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| ITU logo | INTERNATIONAL TELECOMMUNICATION UNION**TELECOMMUNICATIONSTANDARDIZATION SECTOR**STUDY PERIOD 2017-2020 | SG17-TD1651 |
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| **TD****(Ref.: SG17-TD1231)** |
| **Source:** | TSB |
| **Title:** | Listing of common and technically aligned Recommendations | International Standards (including technical reports and international standardized profiles) (revised 30 Nov 2018) |
| **Purpose:** | Information |
| **Contact:** | TSB | E-mail: tsbsg17@itu.int  |

These tables list all common text and technically aligned Recommendations | International Standards (or Technical Reports or International Standardized Profiles) approved by *both* organizations as of 30 Nov 2018 (rev-marks show updates to previous version in [TD1231](https://www.itu.int/md/T17-SG17-180829-TD-PLEN-1231) as of 30 June 2018).

Some Recommendations | International Standards listed are in the process of being updated and many new Recommendations | International Standards are in the process of development; they will be reflected in subsequent issues of these tables after they have been fully approved in *both* organizations. These tables will be kept up-to-date and reissued periodically by the TSB and ITTF. Current situation can be obtained at:

<http://www.itu.int/ITU-T/recommendations/iso.aspx?ser=-1&status=F&type=T&pg_size=100>

NOTE to the Tables:

**\_\_\_\_\_**\* To be published

\*\* All CCITT Recommendations became ITU-T Recommendations after 1992.

The following conventions are used in the tables:

Common text

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| **Recommendation** | **International Standard** |
| **Recommendation ITU-T A.123 | ISO/IEC 12345, Common text** |

Twin text

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| **Recommendation** | **International Standard** |
| **Recommendation ITU-T A.123, Twin text** | **ISO/IEC 12345, Twin text** |

Listing of common and technically aligned Recommendations | International Standards (including technical reports and international standardized profiles)

(revised 30 June 2018)

**ITU-T and ISO/IEC JTC 1 cooperation**

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| **Recommendation** | **Standing Document** |
| **Recommendation ITU-T A.23 Annex A (06/2014) | ISO/IEC JTC 1 Standing Document 3 (09/2014), Guide for ITU-T and ISO/IEC JTC1 cooperation** |

**Message handling services**

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| **Recommendation** | **International Standard** |
| **Recommendation ITU-T F.400/X.400 (06/1999), Message handling system and service overview** | **ISO/IEC 10021-1:2003, Information technology – Message Handling Systems (MHS) – Part 1: System and service overview** |
| **Recommendation ITU-T F.435 (06/1999), Message handling services: Electronic Data Interchange messaging service** | **ISO/IEC 10021-8:1999, Information technology – Message Handling Systems (MHS) – Part 8: Electronic Data Interchange Messaging Service** |

**Video and Audio Coding and Systems**

| **Recommendation** | **International Standard** |
| --- | --- |
| **Recommendation ITU-T H.222.0 (2018) | ISO/IEC 13818-1:2018, Information technology — Generic coding of moving pictures and associated audio information: Systems**  |
| **Recommendation ITU-T H.222.0 (2017)/Amd.1 | ISO/IEC 13818-1:2017/Amd.1, Information technology — Generic coding of moving pictures and associated audio information: Systems – Amendment 1: Ultra-low latency and 4k and higher resolution support for transport of JPEG 2000 video** |
| **Recommendation ITU-T H.262 (2012) | ISO/IEC 13818-2:2012, Information technology — Generic coding of moving pictures and associated audio information: Video** |
| **Recommendation ITU-T H.262 (2012)/Amd.1 | ISO/IEC 13818-2:2013/Amd.1, Information technology — Generic coding of moving pictures and associated audio information: Video – Amendment 1** |
| **Recommendation ITU-T H.264 (2017), Advanced video coding for generic audiovisual services** | **ISO/IEC 14496-10: \_\_\_\_\_\*, Information technology — Coding of audio-visual objects – Part 10: Advanced video coding** |
| **Recommendation ITU-T H.264.1 (2016), Conformance specification for H.264 advanced video coding** | **ISO/IEC 14496-4:2004, Information technology — Coding of audio-visual objects – Part 4: Conformance testing** |
| **Recommendation ITU-T H.264.2 (2016), Reference software for H.264 advanced video coding** | **ISO/IEC 14496-5:2001, Amendments, Information technology — Coding of audio-visual objects – Part 5: Reference software** |
| **Recommendation ITU-T H.265 (2018), High efficiency video coding** | **ISO/IEC 23008-2:2018, Information technology — High efficiency coding and media delivery in heterogeneous environments** |
| **Recommendation ITU-T H.265.1 (2018), Conformance specification for ITU-T H.265 high efficiency video coding** | **ISO/IEC 23008-8:2018, Information technology -- High efficiency coding and media delivery in heterogeneous environments -- Part 8: Conformance Specification for HEVC** |
| **Recommendation ITU-T H.265.2 (2016), Reference software for ITU-T H.265 high efficiency video coding** | **ISO/IEC 23008-5:2015, Information technology -- High efficiency coding and media delivery in heterogeneous environments -- Part 5: HEVC Conformance testing and reference software** |
| **Recommendation ITU-T H.273 (2016), Coding-independent code points for video signal type identification** | **ISO/IEC 23008-1:2016, Information technology — MPEG systems technologies — Part 8: Coding-independent code points**  |

**Ubiquitous sensor network applications and Internet of Things**

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| **Recommendation** | **International Standard** |
| **Recommendation ITU-T H.642.3 (2012) | ISO/IEC 29177:2016, Information technology – Automatic identification and data capture technique – Identifier resolution protocol for multimedia information access triggered by tag-based identification** |

**Character Sets**

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| --- | --- |
| **Recommendation** | **International Standard** |
| **CCITT Recommendation\*\* T.50 (1992), Information technology − 7-bit coded character set for information interchange** | **ISO/IEC 646:1991, Information technology — ISO 7-bit coded character set for information interchange** |
| **Recommendation ITU-T T.55 (2008), Information technology − Universal Multiple-Octet Coded Character Set (UCS)** | **ISO/IEC 10646:2003, Information technology − Universal Multiple-Octet Coded Character Set (UCS)** |

