

DATA SHEET

6500-D7/S8

6500 Packet-Optical Platform



Designed for modernized network applications, the 6500-D7/S8 configurations converge comprehensive Ethernet, TDM, and WDM capabilities with packet/OTN switching and an intelligent control plane for cost-effective delivery of services.

The 6500-D7/S8 configurations are compact shelves that support a wide range of service modules, enabling customized configurations for various business applications. To offer flexible, cost-efficient deployment options, the 6500-D7 is tailored for photonic/transponder applications combined with muxponder card-based packet/OTN switching, while the 6500-S8 is optimized for packet/OTN centralized switching deployments with the ability to tune for packet and/or OTN in any ratio.

Features and benefits

- Provides cost-optimized configuration options for efficient transport of flexible services over 2.5G to 800G wavelengths
- Enables simplified operations and reduced sparring costs through seamless networking flexibility with the 6500 Family
- Leverages AC and DC powering options for a perfect fit into various customer environments
- Supports muxponder- and central fabric-based Optical Transport Network (OTN)/packet switching to address specific requirements
- Offers industry-leading WaveLogic coherent technology and intelligent control plane capabilities for scale and service differentiation
- Utilizes field-replaceable common equipment units, ensuring no service impact during failures for improved network availability

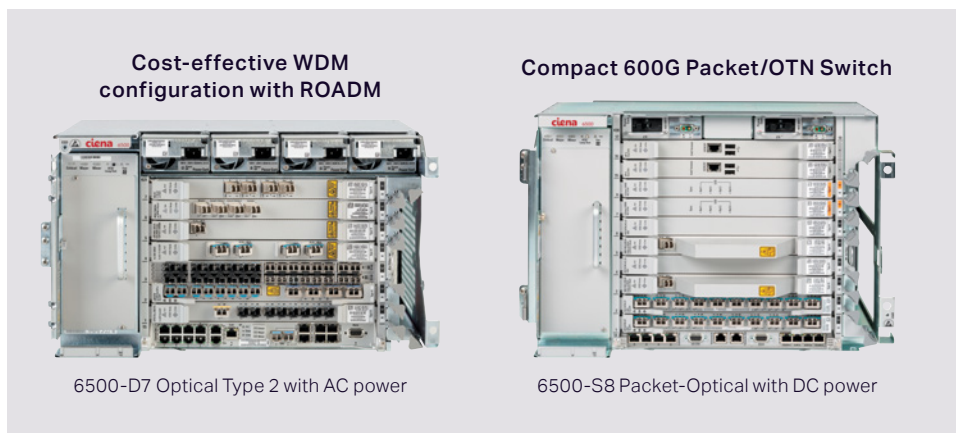
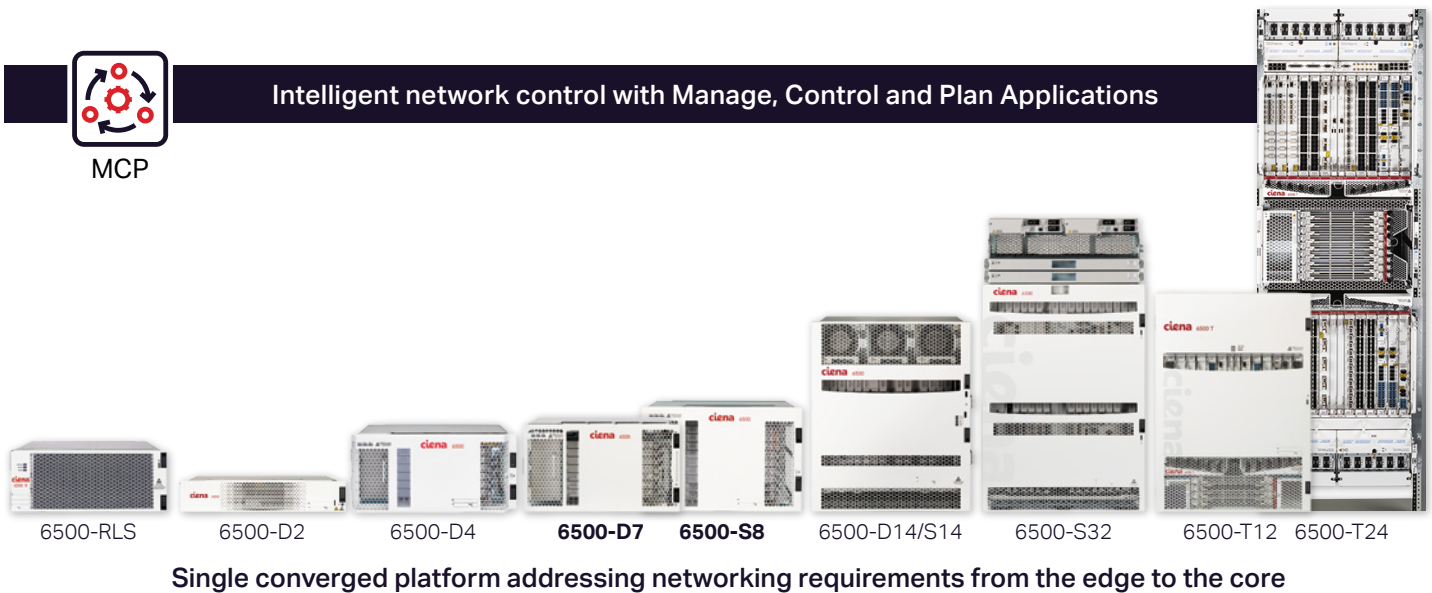


