  | |
| X.584 | Information technology – Open Systems Interconnection – The Directory: Protocol Implementation Conformance Statement (PICS) proforma for the Directory System Protocol | Withdrawn |  |  |  | |  | |  | | None | |  | |  | |
| X.585 | Information technology – Open Systems Interconnection – The Directory: Protocol Implementation Conformance Statement (PICS) proforma for the Directory Operational Binding Management Protocol | Withdrawn |  |  |  | |  | |  | | None | |  | |  | |
| X.586 | Information technology – Open Systems Interconnection – The Directory: Protocol Implementation Conformance Statement (PICS) proforma for the Directory Information Shadowing Protocol | Withdrawn |  |  |  | |  | |  | | None | |  | |  | |
| X.pki-em | Information Technology - Public-Key Infrastructure: Establishment and maintenance |  |  | 17 | 11 | Erik Andersen | | COM17-TD3198 Rev.2 | |  | | 2016-09 | | I | |
| X.pki-prof | Information Technology - Public-Key Infrastructure: Profile |  |  | 17 | 11 | Erik Andersen | | COM17-TD3199 Rev.2 | |  | | 2016-09 | | I | |

OSI NETWORKING AND SYSTEM ASPECTS

Networking

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | ISO/IEC | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | EQUIVALENT | DATE | |
| X.601 | Multi-peer communications framework | 2000 | I | 11 | 15 | Hyun-Kook Kahng |  | None |  |  |
| X.602 | Information technology – Group management protocol | 2004 | C | 11 | 15 | Hyun-Kook Kahng |  | ISO/IEC 16513 |  |  |
| X.603 | Information technology – Relayed multicast protocol: Framework | 2012 | C | 11 | 15 | Juyoung Park, Shin Gak Kang, Changkyu Lee |  | ISO/IEC 16512-1 |  |  |
| X.603.1 | Information technology – Relayed multicast protocol: Specification for simplex group applications | 2012 | C | 11 | 15 | Juyoung Park |  | ISO/IEC 16512-2 |  |  |
| X.603.2 | Information technology – Relayed multicast protocol: Specification for N-plex group application | 2010 | C | 11 | 15 | Shin-Gak Kang, Sung Hei Kim |  | ISO/IEC 16512-3 |  |  |
| X.604 | Mobile multicast communications: Framework | 2010 | C | 11 | 15 | Seok-Joo Koh, Maryam Roshanaei |  | ISO/IEC 24793-1 |  |  |
| X.604.1 | Mobile multicast communications: Protocol over native IP multicast network | 2010 | C | 11 | 15 | Yong Jin Kim, Seok-Joo Koh |  | ISO/IEC 24793-2 |  |  |
| X.604.2 | Information technology – Mobile multicast communications: Protocol over overlay multicast networks | 2010 | C | 11 | 15 | Sung Hei Kim, Maryam Roshanaei |  | ISO/IEC 24793-3 |  |  |
| X.605 | Information technology – Enhanced Communications Transport Service definition | 1998 | C | 11 | 15 | Dae-Young Kim |  | ISO/IEC 13252 |  |  |
| X.606 | Information technology – Enhanced Communications Transport Protocol: Specification of simplex multicast transport | 2001 | C | 11 | 15 | Shin-Gak Kang |  | ISO/IEC 14476-1 |  |  |
| X.606.1 | Information technology – Enhanced Communications Transport Protocol: QoS management for simplex multicast transport | 2003 | C | 11 | 15 | Shin-Gak Kang |  | ISO/IEC 14476-2 |  |  |
| X.607 | Information technology – Enhanced Communications Transport Protocol: Specification of duplex multicast transport | 2007 | C | 11 | 15 | Dae Young Kim |  | ISO/IEC 14476-3 |  |  |
| X.607.1 | Information technology – Enhanced Communications Transport Protocol: QoS management for duplex multicast transport | 2008 | C | 11 | 15 | Hyun-Kook Kahng |  | ISO/IEC 14476-4 |  |  |
| X.608 | Information technology – Enhanced Communications Transport Protocol: Specification of N-plex multicast transport | 2007 | C | 11 | 15 | Shin-Gak Kang |  | ISO/IEC 14476-5 |  |  |
| X.608.1 | Information technology – Enhanced Communications Transport Protocol: QoS management for N-plex multicast transport | 2008 | C | 11 | 15 | Shin-Gak Kang |  | ISO/IEC 14476-6 |  |  |
| X.610 | Provision and support of the OSI connection-mode Network Service | 1992 | I | 17 | 15 |  |  | None |  |  |
| X.612 | Information technology – Provision of the OSI connection-mode network service by packet-mode terminal equipment connected to an Integrated Services Digital Network (ISDN) | 1992 | C | 17 | 15 |  |  | ISO/IEC 9574 |  |  |
| X.613 | Information technology – Use of X.25 Packet Layer Protocol in conjunction with X.21/X.21bis to provide the OSI connection-mode Network Service | 1992 | C | 17 | 15 |  |  | ISO/IEC 10588 |  |  |
| X.614 | Information technology – Use of X.25 Packet Layer Protocol to provide the OSI connection-mode Network Service over the telephone network | 1992 | C | 17 | 15 |  |  | ISO/IEC 10732 |  |  |
| X.622 | Information technology – Protocol for providing the connectionless-mode network service: Provision of the underlying service by an X.25 subnetwork | 1994 | C | 17 | 15 |  |  | ISO/IEC 8473-3 |  |  |
| X.623 | Information technology – Protocol for providing the connectionless-mode network service: Provision of the underlying service by a subnetwork that provides the OSI data link service | 1994 | C | 17 | 15 |  |  | ISO/IEC 8473-4 |  |  |
| X.625 | Information technology – Protocol for providing the connectionless-mode network service: Provision of the underlying service by ISDN circuit switched B-channels | 1996 | C | 17 | 15 | Keith Knightson |  | ISO/IEC 8473-5 |  |  |

Efficiency

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | ISO/IEC | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT\* | EQUIVALENT | DATE | |
| X.630 | Efficient Open Systems Interconnection (OSI) operations | 1998 | I | 17 | 15 | Nilo Mitra |  | None |  |  |
| X.633 | Information technology – Open Systems Interconnection – Network Fast Byte Protocol | 1996 | C | 17 | 15 | Colin Amor |  | ISO/IEC 14700 |  |  |
| X.633 Add.1 | SDL specifications | Add.1 (1998) | I | 17 | 15 | Colin Amor |  | None |  |  |
| X.634 | Information technology – Open Systems Interconnection –Transport Fast Byte Protocol | 1996 | C | 17 | 15 | Colin Amor |  | ISO/IEC 14699 |  |  |
| X.634 Add.1 | SDL specifications | Add.1 (1998) | I | 17 | 15 | Colin Amor |  | None |  |  |
| X.637 | Basic connection-oriented common upper layer requirements | 1996 | T | 17 | 15 | Nilo Mitra |  | ISO/IEC ISP 11188-1 |  |  |
| X.638 | Minimal OSI facilities to support basic communications applications | 1996 | T | 17 | 15 | Nilo Mitra |  | ISO/IEC ISP 11188-3 |  |  |
| X.639 | Basic connection-oriented requirements for ROSE-based profiles | 1996 | T | 17 | 15 | Nilo Mitra |  | ISO/IEC ISP 11188-2 |  |  |

Quality of Service

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | ISO/IEC | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | EQUIVALENT | DATE | |
| X.641 | Information technology – Quality of Service: Framework | 1997 | C | 17 | 15 | Chris Sluman |  | ISO/IEC 13236 |  |  |
| X.642 | Information technology – Quality of Service - Guide to methods and mechanisms | 1998 | C | 17 | 15 | Jeremy Tucker |  | ISO/IEC TR 13243 |  |  |

Naming, Addressing and Registration

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | ISO/IEC | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | EQUIVALENT | DATE | |
| X.650 | Information technology – Open Systems Interconnection -Basic Reference Model: Naming and addressing | 2004 | C | 17 | 15 | John Day |  | ISO/IEC 7498-3 |  |  |
| X.660 | Information technology –Procedures for the operation of Object Identifier Registration Authorities: General procedures and top arcs of the International Object Identifier tree | 2011 | C | 17 | 12 | Olivier Dubuisson |  | ISO/IEC 9834-1 |  | C |
| X.662 | Information technology – Open Systems Interconnection – Procedures for the operation of OSI Registration Authorities: Registration of Object Identifier arcs beneath the top-level arc jointly administered by ISO and ITU-T | 2008 | C | 17 | 12 | Paul Thorpe |  | ISO/IEC 9834-3 |  |  |
| X.665 | Information technology – Open Systems Interconnection – Procedures for the operation of OSI Registration Authorities: Registration of application processes and application entities | 2004 | C | 17 | 12 | Paul Thorpe |  | ISO/IEC 9834-6 |  |  |
| X.666 | Information technology – Open Systems Interconnection – Procedures for the operation of OSI Registration Authorities: Joint ISO and ITU-T registration of international organizations | 2008 | C | 17 | 12 | Paul Thorpe |  | ISO/IEC 9834-7 |  |  |
| X.667 | Information technology – Open Systems Interconnection – Procedures for the operation of OSI Registration Authorities: Generation and registration of Universally Unique Identifiers (UUIDs) and their use as ASN.1 object identifier components | 2008 | C | 17 | 12 | Paul Thorpe, Olivier Dubuisson | Cor.1  COM17-TD2844  COM17-TD3083 Rev.3 | ISO/IEC 9834-8 | Cor.1 2012-09  In AAP | C  C |
| X.668 | Procedures for the operation of OSI registration authorities: Registration of object identifier arcs for applications and services using tag-based identification | 2008 | C | 17 | 12 | Paul Thorpe |  | ISO/IEC 9834-9 |  |  |
| X.669 | Procedures for ITU-T registration of identified organizations | 2008 | I | 17 | 12 | Paul Thorpe |  | None |  |  |
| X.670 | Use of registration agents to register names subordinate to country names in the X.660 RH-name-tree | 2004 | I | 17 | 12 | Paul Thorpe |  | None |  |  |
| X.671 | Procedures for a Registration Authority operating on behalf of countries to register organization names subordinate to country names in the X.660 RH-name-tree | 2004 | I | 17 | 12 | Paul Thorpe |  | None |  |  |
| X.672 | Information technology – Open systems interconnection – Object identifier resolution system (ORS) | 2010 | C | 17 | 12 | Jun-Seob Lee |  | ISO/IEC 29186-1 |  |  |
| X.673 | Information technology – Open Systems Interconnection – Procedures for the object identifier resolution system operational agency |  |  | 17 | 12 | Jun-Seob Lee | COM17-R22 | ISO/IEC 29186-2 | Work discontinued |  |
| X.674 | Procedure for the registration of arcs under the Alerting object identifier arc | 2011 | I | 17 | 12 | Olivier Dubuisson, Anthony Rutkowski |  | None |  |  |
| X.oid-exp | Object identifier repository export format |  |  | 17 |  |  |  | None | Work discontinued |  |