**Image Compression and Coding**

| **Recommendation** | **International Standard** |
| --- | --- |
| **Recommendation ITU-T T.44 (2005) — Mixed raster content (MRC)** | **ISO/IEC 16485:2000, Information technology — Mixed raster content (MRC)** |
| **CCITT Recommendation T.81 (1992) | ISO/IEC 10918-1:1994, Information technology − Digital compression and coding of continuous-tone still images − Requirements and guidelines** *plus* **Technical Corrigendum 1 (2004)** |
| **Recommendation ITU-T T.82 (1993) | ISO/IEC 11544:1993, Information technology − Coded representation of picture and audio information** − **Progressive bi-level image compression** *plus***Technical Corrigendum 1 (1995)** *and* **Technical Corrigendum 2 (2001)** |
| **Recommendation ITU-T T.83 (1994) | ISO/IEC 10918-2:1995, Information Technology − Digital compression and coding of continuous-tone still images: Compliance testing** |
| **Recommendation ITU-T T.84 (1996) | ISO/IEC 10918-3:1997, Information technology − Digital compression and coding of continuous-tone still images: Extensions** |
| **Recommendation ITU-T T.84 (1996)/Amd.1 (1999) | ISO/IEC 10918-3:1997/Amd.1:1999, Information technology** − **Digital compression and coding of continuous-tone still images: Extensions** − **Provisions to allow registration of new compression types and versions in the SPIFF header** |
| **Recommendation ITU-T T.86 (1998) | ISO/IEC 10918-4:1999, Information technology** − **Digital compression and coding of continuous-tone still images: Registration of JPEG Profiles, SPIFF Profiles, SPIFF Tags, SPIFF colour Spaces, APPn Markers, SPIFF Compression types and Registration Authorities (REGAUT)** |
| **Recommendation ITU-T T.86 (1998)/Amd.1 (2012) | ISO/IEC 10918-4:1999/Amd.1:2013, Information technology** − **Digital compression and coding of continuous-tone still images: Registration of JPEG Profiles, SPIFF Profiles, SPIFF Tags, SPIFF colour Spaces, APPn Markers, SPIFF Compression types and Registration Authorities (REGAUT) – Amendment 1: Application-specific marker list** |
| **Recommendation ITU-T T.87 (1998) | ISO/IEC 14495-1:1999, Information technology** − **Lossless and near-lossless compression of continuous-tone still images** − **Baseline** |
| **Recommendation ITU-T T.88 (2018) | ISO/IEC 14492: \_\_\_\_\_\*, Information technology** − **Lossy/lossless coding of bi-level images** |
| **Recommendation ITU-T T.88 (2000)/Amd.1 (2003) | ISO/IEC 14492:2001/Amd.1:2004, Information technology** − **Lossy/lossless coding of bi-level images** − **Amendment 1: Encoder** |
| **Recommendation ITU-T T.88 (2000)/Amd.2 (2003) | ISO/IEC 14492:2001/Amd.2:2003, Information technology** − **Lossy/lossless coding of bi-level images** − **Amendment 2: Extension of adaptive templates for halftone coding** |
| **Recommendation ITU-T T.88 (2000)/Amd.3 (2011) | ISO/IEC 14492:2001/Amd.3:2012, Information technology** − **Lossy/lossless coding of bi-level images** − **Amendment 3: Extension to color coding** |
| **Recommendation ITU-T T.171 (1996), Protocols for interactive audiovisual services: Coded representation of multimedia and hypermedia objects** | **ISO/IEC 13522-1:1997, Information technology** − **Coding of multimedia and hypermedia information** − **Part 1: MHEG object representation** − **Base Notation (ASN.1)** |
| **Recommendation ITU-T T.172 (1998), MHEG-5** − **Support for based-level interactive applications** *plus* **Technical Corrigendum 1 (2008)** | **ISO/IEC 13522-5:1997, Information technology** − **Coding of multimedia and hypermedia information** − **Part 5: Support for base-level interactive applications** |
| **Recommendation ITU-T T.800 (2015) | ISO/IEC 15444-1:2015, Information technology** − **JPEG 2000 image coding system: Core coding system** *plus***Technical Corrigendum 1 (2007)** *and* **Technical Corrigendum 2 (2007)** *and* **Technical Corrigendum 3 (2014)** *and***Technical Corrigendum 4 (2014)** |
| **Recommendation ITU-T T.800 (2002)/Amd.1 (2005) | ISO/IEC 15444-1:2004/Amd.1:2006, Information technology** − **JPEG 2000 image coding system: Core coding system** − **Amendment 1: Profiles for digital cinema applications** |
| **Recommendation ITU-T T.800 (2002)/Amd.2 (2009) | ISO/IEC 15444-1:2004/Amd.2:2009, Information technology** − **JPEG 2000 image coding system: Core coding system** − **Amendment 2: Extended profiles for cinema and video production and archival applications** |
| **Recommendation ITU-T T.800 (2002)/Amd.3 (2010) | ISO/IEC 15444-1:2004/Amd.3:2010, Information technology** − **JPEG 2000 image coding system: Core coding system** − **Amendment 3: Profiles for broadcast applications** |
| **Recommendation ITU-T T.800 (2002)/Amd.4 (2011) | ISO/IEC 15444-1:2004/Amd.4:2011, Information technology** − **JPEG 2000 image coding system: Core coding system** − **Amendment 4: Guidelines for digital cinema applications** |
| **Recommendation ITU-T T.800 (2002)/Amd.5 (2012) | ISO/IEC 15444-1:2004/Amd.5:2013, Information technology** − **JPEG 2000 image coding system: Core coding system** − **Amendment 5: Enhancements for digital cinema and archive profiles (additional frame rates)** |
| **Recommendation ITU-T T.800 (2002)/Amd.6 (2013) | ISO/IEC 15444-1:2004/Amd.6:2013: Information technology** − **JPEG 2000 image coding system: Core coding system** − **Amendment 6: Updated ICC profile support and resolution clarification** |
| **Recommendation ITU-T T.800 (2002)/Amd.8 (2014) | ISO/IEC 15444-1:2004/Amd.7:2015: Information technology** − **JPEG 2000 image coding system: Core coding system** − **Amendment 8: Profiles for an interoperable master format (IMF)** |
| **Recommendation ITU-T T.801 (2002) | ISO/IEC 15444-2:2004, Information technology** − **JPEG 2000 image coding system: Extensions** *plus* **Technical Corrigendum 3 (2005)** *and* **Technical Corrigendum 4 (2006)** |
| **Recommendation ITU-T T.801 (2002)/Amd.2 (2005) | ISO/IEC 15444-2:2004/Amd.2:2006, Information technology** − **JPEG 2000 image coding system: Extensions** − **Amendment 2: Extended capabilities marker segment** |
| **Recommendation ITU-T T.801 (2002) Amd.3 (2013) | ISO/IEC 15444-2:2004/Amd.3:2015, Information technology** − **JPEG 2000 image coding system: Extensions** − **Amendment 3: Box-based file format for JPEG XR, extended ROI boxes, XML boxing, compressed channel definition boxes, and representation of floating point** |
| **Recommendation ITU-T T.801 (2002) Amd.4 (2013) | ISO/IEC 15444-2:2004/Amd.4:2015, Information technology** − **JPEG 2000 image coding system: Extensions** − **Amendment 4: Block coder extension** |
| **Recommendation ITU-T T.802 (2005) | ISO/IEC 15444-3:2007, Information technology** − **JPEG 2000 image coding system: Motion JPEG 2000** |
| **Recommendation ITU-T T.802 (2005)/Amd.1 (2010) | ISO/IEC 15444-3:2007/Amd.1:2010, Information technology** − **JPEG 2000 image coding system: Motion JPEG 2000** − **Amendment 1: Additional profiles for archiving applications** |
| **Recommendation ITU-T T.803 (2002) | ISO/IEC 15444-4:2004, Information technology** − **JPEG 2000 image coding system: Conformance testing** *plus* **Technical Corrigendum 1 (2009)** |
| **Recommendation ITU-T T.804 (2015) | ISO/IEC 15444-5:2015, Information technology** − **JPEG 2000 image coding system: Reference software** |
| **Recommendation ITU-T T.805 (2012)** |**ISO/IEC 15444-6:2013, Information technology – JPEG 2000 image coding system: Compound image file format** |
| **Recommendation ITU-T T.807 (2006)| ISO/IEC 15444-8:2007, Information technology** − **JPEG 2000 image coding system: Secure JPEG 2000** |
| **Recommendation ITU-T T.807 (2006)/Amd.1 (2008) | ISO/IEC 15444-8:2007/Amd.1:2008, Information technology** − **JPEG 2000 image coding system: Secure JPEG 2000** − **Amendment 1:** **File format security** |
| **Recommendation ITU-T T.808 (2005) | ISO/IEC 15444-9:2005, Information technology − JPEG 2000 image coding system: Interactivity tools, APIs and protocols** *plus* **Technical Corrigendum 1 (2007), Technical Corrigendum 2 (2008)** *and* **Technical Corrigendum 3 (2011)** |
| **Recommendation ITU-T T.808 (2005)/Amd.1 (2006) | ISO/IEC 15444-9:2005/Amd.1:2006, Information technology − JPEG 2000 image coding system: Interactivity tools, APIs and protocols − Amendment 1: APIs, metadata, and editing** |
| **Recommendation ITU-T T.808 (2005)/Amd.2 (2007) | ISO/IEC 15444-9:2005/Amd.2:2008, Information technology** − **JPEG 2000 image coding system: Interactivity tools, APIs and protocols** − **Amendment 2: JPIP extensions** |
| **Recommendation ITU-T T.808 (2005)/Amd.3 (2008) | ISO/IEC 15444-9:2005/Amd.3:2008, Information technology** − **JPEG 2000 image coding system: Interactivity tools, APIs and protocols** − **Amendment 3: JPIP extensions to 3D data** |
| **Recommendation ITU-T T.808 (2005)/Amd.4 (2010) | ISO/IEC 15444-9:2005/Amd.4:2010, Information technology** − **JPEG 2000 image coding system: Interactivity tools, APIs and protocols** − **Amendment 4: JPIP server and client profiles** |
| **Recommendation ITU-T T.808 (2005)/Amd.5 (2013) | ISO/IEC 15444-9:2005/Amd.5:2014, Information technology** − **JPEG 2000 image coding system: Interactivity tools, APIs and protocols** − **Amendment 5: UDP transport and additional enhancements to JPIP** |
| **Recommendation ITU-T T.809 (2011) | ISO/IEC 15444-10:2011, Information technology** − **JPEG 2000 image coding system: Extensions for three-dimensional data** *plus* **Technical Corrigendum 1 (2011)** |
| **Recommendation ITU-T T.810 (2006) | ISO/IEC 15444-11:2007, Information technology** − **JPEG 2000 image coding system: Wireless** |
| **Recommendation ITU-T T.810 (2006) Amd.1 (2012) | ISO/IEC 15444-11:2007/Amd.1:2013, Information technology** − **JPEG 2000 image coding system: Wireless – IP based wireless networks** |
| **Recommendation ITU-T T.812 (2007) | ISO/IEC 15444-13:2008, Information technology** − **JPEG 2000 image coding system: An entry level JPEG 2000 encoder** |
| **Recommendation ITU-T T.813 (2012) | ISO/IEC 15444-14:2013, Information technology – JPEG 2000 image coding system: XML structural representation and reference** |
| **Recommendation ITU-T T.832 (2016), Information technology** − **JPEG XR image coding system** − **Image coding specification** | **ISO/IEC 29199-2:2012, Information technology** − **JPEG XR image coding system** − **Image coding specification** |
| **Recommendation ITU-T T.833 (2010), Information technology** − **JPEG XR image coding system** − **Motion JPEG XR** | **ISO/IEC 29199-3:2010, Information technology** − **JPEG XR image coding system** − **Motion JPEG XR** |
| **Recommendation ITU-T T.834 (2014), Information technology − JPEG XR image coding system − Conformance testing** | **ISO/IEC 29199-4:2010, Information technology − JPEG XR image coding system − Part 4: Conformance testing** |
| **Recommendation ITU-T T.835 (2016), Information technology − JPEG XR image coding system − Reference software** | **ISO/IEC 29199-5:2012, Information technology** − **JPEG XR image coding system** − **Part 5: Reference software** |
| **Supplement ITU-T T-Series 2 (2011), Information technology - JPEG XR image coding system – Part 1: System architecture** | **ISO/IEC TR 29199-1:2011, Information technology – JPEG XR image coding system – Part 1: System architecture** |
| **Recommendation ITU-T T.870 (2002) | ISO/IEC 14495-2:2003, Information technology − Lossless and near-lossless compression of continuous-tone still images: Extensions** |
| **Recommendation ITU-T T.871 (2011) | ISO/IEC 10918-5:2011, Information technology – Digital compression and coding of continuous-tone still images: JPEG File Interchange Format (JFIF)** |
| **Recommendation ITU-T T.872 (2012) | ISO/IEC 10918-6:2013, Information technology – Digital compression and coding of continuous-tone still images: Application to printing systems** |

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**Open Document Architecture (ODA)**

| **Recommendation** | **International Standard** |
| --- | --- |
| **Recommendation ITU-T T.411 (1993) | ISO/IEC 8613-1:1994, Information technology** − **Open Document Architecture (ODA) and Interchange Format: Introduction and general principles** *plus***Technical Corrigendum 1 (1997)** |
| **Recommendation ITU-T T.412 (1993) | ISO/IEC 8613-2:1995, Information technology** − **Open Document Architecture (ODA) and Interchange Format: Document structures** *plus* **Technical Corrigendum 1 (1997)** *and* **Technical Corrigendum 2 (1997)** |
| **Recommendation ITU-T T.413 (1994) | ISO/IEC 8613-3:1995, Information technology** − **Open Document Architecture (ODA) and Interchange Format: Abstract interface for the manipulation of ODA documents** |
| **Recommendation ITU-T T.414 (1993) | ISO/IEC 8613-4:1994, Information technology − Open Document Architecture (ODA) and Interchange Format: Document profile plus Technical Corrigendum 1 (1997) and Technical Corrigendum 2 (1997)** |
| **Recommendation ITU-T T.415 (1993) | ISO/IEC 8613-5:1994, Information technology − Open Document Architecture (ODA) and Interchange Format: Open Document Interchange Format plus Technical Corrigendum 1 (1997) and Technical Corrigendum 2 (1997)** |
| **Recommendation ITU-T T.416 (1993) | ISO/IEC 8613-6:1994, Information technology − Open Document Architecture (ODA) and Interchange Format: Character content architectures plus Technical Corrigendum 1 (1997)** |
| **Recommendation ITU-T T.417 (1993) | ISO/IEC 8613-7:1994, Information technology − Open Document Architecture (ODA) and Interchange Format: Raster graphics content architectures plus Technical Corrigendum 1 (1997)** |
| **Recommendation ITU-T T.417 (1993)/Amd.1 (1997) | ISO/IEC 8613-7:1994/Amd.1:1998, Information technology − Open Document Architecture (ODA) and Interchange Format: Raster graphics content architectures − Amendment 1** |
| **Recommendation ITU-T T.417 (1993)/Amd.2 (2000) | ISO/IEC 8613-7:1994/Amd.2:2000, Information technology − Open Document Architecture (ODA) and Interchange Format: Raster graphics content architectures − Amendment 2** |
| **Recommendation ITU-T T.418 (1993) | ISO/IEC 8613-8:1994, Information technology** − **Open Document Architecture (ODA) and Interchange Format: Geometric graphics content architectures** |
| **Recommendation ITU-T T.419 (1995) | ISO/IEC 8613-9:1996, Information technology** − **Open Document Architecture (ODA) and interchange Format: Audio content architectures** |
| **Recommendation ITU-T T.421 (1994) | ISO/IEC 8613-11:1995, Information technology** − **Open Document Architecture (ODA) and Interchange Format: Tabular structures and tabular layout** |
| **Recommendation ITU-T T.422 (1995) | ISO/IEC 8613-12:1996, Information technology** − **Open Document Architecture (ODA) and Interchange Format: Identification of document fragments** |
| **Recommendation ITU-T T.424 (1996) | ISO/IEC 8613-14:1997, Information technology** − **Open Document Architecture (ODA) and Interchange Format: Temporal relationships and non-linear structures** |
| **Recommendation ITU-T T.502 (1994), Document application profile PM-11 for the interchange of simple structure, character content documents in processable and formatted forms** | **ISO/IEC ISP 10610-1:1993, Information technology** − **International Standardized Profile FOD11** − **Open Document Format: Simple document structure** − **Character content architecture only** − **Part 1: Document Application Profile (DAP)** |
| **Recommendation ITU-T T.505 (1994), Document application profile PM-26 for the interchange of enhanced structure, mixed content documents in processable and formatted forms** | **ISO/IEC ISP 11181-1:1993, Information technology** − **International Standardized Profile FOD26** − **Open Document Format: Enhanced document structure** − **Character, raster graphics and geometric graphics content architectures** − **Part 1: Document Application Profile (DAP)** |
| **Recommendation ITU-T T.506 (1993), Document application profile PM-36 for the interchange of enhanced mixed content documents in processable and formatted forms** | **ISO/IEC ISP 11182-1:1993, Information technology** − **International Standardized Profile FOD36** − **Open Document Format: Extended document structure** − **Character, raster graphics and geometric graphics content architectures** − **Part 1: Document Application Profile (DAP)** |

