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**Information technology - Telecommunications and information
exchange between systems - Time sensitive networking - Part 1**

信息技术 系统间远程通信和信息交换 时间敏感网络与无线网络互联 第1部分：体
系结构与接口要求

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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 GB/T 44284 "Time-sensitive networks and wireless networks for telecommunication and information exchange between information technology systems" Part 1: GB/T 44284 has published the following parts.

1. Architecture and interface requirements. Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents. This document was proposed and coordinated by the National Information Technology Standardization Technical Committee (SAC/TC28). This document was drafted by: Chongqing University of Posts and Telecommunications, China Electronics Technology Standardization Institute, Chongqing University of Posts and

Telecommunications Industrial Internet Research Institute, Shenzhen CESI Information Technology Co., Ltd., East China Branch of China Electronics Standardization Institute, Beijing Dongtu Technology Co., Ltd., State Grid Hubei Electric Power Co., Ltd. Electric Power Research Institute, Gongint (Chongqing) Technology Co., Ltd., Xi'an Aerospace Automation Co., Ltd., Lierda Technology Group Co., Ltd., China Mobile (Hangzhou) Information Technology Co., Ltd., China Southern Power Grid Co., Ltd. Ultra-high Voltage Transmission Company, Shenzhen Magotan Electronics Co., Ltd., Shenzhen Sanwang Communication Co., Ltd. The main drafters of this document are: Wei Min, Wang Ting, Yang Hong, Huang Xueda, Guo Xiong, Zhang Yan, Su Jingru, Zhang Chi, Duan Yaoxin, Zhuo Lan, Wang Jiaqi, Cai Tingxiao, Wang Hao, Wang Jingjing, Han Yan, Huang Qingqing, Cheng Yuan, Wang Jin, Liu Chang, Tao Yi, Guo Rui, Jia Jingrun, Huang Yu, Liu Jian, Cheng Jia, and Xiong Wei.

GB/T 44284 specifies the architecture and interface requirements, gateway technology requirements, and coordination requirements for the interconnection between time-sensitive networks and wireless networks. The requirements of management and scheduling, application configuration management, etc. have enabled time-sensitive networks and wireless networks to be used on a larger scale. GB/T 44284 is intended to consist of four parts.

1. Architecture and interface requirements. The purpose is to guide the construction of the architecture of time-sensitive networks and wireless network interconnection. The architecture and interface requirements for interconnection between time-sensitive networks and wireless networks are specified.
 2. Gateway technical requirements. The purpose is to specify the gateway technical requirements for interconnection between time-sensitive networks and wireless networks.
 3. Collaborative management and scheduling. The purpose is to guide the collaborative management and scheduling of time-sensitive networks and wireless networks. Scheduling.
 4. Application Configuration Management. The purpose is to guide the application configuration management of time-sensitive networks and wireless network interconnections. Telecommunications and information exchange between IT systems.
- Time-Sensitive Networking and Wireless Network Interconnection Part

1 Scope

Part 1 of China's national standard for time sensitive networking. TSN is the set of extensions that make standard Ethernet capable of carrying traffic with guaranteed timing - bounded latency, bounded jitter and no loss for the streams that need it, while ordinary traffic shares the same network. That capability is what allows industrial control, automotive networks and professional audio and video to move onto Ethernet rather than the specialised fieldbuses each of those domains developed for itself. The mechanisms are

precise time synchronisation across the network, scheduled transmission so that a critical frame meets no queue, and reservation of resources along a path. The consequence is a single converged network carrying both a machine's control loop and its video and file traffic, which is the arrangement industrial automation has wanted for thirty years and has only now become able to specify.

This document establishes the architecture and interaction process of time-sensitive networking and wireless network interconnection, and specifies the interface requirements. This document applies to the design, deployment, application and related product development of time-sensitive networks and wireless network interconnection.

2 Normative references

The contents of the following documents constitute essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

GB/T 42586-2023 Time-sensitive network configuration for telecommunications and information exchange between information technology systems

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Based on a set of data link layer protocol specifications developed by the IEEE802.1TSN task group, it supports time synchronization, deterministic scheduling, It provides reliable, low-latency and deterministic data transmission capabilities through Ethernet. [Source: GB/T 42586-2023, 3.1]

3.2 Cellular network A communication network that divides the service area into many cells (using a cellular structure), each of which is allocated one or several groups of frequencies. [Source: GB/T 42126.1-2022, 3.5]

4 Abbreviations

The following abbreviations apply to this document. DS-TT. Device-SideTSNTranslator
NW-TT. Network-SideTSNTranslator