Figure 1. Service diversity and flexibility with the 6500-D7/S8



Intelligent network control with Manage, Control and Plan Applications



Single converged platform addressing networking requirements from the edge to the core

Figure 2. 6500 Family

6500-D7 Optical Type 2

The 6500-D7 Optical Type 2 is a 6RU chassis offering integrated AC and DC powering options. When equipped with AC powering, it fits perfectly in enterprise applications, such as data centers, where only AC power is available. By using a Shelf Processor (SP) equipped with integrated Optical Service Channel (OSC) capabilities, customers can optimize shelf capacity for cost-effective service transport over a full range of photonic and transponder applications from 2.5G to 800G. Additional flexibility is enabled via modules that offer fully integrated packet switching within transport, and card-based packet/OTN switching hardware is available for solutions that require simple point-to-point connectivity.

6500-S8 Packet-Optical

The 6500-S8 Packet-Optical chassis is optimized for switching at low-density sites, enabling customers to extend their meshed networks closer to the edge. This chassis provides 600G of integrated packet/OTN switching capacity, via 100G per slot density, for the most efficient use of network resources. Additionally, SP redundancy is available ensuring node/service availability. Ciena's OTN intelligent control plane can be leveraged to increase network availability and guarantee strict customer Service Level Agreements (SLAs). This chassis can also be used for photonic and broadband applications, enabling customers to standardize on a single platform that meets all of their networking needs.

The 6500-S8 can be also deployed in a Packet Transport System (PTS) configuration to address the growing need to maintain profitable delivery of TDM services while future-proofing investments toward an all-packet network modernization. The 6500 PTS enables network providers to consolidate Digital Access Cross-connect System (DACs), Multi-Service Provisioning Platforms (MSPPs), and packet switching and transport functions, all in the same platform.

Ciena's Manage, Control and Plan (MCP) provides end-to-end network and service lifecycle management across Ciena's packet-optical infrastructure. Through software-defined control, MCP provides a unified interface—GUI or open REST APIs—operators can use to rapidly plan, provision, turn-up and troubleshoot multilayer services.

The 6500-D7 and 6500-S8 are part of the 6500 Family of Packet-Optical Platforms, which offer multiple chassis form factors to provide flexible, cost-optimized configurations to best match site-specific requirements. The 6500 Family uses reusable cards with pluggable optics for reduced standardization cycles, reduced sparing expenses, and simplified network operations. The 6500-D7/S8 configurations adapt to a wide variety of requirements, enabling cost-effective delivery of flexible services leveraging packet/OTN switching with industry-leading coherent technology and proven control plane capabilities for the most efficient use of network bandwidth.