**Modem Interfaces**

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| **Recommendation** | **International Standard** |
| **Recommendation ITU-T V.43 (1998), Data flow control** | **ISO/IEC TR 15294:2000, Information technology** − **Telecommunications and information exchange between systems** − **Methods for data flow control at synchronous and asynchronous DTE-DCE interfaces** |

**OSI Model, Services and Protocols**

| **Recommendation** | **International Standard** |
| --- | --- |
| **Recommendation ITU-T X.200 (1994) | ISO/IEC 7498-1:1994, Information technology** − **Open Systems Interconnection** − **Basic Reference Model: The Basic Model** |
| **Recommendation ITU-T X.207 (1993) | ISO/IEC 9545:1994, Information technology** − **Open Systems Interconnection** − **Application Layer structure** |
| **Recommendation ITU-T X.210 (1993) | ISO/IEC 10731:1994, Information technology** − **Open Systems Interconnection** − **Basic Reference Model** − **Conventions for the definition of OSI services** |
| **Recommendation ITU-T X.211 (1995) | ISO/IEC 10022:1996, Information technology** − **Open Systems Interconnection** − **Physical Service Definition** |
| **Recommendation ITU-T X.212 (1995) | ISO/IEC 8886:1996, Information technology** − **Open Systems Interconnection** − **Data link service definition** |
| **Recommendation ITU-T X.213 (2001) | ISO/IEC 8348:2002, Information technology** − **Open Systems Interconnection** − **Network Service Definition** |
| **Recommendation ITU-T X.214 (1995) | ISO/IEC 8072:1996, Information technology** − **Open Systems Interconnection** − **Transport service definition** |
| **Recommendation ITU-T X.215 (1995) | ISO/IEC 8326:1996, Information technology − Open Systems Interconnection − Session service definition** *plus* **Technical Corrigendum 1 (2000)** |
| **Recommendation ITU-T X.215 (1995)/Amd.1 (1997) | ISO/IEC 8326:1996/Amd.1:1998, Information technology − Open Systems Interconnection − Session service definition − Amendment 1: Efficiency enhancements** |
| **Recommendation ITU-T X.215 (1995)/Amd.2 (1997) | ISO/IEC 8326:1996/Amd.2:1998, Information technology** − **Open Systems Interconnection** − **Session service definition** − **Amendment 2: Nested connections functional unit** |
| **Recommendation ITU-T X.216 (1994) | ISO/IEC 8822:1994, Information technology − Open Systems Interconnection − Presentation service definition** |
| **Recommendation ITU-T X.216 (1994)/Amd.1 (1997) | ISO/IEC 8822:1994/Amd.1:1998, Information technology − Open Systems Interconnection − Presentation service definition − Amendment 1: Efficiency enhancements** |
| **Recommendation ITU-T X.216 (1994)/Amd.2 (1997) | ISO/IEC 8822:1994/Amd.2:1998, Information technology** − **Open Systems Interconnection** − **Presentation service definition** − **Amendment 2: Nested connections functional unit** |
| **Recommendation ITU-T X.217 (1995) | ISO/IEC 8649:1996, Information technology − Open Systems Interconnection − Service definition for the Association Control Service Element** |
| **Recommendation ITU-T X.217 (1995)/Amd.1 (1996) | ISO/IEC 8649:1996/Amd.1:1997, Information technology − Open Systems Interconnection − Service definition for the Association Control Service Element − Amendment 1: Support of authentication mechanisms for the connectionless mode** |
| **Recommendation ITU-T X.217 (1995)/Amd.2 (1997) | ISO/IEC 8649:1996/Amd.2:1998, Information technology** − **Open Systems Interconnection** − **Service definition for the Association Control Service Element** − **Amendment 2: Fast-associate mechanism** |
| **Recommendation ITU-T X.217bis (1998) | ISO/IEC 15953:1999, Information technology** − **Open Systems Interconnection** − **Service definition for the Application Service Object Association Control Service Element** |
| **Recommendation ITU-T X.218 (1993), Reliable transfer: Model and service definition** | **ISO/IEC 9066-1:1989, Information processing systems** − **Text communication** − **Reliable Transfer** − **Part 1: Model and service definition** |
| **CCITT Recommendation X.219 (1988), Remote operations: Model, Notation and service definition** | **ISO/IEC 9072-1:1989, Information processing systems** − **Text communication** − **Remote Operations** − **Part 1: Model, Notation and service definition** |
| **Recommendation ITU-T X.222 (1995), Use of X.25 LAP B-compatible Data Link procedures to provide the OSI connection-mode Data Link service** | **ISO/IEC 11575:1995, Information technology** − **Telecommunications and information exchange between systems** − **Protocol mappings for the OSI Data Link service** |
| **Recommendation ITU-T X.222 (1995)/Amd.1 (1996), Use of X.25 LAP B-compatible Data Link procedures to provide the OSI connection-mode Data Link service − Amendment 1: Frame relay mapping** |  |
| **Recommendation ITU-T X.223 (1993), Use of X.25 to provide the OSI connection-mode network service for ITU-T applications** | **ISO/IEC 8878:1992, Information technology** − **Telecommunications and information exchange between systems** − **Use of X.25 to provide the OSI Connection-mode Network Service** *plus* **Technical Corrigendum 1, Technical Corrigendum 2** *and* **Technical Corrigendum 3** |
| **Recommendation ITU-T X.223 (1993)/Amd.1 (1996), Use of X.25 to provide the OSI connection-mode network service for ITU-T applications** − **Amendment 1: Transit delay and other refinements** |  |
| **Recommendation ITU-T X.224 (1995) | ISO/IEC 8073:1997, Information technology** − **Open Systems Interconnection** − **Protocol for providing the connection-mode transport service** |
| **Recommendation ITU-T X.224 (1995) /Amd.1 (1997) | ISO/IEC 8073:1997/Amd.1:1998, Information technology** − **Open Systems Interconnection** − **Protocol for providing the connection-mode transport service** − **Amendment 1: Relaxation of class conformance requirements and expedited data service feature negotiation** |
| **Recommendation ITU-T X.225 (1995) | ISO/IEC 8327-1:1996, Information technology** − **Open Systems Interconnection** − **Connection-oriented Session protocol: Protocol specification** *plus* **Technical Corrigendum 1 (2000)** |
| **Recommendation ITU-T X.225 (1995)/Amd.1 (1997) | ISO/IEC 8327-1:1996/Amd.1:1998, Information technology** − **Open Systems Interconnection** − **Connection-oriented Session protocol: Protocol specification** − **Amendment 1: Efficiency enhancements** |
| **Recommendation ITU-T X.225 (1995)/Amd.2 (1997) | ISO/IEC 8327-1:1996/Amd.2:1998, Information technology** − **Open Systems Interconnection** − **Connection-oriented Session protocol: Protocol specification** − **Amendment 2: Nested connections functional unit** |
| **Recommendation ITU-T X.226 (1994) | ISO/IEC 8823-1:1994, Information technology** − **Open Systems Interconnection** − **Connection-oriented presentation protocol: Protocol specification** |
| **Recommendation ITU-T X.226 (1994)/Amd.1 (1997) | ISO/IEC 8823-1:1994/Amd.1:1998, Information technology** − **Open Systems Interconnection** − **Connection-oriented presentation protocol: Protocol specification** − **Amendment 1: Efficiency enhancements** |
| **Recommendation ITU-T X.226 (1994)/Amd.2 (1997) | ISO/IEC 8823-1:1994/Amd.2:1998, Information technology** − **Open Systems Interconnection** − **Connection-oriented presentation protocol: Protocol specification** − **Amendment 2: Nested connections functional unit** |
| **Recommendation ITU-T X.227 (1995) | ISO/IEC 8650-1:1996, Information technology − Open Systems Interconnection − Connection-oriented protocol for the Association Control Service Element: Protocol specification** |
| **Recommendation ITU-T X.227 (1995)/Amd.1 (1996) | ISO/IEC 8650-1:1996/Amd.1:1997, Information technology − Open Systems Interconnection − Connection-oriented protocol for the Association Control Service Element: Protocol specification − Amendment 1: Incorporation of extensibility markers** |
| **Recommendation ITU-T X.227 (1995)/Amd.2 (1997) | ISO/IEC 8650-1:1996/Amd.2:1998, Information technology − Open Systems Interconnection − Connection-oriented protocol for the Association Control Service Element: Protocol specification − Amendment 2: Fast-associate mechanism** |
| **Recommendation ITU-T X.227bis (1998) | ISO/IEC 15954:1999, Information technology** − **Open Systems Interconnection** − **Connection-mode protocol for the Application Service Object Association Control Service Element** |
| **CCITT Recommendation X.228 (1988), Reliable transfer: Protocol specification** *plus* **Corrigendum 1 (2000)** | **ISO/IEC 9066-2:1989, Information processing systems** − **Text communication** − **Reliable Transfer** − **Part 2: Protocol specification** |
| **CCITT Recommendation X.229 (1988), Remote operations: Protocol specification** | **ISO/IEC 9072-2:1989, Information processing systems** − **Text communication** − **Remote Operations** − **Part 2: Protocol specification** |
| **Recommendation ITU-T X.233 (1997) | ISO/IEC 8473-1:1998, Information technology** − **Protocol for providing the connectionless-mode network service: Protocol specification** |
| **Recommendation ITU-T X.234 (1994) | ISO/IEC 8602:1995, Information technology** − **Protocol for providing the OSI connectionless-mode transport service** |
| **Recommendation ITU-T X.234 (1994)/Amd.1 (1995) | ISO/IEC 8602:1995/Amd.1:1996, Information technology** − **Protocol for providing the OSI connection-less mode transport service** − **Amendment 1: Addition of connectionless-mode multicast capability** |
| **Recommendation ITU-T X.235 (1995) | ISO/IEC 9548-1:1996, Information technology** − **Open Systems Interconnection** − **Connectionless Session protocol: Protocol specification** |
| **Recommendation ITU-T X.235 (1995)/Amd.1 (1999) | ISO/IEC 9548-1:1996/Amd.1:2000, Information technology** − **Open Systems Interconnection** − **Connectionless Session protocol: Protocol specification** − **Amendment 1: Efficiency enhancements** |
| **Recommendation ITU-T X.236 (1995) | ISO/IEC 9576-1:1995, Information technology − Open Systems Interconnection − Connectionless Presentation protocol: Protocol specification** |
| **Recommendation ITU-T X.236 (1995)/Amd.1 (1999) | ISO/IEC 9576-1:1995/Amd.1:2000, Information technology** − **Open Systems Interconnection** − **Connectionless Presentation protocol: Protocol specification** − **Amendment 1: Efficiency enhancements** |
| **Recommendation ITU-T X.237 (1995) | ISO/IEC 10035-1:1995, Information technology** − **Open Systems Interconnection** − **Connectionless protocol for the Association Control Service Element: Protocol specification** |
| **Recommendation ITU-T X.237 (1995)/Amd.1 (1996) | ISO/IEC 10035-1:1995/Amd.1:1997, Information technology** − **Open Systems Interconnection** − **Connectionless protocol for the Association Control Service Element: Protocol specification** − **Amendment 1: Incorporation of extensibility markers and authentication parameters** *plus* **Technical Corrigendum 1 (1999)** |
| **Recommendation ITU-T X.237bis (1998) | ISO/IEC 15955:1999, Information technology** − **Open Systems Interconnection** − **Connectionless protocol for the Application Service Object Association Control Service Element** |
| **Recommendation ITU-T X.245 (1995) | ISO/IEC 8327-2:1996, Information technology** − **Open Systems Interconnection** − **Connection-oriented Session protocol: Protocol Implementation Conformance Statement (PICS) proforma** |
| **Recommendation ITU-T X.246 (1996) | ISO/IEC 8823-2:1997, Information technology** − **Open Systems Interconnection** − **Connection-oriented presentation protocol: Protocol Implementation Conformance Statement (PICS) proforma** |
| **Recommendation ITU-T X.247 (1996) | ISO/IEC 8650-2:1997, Information technology** − **Open Systems Interconnection** − **Protocol specification for the Association Control Service Element: Protocol Implementation Conformance Statement (PICS) proforma** |
| **Recommendation ITU-T X.248 (1995) | ISO/IEC 9066-3:1996, Information technology** − **Open Systems Interconnection** − **Reliable Transfer: Protocol Implementation Conformance Statement (PICS) proforma** |
| **Recommendation ITU-T X.249 (1995) | ISO/IEC 9072-3:1996, Information technology** − **Open Systems Interconnection** − **Remote Operations: Protocol Implementation Conformance Statement (PICS) proforma** |
| **Recommendation ITU-T X.255 (1995) | ISO/IEC 9548-2:1995, Information technology** − **Open Systems Interconnection** − **Connectionless Session protocol: Protocol Implementation Conformance Statement (PICS) proforma** |
| **Recommendation ITU-T X.256 (1995) | ISO/IEC 9576-2:1995, Information technology** − **Open Systems Interconnection** − **Connectionless Presentation protocol: Protocol Implementation Conformance Statement (PICS) proforma** |
| **Recommendation ITU-T X.257 (1995) | ISO/IEC 10035-2:1995, Information technology** − **Open Systems Interconnection** − **Connectionless protocol for the Association Control Service Element: Protocol Implementation Conformance Statement (PICS) proforma** |
| **Recommendation ITU-T X.257 (1995)/Amd.1 (1996) | ISO/IEC 10035-2:1995/Amd.1:1997, Information technology** − **Open Systems Interconnection** − **Connectionless protocol for the Association Control Service Element: Protocol Implementation Conformance Statement (PICS) proforma** − **Amendment 1: Support of authentication parameters** |
| **Recommendation ITU-T X.260 (1996) | ISO/IEC 14765:1997, Information technology** − **Framework for protocol identification and encapsulation** |
| **Recommendation ITU-T X.263 (1998) | ISO/IEC TR 9577:1999, Information technology** − **Protocol identification in the Network layer** |
| **Recommendation ITU-T X.264 (1993), Transport protocol identification mechanism** | **ISO/IEC 11570:1992, Information technology** − **Telecommunications and information exchange between systems** − **Open Systems Interconnection** − **Transport protocol identification mechanism** |
| **Recommendation ITU-T X.273 (1994) | ISO/IEC 11577:1995, Information technology** − **Open Systems Interconnection** − **Network layer security protocol** |
| **Recommendation ITU-T X.274 (1994) | ISO/IEC 10736:1995, Information technology** − **Telecommunication and information exchange between systems** − **Transport layer security protocol** |
| **Recommendation ITU-T X.281 (1999) | ISO/IEC 13642:1999, Information technology** − **Elements of management information related to the OSI Physical Layer** |
| **Recommendation ITU-T X.282 (1999), Elements of management information related to the OSI Data Link layer** | **ISO/IEC 10742:1994, Information technology** − **Telecommunications and information exchange between systems** − **Elements of management information related to OSI Data Link Layer standards** |
|  | **ISO/IEC 10742:1994/Amd.1:1995, Information technology** − **Telecommunications and information exchange between systems** − **Elements of management information related to OSI Data Link Layer standards** − **Amendment 1:** |
|  | **ISO/IEC 10742:1994/Amd.2:1996, Information technology** − **Telecommunications and information exchange between systems** − **Elements of management information related to OSI Data Link Layer standards** − **Amendment 2: ICS proformas** |
|  | **ISO/IEC 10742:1994/Amd.3:1996, Information technology** − **Telecommunications and information exchange between systems** − **Elements of management information related to OSI Data Link Layer standards** − **Amendment 3: Addition of new counter attributes** |
| **Recommendation ITU-T X.283 (1997) | ISO/IEC 10733:1998, Information technology** − **Elements of management information related to the OSI Network layer** |
| **Recommendation ITU-T X.284 (1997) | ISO/IEC 10737:1998, Information technology** − **Elements of management information related to the OSI Transport layer** |
| **Recommendation ITU-T X.287 (1999) | ISO/IEC 10165-8:2000, Information technology** − **Open Systems Interconnection** − **Structure of management information: Managed objects for supporting upper layers** |

