

DRAFT INTERNATIONAL STANDARD ISO/IEC DIS 8802-3/Amd.1
ANSI/IEEE Std 802.3ae

Attributed to ISO/IEC JTC 1 by the Central Secretariat (see page iii)

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2003-06-19

Voting terminates on
2003-11-19

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FAST-TRACK PROCEDURE

Information technology — Telecommunications and information exchange between systems — Local and metropolitan area networks — Specific requirements —

Part 3:

Carrier sense multiple access with collision detection (CSMA/CD) access method and physical layer specifications

AMENDMENT 1: Media Access Control (MAC) Parameters, Physical Layers, and Management Parameters for 10 Gb/s Operation

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Technologies de l'information — Télécommunications et échange d'information entre systèmes — Réseaux locaux et métropolitains — Prescriptions spécifiques —

Partie 3: Accès multiple par surveillance du signal et détection de collision (CSMA/CD) et spécifications pour la couche physique

AMENDEMENT 1

ICS 35.110

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This draft International Standard is submitted for JTC 1 national body vote under the Fast-Track Procedure.

In accordance with Resolution 30 of the JTC 1 Berlin Plenary 1993, the proposer of this document recommends assignment of ISO/IEC 8802-3 to JTC 1/SC 6.

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In either case the WG shall prepare a full report which will be circulated by the ITTF.

6 If the proposed standard is accepted and published, its maintenance will be handled by JTC 1.

802.3ae™

IEEE Standard for Information technology—
Telecommunications and information exchange between systems—
Local and metropolitan area networks—
Specific requirements

Part 3: Carrier Sense Multiple Access with
Collision Detection (CSMA/CD) Access Method
and Physical Layer Specifications

Amendment: Media Access Control (MAC)
Parameters, Physical Layers, and Management
Parameters for 10 Gb/s Operation

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**IEEE Standard for Information technology—
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Amendment: Media Access Control (MAC) Parameters, Physical Layers, and Management Parameters for 10 Gb/s Operation

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Approved 13 June 2002

IEEE-SA Standards Board

Abstract: Support to extend the IEEE 802.3 protocol and MAC specification to an operating speed of 10 Gb/s. Several Physical Coding Sublayers known as 10GBASE-X, 10GBASE-R, and 10GBASE-W are specified, as well as significant additional supporting material for a 10 Gigabit Media Independent Interface (XGMII), a 10 Gigabit Attachment Unit Interface (XAUI), a 10 Gigabit Sixteen-Bit Interface (XSBI) and management.

Keywords: 10 Gigabit Ethernet, fiber, LAN PHY, WAN PHY, XAUI, XGMII, XSBI

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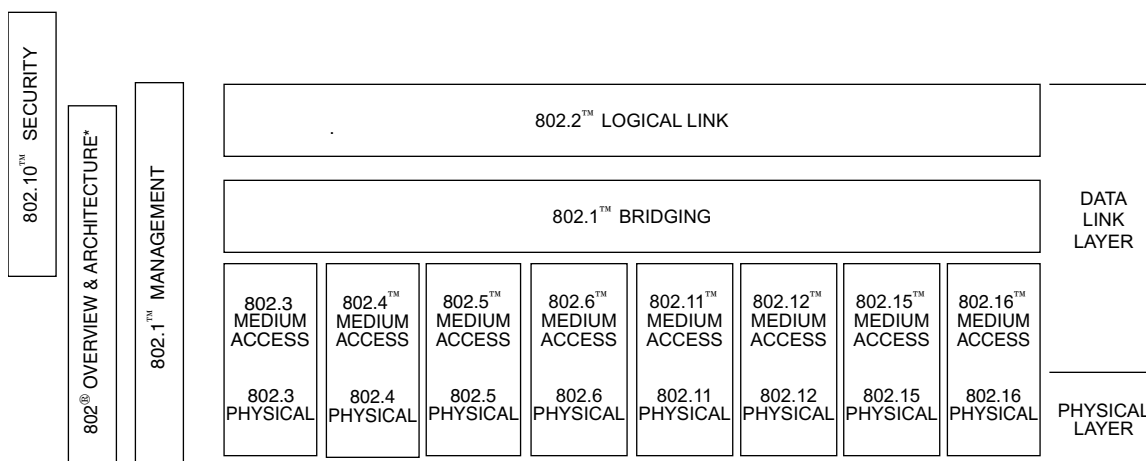
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Introduction to IEEE Std 802.3ae-2002

