ZXMP S385

Enhanced STM-16/STM-64 Multi-service Transport Platform

ZTE中兴

Overview

As data service in the communication network develops, the transmission equipment should be capable of carrying multiple kinds of service (TDM/IP/ATM). Rapid growth of data services represented by IP and ATM leads to enormous demands for network bandwidth, and there are high requirements for transmission equipment broadband-providing capability, multiservice carrying capability and equipment reliability in the construction of network infrastructure, so the network carriers should select suitable equipment to establish transmission network and satisfy future demands.

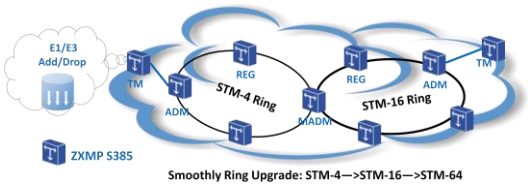
ZXMP S385 adopts complicated technologies and design ideas, absorbs ZTE's patented technologies and experience in the SDH field, combines network service diversification and network structure change, and endows SDH equipment with new technical connotation. Therefore, it is the enhanced STM-16/64 equipment integrating ADM, DXC and IP/ATM functions.

As the 2.5G/10G multiservice transmission platform, ZXMP S385 is the ideal broadband transmission network equipment due to powerful service cross & dispatching function, plentiful data service applications, excellent scalability and good protection mechanism. ZXMP S385 can make service interconnection and interworking with ZTE's other MSTP equipments to implement high-efficiency service integration, and can be managed by NetNumen™ U31 just like other equipments so as to provide highest performance-cost-rate solution for carriers. ZXMP S385 is applied to LH backbone network or metro network backbone/convergence layer.

Features

Excellent scalability

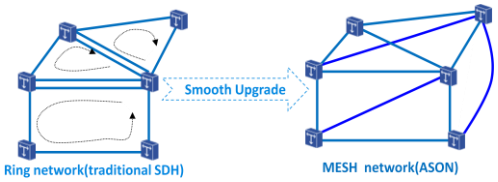
The uncertainty of data service domain distribution, service flow direction and traffic leads to high requirements for the scalability of optical network platform.



Smoothly Ring Upgrade: STM-4—>STM-16—>STM-64

- For the capacity, ZXMP S385 can be upgraded smoothly from 2.5G to 10G. The user can get the effect of a new backbone layer just by adding or replacing boards, which greatly reduces construction cost.

- For network topology, ZXMP S385 supports STM-1/4/16/64-level complex networking like chain, ring, hub, ring with chain, tangent ring and intersectant ring. It also can be smoothly upgraded to mesh network with ASON feature.



● For service termination capability, ZXMP S385, working as 2.5G/10G equipment, can dispatch high-speed service and add/drop large amounts of low-order service, thus the traditional dispatching-layer equipment is extended as integrated equipment with service receiving function. It complies with 2.5G/10G equipment marginal trend, suits metro service characteristics and maximizes user investment returns.

● For data service processing capability, ZXMP S385 has the design for the mixed transmission of data and voice. While absorbing the advanced and mature technologies of ZTE's MSTP equipments, it adopts GFP, LCAS and RPR technologies to extend the dispatching and processing capabilities of data service.

Powerful multiservice access, convergence and dispatching capabilities

ZXMP S385 can dispatch large-capacity and high/low-order services. It supports up to seven 2.5G/10G 2-fiber rings or three 2.5G/10G 4-fiber rings. It can support at most 14 service slots and access a lot of PDH, SDH and data services. It has high-integration service interface boards to access large-capacity services.

High reliability and multiple service protection methods

Excellent equipment-level protection

● Dual-bus design: The system adopts the redundant design in the hardware, and the dual-bus architecture in service bus, overhead bus and clock bus, which greatly improve system reliability and stability.

● Key unit protection: Dual cross & clock boards make cross and clock 1 + 1 protection to improve system safety.

● Tributary board 1:N protection: PDH service board can fulfill 1:N hardware service protection. E1/T1 service board can fulfill 1:N (N≤9) protection. E3/T3 board, STM-1 electrical interface board and FE electrical interface board can fulfill 1:N (N≤4) protection.