**OSI Conformance Testing**

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| **Recommendation** | **International Standard** |
| **Recommendation ITU-T X.290 (1995), OSI conformance testing methodology and framework for protocol Recommendations for ITU-T applications** − **General concepts** | **ISO/IEC 9646-1:1994, Information technology** − **Open Systems Interconnection** − **Conformance testing methodology and framework** − **Part 1: General concepts** |
| **Recommendation ITU-T X.291 (1995), OSI conformance testing methodology and framework for protocol Recommendations for ITU-T applications** − **Abstract test suite specification** | **ISO/IEC 9646-2:1994, Information technology** − **Open Systems Interconnection** − **Conformance testing methodology and framework** − **Part 2: Abstract Test Suite specification** |
| **Recommendation ITU-T X.292 (2002), OSI conformance testing methodology and framework for protocol Recommendations for ITU-T applications** − **The Tree and Tabular Combined Notation (TTCN)** | **ISO/IEC 9646-3:1998, Information technology** − **Open Systems Interconnection** − **Conformance testing methodology and framework** − **Part 3: The Tree and Tabular Combined Notation (TTCN)** |
| **Recommendation ITU-T X.293 (1995), OSI conformance testing methodology and framework for protocol Recommendations for ITU-T applications** − **Test realization** | **ISO/IEC 9646-4:1994, Information technology** − **Open Systems Interconnection** − **Conformance testing methodology and framework** − **Part 4: Test realization** |
| **Recommendation ITU-T X.294 (1995), OSI conformance testing methodology and framework for protocol Recommendations for ITU-T applications** − **Requirements on test laboratories and clients for the conformance assessment process** | **ISO/IEC 9646-5:1994, Information technology** − **Open Systems Interconnection** − **Conformance testing methodology and framework** − **Part 5: Requirements on test laboratories and clients for the conformance assessment process** |
| **Recommendation ITU-T X.295 (1995), OSI conformance testing methodology and framework for protocol Recommendations for ITU-T applications** − **Protocol profile test specification** | **ISO/IEC 9646-6:1994, Information technology** − **Open Systems Interconnection** − **Conformance testing methodology and framework** − **Part 6: Protocol profile test specification** |
| **Recommendation ITU-T X.296 (1995), OSI conformance testing methodology and framework for protocol Recommendations for ITU-T applications** − **Implementation conformance statements** | **ISO/IEC 9646-7:1995, Information technology** − **Open Systems Interconnection** − **Conformance testing methodology and framework** − **Part 7: Implementation Conformance Statements** |