This standard is part of a family of standards for local and metropolitan area networks. The relationship between the standard and other members of the family is shown below. (The numbers in the figure refer to IEEE standard numbers.¹)



* Formerly IEEE Std 802.1A™

This family of standards deals with the Physical and Data Link layers as defined by the International Organization for Standardization (ISO) Open Systems Interconnection (OSI) Basic Reference Model (ISO/IEC 7498-1: 1994). The access standards define seven types of medium access technologies and associated physical media, each appropriate for particular applications or system objectives. Other types are under investigation.

The standards defining the technologies noted above are as follows:

- IEEE Std 802 *Overview and Architecture.* This standard provides an overview to the family of IEEE 802 Standards.
- IEEE Std 802.1B™ and 802.1k™ [ISO/IEC 15802-2] *LAN/MAN Management.* Defines an OSI management-compatible architecture, and services and protocol elements for use in a LAN/MAN environment for performing remote management.
- IEEE Std 802.1D™ *Media Access Control (MAC) Bridges.* Specifies an architecture and protocol for the interconnection of IEEE 802 LANs below the MAC service boundary.
- IEEE Std 802.1E™ [ISO/IEC 15802-4] *System Load Protocol.* Specifies a set of services and protocol for those aspects of management concerned with the loading of systems on IEEE 802 LANs.
- IEEE Std 802.1F™ *Common Definitions and Procedures for IEEE 802 Management Information.*
- IEEE Std 802.1G™ [ISO/IEC 15802-5] *Remote Media Access Control (MAC) Bridging.* Specifies extensions for the interconnection, using non-LAN communication technologies, of geographically separated IEEE 802 LANs below the level of the logical link control protocol.
- IEEE Std 802.1H™ [ISO/IEC TR 11802-5] *Media Access Control (MAC) Bridging of Ethernet V2.0 in Local Area Networks.*

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- IEEE Std 802.2 [ISO/IEC 8802-2] *Logical Link Control.*
- IEEE Std 802.3 *CSMA/CD Access Method and Physical Layer Specifications.*
- IEEE Std 802.4 [ISO/IEC 8802-4] *Token Passing Bus Access Method and Physical Layer Specifications.*
- IEEE Std 802.5 [ISO/IEC 8802-5] *Token Ring Access Method and Physical Layer Specifications.*
- IEEE Std 802.6 [ISO/IEC 8802-6] *Distributed Queue Dual Bus Access Method and Physical Layer Specifications.*
- IEEE Std 802.10 *Interoperable LAN/MAN Security.*
- IEEE Std 802.11 [ISO/IEC DIS 8802-11] *Wireless LAN Medium Access Control (MAC) and Physical Layer Specifications.*
- IEEE Std 802.12 [ISO/IEC 8802-12] *Demand Priority Access Method, Physical Layer and Repeater Specifications.*
- IEEE Std 802.15 *Wireless Medium Access Control (MAC) and Physical Layer (PHY) Specifications for: Wireless Personal Area Networks.*
- IEEE Std 802.16 *Standard Air Interface for Fixed Broadband Wireless Access Systems.*

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In addition to the family of standards, the following is a recommended practice for a common Physical Layer technology:

- IEEE Std 802.7™ *IEEE Recommended Practice for Broadband Local Area Networks.*
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Conformance test methodology

An additional standard, IEEE Std 1802.3™ provides conformance test information for 10BASE-T.

IEEE Std 802.3ae-2002

This standard contains state-of-the-art material. The area covered by this standard is undergoing evolution. Revisions are anticipated to this standard within the next few years to clarify existing material, to correct possible errors, and to incorporate new related material. Details on the contents of this standard are provided on the following pages.

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