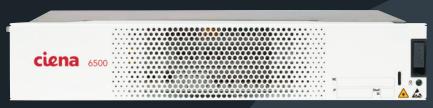
DATA SHEET

6500-D2

6500 Packet-Optical Platform



Tailored to address enterprise business requirements at the edge, the 6500-D2 Packet-Optical Platform is a compact 2RU chassis that cost-effectively extends the flexibility and resiliency of the 6500 platform from the core to the access.

The 6500-D2 is a 2RU chassis composed of two service card-carrying slots enabling customized configurations for the strictest connectivity requirements at the access edge. The 6500-D2 offers AC and DC powering options, providing flexibility to meet customer premises power requirements, as well as backplane connectivity between the service card slots offering increased scalability and service resiliency options.

Additionally, its small footprint and light weight enable field installation by a single person at locations with limited real estate.

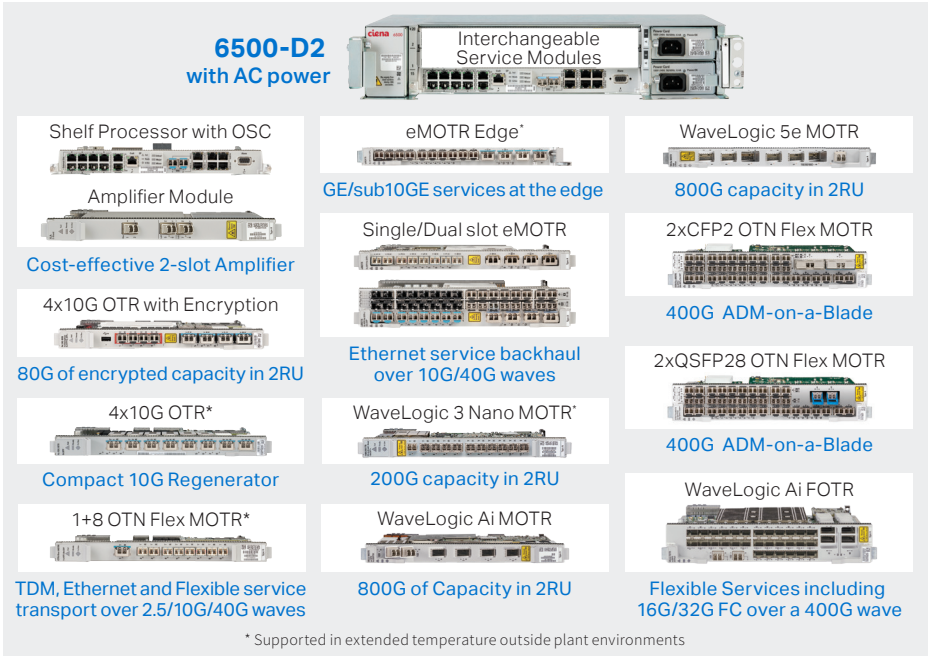


Figure 1. 6500-D2 Flexible configurations for various small office applications

Features and Benefits

- Provides cost-optimized configuration options for efficient transport of flexible services over 10G to 800G wavelengths
- Supports a wide range of service modules, enabling efficient multiprotocol service transport for various business applications
- Enables simplified operations and reduced sparing costs with one management system, and reusable cards across various shelves
- Leverages AC and DC powering options in a compact footprint
- Extends the benefits of coherent 100G/200G DWDM to space/power-challenged environments with WaveLogic 5 Nano CFP2-DCO variants
- Offers field-replaceable common equipment units, ensuring no service impact during failures for improved network availability
- Expands the reach of the access network with compact Outside Plant solutions

