

X

X25 A device which permits communications between non-X.25 compliant devices.

X.25 A standard set of protocols for packet-switched networks which was introduced by the CCITT, but now comes under ITU-T. It covers the protocols between DTE (data terminal equipment) and DCE (data circuit terminating equipment). X.25 was developed in the 1970s, when data transfer rate requirements were slow in comparison with today's. High-speed data transmission using the X.25 protocol is possible, but increasingly modern communications networks integrate frame relay. The X.25 error correction is accommodated using a scalable acknowledgement window, which may typically include seven packets. This means that the sending device must wait for an acknowledgement for each group of seven packets. The maximum packet size is defined as 256 bytes, so the transmitting device may send $n \times 256$ bytes of data before receiving an acknowledgement, which verifies data reception. The error correction that is integrated into X.25 is robust because earlier networks were unreliable. Today's digital networks are much more reliable; thus there is an opportunity to develop more efficient protocols. These need not include the intensive error detection and correction of previous packet switched protocols. Frame relay is one such relatively contemporary protocol designed for modern communications networks.

(See *ATM, Frame relay and ISDN.*)

XA 1. A standard protocol which is used to coordinate transactions. 2. A shorthand term for CD-ROM XA (Compact Disc – Read-Only Memory eXtended Architecture). Published by Microsoft, Philips and Sony in March 1988, XA permits a near-CD-I title to be delivered using a conventional desktop computer with installed CD-ROM drive and XA decoder. Initially it appeared for the PC and was seen as a response to Intel's DVI (Digital

Xanadu

Video Interactive) digital video compression. It brought CD-I level B and level C audio quality to the PC. Level B audio is equivalent to a high-quality stereo FM broadcast transmitted under optimum conditions. An entire CD-I disc gives a maximum of four hours B-Level stereo playback. Technically level B audio is an 8 bit recording digitised at a sampling frequency of 37.7 kHz. Level C audio equates to an AM radio broadcast transmitted under optimum conditions. A whole disc could yield over 16 hours of playing time. It is also termed mid-fi quality. It equates to a 4 bit ADPCM wave audio recording sampled at 37.7 kHz.

(See CD-ROM and DVD.)

Xanadu A unified repository of literature and information, invented by Theodore Nelson. It was conceived before the Web and abstracts much of the thinking embedded in the work of Vannevar Bush and his momentous article 'As We May Think.' Conceptually, Xanadu was the Web. If Vannevar Bush and Ted Nelson were responsible for putting forward the concept of the Web, then Tim Berners-Lee must be considered its architect.

(See Web.)*

XENIX A Unix variant, which was developed by Microsoft.

Xeon A shorthand term for the Pentium II Xeon processor, originally aimed at Workstations and servers.

(See Pentium II.)

Xerox PARC (Palo Alto Research Center) *(See PARC.)*

XingCD A software product from Xing (Arroyo Grande, USA) capable of compressing video according to the MPEG-1 compression algorithm. Used without an MPEG-1 player it is able to play MPEG video without sound.

(See MPEG.)*

XingSound A software product from Xing (Arroyo Grande, USA) useful for compressing wave audio according to the MPEG-1 audio compression standard. It can record and compress audio from an analogue source in real time. It can also be used to perform standard editing operations on MPEG-1 wave audio files, including cut, copy and paste.

Xing Technology Corporation A company engaged in the development of MPEG encoding and editing products, and audio and video compression in general. Its headquarters are in Arroyo Grande, USA. Products include the

XingCD, which can be used to compress video according to the MPEG-1 compression algorithm, and XingSound, which can be used to produce and edit MPEG-1 audio streams.

(See MPEG, Streaming video and Video.)*

XML (eXtended Markup Language) A language designed to overcome certain shortcomings of HTML; it is used to deploy information over the Web. It may be perceived as a glue that may be used to deploy SGML information. An application of SGML (Standard Generalized Markup Language), it was designed by a group sponsored by the World Wide Web Consortium (W3C). Its structure approximates that of HTML.

(See HTML.)

XMS (eXtended Memory Specification) A software specification that provides access beyond the 1 Mbyte boundary of PC-architecture machines. Access to extended memory is provided by an appropriate driver in the `CONFIG.SYS` file, which can be assumed to be `HIMEM.SYS`.

XNET An interprocessor communications scheme used by the MasPar MP-1 SIMD processor. It addresses processors as a two-dimensional network topology.

(See MPP.)

X/OS A Unix variant developed by Olivetti.

X standards A series of evolving recommendations covering data networks. Among the most significant X standard is X.25.

(See X.25.)

XT A shorthand term used to describe the IBM PC XT, an early desktop computer design produced in the very early 1980s. Its specification is now defunct.

(See PC.)

X Window A GUI System used with almost all Unix OSes and developed at the Massachusetts Institute of Technology (MIT), which surrendered it to the public domain. X Window System implementations include Motif and OpenLook.

(See Unix.)