Abstract Syntax Notation One (ASN.1)

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | ISO/IEC | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | EQUIVALENT | DATE | |
| X.680 | Information technology – Abstract Syntax Notation One (ASN.1): Specification of basic notation | 2008  Cor.1 (2011) | C  C | 17 | 12 | Paul Thorpe, Jean-Paul Lemaire |  | ISO/IEC 8824-1  ISO/IEC 8824-1 Cor.1 |  |  |
| X.681 | Information technology – Abstract Syntax Notation One (ASN.1): Information object specification | 2008  Cor.1 (2011) | C  C | 17 | 12 | Paul Thorpe, Jean-Paul Lemaire |  | ISO/IEC 8824-2  ISO/IEC 8824-2 Cor.1 |  |  |
| X.682 | Information technology – Abstract Syntax Notation One (ASN.1): Constraint specification | 2008 | C | 17 | 12 | Paul Thorpe |  | ISO/IEC 8824-3 |  |  |
| X.683 | Information technology – Abstract Syntax Notation One (ASN.1): Parameterization of ASN.1 specifications | 2008 | C | 17 | 12 | Paul Thorpe |  | ISO/IEC 8824-4 |  |  |
| X.690 | Information technology – ASN.1 encoding rules: Specification of Basic Encoding Rules (BER), Canonical Encoding Rules (CER) and Distinguished Encoding Rules (DER) | 2008  Cor.1 (2011) | C  C | 17 | 12 | Paul Thorpe, Jean-Paul Lemaire |  | ISO/IEC 8825-1  ISO/IEC 8825-1 Cor.1 |  |  |
| X.691 | Information technology – ASN.1 encoding rules: Specification of Packed Encoding Rules (PER) | 2008  Cor.1 (2011)  Cor.2 (2012) | C  C  C | 17 | 12 | Paul Thorpe, Jean-Paul Lemaire |  | ISO/IEC 8825-2  ISO/IEC 8825-2 Cor.1  ISO/IEC 8825-2 Cor.2 |  |  |
| X.692 | Information technology – ASN.1 encoding rules – Specification of Encoding Control Notation (ECN) | 2008  Cor.1 (2011) | C  C | 17 | 12 | Paul Thorpe, Jean-Paul Lemaire |  | 8825-3  8825-3 Cor.1 |  |  |
| X.693 | Information technology – ASN.1 encoding rules: XML encoding rules | 2008  Cor.1 (2011) | C  C | 17 | 12 | Paul Thorpe, Jean-Paul Lemaire |  | ISO/IEC 8825-4  ISO/IEC 8825-4 Cor.1 |  |  |
| X.694 | Information technology – ASN.1 encoding rules: Encoding XML-defined data using ASN.1 | 2008  Cor.1 (2011) | C  C | 17 | 12 | Paul Thorpe, Jean-Paul Lemaire |  | ISO/IEC 8825-5  ISO/IEC 8825-5 Cor.1 |  |  |
| X.695 | Information technology – ASN.1 encoding rules: Registration and application of PER encoding instructions | 2008 | C | 17 | 12 | Paul Thorpe |  | ISO/IEC 8825-6 |  |  |
|  | | | | | | | | | |

OSI MANAGEMENT

Systems Management Framework and Architecture

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | ISO/IEC | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT\* | EQUIVALENT | DATE | |
| X.700 | Management framework for Open Systems Interconnection (OSI) for CCITT applications | 1992 | T | 2 | 9 | C. Smith |  | ISO/IEC 7498-4 |  |  |
| X.701 | Information technology – Open Systems Interconnection – Systems management overview | 1997 | C | 2 | 9 | Tom Rutt |  | ISO/IEC 10040 |  |  |
| X.702 | Information technology – Open Systems Interconnection – Application context for systems management with transaction processing | 1995 | C | 2 | 9 | John Paul Golick |  | ISO/IEC 11587 |  |  |
| X.703 | Information technology – Open Distributed Management Architecture | 1997 | C | 2 | 9 | S. van der Smagt |  | ISO/IEC 13244 |  |  |
| X.703 Amd.1 | Support using Common Object Request Broker Architecture (CORBA) | 1998 | C | 2 | 9 | Tom Rutt |  | ISO/IEC 13244/Amd.1 |  |  |

Management Communication Service and Protocol

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | ISO/IEC | TARGET | |
| No. | TITLE | PUBLICATION | | TEXT\* | EQUIVALENT | DATE | |
| X.710 | Information technology – Open Systems Interconnection – Common management information service definition | 1997 | C | 2 | 11 | Neil Trickey |  | ISO/IEC 9595 |  |  |
| X.711 | Information technology – Open Systems Interconnection –Common management information protocol: Specification | 1997 Cor.1 (1999) Cor.2 (2000) | C C C | 2 | 11 | Neil Trickey |  | ISO/IEC 9596-1 |  |  |
| X.712 | Information technology – Open Systems Interconnection – Common management information protocol: Protocol Implementation Conformance Statement (PICS) proforma | 1992 Cor.1 (1996) Cor.2 (1996) Cor.3 (1998) | C C C C | 2 | 11 | Neil Trickey |  | ISO/IEC 9596-2 |  |  |

Structure of Management Information

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST\* | ISO/IEC | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | EQUIVALENT | DATE | |
| X.720 | Information technology – Open Systems Interconnection – Structure of management information: Management Information Model | 1992 Cor.1 (1994) | C C | 2 | 9 | John Paul Golick |  | ISO/IEC 10165-1 |  |  |
| X.720 Amd.1 | Generalization of terms | 1995 | C | 2 | 9 | Laura Redmann |  | ISO/IEC 10165-1/Amd.1 |  |  |
| X.721 | Information technology – Open Systems Interconnection – Structure of management information: Definition of management information | 1992 Cor.1 (1994) Cor.2 (1996) Cor.3 (1998) Cor.4 (2000) | C C C C C | 2 | 9 | John Paul Golick |  | ISO/IEC 10165-2 |  |  |
| X.721 Amd.1 | States to support lifecycle | 2001 | C | 2 | 9 | Arthur Foster |  | ISO/IEC 10165-2/Amd.1 |  |  |
| X.722 | Information technology – Open Systems Interconnection – Structure of management information: Guidelines for the definition of managed objects | 1992 Cor.1 (1996) Cor.2 (2000) | C C C | 2 | 9 | John Paul Golick |  | ISO/IEC 10165-4 |  |  |
| X.722 Amd.1 | Set by create and component registration | 1995 | C | 2 | 9 | Laura Redmann |  | ISO/IEC 10165-4/Amd.1 |  |  |
| X.722 Amd.2 | Addition of the NO-MODIFY syntax element and guidelines extension | 1997 | C | 2 | 9 | Laura Redmann |  | ISO/IEC 10165-4/Amd.2 |  |  |
| X.722 Amd.3 | Guidelines for the use of Z in formalizing the behaviour of managed objects | 1997 | C | 2 | 9 | Pete Young |  | ISO/IEC 10165-4/Amd.3 |  |  |
| X.723 | Information technology – Open Systems Interconnection – Structure of management information: Generic management information | 1993 Cor.1 (1998) Cor.2 (2000) | C C C | 2 | 9 | John Paul Golick |  | ISO/IEC 10165-5 |  |  |
| X.724 | Information technology – Open Systems Interconnection – Structure of management information: Requirements and guidelines for implementation conformance statement proformas associated with OSI management | 1996 | C | 2 | 9 | Erik Jonsson |  | ISO/IEC 10165-6 |  |  |
| X.725 | Information technology – Open Systems Interconnection – Structure of management information: General relationship model | 1995 | C | 2 | 9 | Colin Ashford |  | ISO/IEC 10165-7 |  |  |
| X.727 | Information technology – Open Systems Interconnection – Structure of management information: Systems management protocol machine managed objects | 1999 | C | 2 | 9 | Laura Redmann |  | ISO/IEC 10165-9 |  |  |

