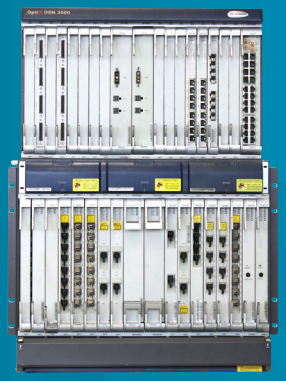
Huawei OptiX OSN 3500



Universal Transport Platform for Metro Aggregation & Core

- Large Capacity: 200G TDM / 160G Packet universal switch, 15 service processing slots and 16 service interface slots.
- Perfect Evolution Capability: 100% TDM to 100% Packet evolution based one platform.
- Ultra Broadband: 40G line transport in one port.

All in One Solution Based on Universal Switch and Transport

- Unique architecture that integrates PCM, TDM, Ethernet, WDM and MPLS-TP technology.
- Universal switch at any level of packet and TDM in their original format, high efficiency and best performance, '0' waste of bandwidth.
- Carefree evolution among different types of services, such as from 100% TDM to 100% packet, '0' waste of investment.

Enables optimized transport network with Built-in PCM

- Unified Access: Multiple PCM boards are developed on mature OSN serial MSTP products, realizing unified access for low-speed services.
- High Reliability: Provides direct low-speed service access, minimizing conversion equipment and fault points.
- Easy Maintenance: The NMS U2000 enables unified management, a visual interface, End-to-End (E2E) service configuration, and unified monitoring

MPLS-TP for Highly Efficient and Highly Available Packet Transport

- Guaranteed Performance from end-to-end committed bandwidth mechanism.
- 99.999% availability: 50ms recovery for both linear and ring applications.
- SDH-like OAM mechanism capable of fast detection and troubleshooting, including end-to-end performance monitoring.

40G Ultra Broadband Transport

- Integrating OTU, MUX and DEMUX boards by a PID (photonics integrated device) chip, providing 40G capacity per port.
- Without complicated photonic layer design such as wavelength planning and OSNR calculating, with less patch cords and fiber operations, time to market greatly reduced.
- 50% footprint saving and 50% power consumption reduction.

TP-Assist for Easy O&M

- MPLS-TP based O&M solution 'TP-Assist' providing efficient planning, fast deployment and easy maintenance, making the large-scale packet network easily manageable
- Traffic based crystal clear O&M is supported with visual network-level view, graphical format to display end-to-end service configuration, performance and status.
- Better maintenance experience even than SDH: visualized end-to-end bandwidth management, intelligently locating 92% failure, analyzable and predicable network management.

Industrial Certifications Ensure Reliable Operation

- Compliant with EN 50121-4, IEC 61850-3, IEC 61000-6-5, IEEE 1613

HUAWEI TECHNOLOGIES CO., LTD.

HUAWEI

Huawei OptiX OSN 3500

Specifications	OSN 3500	
Dimensions	722 mm (H) x 497 mm (W) x 295 mm (D)	
Switch Capacity	Packet: 160 Gbit/s and TDM: 200 Gbit/s (higher order), 20 Gbit/s (lower order)	
Service Slots	15 slots for processing boards and 16 slots for interface boards	
Supported Interface	OTN interface	OTU-3(40G, compliant with OTL3.4 standard)
	Ethernet interface	FE/GE/10GE
	SDH interface	STM-1/4/16/64
	PDH interface	E1/E3/E4/T1/T3
	ATM interface	E1, STM-1
	WDM interface	40-channel DWDM interfaces, compliant with ITU-T G.694.1 8-channel CWDM interfaces, compliant with ITU-T G.694.2
	PCM interface	FXS/FXO, 2/4 wire audio and E&M X.21/V.35/V.11/V.24/V.28, RS232/RS422, RS449/RS423A/RS422A, RS530/RS530A, RS485, G.703 64 kbit/s codirectional; IEEE C37.94
	Other interface	DDN, SAN, Video
Networking Mode	Supporting pure packet, hybrid (packet + SDH) or SDH networking Supporting WDM networking Supporting single-fiber bidirectional transmission	
Power Supply	-48V DC/ -60V DC; 110/220V AC (External module)	
Operation Environment	Temperature / Relative Humidity Long term: 0°C ~ 45°C / 5% ~ 85% Short term: -5°C ~ 55°C / 5% ~ 95%	
Ethernet Feature	E-Line and E-LAN, QinQ MPLS-TP based VPWS and VPLS Multi-section pseudo-wire (MS-PW) ETH PWE3, TDM PWE3, ATM/IMA PWE3 IGMP Snooping V2 Blacklist, Broadcast packet suppression, ACL VLAN SWAP	
PCM Feature	Voice or data Conference/Meeting, P2MP, MP2MP FXO/FXS mode can be set by software E&M Interface voltage can be set by software (-48V/-12V) E&M signaling can be set by software (Bell types I, II, III, IV, V and British Telecom SSDC5)	
QoS	Hierarchical QoS scheduling and traffic shaping DiffServ mode based on traffic classification, eight priority queues Simple traffic classification, complex traffic classification, per hop behavior (PHB),and ACL Committed access rate (CAR), shaping based on port scheduling priority PQ scheduling priority, weighted fair queuing (WFQ) and PQ+WFQ queuing Tail drop and weighted random early detection (WRED)	
OAM	MPLS-TP OAM	LSP/PW OAM: CC, LB, LT AIS, RDI LM, DM LCK, TST CSF
	MPLS OAM	LSP/PW OAM: FDI, BDI, CV, FFD, TraceRoute, Ping, LM, DM PW OAM: CES PW VCCV
	Ethernet OAM	ETH-CC, ETH-Loopback, ETH-Link Trace, Remote Loopback, Remote Fault Detection, RMON(RFC 2819)
Protection	Equipment-level Protection	Cross-connect 1+1 backup, control board 1+1 backup and power 1+1 backup, clock 1+1 backup
	MPLS-TP based Service Protection	LSP/PW Linear protection, Ring protection Anti multifailure protection based on MS-PW LAG, MC-LAG, Dual-homing protection, LPT
	SDH based Service Protection	2/4 fiber MS-SP Ring; 1+1/1:n (n<=14) Linear MSP SNCP/SNCMP/SNCTP 1:N tributary protection for E1/T1, E3/T3, E4, STM-1(e) and FE
	ASON	Distributed restorable rerouting protection 5-level service dedicated protection scheme based on different SLA: Diamond, Gold, Silver, Copper and Iron services Based on VC-4 and VC-12 granularity
Synchronization	Both Ethernet and SDH networks supporting clock synchronization Supporting G.813, Synchronous Ethernet and IEEE 1588v2 synchronization Adaptive clock recovery (ACR) Two external clock inputs/outputs (2 MHz or 2 Mbit/s) Two external time signals(1pps+TOD)	