Technical Information

Physical Dimensions

6500-D7 Optical Type 2

- 10.5 in (H) x 17.4 in (W) x 11.0 in (D)
- 266 mm (H) x 443 mm (W) x 280 mm (D)

6500-S8 Packet-Optical

- 12.2 in (H) x 17.4 in (W) x 11.0 in (D)
- 310 mm (H) x 443 mm (W) x 280 mm (D)

Power Options

6500-D7 Optical Type 2

- Redundant DC, Max 50A
- 110/240V AC (1:1, 1:2, 1:3 and 2:2 Redundancy)

6500-S8 Packet-Optical

- Redundant DC, Max 50A
- Redundant DC, Max 60A

Central Fabric Switching Capacity

6500-D7 Optical Type 2

- Not applicable

6500-S8 Packet-Optical

- 600G Packet/OTN switching
- 800G Packet switching for PTS configuration

Number of service card slots

6500-D7 Optical Type 2

- 7

6500-S8 Packet-Optical

- 6 for Packet/OTN switching or Broadband applications
- 8 for Photonic applications
- 8 for PTS configurations

Photonic Modules

- Full suite of passive filters, 50GHz, 75GHz, 100GHz, flexible grid ROADMs, EDFAs, Smart Raman, and Colorless, Directionless, Contentionless, Coherent Select Architecture

Transponders/Muxponders

- Coherent 800G muxponder (4x100GbE + 1x400GbE, 8x100GbE)
- 400G ADM-on-a-blade: 2x100G/200G coherent line(s) muxponder (36 client ports)
- Coherent 400G muxponder (4x100G) with integrated OPS (Optical Protection Switch)
- Coherent 400G flexible service transponder with integrated OPS (Optical Protection Switch)
- Coherent 100GE/OTU4 transponder
- Coherent 100G muxponder (10x10G)
- Coherent 100G/150G/200G line cards: metro, regional, long haul, ultra long haul, enhanced PMD, submarine
- FIPS-certified AES-256 wire-speed coherent 100G/200G encryption solution
- Coherent 200G client card: 2x100GE or 5x40GE/10GE

- Coherent 100G client cards: 10x10GE, 10x10G multi-rate, 2x40G+2x10G, 100GbE/OTU4 client
- Coherent 40G line cards: metro, regional, long haul, ultra long haul, enhanced PMD, submarine, colorless
- Coherent 40G client cards: 4x10G multi-rate, 40G multi-rate
- 4x10G multi-rate OTR: FIPS-certified AES-256 encryption and uncontrolled OSP Class 2 variants
- SONET/SDH 10G ADM-on-a-blade: SuperMux
- Ethernet: 152G eMOTR, 68G eMOTR Edge, 30G L2MOTR
- OTN modules: 8-port OTN Flex MOTR (2.7G), 1+8 port OTN Flex MOTR (10G) with uncontrolled OSP Class 2 variant

Packet/OTN switched modules

- 6500-D7 Optical Type 2
 - Not applicable
- 6500-S8 Packet-Optical
 - 10x10G PKT/OTN
 - 1x100G + 2x40G PKT/OTN
 - 100G DWDM PKT/OTN
 - 40G DWDM PKT/OTN
 - 16x2.7G OTN
 - 48xGbE

Packet Transport System (PTS) modules

- 6500-D7 Optical Type 2
 - Not applicable
- 6500-S8 Packet-Optical
 - 800G PTS Fabric Card: 1x QSFP28/QSFP+, 2x SFP+
 - Distributed I/O Modules (DIMs):
 - 84xDS1/E1 DIM
 - 24xDS3/E3/EC1 DIM
 - PDH card 2x DIM: 168x DS1/E1 ports or 48xDS3/E3/EC1 CEM
 - Ethernet/Optical: MRO 2xSFP+/14xSFP:
 - 16xOC-3/12/STM-1/4 or
 - 8xOC-48/STM-16 or
 - 2x OC192/STM-64 or
 - 16x100FX/GbE (10/100/1000BaseT) or
 - 2x10GbE ports

Operating Temperature

- +41° F to +104° F (+5° C to +40° C)
- +23° F to +131° F (-5° C to +55° C) short term

Relative Humidity

- 5% to 85% (non-condensing)

Earthquake/seismic

- Zone 4

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