Management Functions and ODMA functions

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST\* | ISO/IEC | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | EQUIVALENT | DATE | |
| X.730 | Information technology – Open Systems Interconnection – Systems Management: Object management function | 1992 | C | 2 | 9 | Amir Talaee |  | ISO/IEC 10164-1 |  |  |
| X.730 Amd.1 | Implementation Conformance Statement proformas | 1995 Cor.1(1996) | C C | 2 | 9 | Amir Talaee |  | ISO/IEC 10164-1/Amd.1 |  |  |
| X.731 | Information technology – Open Systems Interconnection – Systems Management: State management function | 1992 Cor.1 (1995) Cor.2 (2001) | C C C | 2 | 9 | Amir Talaee |  | ISO/IEC 10164-2 |  |  |
| X.731 Amd.1 | Implementation Conformance Statement proformas | 1995 Cor.1(1996) | C C | 2 | 9 | Amir Talaee |  | ISO/IEC 10164-2/Amd.1 |  |  |
| X.731 Amd.2 | States to support lifecycle | 2001 | C | 2 | 9 | Arthur Foster |  | ISO/IEC 10164-2/Amd.2 |  |  |
| X.732 | Information technology – Open Systems Interconnection – Systems Management: Attributes for representing relationships | 1992 | C | 2 | 9 | Amir Talaee |  | ISO/IEC 10164-3 |  |  |
| X.732 Amd.1 | Implementation Conformance Statement proformas | 1995 Cor.1(1996) | C C | 2 | 9 | Amir Talaee |  | ISO/IEC 10164-3/Amd.1 |  |  |
| X.733 | Information technology – Open Systems Interconnection – Systems Management: Alarm reporting function | 1992 Cor.1 (1994) Cor.2 (1999) | C C C | 2 | 9 | Neil Trickey |  | ISO/IEC 10164-4 |  |  |
| X.733 Amd.1 | Implementation Conformance Statement proformas | 1995 Cor.1(1996) | C C | 2 | 9 | Tom Rutt |  | ISO/IEC 10164-4/Amd.1 |  |  |
| X.734 | Information technology – Open Systems Interconnection – Systems Management: Event Report Management Function | 1992 Cor.1 (1994) Cor.2 (1999) | C C C | 2 | 9 | Mark Klerer |  | ISO/IEC 10164-5 |  |  |
| X.734 Amd.1 | Implementation Conformance Statement proformas | 1995 Cor.1(1996) | C C | 2 | 9 | Tom Rutt |  | ISO/IEC 10164-5/Amd.1 |  |  |
| X.735 | Information technology – Open Systems Interconnection – Systems Management: Log control function | 1992 Cor.1 (2001) | C C | 2 | 9 | Neil Trickey |  | ISO/IEC 10164-6 |  |  |
| X.735 Amd.1 | Implementation Conformance Statement proformas | 1995 Cor.1(1996) | C C | 2 | 9 | Tom Rutt |  | ISO/IEC 10164-6/Amd.1 |  |  |
| X.736 | Information technology – Open Systems Interconnection – Systems Management: Security alarm reporting function | 1992 | C | 2 | 9 | Neil Trickey |  | ISO/IEC 10164-7 |  |  |
| X.736 Amd.1 | Implementation Conformance Statement proformas | 1995 Cor.1(1996) | C C | 2 | 9 | Neil Trickey |  | ISO/IEC 10164-7/Amd.1 |  |  |
| X.737 | Information technology – Open Systems Interconnection – Systems Management: Confidence and diagnostic test categories | 1995 Cor.1 (1998) Cor.2 (2000) Cor.3 (2001) | C C C C | 2 | 9 | John Westgate |  | ISO/IEC 10164-14 |  |  |
| X.738 | Information technology – Open Systems Interconnection – Systems Management: Summarization function | 1993 Cor.1 (1998) Cor.2 (2000) | C C C | 2 | 9 | M. Chernick |  | ISO/IEC 10164-13 |  |  |
| X.738 Amd.1 | Implementation Conformance Statement proformas | 1996 | C | 2 | 9 | Yuji Iwamoto |  | ISO/IEC 10164-13/Amd.1 |  |  |
| X.739 | Information technology – Open Systems Interconnection – Systems Management: Metric objects and attributes | 1993 Cor.1 (1998) | C C | 2 | 9 | M. Chernick |  | ISO/IEC 10164-11 |  |  |
| X.739 Amd.1 | Implementation Conformance Statement proformas | 1997 | C | 2 | 9 | Amir Talaee |  | ISO/IEC 10164-11/Amd.1 |  |  |
| X.740 | Information technology – Open Systems Interconnection – Systems Management: Security audit trail function | 1992 Cor.1 (1995) Cor.2 (1996) Cor.3 (1998) | C C C C | 2 | 9 | Neil Trickey |  | ISO/IEC 10164-8 |  |  |
| X.741 | Information technology – Open Systems Interconnection – Systems management: Objects and attributes for access control | 1995 Cor.1 (1996) Cor.2 (1998) Cor.3 (2000) | C C C C | 2 | 9 | Neil Trickey |  | ISO/IEC 10164-9 |  |  |
| X.742 | Information technology – Open Systems Interconnection – Systems management: Usage metering function for accounting purposes | 1995 Cor.1 (1998) Cor.2 (2000) | C C C | 2 | 9 | Ole Krog Thomsen |  | ISO/IEC 10164-10 |  |  |
| X.742 Amd.1 | Implementation Conformance Statement proformas | 1997 | C | 2 | 9 | Ole Krog Thomsen |  | ISO/IEC 10164-10/Amd.1 |  |  |
| X.743 | Information technology – Open Systems Interconnection – Systems Management: Time management function | 1998 Cor.1 (2001) | C C | 2 | 9 | Karen O'Donoghue |  | ISO/IEC 10164-20 |  |  |
| X.744 | Information technology – Open Systems Interconnection – Systems Management: Software management function | 1996 Cor.1 (1998) Cor.2 (2000) Cor.3 (2001) | C C C C | 2 | 9 | Laura Redmann |  | ISO/IEC 10164-18 |  |  |
| X.744.1 | Corba-based TMN software management service | 2003 | I | 2 | 9 |  |  | None |  |  |
| X.745 | Information technology – Open Systems Interconnection – Systems Management: Test management function | 1993 Cor.1 (1997) Cor.2 (1998) Cor.3 (2000) | C C C C | 2 | 9 | John Westgate |  | ISO/IEC 10164-12 |  |  |
| X.746 | Information technology – Open Systems Interconnection – Systems Management: Scheduling function | 2000 + Erratum (2000) | C | 2 | 9 | C. Widdowson |  | ISO/IEC 10164-15 |  |  |
| X.748 | Information technology – Open Systems Interconnection – Systems Management: Response time monitoring function | 1999 | C | 2 | 9 | Takahisa Hatakeyama |  | ISO/IEC 10164-22 |  |  |
| X.749 | Information technology – Open Systems Interconnection – Systems Management: Management domain and management policy management function | 1997 | C | 2 | 9 | Ken Roberts |  | ISO/IEC 10164-19 |  |  |
| X.750 | Information technology – Open Systems Interconnection – Systems Management: Management knowledge management function | 1996 Cor.1 (2000) | C C | 2 | 9 | John Paul Golick |  | ISO/IEC 10164-16 |  |  |
| X.750 Amd.1 | Extension for General Relationship Model | 1997 | C | 2 | 9 | John Paul Golick |  | ISO/IEC 10164-16/Amd.1 |  |  |
| X.751 | Information technology – Open Systems Interconnection – Systems Management: Change over function | 1995 Cor.1 (1998) Cor.2 (2000) | C C C | 2 | 9 | Nobuo Fujii |  | ISO/IEC 10164-17 |  |  |
| X.753 | Information technology – Open Systems Interconnection – Systems Management: Command sequencer for systems management | 1997 | C | 2 | 9 | Santosh Shanbhag |  | ISO/IEC 10164-21 |  |  |
| X.754 | Enhanced event control function | 2000 | I | 2 | 9 | Mark Klerer |  | None |  |  |
| X.770 | Open Distributed Management - Notification dispatch function | 2001 | I | 2 | 10 | Tom Rutt |  | None |  |  |
| X.780 | Guidelines for defining CORBA managed objects | 2001 Cor.1 (2001) Cor.2 (2002) | I I I | 2 | 9 | K. Allen |  | None |  |  |
| X.780 Amd.1 | Enhancements | 2002 | I | 2 | 9 |  |  | None |  |  |
| X.780.1 | TMN guidelines for defining coarse-grained CORBA managed objects | 2001 Cor.1 (2002) | I I | 2 | 9 | K. Allen |  | None |  |  |
| X.780.1 Amd.1 |  | 2002 | I | 2 | 9 |  |  | None |  |  |
| X.780.2 | TMN guidelines for defining service-oriented CORBA managed objects and façade objects | 2007 | I | 2 | 9 | Felix Flemisch, Hing-Kam Lam |  | None |  |  |
| X.781 | Guidelines for CORBA Implementation Conformance Statement proforma | 2001 | I | 2 | 9 | K. Allen |  | None |  |  |
| X.782 | Guidelines for defining Web-services for managed objects and management interfaces | 2012 | I | 2 | 9 | Qiao-gang Cheng, Ying Wan, Wang Zhi-li |  | None |  |  |
| X.790 | Trouble management function for ITU-T applications | 1995 Cor.1 (1999) Cor.2 (2001) | I I I | 2 | 9 | A. Hazra, V. Modha |  | None |  |  |
| X.790 Amd.1 | Implementation Conformance Statements proformas | 1996 | I | 2 | 9 | A. Hazra, V. Modha |  | None |  |  |
| X.791 | Trouble management function: Profile | 1996 | I | 2 | 9 | V. Modha |  | None |  |  |
| X.792 | Configuration audit support function for ITU-T applications | 1999 Cor.1 (2001) | I I | 2 | 9 | D. Matthews |  | None |  |  |

SECURITY

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | ISO/IEC | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT\* | EQUIVALENT | DATE | |
| X.800 | Security architecture for Open Systems Interconnection for CCITT applications | 1991 | T | 17 | 2 | Dale Walters |  | ISO/IEC 7498-2 |  |  |
| X.800 Amd.1 | Layer two security service and mechanisms for LANs | 1996 | I | 17 | 2 | Dale Walters |  | None |  |  |
| X.802 | Information technology – Lower layers security model | 1995 | C | 17 | 2 | Nick Pope |  | ISO/IEC TR 13594 |  |  |
| X.803 | Information technology – Open Systems Interconnection – Upper layers security model | 1994 | C | 17 | 2 | W. Ford |  | ISO/IEC 10745 |  |  |
| X.805 | Security architecture for systems providing end-to-end communications | 2003 | T | 17 | 2 | Zachary Zeltsan |  | ISO/IEC 18028-2 |  |  |
| X.810 | Information technology – Open Systems Interconnection – Security frameworks for open systems: Overview | 1995 | C | 17 | 2 | M. Roe |  | ISO/IEC 10181-1 |  |  |
| X.811 | Information technology – Open System Interconnection – Security frameworks for open systems: Authentication framework | 1995 | C | 17 | 2 | Michael Harrop |  | ISO/IEC 10181-2 |  |  |
| X.812 | Information technology – Open Systems Interconnection – Security frameworks for open systems: Access control framework | 1995 | C | 17 | 2 | D. Gomberg |  | ISO/IEC 10181-3 |  |  |
| X.813 | Information technology – Open Systems Interconnection – Security frameworks for open systems: Non-repudiation framework | 1996 | C | 17 | 2 | Y. Saito |  | ISO/IEC 10181-4 |  |  |
| X.814 | Information technology – Open Systems Interconnection – Security frameworks for open systems: Confidentiality framework | 1995 | C | 17 | 2 | A. Nakassis |  | ISO/IEC 10181-5 |  |  |
| X.815 | Information technology – Open Systems Interconnection – Security frameworks for open systems: Integrity framework | 1995 | C | 17 | 2 | A. Nakassis |  | ISO/IEC 10181-6 |  |  |
| X.816 | Information technology – Open Systems Interconnection – Security Frameworks for open systems: Security audit and alarms framework | 1995 | C | 17 | 2 | Michael Harrop |  | ISO/IEC 10181-7 |  |  |
| X.830 | Information technology – Open Systems Interconnection – Generic upper layers security: Overview, models and Notation | 1995 | C | 17 | 2 | Warwick Ford |  | ISO/IEC 11586-1 |  |  |
| X.831 | Information technology – Open Systems Interconnection – Generic upper layers security: Security Exchange Service Element (SESE) service definition | 1995 | C | 17 | 2 | E. Soueid |  | ISO/IEC 11586-2 |  |  |
| X.832 | Information technology – Open Systems Interconnection – Generic upper layers security: Security Exchange Service Element (SESE) protocol specification | 1995 | C | 17 | 2 | E. Soueid |  | ISO/IEC 11586-3 |  |  |
| X.833 | Information technology – Open Systems Interconnection – Generic upper layers security: Protecting transfer syntax specification | 1995 | C | 17 | 2 | Warwick Ford |  | ISO/IEC 11586-4 |  |  |
| X.834 | Information technology – Open Systems Interconnection – Generic upper layers security: Security Exchange Service Element (SESE) Protocol Implementation Conformance Statement (PICS) proforma | 1996 | C | 17 | 2 | Nick Pope |  | ISO/IEC 11586-5 |  |  |
| X.835 | Information technology – Open Systems Interconnection – Generic upper layers security: Protecting transfer syntax Protocol Implementation Conformance Statement (PICS) proforma | 1996 | C | 17 | 2 | Nick Pope |  | ISO/IEC 11586-6 |  |  |
| X.841 | Information technology – Security techniques – Security Information Objects for access control | 2000 | C | 17 | 2 | Elmer Mc Dowell, Douglas Rahikka |  | ISO/IEC 15816 |  |  |
| X.842 | Information technology – Security techniques – Guidelines for the use of Trusted Third Party services | 2000 | C | 17 | 2 | Maynard Hanscom, Douglas Rahikka |  | ISO/IEC TR 14516 |  |  |
| X.843 | Information technology – Security techniques – Specification of TTP services to support the application of digital signatures | 2000 | C | 17 | 2 | Bertold Krueger, Douglas Rahikka |  | ISO/IEC 15945 |  |  |

