

FSP 150CC-GE206

Multi-functional Ethernet service demarcation

Constantly increasing mobile traffic and new 4G technologies are exhausting the capacity of connectivity networks. Service providers need intelligent Carrier Ethernet demarcation devices that enable a seamless transition from 3G to 4G, while also addressing stringent demands for service availability.

Our FSP 150CC-GE206 enables cost-effective delivery of Carrier Ethernet 2.0 services and highly accurate synchronization over fiber-based access networks. With six Ethernet service ports plus two slots for different line cards for additional ports or circuit emulation, the FSP 150CC-GE206 can be used in multiple scenarios. Network interface protection, redundant power supplies and the temperature-hardened design ensure highest service availability. The simultaneous support of Synchronous Ethernet and IEEE 1588v2, its built-in GPS receiver and the comprehensive Syncjack™ technology make it a perfect solution for intelligent mobile backhaul CE 2.0 applications. What's more our FSP 150CC-GE206 provides enhanced real-time streaming of performance data to enable AI-based network analysis for operational improvement. In addition, this network element can bridge and filter traffic for remote analysis in real-time. This makes it also ideal for high-performance trading applications.



Your benefits

- ✔ **Advanced demarcation technology**
Enabling stringent service level agreements (SLAs), including real-time streaming of performance data
- ✔ **MEF CE2.0 certified UNI/NNI**
With hierarchical traffic management for advanced service definition and low-latency forwarding
- ✔ **Unique timing capabilities**
Featuring simultaneous support of SyncE and IEEE 1588v2 across packet backhaul networks and comprehensive Syncjack™ technology
- ✔ **Circuit emulation services**
Connecting legacy T1/E1 circuits over Carrier Ethernet networks and providing high-accuracy synchronization
- ✔ **Real time performance and data analysis**
Traffic mirroring with truncation and highly accurate timestamp options for sub-micro-second analysis of critical data transactions
- ✔ **Highest service availability**
Intelligent CE 2.0 demarcation compliant with the latest OAM standards

High-level specifications

Interfaces

- Access ports: 6x 100/1000BaseX (SFP) or 3x 10/100/1000BaseT plus 3x 100/1000BaseX (SFP)
- Network ports: 2x GbE SFP with redundancy
- 2 slots for line cards (optional)

Line cards variants

- Four electrical (RJ45) GbE ports
- Four optical (SFP) GbE ports
- 16-port E1/T1 circuit emulation
- STM1/OC3 4-port channelized hand-off module. Also supports operation as 1-port STM4/OC12

Network protection

- IEEE 802.3ad link aggregation – active / standby mode with optional load balancing
- ITU-T G.8032 Ethernet ring protection switching

Synchronization

- ITU-T G.8261/G.8262/G.8264 SyncE on all interfaces
- IEEE 1588v2 PTP profiles
- Internal Stratum-3E clock with holdover
- Built-in GPS receiver

VLAN support

- 4096 VLANs and stacked VLANs
- 2-tag mgmt. (push / pop / swap) for c- and s-tag
- IEEE 802.1ad provider bridging (c-tag, s-tag)
- Ethertype translation

