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

GB/T 21645.1-2008

**Technical requirements for automatically switched optical
network -- Part 1: Architecture and general requirements**

自动交换光网络(ASON)技术要求 第1部分: 体系结构与总体要求

(English Translation)

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Foreword

"Automatic Switched Optical Network (ASON) technical requirements" part of the standard structure and names are as follows.

(ASON) technical requirements for Part 1 is automatically switched optical networks.

Architecture and general requirements Automatically Switched Optical Network (ASON) technical requirements for Part 2. Terms and definitions Automatically Switched Optical Network (ASON) technical requirements - Part 3. Data Communication Network (DCN) Technical Requirements Section 4 (ASON) technical requirements for automatically switched optical networks. signaling the technical requirements Automatically Switched Optical Network (ASON) technical requirements - Part 5. User - Network Interface (UNI) technical requirements Section 6 (ASON) technical requirements for automatically switched optical networks. technical requirements for the management plane Section 7 (ASON) technical requirements for automatically switched optical networks. automatic discovery technology requirements this part is the "Automatic Switched Optical Network (ASON) technical requirements" of Part 1.

This section corresponds to the following ITU-T recommendations.

- ITU-TG. 8080 "Automatic Switched Optical Network Architecture" (in English);
- ITU-TG. 807 "Automatic Switched Transport Network requirements" (in English);
- ITU-TG. 7712 "data communication network structures and norms" (in English);
- ITU-TG. 7713 "distributed call and connection management" (in English);
- ITU-TG. 7714 "transport entity Universal Automatic discovery" (in English);
- ITU-TG. 7715 "ASON routing architecture and requirements" (in English);
- ITU-TG. 7718 "ASON Management Framework" (in English).

This portion of the above ITU-T recommendations of non-equivalent.

This section on the technical content of the following ITU-T Recommendation content coherence.

- Chapter 4 corresponding to ITU-TG. 807 Chapters 5 and 7.1, ITU-TG. Section 8080 Section 5.2 and Chapter 8, and an increase in net Network model and other content;
- Chapter 6 corresponds to ITU-TG. 8080 Chapter 6;
- Chapter 7 corresponds to ITU-TG. 8080 Chapter 7;
- Chapter 8 corresponds to ITU-TG. Section 807 Section 6.2,6.3, ITU-TG. Section 8080 Section 5.1, ITU-TG. 7713 Section 6.2 Section, and an increase in the signaling protocol requirements;
- Chapter 9 corresponds to ITU-TG. 7715 5th, 6th chapter, ITU-TG. 8080 7.5 and adds routing protocol requirements;
- Chapter 10 corresponding to the ITU-TG. 7714 Chapter 6,7,8,9,10 chapter;
- Chapter 12 corresponding to the ITU-TG. 8080 Chapter 10, ITU-TG. 7718 Chapter 9;

- Chapter 13 corresponding to the ITU-TG. 7718 Chapter 8;
- Chapter 14 corresponding to the ITU-TG. 7712 Chapter 6;
- Chapter 15 corresponding to the ITU-TG. 8080 Chapter 11, and increases the protection and recovery type switching criteria and other requirements;
- Chapter 16 corresponding to the ITU-TG. 8080 Chapter 12.

In addition, this section also refers to the draft proposal and related automatic switched optical network OIF, IETF and other international standardization organizations.

This part of the Annex A, Annex B, Annex C is informative appendix.

This section proposed by the People's Republic of China Ministry of Information Industry.

This part of the jurisdiction of the China Communications Standards Association.

This section drafted by. Ministry of Information Industry Telecom Research Institute, China Telecom Corporation.

1 Scope

This section provides automatic switched optical network architecture, control plane reference architecture and basic structural elements, call and connection control, road by automatic discovery and resource management requirements, management plane and data communications network requirements, name and address, protection and recovery, network reliability and security Whole, as well as business requirements. This section provides an automatic switched optical network requirements of its customers carrying layer and specific implementation technology has nothing to do, pass Send network specific technical details are not within the scope of this.

This section applies to ITU-TG. 803 defined SDH transmission network and ITU-TG. 872 defined Optical Transport Network (OTN).

2 Normative references

The following documents contain provisions which, through reference in this text, constitute provisions of this part. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this section, however, encourage the parties to this part of the research agreement Whether the latest versions of these documents. For undated reference documents, the latest version applies to this section.

YD/T 1078-2000 SDH transmission network technical requirements for interworking between network protection structure YD/T 1289.2 synchronous digital hierarchy (SDH) transmission network management technology requirements Part 2. Element Management System (EMS) Features YDN099-1998 synchronous optical transport network technology

system ITU-TG. 7712 Architecture and specification of data communication network
ITU-TG. 7713 distributed call and connection management ITU-TG. 7713.1 using PNNI
signaling in DCM ITU-TG. 7713.2 using GMPLSRSP-TE signaling in DCM ITU-TG.
7713.3 using GMPLSCR-LDP signaling in DCM ITU-TG. 7715 ASON routing architecture
and requirements ITU-TG. 7715.1 link-state routing protocol requirements ITU-TG. 784
SDH management ITU-TG. 803 transport network architecture based on the synchronous
digital hierarchy (SDH) of ITU-TG. 805 transfer Netcom architecture ITU-TG. 8080
Automatic Switched Optical Network Architecture ITU-TG. Architecture 872 optical
transport network ITU-TG. 873.1 Optical Transport Network (OTN) --- linear protection
ITU-TG. 873.2 Optical Transport Network (OTN) --- ring protection ITU-TG. Management of
optical transport network elements 874 ITU-TM. 3010 Telecommunications Management
Network (TMN) General ITU-TM. 3100 Generic Network Information Model ITU-TY. 1313
layer virtual private network services and network structure OIF-UNI-01.0 user - Signalling
Network Interface Specification 1.0 OIF-ENNI-SIG-01.0 operators within the E-NNI
Signaling Specification IETF RFC4204 GMPLS Link Management Protocol