OSI APPLICATIONS

Commitment, Concurrency and Recovery

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | ISO/IEC | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | EQUIVALENT | DATE | |
| X.851 | Information technology – Open Systems Interconnection –Service definition for the commitment, concurrency and recovery service element | 1997 | C | 17 | 15 | Peter Furniss |  | ISO/IEC 9804 |  |  |
| X.852 | Information technology – Open Systems Interconnection – Protocol for the Commitment, Concurrency and Recovery service element: Protocol specification | 1997 | C | 17 | 15 | Peter Furniss |  | ISO/IEC 9805-1 |  |  |
| X.853 | Information technology – Open Systems Interconnection – Protocol for the Commitment, Concurrency and Recovery service element: Protocol Implementation Conformance Statement (PICS) proforma | 1995 | C | 17 | 15 | Peter Furniss |  | ISO/IEC 9805-2 |  |  |

Transaction Processing

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | ISO/IEC | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | EQUIVALENT | DATE | |
| X.860 | Open Systems Interconnection - Distributed Transaction Processing: Model | 1997 | T | 17 | 15 | R. Banks |  | ISO/IEC 10026-1 |  |  |
| X.861 | Open Systems Interconnection - Distributed Transaction Processing: Service definition | 1997 | T | 17 | 15 | R. Banks |  | ISO/IEC 10026-2 |  |  |
| X.862 | Open Systems Interconnection - Distributed Transaction Processing: Protocol specification | 1997 | T | 17 | 15 | Peter Furniss |  | ISO/IEC 10026-3 |  |  |
| X.863 | Information technology – Open Systems Interconnection – Distributed Transaction Processing: Protocol Implementation Conformance Statement (PICS) proforma | 1994 | C | 17 | 15 | Hervé Barbot |  | ISO/IEC 10026-4 |  |  |

Remote Operations

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | ISO/IEC | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT\* | EQUIVALENT | DATE | |
| X.880 | Information technology – Remote Operations: Concepts, model and Notation | 1994 Cor.1 (1995) | C C | 17 | 15 | Nilo Mitra |  | ISO/IEC 13712-1 |  |  |
| X.880 Amd.1 | Built-in operations | 1995 | C | 17 | 15 | Nilo Mitra |  | ISO/IEC 13712-1/Amd.1 |  |  |
| X.881 | Information technology – Remote Operations: OSI realizations – Remote Operations Service Element (ROSE) service definition | 1994 | C | 17 | 15 | Nilo Mitra |  | ISO/IEC 13712-2 |  |  |
| X.881 Amd.1 | Mapping to A-UNIT-DATA and built-in operations | 1995 | C | 17 | 15 | Nilo Mitra |  | ISO/IEC 13712-2/Amd.1 |  |  |
| X.882 | Information technology – Remote Operations: OSI realizations – Remote Operations Service Element (ROSE) protocol specification | 1994 Cor.1 (1995) | C C | 17 | 15 | Nilo Mitra |  | ISO/IEC 13712-3 |  |  |
| X.882 Amd.1 | Mapping to A-UNIT-DATA and built-in operations | 1995 | C | 17 | 15 | Nilo Mitra |  | ISO/IEC 13712-3/Amd.1 |  |  |

Generic applications of ASN.1

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | ISO/IEC | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | EQUIVALENT | DATE | |
| X.891 | Information technology – Generic applications of ASN.1 – Fast Infoset | 2005 Cor.1 (2006)\*  Cor.1 (2011) | C C  C | 17 | 12 | Paul Thorpe  Jean-Paul Lemaire |  | ISO/IEC 24824-1  ISO/IEC 24824-1 Cor.1 |  |  |
| X.892 | Information technology – Generic applications of ASN.1 – Fast Web Services | 2005 | C | 17 | 12 | Paul Thorpe |  | ISO/IEC 24824-2 |  |  |
| X.893 | Information technology – Generic applications of ASN.1 – Fast Web Services security and Fast Infoset security | 2007 | C | 17 | 12 | Paul Thorpe |  | ISO/IEC 24824-3 |  |  |

\* Not published, merged with X.891 prior to publication

OPEN DISTRIBUTED PROCESSING

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | ISO/IEC | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | EQUIVALENT | DATE | |
| X.901 | Information technology – Open Distributed Processing – Reference Model: Overview | 1997 | C | 17 | 13 | F. Caneschi, Arve Meisingset |  | ISO/IEC 10746-1 |  |  |
| X.902 | Information technology – Open Distributed Processing – Reference Model: Foundations | 2009 | C | 17 | 13 | Jean-Bernard Stefani, Arve Meisingset |  | ISO/IEC 10746-2 |  |  |
| X.903 | Information technology – Open Distributed Processing – Reference Model: Architecture | 2009 | C | 17 | 13 | A. Herbert, Arve Meisingset |  | ISO/IEC 10746-3 |  |  |
| X.904 | Information technology – Open Distributed Processing – Reference Model: Architectural Semantics | 1997 | C | 17 | 13 | Richard Sinnot, Arve Meisingset |  | ISO/IEC 10746-4 |  |  |
| X.904 Amd.1 | Computational formalization | 2000 | C | 17 | 13 | Richard Sinnot |  | ISO/IEC 10746-4/Amd.1 |  |  |
| X.906 | Information technology – Open distributed processing – Use of UML for ODP system specifications | 2007 Cor.1 (2009) | C C | 17 | 13 | Arve Meisingset | COM17-TD2369 | ISO/IEC 19793  19793 Cor.1 | New edition 2014-09 | C |
| X.910 | Information technology – Open Distributed Processing – Naming framework | 1998 | C | 17 | 13 | A. Tanaka |  | ISO/IEC 14771 |  |  |
| X.911 | Information technology – Open Distributed Processing –Reference Model – Enterprise language | 2005 | C | 17 | 13 | Joaquin Miller, Arve Meisingset | COM17-TD2368 | ISO/IEC 15414 | New edition 2014-01 | C |
| X.920 | Information technology – Open Distributed Processing – Interface Definition Language | 1997 | C | 17 | 13 | Laurent Leboucher |  | ISO/IEC 14750 |  |  |
| X.930 | Information technology – Open Distributed Processing – Interface references and binding | 1998 | C | 17 | 13 | Lea Kutvonen |  | ISO/IEC 14753 |  |  |
| X.931 | Information technology – Open Distributed Processing – Protocol support for computational interactions | 1999 | C | 17 | 13 | Peter Furniss |  | ISO/IEC 14752 |  |  |
| X.950 | Information technology – Open Distributed Processing – Trading Function: Specification | 1997 | C | 17 | 13 | Tom Rutt |  | ISO/IEC 13235-1 |  |  |
| X.952 | Information technology – Open Distributed Processing – Trading Function: Provision of trading function using OSI Directory service | 1997 Cor.1 (2005) | C C | 17 | 13 | Tom Rutt |  | ISO/IEC 13235-3  13235-3 Cor.1 |  |  |
| X.960 | Information technology – Open Distributed Processing – Type repository function | 1999 | C | 17 | 13 | Kerry Raymond |  | ISO/IEC 14769 |  |  |

INFORMATION AND NETWORK SECURITY

General security aspects

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | EQUIVALENT | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | e.g., ISO/IEC | DATE | |
|  |  |  |  |  |  |  |  |  |  |  |

**Network security**

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | EQUIVALENT | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | e.g., ISO/IEC | DATE | |
| X.1031 | Roles of end users and telecommunication networks within security architecture | 2007 | I | 17 | 2 | Nikolai Etroukhin |  | None |  |  |
| X.1032 | Architecture of external interrelations for a telecommunication IP-based network security system | 2010 | I | 17 | 2 | Nikolaï Etroukhin, Sergey Lukovskiy |  | None |  |  |
| X.1034 | Guideline on extensible authentication protocol based authentication and key management in a data communication network | 2011 | I | 17 | 2 | Heung Ryong Oh, Heung Youl Youm |  | None |  |  |
| X.1035 | Password-authenticated key exchange (PAK) protocol | 2007 | I | 17 | 2 | Alec Brusilovsky, Igor Faynberg, Sarvar Patel, Zachary Zeltsan |  | None |  |  |
| X.1036 | Framework for creation, storage, distribution and enforcement of policies for network security | 2007 | I | 17 | 2 | Jong-Hyun Kim |  | None |  |  |
| X.1037 | Architectural systems for security controls for preventing fraudulent activities in public carrier networks |  |  | 17 | 2 | Roman Khokhlov |  | None | Re-vectored as Supplement 16 |  |
| X.gsiiso | Guidelines on security of the individual information service for operators |  |  | 17 | 2 | Yuanfei Huang, Lijun Liu, Ziqin Sang, Huirong Tian | COM17- TD3156 | None | 2014-01 | I |
| X.hsn | Heterarchic architecture for secure distributed service networks |  |  | 17 | 2 | Yuri Pankratov | COM17-TD2548 | None | 2014-01 | I |
| X.ipv6-secguide | Technical guideline on deploying IPv6 |  |  | 17 | 2 | Masashi Eto, Koji Nakao | COM17-TD2703 Rev.1, COM17-Cs 678, 753 Rev.1 | None | 2013-04 | I |
| X.ncns-1 | Guidance for national IP-based public network security centres for developing countries |  |  | 17 | 2 | Ahmed Berbar, Dmitry Kostrov, Justin Rugondihene, Anthony Rutkowski |  | None | Re-vectored as Supplement 15 |  |
| X.vissec | Security of digital broadcasting and multimedia video information systems (VIS Security) |  |  | 17 | 2 | Dmitry Kostrov | COM 17-R48 Annex B Attachment 1 | None | 2014-01 | I |

