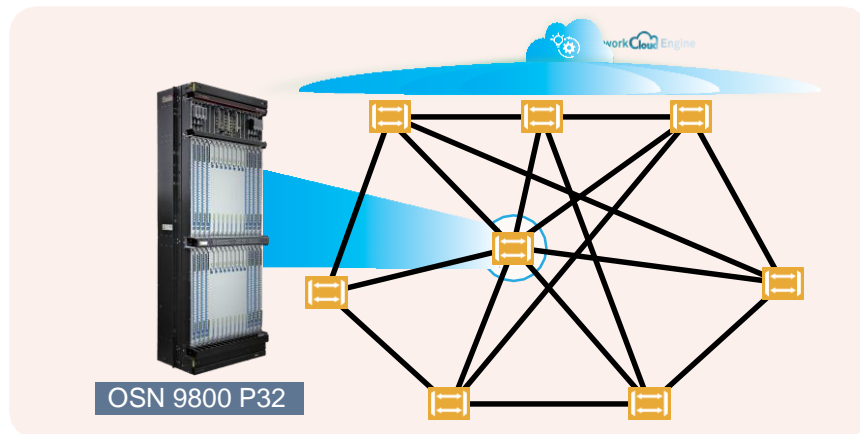


HUAWEI OSN 9800 P32 Brochure

HUAWEI OSN 9800 P32

Industry's first commercially available optical cross-connection subrack

HUAWEI OSN 9800 P32 is the industry's first commercially available ultra-large-capacity all-optical cross-connect product. It is mainly deployed on the ROADM nodes, and used by the transmission backbone and metro networks. It provides large transmission capacity and flexible all-optical cross-connect grooming. With the help of the NCE intelligent management and control system, the OSN 9800 P32 delivers an ultra-broadband, simplified, and intelligent all-optical network to achieve fully transparent and large-capacity transmission.



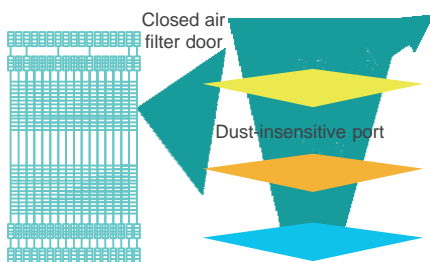
Typical Application Scenarios of
HUAWEI OSN 9800 P32

Based on optical backplane technology that has high reliability and low insertion loss, HUAWEI OSN 9800 P32 integrates multiple independent boards in the traditional ROADM solution to greatly simplify site deployment, reduce equipment footprint, and shorten optical-layer commissioning time.

The OSN 9800 P32 uses industry-leading liquid crystal on silicon (LCoS) switching technology to implement the Pbit/s cross-connect capacity and up to 32 degrees of optical cross-connect grooming, meeting the requirements for full-mesh interconnection and heavy traffic large-capacity grooming on transmission networks.

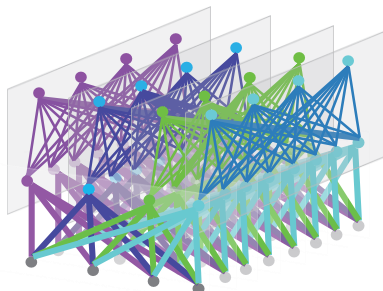
With the built-in digital optical parameter detection technology, HUAWEI OSN 9800 P32 can sense fiber quality, wavelength performance, wavelength utilization, and wavelength paths in real time, achieving digital O&M at the optical layer to drastically improve network O&M efficiency.

All-Optical Backplane



- Zero fiber connections at the optical layer, three layers of dustproof design, and stable running for 20 years
- Innovative multi-level dustproof and optical port alignment technologies, ensuring high reliability

Many-Degree WSS



- 32 degrees, non-blocking flexible grooming
- Contentionless, OA-free, high reliability, 3x wavelength dropping efficiency compared with traditional boards

Digital Optical Layer

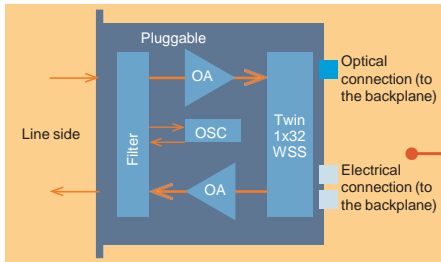


- Use of OFDM pilot tone and high-precision wavelength monitoring technologies to visualize the fiber quality, wavelength resources, and performance of the OXC system, achieving digital O&M

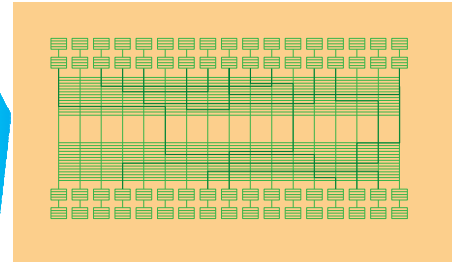
HUAWEI OSN 9800 P32 Brochure

The HUAWEI OSN 9800 P32 is primarily composed of the all-optical backplane, optical tributary boards, and optical line boards.