**Message Handling Systems (MHS)**

| **Recommendation** | **International Standard** |
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| **Recommendation ITU-T F.400/X.400 (1999), Message handling services: Message handling system and service overview** | **ISO/IEC 10021-1:2003, Information technology** − **Text Communication** − **Message-Handling Systems (MHS)** −**Part 1: System and Service Overview** |
| **Recommendation ITU-T F.435 (1999), Message handling services: Electronic Data Interchange Messaging Service** | **ISO/IEC 10021-8:1999, Information technology** − **Text Communication** − **Message Handling Systems (MHS)** −**Part 8: Electronic Data Interchange Messaging Service** |
| **Recommendation ITU-T X.402 (1999) | ISO/IEC 10021-2:2003, Information technology** − **Message Handling Systems (MHS): Overall architecture** |
| **Recommendation ITU-T X.404 (1999) | ISO/IEC TR 10021-11:1999, Information technology** − **Message Handling Systems (MHS): MHS routing** − **Guide for messaging system managers** |
| **Recommendation ITU-T X.411 (1999) | ISO/IEC 10021-4:2003, Information technology** − **Message Handling Systems (MHS): Message transfer system** − **Abstract service definition and procedures** |
| **Recommendation ITU-T X.412 (1999) | ISO/IEC 10021-10:1999, Information technology** − **Message Handling Systems (MHS): MHS routing** |
| **Recommendation ITU-T X.413 (1999) | ISO/IEC 10021-5:1999, Information technology** − **Message Handling Systems (MHS): Message store** − **Abstract service definition** |
| **Recommendation ITU-T X.419 (1999) | ISO/IEC 10021-6:2003, Information technology** − **Message Handling Systems (MHS): Protocol specifications** |
| **Recommendation ITU-T X.420 (1999) | ISO/IEC 10021-7:2003, Information technology** − **Message Handling Systems (MHS): Interpersonal messaging system** |
| **Recommendation ITU-T X.435 (1999) | ISO/IEC 10021-9:1999, Information technology** − **Message Handling Systems (MHS): Electronic Data Interchange Messaging System** |
| **Recommendation ITU-T X.460 (1995) | ISO/IEC 11588-1:1996, Information technology** − **Message Handling Systems (MHS) management: Model and architecture** |
| **Recommendation ITU-T X.462 (1996) | ISO/IEC 11588-3:1997, Information technology** − **Message Handling Systems (MHS) management: Logging information** |
| **Recommendation ITU-T X.467 (1996) | ISO/IEC 11588-8:1997, Information technology** − **Message Handling Systems (MHS) management: Message Transfer Agent management** |
| **Recommendation ITU-T X.481 (1999), Message Handling Systems** − **P2 protocol PICS proforma** | **ISO/IEC ISP 12062-2:2003, Information technology** − **International Standardized Profiles AMH2n** − **Message Handling Systems** − **Interpersonal Messaging** − **Part 2: AMH21** − **IPM Content** |
| **Recommendation ITU-T X.482 (1999), Message Handling Systems** − **P1 protocol PICS proforma** | **ISO/IEC ISP 10611-3:2003, Information technology** − **International Standardized Profiles AMH1n** − **Message Handling Systems** − **Common Messaging** − **Part 3: AMH11** − **Message Transfer (P1)** |
| **Recommendation ITU-T X.483 (1999), Message Handling Systems** − **P3 protocol PICS proforma** | **ISO/IEC ISP 10611-4:2003, Information technology** − **International Standardized Profiles AMH1n** − **Message Handling Systems** − **Common Messaging** − **Part 4: AMH12 and AMH14** − **MTS Access (P3) and MTS 94 Access (P3)** |
| **Recommendation ITU-T X.484 (1999), Message Handling Systems** − **P7 protocol PICS proforma** | **ISO/IEC ISP 10611-5:2003, Information technology** − **International Standardized Profiles AMH1n** − **Message Handling Systems** − **Common Messaging** − **Part 5: AMH13** − **MS Access (P7)** |
|  | **ISO/IEC ISP 10611-6:2003, Information technology** − **International Standardized Profiles AMH1n** − **Message Handling Systems** − **Common Messaging** − **Part 6: AMH15** − **MS 94 Access (P7)** |
| **Recommendation ITU-T X.487 (1999), Message Handling Systems** − **IPM-MS attributes PICS proforma** | **ISO/IEC ISP 12062-6:2003, Information technology** − **International Standardized Profiles AMH2n** − **Message Handling Systems** − **Interpersonal Messaging** − **Part 6: AMH26** − **IPM Requirements for Enhanced MS 94 Access (P7)** |

**The Directory**

| **Recommendation** | **International Standard** |
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| **Recommendation ITU-T X.500 (2016) | ISO/IEC 9594-1:2017, Information technology** – **Open Systems Interconnection** − **The Directory: Overview of concepts, models and services** |
| **Recommendation ITU-T X.501 (2016) | ISO/IEC 9594-2:2017, Information technology** − **Open Systems Interconnection** − **The Directory: Models** |
| **Recommendation ITU-T X.509 (2016) | ISO/IEC 9594-8:2017, Information technology** − **Open Systems Interconnection** − **The Directory: Public-key and attribute certificate frameworks** |
| **Recommendation ITU-T X.511 (2016) | ISO/IEC 9594-3:2017, Information technology** − **Open Systems Interconnection** − **The Directory: Abstract service definition**  |
| **Recommendation ITU-T X.518 (2016) | ISO/IEC 9594-4:2017, Information technology** − **Open Systems Interconnection** − **The Directory: Procedures for distributed operation** |
| **Recommendation ITU-T X.519 (2016) | ISO/IEC 9594-5:2017, Information technology** − **Open Systems Interconnection** − **The Directory: Protocol specifications** |
| **Recommendation ITU-T X.520 (2016) | ISO/IEC 9594-6:2017, Information technology** − **Open Systems Interconnection** − **The Directory: Selected attribute types** |
| **Recommendation ITU-T X.521 (2016) | ISO/IEC 9594-7:2017, Information technology** − **Open Systems Interconnection** − **The Directory: Selected object classes** |
| **Recommendation ITU-T X.525 (2016) | ISO/IEC 9594-9:2017, Information technology** − **Open Systems Interconnection** − **The Directory: Replication** |
| **Recommendation ITU-T X.530 (2008) | ISO/IEC 9594-10:2008, Information technology** − **Open Systems Interconnection** − **The Directory: Use of systems management for administration of the Directory** |

**OSI Networking**

| **Recommendation** | **International Standard** |
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| **Recommendation ITU-T X.602 (2004) | ISO/IEC 16513:2005, Information technology** − **Group management protocol** |
| **Recommendation ITU-T X.603 (2012) | ISO/IEC 16512-1:2016, Information technology** − **Relayed multicast protocol: Framework** |
| **Recommendation ITU-T X.603.1 (2012) | ISO/IEC 16512-2:2016, Information technology** − **Relayed multicast protocol: Specification for simplex group applications** |
| **Recommendation ITU-T X.604 (2010) | ISO/IEC 24793-1:2010, Information technology** − **Mobile multicast communications: Framework** |
| **Recommendation ITU-T X.604.1 (2010) | ISO/IEC 24793-2:2010, Information technology** − **Mobile multicast communications: Protocol over native IP multicast networks** |
| **Recommendation ITU-T X.605 (1998) | ISO/IEC 13252:1999, Information technology** − **Enhanced communications transport service definition** |
| **Recommendation ITU-T X.606 (2001) | ISO/IEC 14476-1:2002, Information technology** − **Enhanced communications transport protocol : Specification of simplex multicast transport** |
| **Recommendation ITU-T X.606.1 (2003) | ISO/IEC 14476-2:2003, Information technology** − **Enhanced communications transport protocol: Specification of QoS management for simplex multicast transport** |
| **Recommendation ITU-T X.607 (2007) | ISO/IEC 14476-3:2008, Information technology** − **Enhanced communications transport protocol: Specification of duplex multicast transport** |
| **Recommendation ITU-T X.607.1 (2008) | ISO/IEC 14476-4:2010, Information technology** − **Enhanced communications transport protocol: Specification of QoS management for duplex multicast transport** |
| **Recommendation ITU-T X.608 (2007) | ISO/IEC 14476-5:2008, Information technology** − **Enhanced communications transport protocol: Specification of N-plex multicast transport** |
| **Recommendation ITU-T X.608.1 (2008) | ISO/IEC 14476-6:2010, Information technology** − **Enhanced communications transport protocol: Specification of QoS management for N-plex multicast transport** |
| **CCITT Recommendation X.612 (1992) | ISO/IEC 9574:1992, Information technology** − **Provision of the OSI connection-mode network service by packet-mode terminal equipment connected to an integrated services digital network (ISDN)** |
| **CCITT Recommendation X.613 (1992) | ISO/IEC 10588:1993, Information technology** − **Use of X.25 Packet Layer Protocol in conjunction with X.21/X.21bis to provide the OSI connection-mode Network Service** |
| **CCITT Recommendation X.614 (1992) | ISO/IEC 10732:1993, Information technology** − **Use of X.25 Packet Layer Protocol to provide the OSI connection-mode Network Service over the telephone network** |
| **Recommendation ITU-T X.622 (1994) | ISO/IEC 8473-3:1995, Information technology** − **Protocol for providing the connectionless-mode Network service: Provision of the underlying service by an X.25 subnetwork** |
| **Recommendation ITU-T X.623 (1994) | ISO/IEC 8473-4:1995, 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** |
| **Recommendation ITU-T X.625 (1996) | ISO/IEC 8473-5:1997, Information technology** − **Protocol for providing the connectionless-mode Network service: Provision of the underlying service by ISDN circuit-switched B-channels** |
| **Recommendation ITU-T X.633 (1996) | ISO/IEC 14700:1997, Information technology** − **Open Systems Interconnection** − **Network Fast Byte Protocol** |
| **Recommendation ITU-T X.634 (1996) | ISO/IEC 14699:1997, Information technology** − **Open Systems Interconnection** − **Transport Fast Byte Protocol** |
| **Recommendation ITU-T X.637 (1996), Basic connection-oriented common upper layer requirements** | **ISO/IEC ISP 11188-1:1995, Information technology** − **International Standardized Profile** − **Common upper layer requirements** − **Part 1: Basic connection oriented requirements** |
| **Recommendation ITU-T X.638 (1996), Minimal OSI facilities to support basic communications applications** | **ISO/IEC ISP 11188-3:1996, Information technology** − **International Standardized Profile** − **Common upper layer requirements** − **Part 3: Minimal OSI upper layer facilities** |
| **Recommendation ITU-T X.639 (1996), Basic connection-oriented requirements for ROSE-based profiles** | **ISO/IEC ISP 11188-2:1996, Information technology** − **International Standardized Profile** − **Common upper layer requirements** − **Part 2: Basic connection oriented requirements for ROSE-based profiles** |

**Quality of Service**

| **Recommendation** | **International Standard** |
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| **Recommendation ITU-T X.641 (1997) | ISO/IEC 13236:1998, Information technology − Quality of Service: Framework** |
| **Recommendation ITU-T X.642 (1998) | ISO/IEC TR 13243:1999, Information technology** − **Quality of Service** − **Guide to methods and mechanisms** |