● Power protection: The system has several power protection modes, e.g., external power protection, board power protection and sub-rack power access protection.

Excellent network-level protection

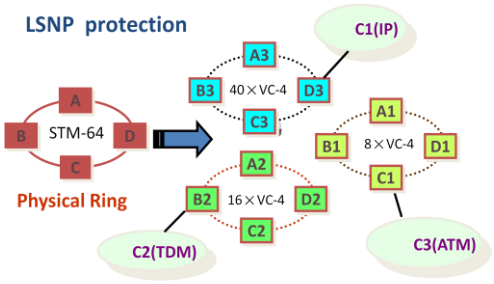
ZXMP S385 can implement the networking characteristics suggested by ITU-T. The protection modes include 1+1 chain MS protection, unidirectional path protection ring, bidirectional MS protection ring, DNI and SNCP. ZXMP S385 supports the route reconstructing of Ethernet and IP, which is in compliance with IEEE802.3E requirements.

The ZXMP S385 supports the smart dynamic recovery mechanism of the ASON. Protection and dynamic recovery are combined to provide the service security strategies of nine priorities.

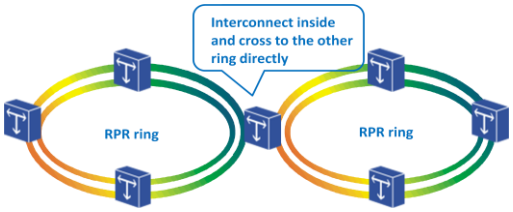
In addition, ZXMP S385 can implement a special network protection idea – logic subnet protection based on ITU-T standards. In the logic subnet protection, the physical network is divided into several logic subnets according to logic topology and logic capacity of the network. Service protections and managements of these logic subnets are independent of each other. The logic sub-rings adopts different protection modes to improve the flexibility of network protection. The logic subnet protection has the following advantages.

● Several protection modes may be adopted in one physical network to improve the flexibility of network protection.

● The bandwidth resource is utilized reasonably to improve the bandwidth utilization rate.



Logic subnet based on customer and service



By establishing the internal EOS, it can support RPR ring with chain and RPR ring spanning, and exceeds the limit of single ring in the RPR networking. It has good QoS control and supports service flow configuration based on IP priority, DSCP priority, TOS priority, COS priority, port priority and etc.

Powerful data service processing

By providing data interfaces on the basis of traditional SDH equipment, ZXMP S385 extends effectively the application range of the system, and features high cost-performance rate and plentiful interface slots.

Mature EOS function

ZXMP S385 offers FE and GE interfaces, and supports service convergence from FE to GE with the maximum service convergence rate of 48:1. It is compatible with many encapsulation and mapping protocols like GFP-F, LAPS and PPP/HDLC, and supports virtual concatenation, LCAS and LST functions. It supports the latest MSTP Ethernet service standard, and may be used for EPL, EVPL, EPLAN and EVPLAN services.

Leading embedded RPR technology

ZXMP S385 adopts the patented RPR service flow fair algorithm and features the powerful traffic supervision function. It supports RPR adding-service setting of 1K service flow. Each service flow may be configured to Class A0, A1, B and C as required and the supervised granularity may be up to 20kbps.

Easy Maintenance and Management

The system adopts the forward interfaces, so it is easy to maintain.

● Optical module is pluggable (SFP module with LC connector). Different optical modules can be selected as required in the optical board configuration. Different optical boards may share spare boards and parts to reduce the cost.

● Optical interface supports the online optical power inspection so as to locate line problem quickly and improve maintenance efficiency. The system may support the optical power inspection of GE interface by upgrading the software.

● The equipment has high integration to occupy small space, and has low power consumption to reduce power supply cost.

