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BUREAU OF INDIAN STANDARDS

DRAFT FOR COMMENTS ONLY

मसौदा भारतीय मानक
सूचना प्रौद्योगिकी प्रणालियों के बीच टेलीकम्युनिकेशन और विनिमय- स्थानीय और मेट्रोपॉलिटन क्षेत्र नेटवर्क के लिए आवश्यकताएँ
भाग 1X: पोर्ट-आधारित नेटवर्क एक्सेस कंट्रोल
(पहला पुनरीक्षण)

Draft Indian Standard
Telecommunications and Exchange Between Information Technology Systems — Requirements for Local and Metropolitan Area Networks
Part 1X: Port-Based Network Access Control
(First Revision)

ICS 35.110

LITD 28 Smart Infrastructure Sectional Committee	**Last Date for Comments:** 09 December 2024.

NATIONAL FOREWORD

(Formal clauses will be added later)

This Draft Indian Standard (Part 1X) (First Revision) which is identical with 'ISO/IEC/IEEE 8802-1X:2021 Telecommunications and exchange between information technology systems — Requirements for local and metropolitan area networks — Part 1X: Port-based network access control' issued by the International Organisation for Standardisation (ISO), International Electrotechnical Commission (IEC) and Institute of Electrical and Electronics Engineers (IEEE) *will be* adopted by the Bureau of Indian Standards on the recommendation of the Smart Infrastructure Sectional Committee and approval of the Electronics and Information Technology Division Council.

This standard was originally published in 2021 and was identical with ISO/IEC/IEEE 8802-1X: 2013.The first revision of this standard under taken to align it with the latest version of International Standard ISO/IEC/IEEE 8802-1X:2021.

The text of ISO/IEC/IEEE Standard *will be* approved as suitable for publication as an Indian Standard without deviations. Certain conventions are however not identical to those used in Indian Standards. Attention is particularly drawn to the following:

a) Wherever the words 'International Standard' appears referring to this standard, they should be read as 'Indian Standard'.

b) Comma (,) has been used as a decimal marker while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

In this adopted standard, reference appears to certain International Standards for which Indian Standards also exist. The corresponding Indian Standards, which are to be substituted in their respective places, are listed below along with their degree of equivalence for the editions indicated. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies:

International standards	**Corresponding Indian standards**	**Degree of Equivalence**
ISO/IEC 18033-3: 2010 Information technology—Security techniques—Encryption algorithms—Part 3: Block ciphers.	IS/ISO/IEC 18033-3: 2010 Information Technology-Security Techniques - Encryption Algorithms Part 3 Block Ciphers	Identical

The technical committee has reviewed the provisions of the following International Standard referred in this adopted draft standard and has decided that it is acceptable for use in conjunction with this standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies:

International Standards	Title
DMTF	Alert Standard Format (ASF) Specification, Version 2.0, 23 April 2003.
IANA-if-type YANG Module,	Internet Assigned Numbers Authority.
IEEE Std 802®	IEEE Standard for Local and Metropolitan Area Networks: Overview and Architecture.
IEEE Std 802d™	IEEE Standard for Local and Metropolitan Area Networks: Overview and Architecture Amendment 1: Allocation of Uniform Resource Name (URN) Values in IEEE 802 Standards.
IEEE Std 802.1Q™	IEEE Standard for Local and Metropolitan Area Networks: Bridges and Bridged Networks.
IEEE Std 802.1AB™	IEEE Standard for Local and Metropolitan Area Networks: Station and Media Access Control Connectivity and Discovery.
IEEE Std 802.1AC™	IEEE Standard for Local and metropolitan area networks—Media Access Control (MAC) Service Definition.
IEEE Std 802.1AE™	IEEE Standard for Local and Metropolitan Area Networks: Media Access Control (MAC) Security.
IEEE Std 802.1AX™	IEEE Standard for Local and Metropolitan Area Networks: Link Aggregation.
IEEE Std 802.2™	Information technology—Telecommunications and information exchange between systems—Local and metropolitan area networks—Specific requirements—Part 2: Logical link control.
IEEE Std 802.3™	IEEE Standard for Ethernet.
IEEE Std 802.11™	IEEE Standard for Information technology—Telecommunications and information exchange between systems—Local and metropolitan area networks—Specific requirements—Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) specifications.
IEEE Std 802.1AR™	IEEE Standard for Local and Metropolitan Area Networks: Secure Device Identifier.
IETF RFC 2578, STD 58	Structure of Management Information for Version 2 of the Simple Network Management Protocol (SNMPv2), McCloghrie, K., Perkins, D., Schoenwaelder, J., Case, J., Rose, M., and Waldbusser, S., April 1999.