**OSI Naming, Addressing, and Registration**

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| **Recommendation** | **International Standard** |
| **Recommendation ITU-T X.650 (1996) | ISO/IEC 7498-3:1997, Information technology** − **Open Systems Interconnection** − **Basic Reference Model: Naming and addressing** |
| **Recommendation ITU-T X.660 (2011) | ISO/IEC 9834-1:2012, Information technology** − **Procedures for the operation of object identifier registration authorities: General procedures and top arcs of the international object identifier tree** |
| **Recommendation ITU-T X.662 (2008) | ISO/IEC 9834-3:2008, 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** |
| **Recommendation ITU-T X.665 (2004) | ISO/IEC 9834-6:2005, Information technology** − **Open Systems Interconnection** − **Procedures for the operation of OSI Registration Authorities: Registration of application processes and application entities** |
| **Recommendation ITU-T X.666 (2008) | ISO/IEC 9834-7:2008, Information technology** − **Open Systems Interconnection** − **Procedures for the operation of OSI Registration Authorities: Joint ISO and ITU-T registration of international organizations** |
| **Recommendation ITU-T X.667 (2012) | ISO/IEC 9834-8:2013, 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 Object Identifier components** |
| **Recommendation ITU-T X.668 (2008) | ISO/IEC 9834-9:2008, Information technology** − **Open Systems Interconnection** − **Procedures for the operation of OSI Registration Authorities: Registration of object identifier arcs for applications and services using tag-based identification** |
| **Recommendation ITU-T X.672 (2010) | ISO/IEC 29168-1:2011, Information technology − Open systems interconnection − Object identifier resolution system** |

**ASN.1**

| **Recommendation** | **International Standard** |
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| **Recommendation ITU-T X.680 (2015) | ISO/IEC 8824-1:2015, Information technology** − **Abstract Syntax Notation One (ASN.1): Specification of basic notation *plus* Technical Corrigendum 1 (2017), Technical Corrigendum 2 (2017) *and* Technical Corrigendum 3 (2018)** |
| **Recommendation ITU-T X.680 (2015) /Amd.1 (2018) | ISO/IEC 8824-1:2015/Amd.1: \_\_\_\_\_\*, Information technology − Abstract Syntax Notation One (ASN.1): Specification of basic notation – Amendment 1** |
| **Recommendation ITU-T X.681 (2015) | ISO/IEC 8824-2:2015, Information technology** −**Abstract Syntax Notation One (ASN.1): Information object specification *plus* Technical Corrigendum 1 (2018)** |
| **Recommendation ITU-T X.682 (2015) | ISO/IEC 8824-3:2015, Information technology** − **Abstract Syntax Notation One (ASN.1): Constraint specification *plus* Technical Corrigendum 1 (2017) *and* Technical Corrigendum 2 (2018)** |
| **Recommendation ITU-T X.683 (2015) | ISO/IEC 8824-4:2015, Information technology** − **Abstract Syntax Notation One (ASN.1): Parameterization of ASN.1 specifications *plus* Technical Corrigendum 1 (2018)** |
| **Recommendation ITU-T X.690 (2015) | ISO/IEC 8825-1:2015, Information technology** − **ASN.1 encoding rules: Specification of Basic Encoding Rules (BER), Canonical Encoding Rules (CER) and Distinguished Encoding Rules (DER)** |
| **Recommendation ITU-T X.691 (2015) | ISO/IEC 8825-2:2015, Information technology − ASN.1 encoding rules: Specification of packed encoding rules (PER) *plus* Technical Corrigendum 1 (2016)** |
| **Recommendation ITU-T X.692 (2015) | ISO/IEC 8825-3:2015, Information technology** − **ASN.1 encoding rules: Specification of Encoding Control Notation (ECN)** |
| **Recommendation ITU-T X.693 (2015) | ISO/IEC 8825-4:2015, Information technology** − **ASN.1 encoding rules: XML encoding rules *plus* Technical Corrigendum 1 (2017)** |
| **Recommendation ITU-T X.694 (2015) | ISO/IEC 8825-5:2015, Information technology** − **ASN.1 encoding rules: Mapping W3C XML schema definitions into ASN.1** |
| **Recommendation ITU-T X.695 (2015) | ISO/IEC 8825-6:2015, Information technology** − **ASN.1 encoding rules: Registration and application of PER encoding instructions** |
| **Recommendation ITU-T X.696 (2015) | ISO/IEC 8825-7:2015, Information technology – ASN.1 encoding rules: Specification of Octet Encoding Rules (OER) *plus* Technical Corrigendum 1 (2017), Technical Corrigendum 2 (2017) *and* Technical Corrigendum 3 (2018)** |
| **Recommendation ITU-T X.697 (2017) | ISO/IEC 8825-8: 2018, Information technology – ASN.1 encoding rules: Specification of JavaScript Object Notation Encoding Rules (JER)** |

