

ICS 33.040.20

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

GB/T 21645.3-2009

**Technical requirements for automatically switched optical
network -- Part 3: Data communication network**

自动交换光网络(ASON)技术要求 第3部分：数据通信网(DCN)

(English Translation)

Issued on: September 30, 2009

Implemented on: December 1, 2009

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine of the People's Republic of China**

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Foreword

GB/T 21645 "Automatic Switching Optical Network (ASON) Technical Requirements" consists of the following components.

- Part 1. architecture and overall requirements;
- Part 2. Terms and definitions;
- Part 3. Data communication network (DCN);
- Part 4. Signaling;
- Part 5. Routing;
- Part 6. Management Plans;
- Part 7. Automatic discovery.

This part is part 3 of GB/T 21645.

This part corresponds to ITU-TG. 7712 "Data Communication Network Architecture and Specification" (English version), the degree of consistency is non-equivalent.

The following chapters of this section are in technical content with ITU-TG. 7712 Harmony.

- Chapter 6 Management Communication Network (MCN) requires ITU-TG. 7712 of 6.1;
- Chapter 7 Signaling communication network (SCN) requires ITU-TG. 7712 of 6.2;
- Chapter 8 DCN structure and function requirements correspond to ITU-TG. 7712 Chapter 7.

This part is part of ITU-TG. The main differences in 7712 are as follows.

- in line with the specific circumstances of our country to increase the provisions of the following chapters.

Chapter 4 DCN Application;

Chapter 5 ASONDCN GENERAL REQUIREMENTS;

6.3MCN security;

7.2 SCN General requirements;

7.3.3 SCN troubleshooting;

Chapter 9 DCN Network Performance.

--- modify the following chapters.

7.4 SCN security;

8.11 network layer routing function;

8.16MPLSLSP signaling function;

8.20MPLS protection function.

--- Delete appendix section.

--- using a different text structure.

This part is made by the Ministry of Industry and Information Technology of the People's Republic of China.

This part is under the jurisdiction of China Communications Standardization Association.

This part is responsible for drafting units. Institute of Telecommunications, Ministry of Industry and Information Technology.

This part participates in the drafting unit. Huawei Technologies Co., Ltd., ZTE Corporation, Shanghai Bell Alcatel Co., Ltd.

the company.

1 Scope

This part of GB/T 21645 specifies the architecture and functions of the Automatic Switching Optical Network (ASON) data communication network, including the number According to the communication network (DCN) application, ASONDCN overall requirements, management communication network (MCN) requirements, signaling communication network (SCN) requirements, DCN Functional and structural requirements, and DCN network performance.

This part applies to ITU-TG. 803 defined synchronous digital series (SDH) transport network and ITU-TG. 872 defines the optical transmission Network (OTN), DCN applications in other communication networks can also be used.

2 Normative reference documents

The terms of this document are the terms of this part by reference to this part of GB/T 21645. Any reference to the date of the text , All subsequent amendments (excluding corrigenda) or revisions do not apply to this part, however, encouragement under this section the parties to the agreement study whether the latest version of these documents can be used. For undated references, the latest edition of this document applies section.

ISO/IEC 9577 Information technology - Network layer protocol verification ISO/IEC 10589 Information technology systems Telecommunications and information exchange between systems and provision of connectionless network services (ISO 8473) Protocol used by the intermediate system to the intermediate system domain routing information exchange protocol -1992 ITU-TG. 783 Synchronous Digital System (SDH) Device Function Block Features ITU-TG. 784 Synchronous Digital System (SDH) management ITU-TG. 798 Optical Transport Network (OTN) System Device Function Block Features ITU-TG. 803 based on the synchronous digital series (SDH) of the transport network structure ITU-TG. 872 optical transport network structure ITU-TG. 874 Optical Transport Network (OTN) management ITU-TG. 7712 Data Communication Network Architecture and Specification ITU-TG. 8080 automatic switching optical network architecture ITU-TM. 3010 Telecommunication Management Network (TMN) General ITU-TM. 3013 Telecommunication Management Network (TMN) Rules ITU-TM. 3016 Telecommunication Management Network (TMN) Security ITU-TQ. 811 Q3 and X interface low-level protocol framework ITU-TX. Information technology - Network layer protocol validation ITU-TY. 1720 MPLS network protection switching IEEE802.3 LAN Protocol Standard IETF RFC791 Internet Protocol IETF RFC826 is used for Ethernet address translation protocols in Ethernet hardware or to convert network protocol addresses to 48 bits Ethernet address IETF RFC894 IP packet through the Ethernet transmission standard IETF RFC1122 Internet host requires communication layer Application of IETF RFC1195 in OSIIS-IS Routing in TCP/IP and Dual Stack Environment