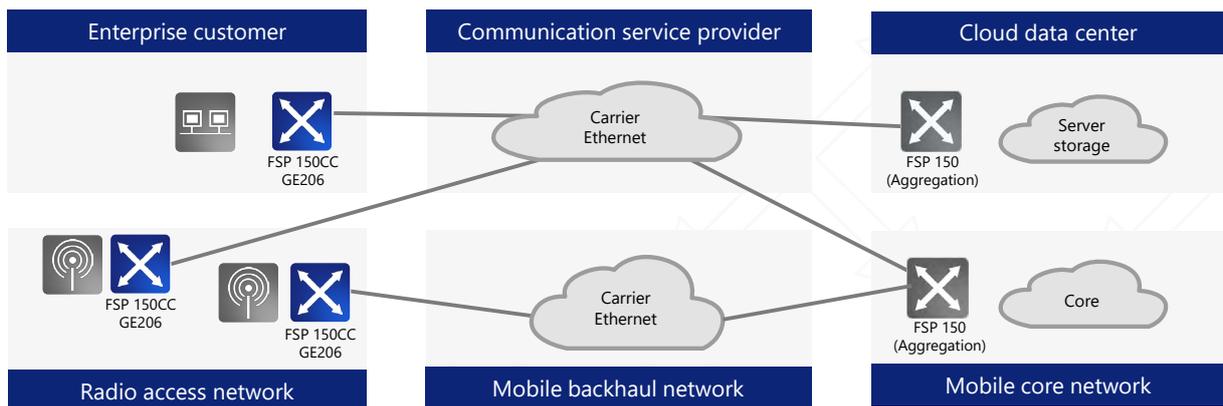
Environmental

- 1RU chassis, ETSI compliant
- Modular AC-PSU or DC-PSU
- Operating temperature: -40 to +65°C (hardened environment)
- Maximum power consumption: 70W

Applications in your network

Advanced Carrier Ethernet 2.0 demarcation solutions

- Deliver intelligent Carrier Ethernet 2.0 services compliant with the latest OAM standards, as well as highly accurate synchronization over fiber-based access networks
- Connect legacy TDM E1/T1 circuits over Carrier Ethernet networks (E1/T1 pseudowire)
- Replace traditional T1/E1 or GPS-based synchronization with G.8261 Synchronous Ethernet and 1588v2 Precision Time Protocol
- Open new revenue opportunities from the delivery of SLA-based synchronization services with comprehensive Syncjack™ technology for timing distribution, monitoring, testing and timing service assurance



For more information please visit us at www.adva.com
© 08 / 2019 ADVA Optical Networking. All rights reserved.

Product specifications are subject to change without notice or obligation.



Access capacity

- Six 100/1000BaseX (SFP) ports or three 10 / 100 / 1000BaseT ports, plus three 100 / 1000BaseX (SFP) ports
- Optional 16 or 32 T1/E1 circuit emulation ports
- Optional four STM-1 / 4 or OC-3 / 12 circuit emulation ports
- Optional four or eight GbE port expansion module

Network interface

- Two ports 100/1000BaseX (SFP)

Network interface redundancy

- IEEE 802.3ad link aggregation – active / standby mode with optional load balancing
- ITU-T G.8032 Ethernet ring protection switching

Synchronization

- ITU-T G.8261/G.8262/G.8264 Synchronous Ethernet on all interfaces
- ITU-T G.8275.1 Telecom Profile
- Sync status message support
- IEEE 1588v2 Precision Time Protocol
- BITS-in and BITS-out
- BITS sync status messaging
- External time-of-day input and 10MHz input/output (1PPS, ToD)
- Internal Stratum-3 clock with holdover
- Built-in GPS receiver
- T1 / E1, OC-3 / 12 and STM-1 / -4 circuit emulation
- Un-channelized (SAToP)

VLAN support

- 4096 VLANs (IEEE 802.1Q customer-tagged) and stacked VLANs (Q-in-Q service provider-tagged)
- 2-tag management (push / pop / swap) for c-tag and s-tag
- IEEE 802.1ad provider bridging (c-tag, s-tag)
- Ethertype translation
- Traffic management
- Acceptable client frame policy: tagged or untagged
- Service classification based on 802.1p, 802.1Q and IP-TOS/DSCP
- MEF-compliant policing (CIR / CBS / EIR / EBS) with three-color marking and eight classes of service
- Hierarchical queuing and shaping
- Port shaping on transmit for both client and network ports

Ethernet OAM

- IEEE 802.3ah EFM-OAM link management
- IEEE 802.1ag connectivity fault management (CFM) with hardware assistance
- ITU-T Y.1731 performance monitoring
- Y.1564 service activation testing
- Terminal and facility loopbacks on port- and EVC-level for all interfaces
- Cable diagnostics with benchmarks (electrical interfaces only)
- Embedded RFC 2544 test generator and analyzer (ECPA)
- MEF-compliant Layer 2 control protocol disposition and extensive filter options for Layer 2 packet types
- Link loss forwarding to signal local link and network path failures
- Dying gasp message for power failure alarming (EFM-OAM and SNMP trap option)

