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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 42459-2023

**Information technology - Telecommunications and information exchange
between systems - Local and metropolitan area networks - Specific requirements
- Station and media access control connectivity discovery**

信息技术 系统间远程通信和信息交换 局域网和城域网 特定要求 站点和媒体访问
控制连通性发现

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Foreword

This document is in accordance with the provisions of GB/T 1:1-2020 "Guidelines for Standardization Work Part 1: Structure and Drafting Rules for Standardization Documents" drafting: This document is modified to adopt ISO /IEC /IEEE8802-1AB:2017

"Telecommunication and information exchange between information technology systems Network and metropolitan area network specific requirements Part 1AB: Site and media access control connectivity discovery": Compared with ISO /IEC /IEEE8802-1AB:2017, this document has more structural adjustments: The structure number between the two documents See Appendix A for a list of changes: The following editorial changes have been made to this document:

--- In order to coordinate with the existing standard, the name of the standard is changed to "Telecommunication and information exchange between information technology systems Local area network and city Domain Network Specific Requirements for Site and Media Access Control Connectivity Discovery;

---Changed the scope expression of the document (see Chapter 1) to comply with the relevant provisions of GB/T 1:1-2020;

--- Deleted the terms "local area network (LAN) technology", "LAN site" and "physical network topology" that are not used in the text: Please note that some contents of this document may refer to patents: The issuing agency of this document assumes no responsibility for identifying patents: This document is proposed and managed by the

National Information Technology Standardization Technical Committee (SAC/TC28): This document is drafted by: China Electronics Standardization Research Institute, Shenzhen Saixi Information Technology Co., Ltd., Chongqing University of Posts and Telecommunications, Chengdu Letter Information Engineering University, Wuxi Internet of Things Innovation Center Co., Ltd., East China Branch of China Institute of Electronic Technology Standardization, Beijing Dongtu Technology Co., Ltd. The main drafters of this document: Li Ran, Yang Hong, Zhuo Lan, Zhang Yan, Tang Yin, Ling Zhen, Wu Xi, Chen Dapeng, Yang Ming, Zhuang Baosen, Cheng Yuan, Dong Jieliang, Sun Xu, Lei Gen, Wang Ting, Dong Zixuan, Lu Yao: Telecommunication and information exchange between information technology systems LAN and MAN specific requirements Site and Media Access Control Connectivity Discovery

1 Scope

GB/T 42459-2023 specifies station and media access control connectivity discovery - the protocol known as LLDP. It solves a problem every network operator has: the switches know what is plugged into them electrically, but nothing tells the management system which port on which switch a given device is actually on, so the physical topology has to be maintained by hand and is always wrong somewhere. LLDP has each station advertise its identity and capabilities to its immediate neighbours, and the map assembles itself. The standard sets the definitions and numerical representation, the conformance requirements, the principle of operation, the transmission, reception and addressing of LLDPDUs, the LLDPDU and TLV formats, the proxy operation, the administration of LLDP and the LLDP MIB definition, with an informative annex giving an example transmission frame format. It took effect on 1 October 2023.

This document specifies several management elements of the Link Layer Discovery Protocol (LLDP), including operating procedures, data unit sending, receiving and seeking: address, time format, proxy operation, protocol management and MIB definitions, etc: This document is intended to enhance the ability of network management tools to discover and maintain accurate network topology in a multi-vendor vendor interoperability:

2 Normative references

The contents of the following documents constitute the essential provisions of this document through normative references in the text: Among them, dated references For documents, only the version corresponding to the date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to this document: ISO / IEC 8802-

3 Specific requirements for telecommunication and information exchange between information technology systems for local and metropolitan area networks Part 3

GB/T 15629:3-2014 Specific requirements for telecommunication and information exchange between information technology systems Local area network and metropolitan area network Part 3: with Access method and physical layer specification for carrier sense multiple access with collision detection (CSMA/CD) (ISO /

IEC 8802-3:2000, MOD) ISO / IEC 8824-

1 Information Technology Abstract Syntax Notation One (ASN:1) Part 1: Basic notation specification [Information

GB/T 16262:1-2006 Information Technology Abstract Syntax Notation One (ASN:1) Part 1: Basic Notation Specification (ISO /

IEC 8824-1: 2002, IDT) ISO / IEC 15802-

1 Public specifications for telecommunication and information exchange between information technology systems for local and metropolitan area networks Part 1

GB/T 18236:1-2000 Public specifications for telecommunication and information exchange between information technology systems Local area network and metropolitan area network Part 1: Media Body Access Control (MAC) Service Definition (IDTISO /

IEC 15802-1:1995) ISO /IEC /IEEE8802-A Information technology inter-system telecommunication and information exchange Local area network and metropolitan area network Part A: ISO /IEC /IEEE8802-1AE Requirements for telecommunication and information exchange between systems in local and metropolitan area networks Part AE: Media