**OSI Systems Management**

| **Recommendation** | **International Standard** |
| --- | --- |
| **CCITT Recommendation X.700 (1992), Management framework for Open Systems Interconnection (OSI) for CCITT applications** | **ISO/IEC 7498-4:1989, Information processing systems** − **Open Systems Interconnection** − **Basic Reference Model** − **Part 4: Management framework** |
| **Recommendation ITU-T X.701 (1997) | ISO/IEC 10040:1998, Information technology** − **Open Systems Interconnection** − **Systems management overview** |
| **Recommendation ITU-T X.702 (1995) | ISO/IEC 11587:1996, Information technology** − **Open Systems Interconnection** − **Application Context for Systems Management with Transaction Processing** |
| **Recommendation ITU-T X.703 (1997) | ISO/IEC 13244:1998, Information technology** − **Open Distributed Management Architecture** |
| **Recommendation ITU-T X.703 (1997)/Amd.1 (1998) | ISO/IEC 13244:1998/Amd.1:1999, Information technology** − **Open Distributed Management Architecture** − **Support using Common Object Request Broker Architecture (CORBA)** |
| **Recommendation ITU-T X.710 (1997) | ISO/IEC 9595:1998, Information Technology** − **Open Systems Interconnection** − **Common Management Information service** |
| **Recommendation ITU-T X.711 (1997) | ISO/IEC 9596-1:1998, Information Technology** − **Open Systems Interconnection** − **Common management information protocol: Specification***plus***Technical Corrigendum 1 (1999)** *and* **Technical Corrigendum 2 (2000)** |
| **CCITT Recommendation X.712 (1992) | ISO/IEC 9596-2:1993, Information technology** − **Open Systems Interconnection** − **Common management information protocol: Protocol Implementation Conformance Statement (PICS) proforma** *plus* **Technical Corrigendum 1 (1996), Technical Corrigendum 2 (1996)** *and* **Technical Corrigendum 3 (1998)** |
| **CCITT Recommendation X.720 (1992) | ISO/IEC 10165-1:1993, Information technology** − **Open Systems Interconnection** − **Structure of management information: Management information model** *plus* **Technical Corrigendum 1 (1994)** |
| **CCITT Recommendation X.720 (1992)/Amd.1 (1995) | ISO/IEC 10165-1:1993/Amd.1:1996, Information technology** − **Open Systems Interconnection** − **Structure of management information: Management Information Model** − **Amendment 1: Generalization of terms** |
| **CCITT Recommendation X.721 (1992) | ISO/IEC 10165-2:1992, Information technology** − **Open Systems Interconnection** − **Structure of management information: Definition of management information** *plus* **Technical Corrigendum 1 (1994), Technical Corrigendum 2 (1996), Technical Corrigendum 3 (1998)** *and* **Technical Corrigendum 4 (2000)** |
| **CCITT Recommendation X.721 (1992)/Amd.1 (2001) | ISO/IEC 10165-2:1992/Amd.1:2002, Information technology** − **Open Systems Interconnection** − **Structure of management information: Definition of management information** − **States to support lifecycle** |
| **CCITT Recommendation X.722 (1992) | ISO/IEC 10165-4:1992, Information technology − Open Systems Interconnection − Structure of management information: Guidelines for the definition of managed objects** *plus* **Technical Corrigendum 1 (1996)** *and* **Technical Corrigendum 2 (2000)** |
| **CCITT Recommendation X.722 (1992)/Amd.1 (1995) | ISO/IEC 10165-4:1992/Amd.1:1996, Information technology** − **Open Systems Interconnection** − **Structure of management information: Guidelines for the definition of managed objects** − **Amendment 1: Set by create and component registration** |
| **CCITT Recommendation X.722 (1992)/Amd.2 (1997) | ISO/IEC 10165-4:1992/Amd.2:1998, Information technology** − **Open Systems Interconnection** − **Structure of management information: Guidelines for the definition of managed objects** − **Amendment 2: Addition of the NO-MODIFY syntax element and guidelines extension** |
| **CCITT Recommendation X.722 (1992)/Amd.3 (1997) | ISO/IEC 10165-4:1992/Amd.3:1998, Information technology** − **Open Systems Interconnection** − **Structure of management information: Guidelines for the definition of managed objects** − **Amendment 3: Guidelines for the use of Z in formalizing the behaviour of managed objects** |
| **Recommendation ITU-T X.723 (1993) | ISO/IEC 10165-5:1994, Information technology** − **Open Systems Interconnection** − **Structure of management information: Generic management information** *plus* **Technical Corrigendum 1 (1998)** *and* **Technical Corrigendum 2 (2000)** |
| **Recommendation ITU-T X.724 (1996) | ISO/IEC 10165-6:1997, Information technology** − **Open Systems Interconnection** − **Structure of management information: Requirements and guidelines for implementation conformance statement proformas associated with OSI management** |
| **Recommendation ITU-T X.725 (1995) | ISO/IEC 10165-7:1996, Information technology** − **Open Systems Interconnection** − **Structure of management information: General relationship model** |
| **Recommendation ITU-T X.727 (1999) | ISO/IEC 10165-9:2000, Information technology** − **Open Systems Interconnection** − **Structure of management information: Systems management application layer managed objects** |
| **CCITT Recommendation X.730 (1992) | ISO/IEC 10164-1:1993, Information technology** − **Open Systems Interconnection** − **Systems Management: Object Management Function** |
| **CCITT Recommendation X.730 (1992)/Amd.1 (1995) | ISO/IEC 10164-1:1993/Amd.1:1996, Information technology** − **Open Systems Interconnection** − **Systems Management: Object Management Function** − **Amendment 1: Implementation Conformance Statement proformas** *plus* **Technical Corrigendum 1 (1996)** |
| **CCITT Recommendation X.731 (1992) | ISO/IEC 10164-2:1993, Information technology** − **Open Systems Interconnection** − **Systems Management: State Management Function** *plus* **Technical Corrigendum 1 (1995)** *and* **Technical Corrigendum 2 (2001)** |
| **CCITT Recommendation X.731 (1992)/Amd.1 (1995) | ISO/IEC 10164-2:1993/Amd.1:1996, Information technology** − **Open Systems Interconnection** − **Systems Management: State Management Function** − **Amendment 1: Implementation Conformance Statement proformas** *plus***Technical Corrigendum 1 (1996)** |
| **CCITT Recommendation X.731 (1992)/Amd.2 (2001) | ISO/IEC 10164-2:1993/Amd.2:2002, Information technology** − **Open Systems Interconnection** − **Systems Management: State Management Function** − **Amendment 2: States to support lifecycle** |
| **CCITT Recommendation X.732 (1992) | ISO/IEC 10164-3:1993, Information technology** − **Open Systems Interconnection** − **Systems Management: Attributes for representing relationships** |
| **CCITT Recommendation X.732 (1992)/Amd.1 (1995) | ISO/IEC 10164-3:1993/Amd.1:1996, Information technology** − **Open Systems Interconnection** − **Systems Management: Attributes for representing relationships** − **Amendment 1: Implementation Conformance Statement proformas** *plus* **Technical Corrigendum 1 (1996)** |
| **CCITT Recommendation X.733 (1992) | ISO/IEC 10164-4:1992, Information technology** − **Open Systems Interconnection** − **Systems Management: Alarm reporting function** *plus* **Technical Corrigendum 1 (1994)***and***Technical Corrigendum 2 (1999)** |
| **CCITT Recommendation X.733 (1992)/Amd.1 (1995) | ISO/IEC 10164-4:1992/Amd.1:1995, Information technology** − **Open Systems Interconnection** − **Systems Management: Alarm reporting function** − **Amendment 1: Implementation Conformance Statement proformas** *plus* **Technical Corrigendum 1 (1996)** |
| **CCITT Recommendation X.734 (1992) | ISO/IEC 10164-5:1993, Information technology** − **Open Systems Interconnection** –**Systems Management: Event Report Management Function** *plus* **Technical Corrigendum 1 (1994)***and***Technical Corrigendum 2 (1999)** |
| **CCITT Recommendation X.734 (1992)/Amd.1 (1995) | ISO/IEC 10164-5:1993/Amd.1:1995, Information technology** − **Open Systems Interconnection** − **Systems Management: Event Report Management Function**− **Amendment 1: Implementation Conformance Statement proformas** *plus* **Technical Corrigendum 1 (1996)** |
| **CCITT Recommendation X.735 (1992) | ISO/IEC 10164-6:1993, Information technology** − **Open Systems Interconnection** − **Systems Management: Log control function** *plus* **Technical Corrigendum 1 (2001)** |
| **CCITT Recommendation X.735 (1992)/Amd.1 (1995) | ISO/IEC 10164-6:1993/Amd.1:1996, Information technology** − **Open Systems Interconnection** − **Systems Management: Log control function** − **Amendment 1: Implementation Conformance Statement proformas** *plus* **Technical Corrigendum 1 (1996)** |
| **CCITT Recommendation X.736 (1992) | ISO/IEC 10164-7:1992, Information technology** − **Open Systems Interconnection** − **Systems Management: Security alarm reporting function** |
| **CCITT Recommendation X.736 (1992)/Amd.1 (1995) | ISO/IEC 10164-7:1992/Amd.1:1995, Information technology** − **Open Systems Interconnection** − **Systems Management: Security alarm reporting function** − **Amendment 1: Implementation Conformance Statement proformas** *plus* **Technical Corrigendum 1 (1996)** |
| **Recommendation ITU-T X.737 (1995) | ISO/IEC 10164-14:1996, Information technology** − **Open Systems Interconnection** − **Systems Management: Confidence and diagnostic test categories** *plus* **Technical Corrigendum 1 (1998)** *and* **Technical Corrigendum 2 (2000)** *and* **Technical Corrigendum 3 (2001)** |
| **Recommendation ITU-T X.738 (1993) | ISO/IEC 10164-13:1995, Information technology** − **Open Systems Interconnection** − **Systems Management: Summarization Function** *plus* **Technical Corrigendum 1 (1998)** *and* **Technical Corrigendum 2 (2000)** |
| **Recommendation ITU-T X.738 (1993)/Amd.1 (1996) | ISO/IEC 10164-13:1995/Amd.1:1997, Information technology** − **Open Systems Interconnection** − **Systems Management: Summarization Function** − **Amendment 1: Implementation Conformance Statement proformas** |
| **Recommendation ITU-T X.739 (1993) | ISO/IEC 10164-11:1994, Information technology** − **Open Systems Interconnection** − **Systems Management: Metric objects and attributes** *plus* **Technical Corrigendum 1 (1998)** |
| **Recommendation ITU-T X.739 (1993)/Amd.1 (1997) | ISO/IEC 10164-11:1994/Amd.1:1998, Information technology** − **Open Systems Interconnection** − **Systems Management: Metric objects and attributes** − **Amendment 1: Implementation Conformance Statement proformas** |
| **CCITT Recommendation X.740 (1992) | ISO/IEC 10164-8:1993, Information technology** − **Open Systems Interconnection** − **Systems Management: Security audit trail function** *plus* **Technical Corrigendum 1 (1995), Technical Corrigendum 2 (1996)** *and* **Technical Corrigendum 3 (1998)** |
| **Recommendation ITU-T X.741 (1995) | ISO/IEC 10164-9:1995, Information technology** − **Open Systems Interconnection** − **Systems Management: Objects and attributes for access control** *plus* **Technical Corrigendum 1 (1996), Technical Corrigendum 2 (1998)** *and* **Technical Corrigendum 3 (2000)** |
| **Recommendation ITU-T X.742 (1995) | ISO/IEC 10164-10:1995, Information technology** − **Open Systems Interconnection** − **Systems Management: Usage metering function for accounting purposes** *plus* **Technical Corrigendum 1 (1998)** *and* **Technical Corrigendum 2 (2000)** |
| **Recommendation ITU-T X.742 (1995)/Amd.1 (1997) | ISO/IEC 10164-10:1995/Amd.1:1998, Information technology** − **Open Systems Interconnection** − **Systems Management: Usage metering function for accounting purposes** − **Amendment 1: Implementation Conformance Statement proformas** |
| **Recommendation ITU-T X.743 (1998) | ISO/IEC 10164-20:1999, Information technology** − **Open Systems Interconnection** − **Systems Management: Time management function** *plus* **Technical Corrigendum 1 (2001)** |
| **Recommendation ITU-T X.744 (1996) | ISO/IEC 10164-18:1997, Information technology** − **Open Systems Interconnection** − **Systems Management: Software management function** *plus* **Technical Corrigendum 1 (1998),****Technical Corrigendum 2 (2000)** *and* **Technical Corrigendum 3 (2001)** |
| **Recommendation ITU-T X.745 (1993) | ISO/IEC 10164-12:1994, Information technology** − **Open Systems Interconnection** − **Systems Management: Test Management Function** *plus* **Technical Corrigendum 1 (1997), Technical Corrigendum 2 (1998)** *and* **Technical Corrigendum 3 (2000)** |
| **Recommendation ITU-T X.746 (2000) | ISO/IEC 10164-15:2002, Information technology** − **Open Systems Interconnection** − **Systems Management: Scheduling function** |
| **Recommendation ITU-T X.748 (1999) | ISO/IEC 10164-22:2000, Information technology** − **Open Systems Interconnection** − **Systems Management: Response time monitoring function** |
| **Recommendation ITU-T X.749 (1997) | ISO/IEC 10164-19:1998, Information technology** − **Open Systems Interconnection** − **Systems Management: Management domain and management policy management function** |
| **Recommendation ITU-T X.750 (1996) | ISO/IEC 10164-16:1997, Information technology** − **Open Systems Interconnection** − **Systems Management: Management knowledge management function** *and* **Technical Corrigendum 1 (2000)** |
| **Recommendation ITU-T X.750 (1996)/Amd.1 (1997) | ISO/IEC 10164-16:1997/Amd.1:1998, Information technology** − **Open Systems Interconnection** − **Systems Management: Management knowledge management function** − **Amendment 1: Extension for general relationship knowledge** |
| **Recommendation ITU-T X.751 (1995) | ISO/IEC 10164-17:1996, Information technology** − **Open Systems Interconnection** − **Systems Management: Change over function** *plus* **Technical Corrigendum 1 (1998)** *and* **Technical Corrigendum 2 (2000)** |
| **Recommendation ITU-T X.753 (1997) | ISO/IEC 10164-21:1998, Information technology** − **Open Systems Interconnection** − **Systems Management: Command sequencer for systems management** |

**OSI Security**

| **Recommendation** | **International Standard** |
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| **CCITT Recommendation X.800 (1991), Security architecture for Open Systems Interconnection for CCITT applications** | **ISO 7498-2:1989, Information processing systems** − **Open Systems Interconnection** − **Basic Reference Model** − **Part 2: Security Architecture** |
| **CCITT Recommendation X.800 (1991)/Amd.1 (1996), Layer Two Security Service and Mechanisms for LANs**  |  |
| **Recommendation ITU-T X.802 (1995) | ISO/IEC TR 13594:1995, Information technology** − **Lower layers security model** |
| **Recommendation ITU-T X.803 (1994) | ISO/IEC 10745:1995, Information technology** − **Open Systems Interconnection** − **Upper layers security model** |
| **Recommendation ITU-T X.810 (1995) | ISO/IEC 10181-1:1996, Information technology** − **Open Systems Interconnection** − **Security frameworks for open systems: Overview** |
| **Recommendation ITU-T X.811 (1995) | ISO/IEC 10181-2:1996, Information technology** − **Open Systems Interconnection** − **Security frameworks for open systems: Authentication framework** |
| **Recommendation ITU-T X.812 (1995) | ISO/IEC 10181-3:1996, Information technology** − **Open Systems Interconnection** − **Security frameworks for open systems: Access control framework** |
| **Recommendation ITU-T X.813 (1996) | ISO/IEC 10181-4:1997, Information technology** − **Open Systems Interconnection** − **Security frameworks for open systems: Non-repudiation framework** |
| **Recommendation ITU-T X.814 (1995) | ISO/IEC 10181-5:1996, Information technology** − **Open Systems Interconnection** − **Security frameworks for open systems: Confidentiality framework** |
| **Recommendation ITU-T X.815 (1995) | ISO/IEC 10181-6:1996, Information technology** − **Open Systems Interconnection** − **Security frameworks for open systems: Integrity framework** |
| **Recommendation ITU-T X.816 (1995) | ISO/IEC 10181-7:1996, Information technology** − **Open Systems Interconnection** − **Security frameworks for open systems: Security audit and alarms framework** |
| **Recommendation ITU-T X.830 (1995) | ISO/IEC 11586-1:1996, Information technology** − **Open Systems Interconnection** − **Generic upper layers security: Overview, models and Notation** |
| **Recommendation ITU-T X.831 (1995) | ISO/IEC 11586-2:1996, Information technology** − **Open Systems Interconnection** − **Generic upper layers security: Security Exchange Service Element (SESE) service definition** |
| **Recommendation ITU-T X.832 (1995) | ISO/IEC 11586-3:1996, Information technology** − **Open Systems Interconnection** − **Generic upper layers security: Security Exchange Service Element (SESE) protocol specification** |
| **Recommendation ITU-T X.833 (1995) | ISO/IEC 11586-4:1996, Information technology** − **Open Systems Interconnection** − **Generic upper layers security: Protecting transfer syntax specification** |
| **Recommendation ITU-T X.834 (1996) | ISO/IEC 11586-5:1997, Information technology** − **Open Systems Interconnection** − **Generic upper layers security: Security Exchange Service Element (SESE) Protocol Implementation Conformance Statement (PICS) proforma** |
| **Recommendation ITU-T X.835 (1996) | ISO/IEC 11586-6:1997, Information technology** − **Open Systems Interconnection** − **Generic upper layers security: Protecting transfer syntax Protocol Implementation Conformance Statement (PICS) proforma** |
| **Recommendation ITU-T X.841 (2000) | ISO/IEC 15816:2002, Information technology** − **Security techniques** − **Security information aspects for access control** |
| **Recommendation ITU-T X.842 (2000) | ISO/IEC TR 14516:2002, Information technology** − **Security techniques** − **Guidelines on the use and management of Trusted Third Party Services** |
| **Recommendation ITU-T X.843 (2000) | ISO/IEC 15945:2002, Information technology** − **Security techniques** − **Specification of TTP Services to support the Application of Digital Signatures** |