ZXMP S385 can be managed by using ZTE's Unified Management Platform, NetNumen™ U31, which offers Graphical User Interface and provides complete functions:

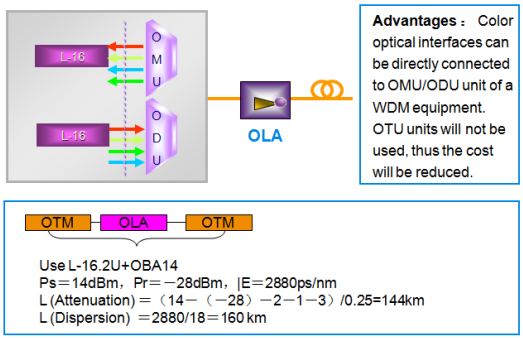
- Fault management
- Topology management
- Performance management
- Configuration management

- Security management
- Log management
- Maintenance management and various statistics reports

Long-distance transmission

Usually, the long-distance transmission is utilized by using WDM. But in some scenarios, the distance between two network elements is beyond 80 km and there is no WDM device available in the same site. ZXMP S385 solves this problem by integrating optical amplification (OA) function on the same shelf and the embed OA board can be used as optical booster amplifier and/or optical preamplifier with different power gains, enhancing the transmission distance to far more than 80 km.

An optical line board of the ZXMP S385 provides DWDM optical interfaces or CWDM optical interfaces, and an OAD board implements the optical add/drop function of DWDM or CWDM signals. The two boards work jointly to implement the OAD interface function of the system. The ZXMP S385 can provide a maximum of 112 DWDM/CWDM OAD interfaces.



Technical Specification

Technical Specification	ZXMP S385
Size (H×W×D)	888.2mm × 482.6 mm × 270 mm
Weight	<30 kg
Number of service slots	14
Switching capacity	40G/120G/240G
Service Interface	STM-64, STM-16, STM-4, STM-1 (O), STM-1 (E) E3, T3, E1, T1 FE, GE, 155M ATM
Maintenance and operation	Front cabling, front installation and front maintenance
Major service features	EOS • Support the VC-12-Xv/VC-3-Xv/VC-4-Xv, LCAS, and GFP • The EPS protection of the board level and port level • Support L2 switch based on VLAN • Support RSTP/MSTP • Support LLCF (ELST) function • Support LACP, LST RPR • Comply with the IEEE802.17, support two RPR SPANs • Support the maximum total RPR bandwidth of 2.5 Gbit/s • Support the interoperations between RPRs and EOS links • Support the Bypass RPR MAC function • support the CSF OAM function and provide the point-to-point LST function • Support the IGMP Snooping, and support the IPTV applications ASON • IP Control Channel (IPCC) maintenance and neighbor discovery

Technical Specification	ZXMP S385
	• SC establishment/deletion • Graceful deletion and forced deletion initiated by the source/destination • Maintenance of the RSVP node neighbor ship • Recovery of the connection status after the restart of nodes • Automatic discovery • Statistics process control (SPC) • Protection and dynamic recovery • Detection and clearing of residual connections • Restart ,hot backup and recovery of the control plane • NMS control function (enable the control plane) • ASON alarm, and event query and shield OAM • Support order wire phone, RS-232/422 interface • Support F1 co-directional data interface with the rate of 64 Bit/s • Cross-scheduling of the overhead • Supports the TCM of high-order paths (HP-TCM) Embeded WDM and OA • Support the built-in wavelength division function, enable the add/drop multiplexing of the wavelength-order optical signals • Support the colored optical interfaces • Support embeded OA module Synchronization • provides four external 2.048Mbit/s or 2.048MHz clock input references and the 8K timing input reference for 28 lines or tributaries • Support synchronization priority switching and SSM -based automatic switching • Support the "S1 byte algorithm patent technology" developed by ZTE
Power supply (DC/AC)	Nominal voltage value: -48VDC Scope: -57VDC ~ -40VDC
Power Consumption	<500 Watts
MTBF/MTTR	>360659.6h / <2 h
Noise	<55 dB
Operating Environment Requirement	-5° C ~+50° C, 5%~95%, Non-condensing
Altitude	<4000 m
Aseismatic Degree	9 level
Electromagnetic compatibility	The electromagnetic interference meets the CISPR22 A standard. The anti-interference performance meets the IEC1000-4 series standard.
Certificate of Certification	CE, CB, RoHS

ZTE中兴 ZTE CORPORATION

No. 55, Hi-tech Road South, ShenZhen, P.R.China

Postcode: 518057

Website: www.zte.com.cn

Tel: +86-755-26770000

Fax: +86-755-26771999