**Security management**

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | EQUIVALENT | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | |  | TEXT | e.g., ISO/IEC | DATE | |
| X.1051 | Information technology – Security techniques – Information security management guidelines for telecommunications organizations based on ISO/IEC 27002 | 2008 | C | 17 | 3 | Yoko Fujimoto, Koji Nakao |  | ISO/IEC 27011 |  |  |
| X.1052 | Information security management framework | 2011 | I | 17 | 3 | Minshi Chen, Lijun Liu, Zhi Zhou |  | None |  |  |
| X.1054 | Information technology – Security techniques – Governance information security | 2012 | I | 17 | 3 | Jungduk Kim |  | ISO/IEC 27014 |  |  |
| X.1055 | Risk management and risk profile guidelines for telecommunications organizations | 2008 | I | 17 | 3 | Ted Humphreys |  | (base: ISO/IEC 27005) |  |  |
| X.1056 | Security incident management guidelines for telecommunications organizations | 2008 | I | 17 | 3 | Jungduk Kim |  | (base: ISO/IEC TR18044) |  |  |
| X.1057 | Asset management guidelines in telecommunication organizations | 2011 | I | 17 | 3 | Taein Jung, Jintae Lee |  | None |  |  |
| X.gpim | Guideline for management of personally identifiable information for telecommunication organizations |  |  | 17 | 3 | Soonjoung Byun, Jungduk Kim, Lijun Liu, Heung Youl Youm |  | None | 2014-01 | I |
| X.mgv6 | Security management guideline for implementation of IPv6 environment in telecommunications organizations |  |  | 17 | 3 | Koji Nakao, Jungsuk Song |  | None | Re-vectored as Supplement X.mgv6 |  |
| X.rmsm | Information security management reference model for small and medium-sized telecommunication organizations |  |  | 17 | 3 | Chung Yun Chung, Sang Soo, Jang, Hang Bae, Jang |  | None | Work discontinued |  |
| X.sgsm | Information security management guidelines for small and medium telecommunication organizations |  |  | 17 | 3 | Ki-ho Lee, Junduk Kim, Wataru Senga | COM17-TD3202 | None | 2013-04 | I |

**Telebiometrics**

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | EQUIVALENT | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | e.g., ISO/IEC | DATE | |
| X.1080.1 | e-Health and world-wide telemedicines – Generic telecommunication protocol | 2011 | I | 17 | 9 | Jean-Paul Lemaire |  | None |  |  |
| X.1081 | The telebiometric multimodal model - A framework for the specification of security and safety aspects of telebiometrics | 2011 | I | 17 | 9 | Paul Gerome |  | None |  |  |
| X.1082 | Telebiometrics related to human physiology | 2007 | T | 17 | 9 | Paul Gerome |  | IEC 80000-14 |  |  |
| X.1082 Amd.1 | Object identifier assignments under the Telebiometrics arc | 2009 | T | 17 | 9 | John Larmouth |  | IEC 80000-14, Amd.1 |  |  |
| X.1082 Amd.2 | Enhancement to support ISO/IEC 80000-series | 2010 | T | 17 | 9 | John Larmouth, Jean-Paul Lemaire |  | IEC 80000-14, Amd.2 |  |  |
| X.1083 | Information technology – Biometrics – BioAPI interworking protocol | 2007 | C | 17 | 9 | Jean-Paul Lemaire |  | ISO/IEC 24708 |  |  |
| X.1084 | Telebiometrics system mechanism – Part 1: General biometric authentication protocol and system model profiles for telecommunications systems | 2008 | I | 17 | 9 | Yoshiaki Isobe, Yong Nyuo Shin |  | None |  |  |
| X.1086 | Telebiometric protection procedure – Part 1: A guideline to technical and managerial countermeasures for biometric data security | 2008 | I | 17 | 9 | Hakil Kim, Jason Kim |  | None |  |  |
| X.1086 Amd.1 | Multibiometric protection procedures | 2012 | I | 17 | 9 | Inja Jun, Hakil Kim |  | None |  |  |
| X.1088 | Telebiometrics digital key framework (TDK) – A framework for biometric digital key generation and protection | 2008 | I | 17 | 9 | Yun-Su Chung, Jason Kim, Hyung-Woo Lee, Ki-Young Moon |  | None |  |  |
| X.1089 | Telebiometrics authentication infrastructure (TAI) | 2008 | I | 17 | 9 | Jiwei Wei |  | None |  |  |
| X.1090 | Authentication framework with one-time telebiometric template | 2011 | I | 17 | 9 | Hyung-Woo Lee, Yongjin Lee |  | None |  |  |
| X.1091 | A guideline for evaluating telebiometric template protection techniques | 2012 | I | 17 | 9 | Yoshiaki Isobe, Tetsushi Ohki |  | None |  |  |
| X.bhsm | Telebiometric authentication framework using biometric hardware security module |  |  | 17 | 9 | Myung Geun Chun, Yong Nyuo Shin | COM17-TD3171 | None | 2014-09 | I |
| X.tam | A guideline to technical and operational countermeasures for telebiometric applications using mobile devices |  |  | 17 | 9 | Jae-Sung Kim, Yong Nyuo Shin | COM17-TD3162 | None | 2015 | I |
| X.th2 | Telebiometrics related to physics |  |  | 17 | 9 | Michele Peiry | COM17-TD3055 | Related to ISO 80003-2 | 2014 | I |
| X.th3 | Telebiometrics related to chemistry |  |  | 17 | 9 | Michele Peiry | COM17-TD3056 | Related to ISO 80003-3 | 2014 | I |
| X.th4 | Telebiometrics related to biology |  |  | 17 | 9 | Paul Gerome | COM17-TD3043 | Related to IEC 80003-4 | 2014 | I |
| X.th5 | Telebiometrics related to culturology |  |  | 17 | 9 | Paul Gerome | COM17-TD3044 | Related to IEC 80003-5 | 2014 | I |
| X.th6 | Telebiometrics related to psychology |  |  | 17 | 9 | Paul Gerome | COM17-TD3045 | Related to IEC 80003-6 | 2014 | I |
| X.tif | Integrated framework for telebiometric data protection in e-health and worldwide telemedicines |  |  | 17 | 9 | Jae-Sung Kim, Yong Nyuo Shin, Seung Jai Yi | COM17-TD3173 | None | 2013-04 | I |
| X.tpp-2 | Telebiometrics protection procedures – Part 2: A guideline for data protection in multibiometric systems |  |  | 17 | 9 |  |  | None | Work discontinued |  |

\* Original Amd.2 was not published but merged with X.1081 Amd.1 prior to publication and original Amd.3 has been renumbered Amd.2 prior to publication

**SECURE APPLICATIONS AND SERVICES**

**Multicast security**

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | EQUIVALENT | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | e.g., ISO/IEC | DATE | |
| X.1101 | Security requirements and framework for multicast communication | 2010 | I | 17 | 6 | Miyeon Yoon, Heung Youl Youm |  | None |  |  |

**Home network security**

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | EQUIVALENT | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | e.g., ISO/IEC | DATE | |
| X.1111 | Framework of security technologies for home network | 2007 | I | 17 | 6 | Heung Youl Youm, Heung Ryong Oh |  | None |  |  |
| X.1112 | Device certificate profile for the home network | 2007 | I | 17 | 6 | Jong-Hyun Baek, Dong-Young Yoo |  | None |  |  |
| X.1113 | Guideline on user authentication mechanism for home network services | 2007 | I | 17 | 6 | Hyung-Kyu Lee |  | None |  |  |
| X.1114 | Authorization framework for home networks | 2008 | I | 17 | 6 | Geon Woo. Kim, Jeff Ji |  | None |  |  |

**Mobile security**

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | EQUIVALENT | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | e.g., ISO/IEC | DATE | |
| X.1121 | Framework of security technologies for mobile end-to-end data communications | 2004 | I | 17 | 6 | Tadashi Kaji, Heung-Youl Youm |  | None |  |  |
| X.1122 | Guideline for implementing secure mobile systems based on PKI | 2004 | I | 17 | 6 | Tadashi Kaji, Heung-Youl Youm |  | None |  |  |
| X.1123 | Differentiated security service for secure mobile end-to-end data communication | 2007 | I | 17 | 6 | Jianyong Chen, Bo Wu |  | None |  |  |
| X.1124 | Authentication architecture for mobile end-to-end data communication | 2007 | I | 17 | 6 | Zhibin Zheng, Jiwei Wei |  | None |  |  |
| X.1125 | Correlative Reacting System in mobile data communication | 2008 | I | 17 | 6 | Shuling Liu, Jiwei Wei |  | None |  |  |
| X.1126 (X.msec-6) | Security aspects of smartphones |  |  | 17 | 6 | Hongwei Luo, Yutaka Miyake | COM17-R67 | None | In TAP | I |
| X.msec-5 | Security requirements and mechanism for reconfiguration of mobile device with multiple communication interfaces |  |  | 17 | 6 | Gaeil An, Guntae Bae, Kiyoung Kim |  | None | Work discontinued |  |
| X.msec-7 | Guidelines on the management of infected terminals in mobile networks |  |  | 17 | 6 | Chen Zhang, Xuetao Du, Lou Tao | COM17-TD3243 | None | 2014-01 | I |
| X.msec-8 | Secure application distribution framework for communication devices |  |  | 17 | 6 | Yutaka Miyake, Mijoo Kim, Heung Youl Youm | COM17-TD3203 | None | 2014-01 | I |