**OSI Commitment, Concurrency and Recovery (CCR)**

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| **Recommendation** | **International Standard** |
| **Recommendation ITU-T X.851 (1997) | ISO/IEC 9804:1998, Information technology** − **Open Systems Interconnection** − **Service definition for the Commitment, Concurrency and Recovery service element** |
| **Recommendation ITU-T X.852 (1997) | ISO/IEC 9805-1:1998, Information technology** − **Open Systems Interconnection** − **Protocol for the Commitment, Concurrency and Recovery service element: Protocol specification** |
| **Recommendation ITU-T X.853 (1995) | ISO/IEC 9805-2:1996, Information technology** − **Open Systems Interconnection** − **Protocol for the Commitment, Concurrency and Recovery service element: Protocol Implementation Conformance Statement (PICS) proforma** |

**OSI Transaction Processing**

| **Recommendation** | **International Standard** |
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| **Recommendation ITU-T X.860 (1997), Open Systems Interconnection** − **Distributed Transaction Processing: Model** | **ISO/IEC 10026-1:1998, Information technology** − **Open Systems Interconnection** − **Distributed Transaction Processing** − **Part 1: OSI TP Model** |
| **Recommendation ITU-T X.861 (1997), Open Systems Interconnection** − **Distributed Transaction Processing: Service definition** | **ISO/IEC 10026-2:1998, Information technology** − **Open Systems Interconnection** − **Distributed Transaction Processing** − **Part 2: OSI TP Service** |
| **Recommendation ITU-T X.862 (1997), Open Systems Interconnection** − **Distributed Transaction Processing: Protocol specification** | **ISO/IEC 10026-3:1998, Information technology** − **Open Systems Interconnection** − **Distributed Transaction Processing** − **Part 3: Protocol specification** |
| **Recommendation ITU-T X.863 (1994) | ISO/IEC 10026-4:1995, Information technology** − **Open Systems Interconnection** − **Distributed Transaction Processing: Protocol Implementation Conformance Statement (PICS) proforma** |

**Remote Operations**

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| **Recommendation** | **International Standard** |
| **Recommendation ITU-T X.880 (1994) | ISO/IEC 13712-1:1995, Information technology** − **Remote Operations: Concepts, model and Notation** *plus* **Technical Corrigendum 1 (1995)** |
| **Recommendation ITU-T X.880 (1994)/Amd.1 (1995) | ISO/IEC 13712-1:1995/Amd.1:1996, Information technology** − **Remote Operations: Concepts, model and Notation** − **Amendment 1: Built-in operations** |
| **Recommendation ITU-T X.881 (1994) | ISO/IEC 13712-2:1995, Information technology** − **Remote Operations: OSI realizations** − **Remote Operations Service Element (ROSE) service definition** |
| **Recommendation ITU-T X.881 (1994)/Amd.1 (1995) | ISO/IEC 13712-2:1995/Amd.1:1996, Information technology** − **Remote Operations: OSI realizations** − **Remote Operations Service Element (ROSE) service definition** − **Amendment 1: Mapping to A-UNIT-DATA and built-in operations** |
| **Recommendation ITU-T X.882 (1994) | ISO/IEC 13712-3:1995, Information technology** − **Remote Operations: OSI realizations** − **Remote Operations Service Element (ROSE) protocol specification***plus* **Technical Corrigendum 1 (1995)** |
| **Recommendation ITU-T X.882 (1994)/Amd.1 (1995) | ISO/IEC 13712-3:1995/Amd.1:1996, Information technology** − **Remote Operations: OSI realizations** − **Remote Operations Service Element (ROSE) protocol specification** − **Amendment 1: Mapping to A-UNIT-DATA and built-in operations** |

**Generic applications of ASN.1**

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| **Recommendation** | **International Standard** |
| **Recommendation ITU-T X.891 (2005) | ISO/IEC 24824-1:2007, Information technology** − **Generic applications of ASN.1** – **Fast Infoset *plus* Technical Corrigendum 1 (2011)** |
| **Recommendation ITU-T X.892 (2005) | ISO/IEC 24824-2:2006, Information technology** − **Generic applications of ASN.1** − **Fast Web Services** |
| **Recommendation ITU-T X.893 (2007)| ISO/IEC 24824-3:2008, Information technology** – **Generic applications of ASN.1** − **Fast infoset security** |

**Open Distributed Processing**

| **Recommendation** | **International Standard** |
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| **Recommendation ITU-T X.901 (1997) | ISO/IEC 10746-1:1998, Information technology** − **Open Distributed Processing** − **Reference Model: Overview** |
| **Recommendation ITU-T X.902 (2009) | ISO/IEC 10746-2:2009, Information technology** − **Open Distributed Processing** − **Reference Model: Foundations** |
| **Recommendation ITU-T X.903 (2009) | ISO/IEC 10746-3:2009, Information technology** − **Open Distributed Processing** − **Reference Model: Architecture** |
| **Recommendation ITU-T X.904 (1997) | ISO/IEC 10746-4:1998, Information technology** − **Open Distributed Processing** − **Reference Model: Architectural Semantics** |
| **Recommendation ITU-T X.904 (1997)/Amd.1 (2000) | ISO/IEC 10746-4:1998/Amd.1:2001, Information technology** − **Open Distributed Processing** − **Reference Model: Architectural Semantics** − **Amendment 1: Computational formalization** |
| **Recommendation ITU-T X.906 (2014) | ISO/IEC 19793:2015,** **Information technology** − **Open Distributed Processing** − **Use of UML for ODP system specifications** |
| **Recommendation ITU-T X.910 (1998) | ISO/IEC 14771:1999, Information technology** − **Open Distributed Processing** − **Naming framework** |
| **Recommendation ITU-T X.911 (2014) | ISO/IEC 15414:2015, Information technology** − **Open Distributed Processing** − **Reference Model** − **Enterprise language** |
| **Recommendation ITU-T X.920 (1997) | ISO/IEC 14750:1999, Information technology** − **Open Distributed Processing** − **Interface Definition Language** |
| **Recommendation ITU-T X.930 (1998) | ISO/IEC 14753:1999, Information technology** − **Open Distributed Processing** − **Interface references and binding** |
| **Recommendation ITU-T X.931 (1999) | ISO/IEC 14752:2000, Information technology** − **Open Distributed Processing** − **Protocol support for computational interactions** |
| **Recommendation ITU-T X.950 (1997) | ISO/IEC 13235-1:1998, Information technology** − **Open Distributed Processing** − **Trading Function: Specification** |
| **Recommendation ITU-T X.952 (1997) | ISO/IEC 13235-3:1998, Information technology** − **Open Distributed Processing** − **Trading Function: Provision of trading function using OSI Directory service** *plus* **Technical Corrigendum 1 (2005)** |
| **Recommendation ITU-T X.960 (1999) | ISO/IEC 14769:2001, Information technology** − **Open Distributed Processing** − **Type repository function** |

**Telecommunication Security**

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| **Recommendation** | **International Standard** |
| **Recommendation ITU-T X.1051 (2016) | ISO/IEC 27011:2016, Information technology** − **Security techniques** − **Information security management guidelines for telecommunications organizations based on ISO/IEC 27002 *plus* Technical Corrigendum 1 (2017)** |
| **Recommendation ITU-T X.1054 (2012) | ISO/IEC 27014:2013, Information technology – Security techniques – Governance of information security** |
| **Recommendation ITU-T X.1058 (2017) | ISO/IEC 29151:2018, Information technology - Security techniques - Code of practice for Personally Identifiable Information protection** |
| **Recommendation ITU-T X.1082 (2007), Telebiometrics related to human physiology** | **IEC 80000-14:2008, Quantities and units** − **Part 14: Telebiometrics related to human physiology** |
| **Recommendation ITU-T X.1082 (2007)/Amd.1 (2009), Object identifier assignments under the Telebiometrics arc** |  |
| **Recommendation ITU-T X.1082 (2007)/Amd.2 (2010), Enhancement to support the ISO/IEC 80000-series** |  |
| **Recommendation ITU-T X.1083 (2007) | ISO/IEC 24708:2008, Information technology** − **Biometrics** − **BioAPI interworking protocol** |
| **Recommendation ITU-T X.1085 (2016) | ISO/IEC 17922:2017, Information technology — Security techniques — Telebiometric authentication framework using biometric hardware security module** |
| **Recommendation ITU-T X.1311 (2011) | ISO/IEC 29180:2012, Information technology – Security framework for the ubiquitous sensor network *plus* Technical Corrigendum 1 (2014)** |

**Cloud Computing**

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| **Recommendation** | **International Standard** |
| **Recommendation ITU-T X.1631 (2015) | ISO/IEC 27017:2015, Information technology – Security techniques – Code of practice for information security controls based on ISO/IEC 27002 for cloud services** |
| **Recommendation ITU-T Y.3500 (2014) | ISO/IEC 17788:2014, Information technology – Cloud computing – Overview and vocabulary** |
| **Recommendation ITU-T Y.3502 (2014) | ISO/IEC 17789:2014, Information technology – Cloud computing – Reference architecture** |

**Languages**

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| **Recommendation** | **International Standard** |
| **Recommendation ITU-T Z.200 (1999) | ISO/IEC 9496:2003, CHILL** − **The ITU-T programming language** |

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