Performance monitoring

- RFC 2819 RMON Etherstats on a per-port and per-service basis
- 15-minute and 1-day performance data bins
- IEEE 802.3ah/ITU-T G.8021 PHY level monitoring
- ITU-T Y.1731 single- and dual-ended frame loss measurement
- Synthetic frame loss and delay measurement for multi-point service monitoring
- Multi-CoS monitoring on EVCs scaling up to 512 simultaneous flows
- Threshold-setting and threshold-crossing alerts
- Physical parameter monitoring for SFP optics, including TCAs
- Temperature monitoring and thermal alarms
- Enhanced diagnostics and real-time performance management
- Port-based traffic mirror with frame truncation and highly accurate timestamp options to facilitate sub-microsecond analysis
- Enhanced TWAMP-like service monitoring with 10 millisecond granularity and real-time streaming for instantaneous performance analysis

Low touch provisioning

- DHCP/BOOTP auto-configuration
- IEEE 802.1x port authentication
- Text-based configuration files
- TFTP for configuration file copy

Management and security

Local management

- Serial connector (RJ45) using CLI
- Local LAN port (RJ45) using CLI, SNMP and Web GUI interfaces

Remote management

- Maintains in-band VLAN and MAC-based management tunnels
- Fully interoperable with FSP 150CM and FSP 150CC products

Management protocols

- IPv4 and IPv6 DCN protocol stacks, including dual-stack operation and 6-over-4 tunnels
- Telnet, SSH (v1 / v2), HTTP/HTTPS, SNMP (v1 / v2c / v3)

Secure administration

- Configuration database backup and restore
- System software download via FTP, HTTPS, SFTP or SCP (dual flash banks)
- Remote authentication via RADIUS/TACACS
- SNMPv3 with authentication and encryption
- Access control list (ACL)

IP routing

- DHCP, RIPv2 and static routes, ARP cache access control

System logging

- Alarm log, audit log and security log

Regulatory and standards compliance

- MEF CE 2.0 certified
- IEEE 802.1Q (VLAN), 802.1p (Priority), 802.1ag (CFM), 802.3ah (EFM), 802.1x
- ITU-T Y.1731, G.8010/Y.1306, G.8011.1+2, G.8012, G.8032
- MEF-6.1, -9, -10.2, -11, -14, -20, -21, -22.1, -23.1, -25, -26.1, -30, -33, -35, -36
- IETF RFC 2544 (Frame Tests), RFC 2863 (IF-MIB), RFC 2865 (RADIUS), RFC 2819 (RMON)
- MEF-compliant ITU-T Y.1564 service activation testing
- ANSI C84.1-1989
- ETSI 300 132-2, BTNR2511, ETS 300-019, ETS 300-019-2-[1,2,3], ETS 300-753
- NEBS Level 3 certified
- Telcordia GR-499, GR-63-CORE, SR-332
- Safety IEC / UL / EN 60950, 21CFR1040.10, EN 60825, EN 50371, EN 300-386, EN 50160, IEC 60320 / C14
- EMI EN 300-386, GR-1089-CORE, ETS 300-132, FCC Part 15, Class A, Industry Canada

Environmental

- Dimensions: 1RU compact chassis, 439mm x 43mm x 269mm / 17.3" x 1.75" x 10.6" (W x H x D), ETSI-compliant
- Operating temperature: -40 to +65°C (hardened environment)
- Storage temperature: -40 to +70°C (GR-63-CORE)
- Humidity: 5 to 95%, B1 (non-condensing)
- Modular AC-PSU: 90 to 264VAC (47 to 63Hz) with over-voltage and over-current protection
- Modular DC-PSU: -36 to -72VDC or +18 to +30VDC with over-voltage and over-current protection
- Maximum power consumption: 70 Watts