**Web security**

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | EQUIVALENT | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | e.g., ISO/IEC | DATE | |
| X.1141 | Security Assertion Markup Language (SAML 2.0) | 2006 | T | 17 | 7 | Abbie Barbir |  | OASIS SAML 2.0 |  |  |
| X.1141 Amd.1 | Errata |  |  | 17 | 7 | Abbie Barbir | COM17-TDs 1571, 1572, 1573, 1574, 1575, 1577, 1578, 1579, 1580, 1581, 1582, 1583, 1584, 1585, 1586, 1587, 1588 | OASIS SAML 2.0 errata | 2013-04 | T |
| X.1142 | eXtensible Access Control Markup Language (XACML 2.0) | 2006 | T | 17 | 7 | Abbie Barbir |  | OASIS XACML 2.0 |  |  |
| X.1142 Amd.1 | Errata |  |  | 17 | 7 | Abbie Barbir | COM17-TDs 1556, 1557, 1569 | OASIS XACML 2.0 errata | 2013-04 | T |
| X.1143 | Security architecture for message security in mobile web services | 2007 | I | 17 | 7 | Jae Seung Lee |  | None |  |  |
| X.websec-4 | Threats and security requirements for enhanced web based telecommunication service |  |  | 17 | 7 | Jaehoon Nah, DaeHee Seo |  | None | Re-vectored as Supplement 17 |  |
| X.websec-5 | Security architecture and operations for web mashup services |  |  | 17 | 7 | Jaehoon Nah, H.R. Oh | COM17-TD2612 Rev.2 | None | 2014-09 | I |
| X.xacml3 | eXtensible Access Control Markup Language (XACML) 3.0 |  |  | 17 | 7 | Abbie Barbir | COM17-TDs 1570, 1568, 1567, 1566, 1565, 1564, 1563, 1562, 1561, 1560, 1559, 1558 | OASIS XACML 3.0 | 2013-04 | T |

**Security protocols**

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | EQUIVALENT | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | e.g., ISO/IEC | DATE | |
| X.1151 | Guideline on secure password-based authentication protocol with key exchange | 2007 | I | 17 | 7 | Heung Youl Youm |  | None |  |  |
| X.1152 | Secure end-to-end data communication techniques using trusted third party services | 2008 | I | 17 | 7 | Tadashi Kaji |  | None |  |  |
| X.1153 | Management framework of a one time password-based authentication service | 2011 | I | 17 | 7 | Keun-ok Kim, Hyung-jin Lim, Heewoon Shim |  | None |  |  |
| X.1154 (X.sap-4) | General framework of combined authentication on multiple identity service provider environments |  |  | 17 | 7 | Tadashi Kaji, Hyung-jin Lim | COM17-R68 | None | In TAP | I |
| X.sap-5 | Guideline on local linkable anonymous authentication for electronic services |  |  | 17 | 7 | Sokjoon Lee | COM17-TD3151 | None | 2014-09 | I |
| X.sap-6 | Non-repudiation framework based on a one time password |  |  | 17 | 7 | Keun-ok Kim, Hee-won Shim | COM17-TDTD 3177 | None | 2013-04 | I |
| X.sap-7 | Technical capabilities of fraud detection and response for services with high assurance level requirements |  |  | 17 | 7 | Tae Kyun Kim, Hyung-Jin Lim | COM17-TD3145 | None | 2014-09 | I |
| X.sap-8 | Efficient multi-factor authentication mechanisms using mobile devices |  |  | 17 | 7 | Heung-Youl Youm | COM17-TD3157 | None | 2014-09 | I |
| X.sap-9 | Delegated non-repudiation architecture based on ITU-T X.813 |  |  | 17 | 7 | Keun-ok Kim, Hee-won Shim, Seong-Hyeon Song | COM17-TD3142 Rev.1 | None | 2014-09 | I |

**Peer-to-peer security**

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | EQUIVALENT | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | e.g., ISO/IEC | DATE | |
| X.1161 | Framework for secure peer-to-peer communications | 2008 | I | 17 | 7 | Yutaka Miyake |  | None |  |  |
| X.1162 | Security architecture and operations for peer-to-peer network | 2008 | I | 17 | 7 | Jae Hoon Nah |  | None |  |  |
| X.1164 (X.p2p-4) | Use of service providers’ user authentication infrastructure to implement public key infrastructure for peer-to-peer networks | 2012 | I | 17 | 7 | Ayumu Kubota, Yutaka Miyake | COM17-TD3082 | None |  |  |
| X.p2p-3 | Security requirements and mechanisms of peer-to-peer-based telecommunication network |  |  | 17 | 7 | Lijun Liu | COM17-TD2333 | None | 2014-09 | I |

**Networked ID security**

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | EQUIVALENT | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | e.g., ISO/IEC | DATE | |
| X.1171 | Threats and requirements for protection of personally identifiable information in applications using tag-based identification | 2009 | I | 17 | 6 | Dooho Choi |  | None |  |  |
| X.1275 | Guidelines on protection of personally identifiable information in the application of RFID technology | 2010 | I | 17 | 10 | Hyangjin Lee |  | None |  |  |

**IPTV security**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | EQUIVALENT | TARGET | |
| No. | TITLE | PUBLICATION | | TEXT | e.g., ISO/IEC | DATE | |
| X.1191 | Functional requirements and architecture for IPTV security aspects | 2009 | I | 17 | 9 | Shinji Ishii, hut Nguyen, Xie Wei, Heung Youl Youm |  | None |  |  |
| X.1192 | Functional requirements and mechanisms for the secure transcoding of IPTV | 2011 | I | 17 | 6 | Jae Hoon Nah |  | None |  |  |
| X.1193 | Key management framework for secure internet protocol television (IPTV) services | 2011 | I | 17 | 6 | Heung Youl Youm |  | None |  |  |
| X.1194 | Algorithm selection scheme for service and content protection descrambling | 2012 | I | 17 | 6 | Jongyoul Park |  | None |  |  |
| X.1195 | Service and content protection interoperability scheme | 2011 | I | 17 | 6 | Dong Wang, Kisong Yoon |  | None |  |  |
| X.1197 | Guidelines on criteria for selecting cryptographic algorithms for IPTV service and content protection | 2012 | I | 17 | 6 | Seokung Yoon, Heung Youl Youm |  | None |  |  |
| X.1196 | Framework for the downloadable service and content protection system in the mobile Internet Protocol Television (IPTV) environment | 2012 | I | 17 | 6 | Heung Youl Youm |  | None |  |  |
| X.iptvsec-8 | Virtual machine-based security platform for renewable IPTV service and content protection (SCP) |  |  | 17 | 6 | Yong Ho Hwang, Jongyoul Park | COM17-TD3099 | None | 2013-04 | I |

**CYBERSPACE SECURITY**

**Cybersecurity**

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | EQUIVALENT | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | e.g., ISO/IEC | DATE | |
| X.1205 | Overview of cybersecurity | 2008 | I | 17 | 4 | Abbie Barbir |  | None |  |  |
| X.1206 | A vendor-neutral framework for automatic notification of security related information and dissemination of updates | 2008 | I | 17 | 4 | Hiroshi Takechi, Craig Schultz |  | None |  |  |
| X.1207 | Guidelines for telecommunication service providers for addressing the risk of spyware and potentially unwanted software | 2008 | I | 17 | 4 | Meng Chow Kang |  | None |  |  |
| X.1209 | Capabilities and their context scenarios for cybersecurity information sharing and exchange | 2010 | I | 17 | 4 | Il-Ahn Cheong, Tetsuya Kageyama, Miho Naganuma |  | None |  |  |
| X.1211 | Usability of network traceback |  |  | 17 | 4 | Takeshi Takahashi, Huirong Tian, Heung Youl Youm | COM17 – R 33 | None | Re-vectored as Supplement 10 |  |
| X.abnot | Abnormal traffic detection and control guideline for telecommunication network |  |  | 17 | 4 | Lijun Liu | COM17-TD2668 Rev.1 | None | Re-vectored as Supplement X.abnot |  |
| X.bots | Centralized framework for botnet detection and response |  |  | 17 | 4 | Chaetae Im, Hyun Cheol Jeong, Mi Joo Kim, Joo Hyung Oh, Yoo Jae Won | COM17-TD2756 Rev.1 | None | 2014-01 | I |
| X.csi | Guidelines for cybersecurity index |  |  | 17 | 4 | Damir Rajnovic, Heung Youl Youm | COM17-TD3136 | None | 2013-04 | I |
| X.dexf | Digital forensics exchange file format |  |  | 17 | 4 | Youn-Hee Gil, Dowon Hong, Sung Kyong Un, Anthony M. Rutkowski |  | None | Work discontinued |  |
| X.dpi | Deep packet inspection exchange format |  |  | 17 | 4 |  |  | None | Work discontinued |  |
| X.eipwa | Guideline on techniques for preventing web-based attacks |  |  | 17 | 4 | Wei Xie, Heung Youl Youm | COM17-TD3134 | None | 2014-01 | I |
| X.gpn | Mechanism and procedure for distributing policies for network security |  |  | 17 | 4 | Shuyi Chen, Hui Dong, Lijun Liu |  | None | Work discontinued |  |
| X.gridf | Smart grid incident exchange format |  |  | 17 |  |  |  | None | Work discontinued |  |
| X.maec | Malware attribute enumeration and classification |  |  | 17 | 4 | Robert Martin | COM17-TD3093 | None | 2014-01 | I |
| X.scap | Security content automation protocol |  |  | 17 | 4 | Robert Martin | COM17-TD0761 | None | Work discontinued |  |
| X.silc | Security incident life-cycle processes guidelines |  |  | 17 | 4 | Hiroshi Takechi, Meng Chow Kang |  | None | Work discontinued |  |
| X.sip-cyber | Security guidelines for countering cyber attacks in SIP-based services |  |  | 17 | 4 | Hyun Cheol Jeong, Hyung-Woo Lee, Anthony Rutkowski | COM17-TD1735 | None | 2013-04 | I |
| X.sips | Framework for countering cyber attacks in SIP-based services |  |  | 17 | 4 | Hwan Kuk Kim, Kyoung Hee Ko |  | None | Work discontinued |  |
| X.ssaf | Security standards availability framework |  |  | 17 | 4 | Anthony Rutkowski |  | None | Work discontinued |  |
| X.teef | Cyber attack tracing event exchange format |  |  | 17 | 4 |  |  | None | Re-vectored as X.macc |  |
| X.trm | Overview of traceback mechanisms |  |  | 17 | 4 | Youki Kadobayashi, Huirong Tian, Heung Youl Youm | COM17-TD3135 | None | 2013-04 | I |