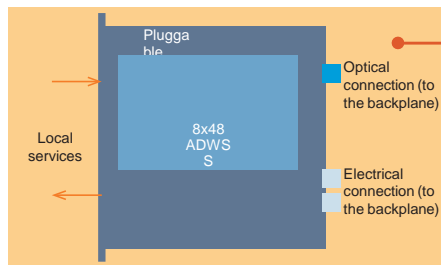
Optical line board: one slot for each direction



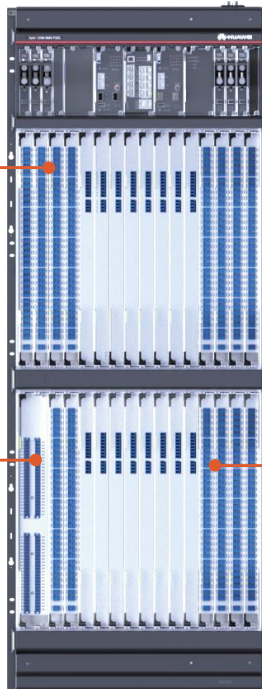
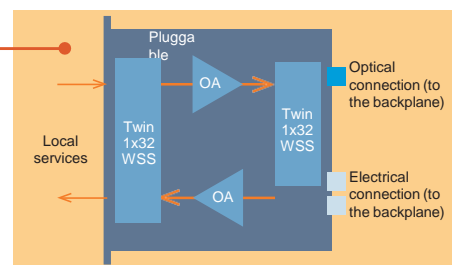
All-optical backplane: high-reliability and low-insertion-loss connections



CDC optical tributary board: two slots, supporting 48 wavelengths and CDCG



CD optical tributary board: one slot, supporting 32 wavelengths and CDG



OSN 9800 P32

Subrack Specifications

Subrack

Dimensions (H x W x D)	1390 mm x 496 mm x 315 mm
Number of Service Board Slots	32
Applicable Cabinet	ETSI 300 cabinet, such as A63B
Optical Switching	1- to 32-degree ROADM
Channel Spacing	Fixed grid: 50 GHz/100 GHz Flexible grid: settable channel spacing, with a minimum of 6.25 GHz
Maximum Number of Wavelengths	Fixed grid: 96 wavelengths @ 50 GHz Flexible grid: The maximum number of wavelengths is related to the width of the flex channel.
Center Wavelength Range	1529.16 nm to 1567.13 nm
Network Topology	Point-to-point, chain, star, and ring
Network-Level Protection	Optical line protection
Optical Power Management	IPA
Easy O&M	Optical Doctor (OD) and Fiber Doctor (FD)
Product Certification	VCCI/RCM/CE/NRTL/FCC/ROHS /FDA

Management Interface

NM_ETH/LAMP/ALMI/CLK/TOD/ETH/WSC(OAM)/DOOR ALARM

Heat Dissipation

Air intake from bottom and air exhaust from top

1+1 fan redundancy

Power Supply

1+1 redundancy

-40 V DC to -57.6 V DC

-48 V DC to -72 V DC

Operating Environment

Operating Temperature 5°C to 40°C

Transportation/Storage Temperature -40°C to +70°C

Humidity 5% to 85%

HUAWEI OSN 9800 P32 Brochure

Board Specifications

- CD optical tributary board: OT3232, 32-degree x 32-port add/drop colorless and directionless optical tributary board

Local Ports

Access Service Type	Coherent services
Wavelength Adding/Dropping Capability	Adds/Drops 32 channels of single-wavelength or Superchannel signals.
Gain Adjustment	13–21 dB (in wavelength-dropping direction) 15–27 dB (in wavelength-adding direction)
Channel Blocking	Supports blocking any optical signal of 32 wavelength-adding optical ports.

- CDC optical tributary board: OT0848C, 8-degree x 24-port add/drop contentionless optical tributary board

Local Ports

Access Service Type	Coherent services
Wavelength Adding/Dropping Capability	Adds/Drops 48 channels of single-wavelength signals and supports contentionless transmission.
Channel Blocking	Supports blocking any optical signal of 48 wavelength-adding optical ports.

- Optical line board: ON32, 32-degree optical cross-connect line board

Line-Side Ports

Access Service Type	Coherent services	
Basic Capability	Grooms services in one line degree at the ROADM node.	
Gain Adjustment	ON32L01	17–25 dB (in the transmit direction) 23–34 dB (in the receive direction)
	ON32S01	13–23 dB (in the transmit direction) 17–25 dB (in the receive direction)

- Optical line board: ON32P, 32-degree optical cross-connect line board that integrates optical line protection

Line-Side Ports

Access Service Type	Coherent services
Basic Capability	Grooms services in one line degree at the ROADM node and provides optical line protection.
Gain Adjustment	17–25 dB (in the transmit direction) 23–34 dB (in the receive direction)

Features

Spectrum Application	Supports extended C band, flexible grid, and Superchannel signals.
Online Optical Performance Monitoring	Provides online optical port monitoring and monitors optical performance without interrupting services.
RTU	Supported

Features

Spectrum Application	Supports extended C band and flexible grid.
Alarm and Performance Monitoring	Monitors optical power and reports board alarms and performance events.

Features

Spectrum Application	Supports extended C band, flexible grid, and Superchannel signals.
Online Optical Performance Monitoring	Provides online optical port monitoring and monitors optical performance without interrupting services. Supports online optical performance monitoring by working with the MON32 board.
Line Fiber Quality Monitoring	The line fiber quality monitoring function can be used on the NMS, and the NMS will display monitoring figures and data.

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