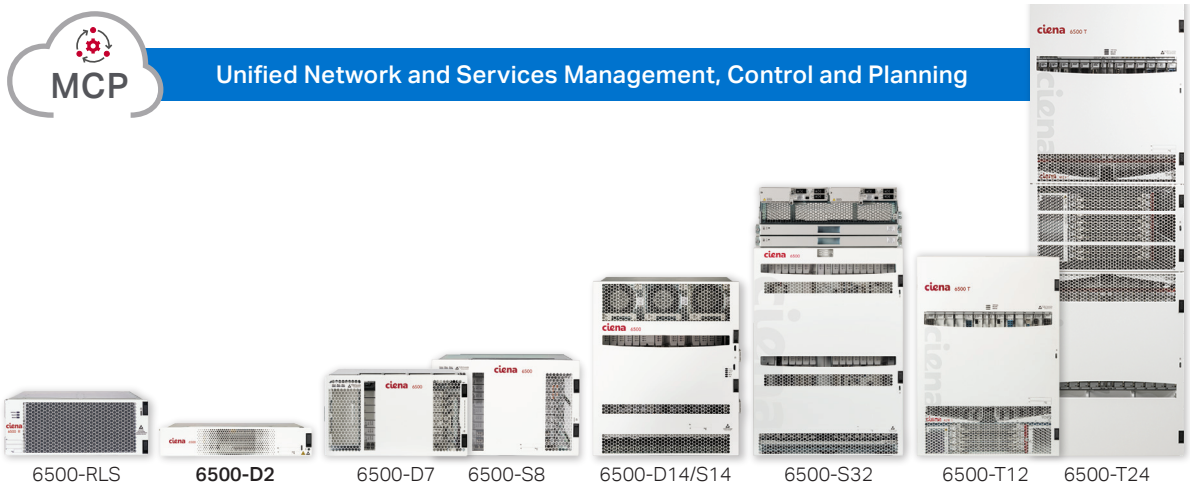


Figure 2. 6500 Family of Packet-Optical Platforms

The 6500-D2 Optical Type 2 chassis supports field-replaceable fans, SP, and AC/DC power input cards for improved network availability, as common equipment card failures can be replaced without impacting existing services. By using a SP equipped with integrated Optical Service Channel (OSC) capabilities in conjunction with an amplifier module, customers can leverage a cost-effective, two-slot Optical Line Amplifier (OLA) configuration for photonic infrastructures with small footprint requirements. The flexibility of the platform extends to an easy-to-deploy AES-256 encryption CPE offering, enabling 24/7 in-flight data protection over encrypted 10G waves when equipped with the 4x10G OTR module with encryption capabilities.

The chassis is cost-optimized for applications that require line rates of 10G or higher, supporting 800G of capacity when deploying a 800G muxponder card leveraging Ciena's WaveLogic 5 Extreme coherent technology. Operators can benefit from flexible service transport, including 16G/32G FC services, across high-capacity wavelengths, with tunability in 50G increments, to maximize channel capacity for all applications. Additionally, operators can extend the benefits of coherent 100G/200G DWDM to space/power-challenged environments, using minimal hardware, with a high-capacity ADM-on-a-blade, equipped with WaveLogic™ 5 Nano CFP2-DCO plugs. Outside Plant deployments are also supported enabling TDM, Ethernet and flexible service transport over 2.5G, 10G, 40G and 100G wavelengths.

The 6500-D2 is part of the 6500 Family of Packet-Optical Platforms, which offers multiple chassis form factors to provide flexible, cost-optimized configurations to best match site-specific requirements. The 6500 Family leverages Ciena's Manage, Control and Plan (MCP) to provide 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—with which operators can rapidly plan, provision, turn up, and troubleshoot multi-layer services.

Designed for the network edge, the 6500-D2 adapts to a wide variety of requirements, enabling cost-effective delivery of TDM, Ethernet, and flexible services across the network over high-capacity wavelengths leveraging industry-leading coherent technology.

Technical Information

Shelf Variants	6500-D2 Optical Type 2
Power Options	110/240V AC, -48V/60V DC and +24V DC
Shelf Processor (SP) Variants	SP w/access panel (SPAP) SP w/access panel (SPAP-2) w/2xOSC 2xSFP
Inter-slot Backplane Bandwidth	40 Gb/s
Supported service interface cards	
Photonic Modules	Full suite of amplifiers, passive filters, 50GHz, 75GHz, 100GHz, flexible grid ROADMs, Colorless, Directionless, Contentionless
Transponders/Muxponders	• Coherent 800G muxponder (4x100GbE + 1x400GbE, 8x100GbE) • Coherent 400G muxponder (4x100G) with integrated OPS (Optical Protection Switch) • Coherent 400G flexible service transponder (34 client ports) with integrated OPS (Optical Protection Switch) • Coherent 100GE/OTU4 transponder • Coherent 2x100G CFP2 OTN Flex MOTR (36 client ports) • 2x100G QSFP28 OTN Flex MOTR (36 client ports) • Coherent 100G muxponder (10x10G) with OSP Class 2 GR-3108-CORE variant • 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 OSP Class 2 GR-3108-CORE 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 OSP Class 2 GR-3108-CORE variant
Environmental Characteristics	
Operating Temperature	+41° F to +104° F (+5° C to +40° C) +23° F to +131° F (-5° C to +55° C) short term -40° F to +149° F (-40° C to +65° C) uncontrolled OSP Class 2 GR-3108-CORE
Relative Humidity	5% to 85% (non-condensing)
Altitude	13,000 ft; 4000 m
Earthquake/seismic	Zone 4
Physical Dimensions	3.5 in (H) x 17.5 in (W) x 11.1 in (D) 89 mm (H) x 443.2 mm (W) x 281 mm (D)