**Countering spam**

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | EQUIVALENT | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | e.g., ISO/IEC | DATE | |
| X.1231 | Technical strategies for countering spam | 2008 | I | 17 | 5 | Hongwei Luo, Jianyong Chen |  | None |  |  |
| X.1240 | Technologies involved in countering email spam | 2008 | I | 17 | 5 | So-Young Park, Yuxiao. Li |  | None |  |  |
| X.1241 | Technical framework for countering email spam | 2008 | I | 17 | 5 | Kun Yang, Jianyong Chen |  | None |  |  |
| X.1242 | Short message service (SMS) spam filtering system based on user-specified rules | 2009 | I | 17 | 5 | Hongwei Luo, Lijun Liu |  | None |  |  |
| X.1243 | Interactive gateway system for countering spam | 2010 | I | 17 | 5 | Xu Chen, Hua Jiang, Zhimeng Teng |  | None |  |  |
| X.1244 | Overall aspects of countering spam in IP-based multimedia applications | 2008 | I | 17 | 5 | Shin Gak Kang, Mi Joo Kim |  | None |  |  |
| X.1245 | Framework for countering spam in IP-based multimedia applications | 2010 | I | 17 | 5 | So-Young Park, Seokung Yoon |  | None |  |  |
| X.1246 | Real time-blocking list (RBL)-based framework for countering VoIP spam |  |  | 17 | 7 | Seokung Yoon |  | None | Re-vectored as Supplement 11 |  |
| X.ics | Functions and interfaces for countering email spam using botnet information |  |  | 17 |  |  |  | None | Re-vectored as Supplement 14 |  |
| X.oacms | Overall aspects of countering messaging spam in mobile networks |  |  | 17 | 5 | Min Huang, Linlin Zhang |  | None | Re-vectored as Supplement 12 | I |
| X.ticvs | Technologies involved in countering voice spam in telecommunication organizations |  |  | 17 | 5 | Xuetao Du, Tao Lou | COM17-TD3228 | None | 2014-01 | I |

**Identity management (IdM)**

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | EQUIVALENT | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | e.g., ISO/IEC | DATE | |
| X.1250 | Baseline capabilities for enhanced global identity management and interoperability | 2009 | I | 17 | 10 | Tony Rutkowski, Jiwei Wei |  | None |  |  |
| X.1251 | A framework for user control of digital identity | 2009 | I | 17 | 10 | Sangrae Cho, Seung-Hun Jin, Michael McIntosh |  | None |  |  |
| X.1252 | Baseline identity management terms and definitions | 2010 | I | 17 | 10 | Mike Harrop, Michael Hird |  | None |  |  |
| X.1253 | Security guidelines for identity management systems | 2011 | I | 17 | 10 | Sangrae Cho |  | None |  |  |
| X.1254 | Entity authentication assurance framework | 2012 | I | 17 | 10 | Richard Brackney |  | related to ISO/IEC 29115 |  |  |
| X.1261 (X.EVcert) | Extended validation certificate framework (Evcert) |  |  | 17 | 10 | Anthony Rutkowski | COM17 – R 30 | CA/Browser Forum Evcert specification | Work discontinued |  |
| X.1275 | Guidelines on protection of personally identifiable information in the application of RFID technology | 2010 | I | 17 | 10 | Hyangjin Lee, Seokung Yoon |  | None |  |  |
| X.atag | Attribute aggregation framework |  |  | 17 | 10 | David W Chadwick, Ryu Watanabe | COM17-TD2739 | None | 2014-01 | I |
| X.authi | Guideline to implement the authentication integration of the network layer and the service layer |  |  | 17 | 10 | Lijun Liu | COM17-TD3210 | None | 2014-01 | I |
| X.discovery | Discovery of identity management information |  |  | 17 | 10 | Robert Kahn | COM17-TD3179 Rev.1 | None | 2013-04 | I |
| X.giim | Mechanisms to support interoperability across different IdM services |  |  | 17 | 10 | Jing Wu | COM17-TD3039 Rev.2 | None | 2013-04 | I |
| X.iamt | Identity and access management taxonomy |  |  | 17 | 10 | Radu Marian | COM17-TD3140 Rev.5 | None | 2016 | I |
| X.idmcc | Requirement of IdM in cloud computing |  |  | 17 | 10 | Xiao Ming Guang Jing Wu | COM17-TD2228 | None | 2014-01 | I |
| X.idm-dm | Identity management data model |  |  | 17 | 10 | Antony Nadalin | COM17-TD0947 | None | Work discontinued |  |
| X.idm-ifa | Framework architecture for interoperable identity management systems |  |  | 17 | 10 | Marcin Dąbrowski, Piotr Pacyna |  | None | Work discontinued |  |
| X.idmgen | Generic identity management framework |  |  | 17 | 10 | Richard Brackney, Zhaoji Lin |  | None | Work discontinued |  |
| X.mob-id | Baseline capabilities and mechanisms of identity management for mobile applications and environment |  |  | 17 | 10 | Sangrae Cho | COM17-TD3164 | None | 2013-04 | I |
| X.oitf | Open identity trust framework |  |  | 17 | 10 | ZhaoJi Lin, David Turner | COM17-TD3058 | None | 2014-01 | I |
| X.priva | Criteria for assessing the level of protection for personally identifiable information in identity management |  |  | 17 | 10 | Inkyoung Jeun, Hyangjin Lee |  | None | Work discontinued |  |
| X.scim-use | Application of system for cross identity management (SCIM) in telecommunication environments |  |  | 17  13 | 10  16 | Radu Marian, Zachary Zeltsan | COM17-TD3242 Rev.1 | None | 2016 | I |

**SECURE APPLICATIONS AND SERVICES**

**Emergency communications**

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | EQUIVALENT | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | e.g., ISO/IEC | DATE | |
| X.1303 | Common alerting protocol (CAP 1.1)  *Revision:* Common alerting protocol (CAP 1.2) | 2007 | T | 17 | 4 | Abbie Barbir  Olivier Dubuisson, Youki Kadobayashi | COM17-TD1629 | OASIS CAP v1.1  OASIS CAP v1.2 | 2013-04 | T |

Ubiquitous sensor network security

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | EQUIVALENT | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | e.g., ISO/IEC | DATE | |
| X.1311 | Information technology – Security framework for ubiquitous sensor network | 2011 | C | 17 | 6 | Eunyoung Choi, Heung Youl Youm |  | ISO/IEC 29180 |  |  |
| X.1312 | Ubiquitous sensor network middleware security guidelines | 2011 | I | 17 | 6 | Mi Joo Kim, Miyeon Yoon |  | None |  |  |
| X.1313 | Security requirements for wireless sensor network routing | 2012 | I | 17 | 6 | Mijoo Kim | COM17-TD3185 Rev.1 | None |  |  |
| X.unsec-1 | Security requirements and framework of ubiquitous networking |  |  | 17 | 6 | Xia Junjie, Lijun Liu, Wang Shitong | COM17-TD2667 | None | 2014-01 | I |

CYBERSECURITY INFORMATION EXCHANGE

Overview of Cybersecurity

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | EQUIVALENT | TARGET | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | e.g., ISO/IEC | DATE | | |
| X.1500 | Overview of cybersecurity information exchange | 2011 | I | 17 | 4 | Inette Furey, Youki Kadobayashi, Robert Martin, Angela McKay, Damir Rajnovic, Gavin Reid, Anthony Rutkowski, Gregg Schudel |  | None |  |  |
| X.1500 Amd.1 | Amendment 1: Revised structured cybersecurity information exchange techniques | Superseded | I | 17 | 4 | Anthony Rutkowski |  | None |  |  |
| X.1500 Amd.2 | Overview of cybersecurity information exchange – Amendment 2 – Revised structured cybersecurity information exchange techniques | 2012 | I | 17 | 4 | Youki Kadobayashi |  | None |  |  |
| X.1500 Amd.3 | Overview of cybersecurity information exchange – Amendment 3 – Revised structured cybersecurity information exchange techniques |  |  | 17 | 4 | Youki Kadobayashi | COM17-TD 3167 Rev.2 | None | 2013-04 | I |
| X.1500.1 | Procedures for the registration of arcs under the object identifier arc for cybersecurity information exchange | 2012 | I | 17 | 4 | Olivier Dubuisson, Anthony Rutkowski |  | None |  |  |
| X.csmc | Continuous security monitoring using CYBEX techniques |  |  | 17 | 4 | Inette Furey, Youki Kadobayashi, Robert Martin, Kathleen M. Moriarty, Gregg Schudel, Takeshi Takahashi | COM17-TD2569 Rev.1 | None | 2014-01 | I |
| X.cybex.2 | Use of XML namespace in the cybersecurity information exchange framework |  |  | 17 |  |  |  | None | Work discontinued |  |

Vulnerability/state exchange

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | ISO/IEC | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT\* | EQUIVALENT | DATE | |
| X.1520 | Common vulnerabilities and exposures | 2011 | I | 17 | 4 | Robert Martin, Anthony Rutkowski |  | None |  |  |
| X.1521 | Common vulnerability scoring system | 2011 | I | 17 | 4 | Damir Rajnovic, Gavin Reid, Gregg Schudel |  | None |  |  |
| X.1524 | Common weakness enumeration | 2012 | I | 17 | 4 | Robert Martin |  | None |  |  |
| X.1527 | Extensible configuration checklist description format |  |  | 17 | 4 | Robert Martin | COM17-R50 | None | Work discontinued |  |
| X.1528 | Common platform enumeration | 2012 | I | 17 | 4 | Robert Martin |  | None |  |  |
| X.1528.1 | Common platform enumeration naming | 2012 | I | 17 | 4 | Robert Martin |  | None |  |  |
| X.1528.2 | Common platform enumeration name matching | 2012 | I | 17 | 4 | Robert Martin |  | None |  |  |
| X.1528.3 | Common platform enumeration dictionary | 2012 | I | 17 | 4 | Robert Martin |  | None |  |  |
| X.1528.4 | Common platform enumeration applicability language | 2012 | I | 17 | 4 | Robert Martin |  | None |  |  |
| X.1526 (X.oval) | Open vulnerability and assessment language |  |  | 17 | 4 | Robert Martin | COM17-R64 | None | In TAP | I |
| X.arf | Assessment result format |  |  | 17 | 4 | Robert Martin |  | None | Work discontinued |  |
| X.cce | Common configuration enumeration |  |  | 17 | 4 | Robert Martin | COM17–TD3094 | None | 2014-01 | I |
| X.crf | Common result format |  |  | 17 | 4 |  |  | None | Work discontinued |  |
| X.cvrf | Common vulnerability reporting format |  |  | 17 | 4 | Mike Schiffman, Gregg Schudel | COM17-TD2208 Rev.1 | None | 2013-04 | I |
| X.cwss | Common weakness scoring system |  |  | 17 | 4 | Robert Martin | COM17-TD3095 | None | 2014-01 | I |