IETF RFC 2579, STD 58	Textual Conventions for Version 2 of the Simple Network Management Protocol (SNMPv2), McCloghrie, K., Perkins, D., Schoenwaelder, J., Case, J., Rose, M., and Waldbusser, S., April 1999.
IETF RFC 2580, STD 58	Conformance Statements for SMIv2, McCloghrie, K., Perkins, D., Schoenwaelder, J., Case, J., Rose, M., and Waldbusser, S., April 1999.
IETF RFC 2863	The Interfaces Group MIB using SMIv2, McCloghrie, K., and Kastenholz, F., June 2000.
IETF RFC 3394	Advanced Encryption Standard (AES) Key Wrap Algorithm, J. Schaad, and Housley R., September 2002.
IETF RFC 3418, STD 62	Management Information Base (MIB) for the Simple Network Management Protocol (SNMP), Preshun, R., Case, J., McCloghrie, K., Rose, M., Waldbusser, S., December 2002.
IETF RFC 3629, STD 63	UTF-8, a transformation format of ISO 10646, Yergeau, F., November 2003.
IETF RFC 4346	The Transport Layer Security (TLS) Protocol Version 1.3, Diercks, T., Rescorla, E., April 2006
IETF RFC 4493	The AES-CMAC Algorithm, Song, J.H., Lee, J., and Iwata, T., June 2006.
IETF RFC 5216	The EAP-TLS Authentication Protocol, Simon, D., Aboba, B., and Hurst, R., March 2008.
IETF RFC 5247	Extensible Authentication Protocol (EAP) Key Management Framework, Aboba, B., Simon, D., and Eronen, P., October 2007.
IETF RFC 7170	Tunnel Extensible Authentication Protocol (TEAP) Version 1, Zhou, H., Cam-Winget, N., Salowey, J., and Hanna, S., May 2014.
IETF RFC 7317	A YANG Data Model for System Management, Bierman A., and Bjorklund M., August 2014.
IETF RFC 7950	The YANG 1.1 Data Modeling Language, Bjorklund, M., editor., August 2016.
IETF RFC 8343	A YANG Data Model for Interface Management, Bjorklund, M., March 2018.
IETF RFC 8446	The Transport Layer Security (TLS) Protocol Version 1.3, Rescorla, E., August 2018.
NIST Special Publication 800-108	Recommendation for Key Derivation Using Pseudorandom Functions, Lily Chen, October 2009.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2:2022 ‘Rules for rounding off numerical values *(Second Revision)*’. The

number of significant places retained in the rounded off value should be same as that of the specified value in this standard.

SCOPE OF ISO/IEC/IEEE 8802-1X:2021

"For the purpose of providing compatible authentication, authorization, and cryptographic key agreement mechanisms to support secure communication between devices connected by IEEE 802® Local Area Networks (LANs), this standard

a) Specifies a general method for provision of port-based network access control.
b) Specifies protocols that establish secure associations for IEEE Std 802.1AE™ MAC Security.
c) Facilitates the use of industry standard authentication and authorization protocols.**"**

Note: - The Technical content of this document has not been enclosed as these are identical with the corresponding ISO/IEC/IEEE Standard. For details, please refer to ISO/IEC/IEEE 8802-1X:2021 or kindly contact.

Head,
Electronics & IT Department
Bureau of Indian Standards
9, B.S. Zafar Marg,
New Delhi-110002
Email: hlitd@bis.gov.in, litd28@bis.gov.in
Tele: 011-23608401