Event/incident/heuristics exchange

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | EQUIVALENT | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | e.g., ISO/IEC | DATE | |
| X.1541 | Incident object description exchange format | 2012 | I | 17 | 4 | Kathleen Moriarty |  | None |  |  |
| X.1544 (X.capec) | Common attack pattern enumeration and classification |  |  | 17 | 4 | Robert Martin | COM17-R65 | None | In TAP | I |
| X.cee | Common event expression |  |  | 17 | 4 | Robert Martin | COM17–TD3104 | None | 2014-01 | I |
| X.cee.1 | CEE architecture overview |  |  | 17 | 4 | Robert Martin | COM-17TD3107 | None | 2014-01 | I |
| X.cee.2 | CEE dictionary and event taxonomy (CDET) |  |  | 17 | 4 | Robert Martin | COM-17TD3105 | None | 2014-01 | I |
| X.cee.3 | CEE log syntax (CLS) encoding |  |  | 17 | 4 | Robert Martin | COM-17TD3108 | None | 2014-01 | I |
| X.cee.4 | CEE log recommendations (CELR) profile |  |  | 17 | 4 | Robert Martin | COM-17TD3103 | None | 2014-01 | I |
| X.cee.5 | CEE log transport (CLT) requirements |  |  | 17 | 4 | Robert Martin | COM-17TD3106 | None | 2014-01 | I |
| X.maec | Malware attribute enumeration and classification |  |  |  |  | Robert Martin | COM17-TD2024 | None | 2012-09 | I |
| X.pfam | Misuse enumeration and characterization |  |  | 17 | 4 | Igor Polyakov, Anthony Rutkowski, Yuri Ryazantsev |  | None | Work discontinued |  |
| x.pfoc | Phishing, fraud, and other crimeware exchange format |  |  | 17 | 4 |  |  | None | Re-vectored as X.pfam |  |

Exchange of policies

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | ISO/IEC | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | EQUIVALENT | DATE | |
| X.sisnego | Framework of security information sharing negotiation |  |  | 17 | 4 | Gae-il An, Jong Hyun Kim, Kathleen Moriarty | COM17-TD3165 | None | 2014-01 | I |

Heuristics and information request

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | ISO/IEC | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | EQUIVALENT | DATE | |
| X.chirp | Cybersecurity heuristics and information request protocol |  |  | 17 | 4 | Anthony Rutkowski |  | None | Re-vectored as X.cyiql |  |
| X.cyiql | Cybersecurity information query language |  |  | 17 | 4 | Youki Kadobayashi | COM17-TD0714 | None | Work discontinued |  |

Identification and discovery

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | ISO/IEC | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | EQUIVALENT | DATE | |
| X.1570 | Discovery mechanisms in the exchange of cybersecurity information | 2011 | I | 17 | 4 | Youki Kadobayashi, Takeshi Takahashi |  | None |  |  |

Assured exchange

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | ISO/IEC | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | EQUIVALENT | DATE | |
| X.1580 | Real-time inter-network defense | 2012 | I | 17 | 4 | Kathleen Moriarty |  | None |  |  |
| X.1581 | Transport of real-time inter-network defense messages | 2012 | I | 17 | 4 | Kathleen Moriarty |  | None |  |  |
| X.cybex-beep | A BEEP profile for cybersecurity information exchange techniques |  |  | 17 | 4 | Youki Kadobayashi | COM17-TD2075 | None | 2014-01 | I |
| X.cybex-tp | Transport protocols supporting cybersecurity information exchange |  |  | 17 | 4 | Youki Kadobayashi, Damir Rajnovic | COM17-TD2567 | None | 2014-01 | I |

OTHER

Cloud computing security

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | ISO/IEC | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | EQUIVALENT | DATE | |
| X.ccsec | High-level security framework for cloud computing |  |  | 17 | 8 | Ruan He, Jun Shen, Huirong Tian, Laifu Wang, Peng Zhao, Lin Zhaoji | COM17-TD3191 Rev.1 | None | 2013-04 | I |
| X.fsspvn | Framework of the secure service platform for virtual network |  |  | 17 | 8 | Min Huang, Jun Shen, Huirong Tian, Yuchen Wang | COM17-TD3051 | None | 2014-01 | I |
| X.goscc | Guideline of operational security for cloud computing |  |  | 17 | 8 | Ming Feng, Zhaoji Lin, Jun Shen, Huirong Tian, Laifu Wang | COM7-TD3195 Rev.1 | None | 2014-01 | I |
| X.sfcse | Security functional requirements for Software as a Service (SaaS) application environment |  |  | 17 | 8 | Zhaoji Lin, Peng Zhao, Yanbing Zheng | COM17-TD3060 | None | 2014-01 | I |
| X.srfctse | Security requirements and framework of cloud based telecommunication service environment |  |  | 17 | 8 | Huirong Tian, Shitong Wang |  | None | Work discontinued – merged into X.ccsec |  |

**Smart grid security**

| RECOMMENDATION | | CURRENT | | SG | Q | EDITOR | LATEST | ISO/IEC | TARGET | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | TEXT | EQUIVALENT | DATE | |
| X.sgsec-1 | Security functional architecture for smart grid services using telecommunication network |  |  | 17 | 6 | Tadashi Kaji, Mijoo Kim, Mi Yeon Yoon | COM17-TD31893 | None | 2014-01 | I |

SUPPLEMENTS TO X-SERIES RECOMMENDATIONS

| RECOMMENDATION | | CURRENT | | | SG | | Q | | EDITOR | | LATEST | | ISO/IEC | | TARGET | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | TITLE | PUBLICATION | | | TEXT | | EQUIVALENT | | DATE | | | |
| X Suppl.1 | ITU-T X.135: Supplement related to some test results from specific national and international portions | 1997 | I | 13 | | | 20 | | Garry Couch | |  | | None | |  | | |  |
| X Suppl.2 | ITU-T X.800-X.849 series: Supplement on security baseline for network operators | 2007 | I | 17 | | | 2 | | Arkadiy Kremer | |  | | None | |  | | |  |
| X Suppl.3 | ITU-T X.800-X.849 series: Supplement on guidelines for implementing system and network security | 2008 | I | 17 | | | 2 | | Uma Chandrashekhar | |  | | None | |  | | |  |
| X Suppl.4 | ITU-T X.290 series: Supplement on generic approach to interoperability testing | 2008 | I | 17 | | | 14 | | Dieter Hogrefe | |  | | None | |  | | |  |
| X Suppl.5 | ITU-T X.290 series: Supplement on interoperability testing framework and methodology | 2008 | I | 17 | | | 14 | | Sunwong Kang | |  | | None | |  | | |  |
| X Suppl.6 | ITU-T X.1240 series: Supplement on countering spam and associated threats | 2009 | I | 17 | | | 5 | | James G. Ennis | |  | | None | |  | | |  |
| X Suppl.7 | ITU-T X.1250 series: Supplement on overview of identity management in the context of cybersecurity | 2009 | I | 17 | | | 10 | | James G. Ennis | |  | | None | |  | | |  |
| X Suppl.8 | ITU-T X.1205: Supplement on best practices against botnet threats | 2010 | I | 17 | | | 4 | | Koji Nakao, Heung Youl Youm | |  | | None | |  | | |  |
| X Suppl.9 | ITU-T X.1205: Guidelines for reducing malware in ICT networks | 2011 | I | 17 | | | 4 | | Mijoo Kim, Heung Youl Youm | |  | | None | |  | | |  |
| X Suppl.10 | ITU-T X.1205: Supplement on usability of network traceback | 2011 | I | 17 | | 4 | | Takeshi Takahashi, Huirong Tian, Heung Youl Youm | |  | | None | |  | |  | | | |
| X Suppl.11 | ITU-T X.1246: Supplement on framework based on real-time blocking lists for countering VoIP spam | 2011 | I | 17 | | 5 | | Seokung Yoon | |  | | None | |  | |  | | | |
| X Suppl.12 | ITU-T X.1240: [Overall aspects of countering mobile messaging spam](javascript:__doPostBack('ctl00$content_search$tv_content','s388\\454\\rec11596')) | 2012 | I | 17 | | 5 | | Min Huang, Junjie Xia, Linlin Zhang | |  | | None | |  | |  | | | |
| X Suppl.13 | ITU-T X.1051: Supplement on information security management users' guide for Recommendation ITU-T X.1051 | 2012 | I | 17 | | 3 | | Wataru Senga | |  | | None | |  | |  | | | |
| X Suppl.14 | ITU-T X.1243: Supplement on a practical reference model for countering email spam using botnet information | 2012 | I | 17 | | 5 | | Yoo Jae Won, Hongbin Zhang, Bei Zhao | |  | | None | |  | |  | | | |
| X Suppl.15 | ITU-T X.800-X.849 series – Supplement on guidance for creating national IP-based public network security center for developing countries | 2012 | I | 17 | | 2 | | Dmitry Kostrov | |  | | None | |  | |  | | | |
| X Suppl.16 | ITU-T X.800-X.849 series – Supplement on architectural systems for security controls for preventing fraudulent activities in public carrier networks | 2012 | I | 17 | | 2 | | Roman Khokhlov | |  | | None | |  | |  | | | |
| X Suppl.17 | ITU-T X.1143 – Supplement on threats and security objectives for enhanced web-based telecommunication service | 2012 | I | 17 | | 7 | | Jaehoon Nah, DaeHee Seo | |  | | None | |  | |  | | | |
| X.abnot | ITU-T X.series – Supplement on guidelines for abnormal traffic detection and control on IP-based networks |  |  | 17 | | 4 | | Xu Chen, Shen He, Lijun Liu, Lanfang Ren, Zhiguo Zhan, Min Zuo | | COM-173155 | | None | | 2013-04 | | I | | | |
| X.mgv6 | Supplement to ITU-T X.ipv6-secguide – Supplement on security management guideline for implementation of IPv6 environment in telecommunications organizations |  |  | 17 | | 2 | | Masashi Eto, Koji Nakao | |  | | None | | 2014-01 | | | I | | |
| X.sup1056 | ITU-T X.1056 – Related Recommendations, International Standards and documents for security incident management |  |  | 17 | | 3 | | Junduk Kim, Miho Naganuma, Damir Rajnovic | | COM17-TD3184 | | None | | 2014 | | | I | | |

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