FSP 150CC-825

Intelligent Carrier Ethernet Service Demarcation

Product Overview

The FSP 150CC-825 provides Carrier Ethernet service extension over fiber for service providers looking to deploy intelligent and differentiated services. The device can work with ADVA Optical Networking's aggregation platform, with industry-standard data switches and routers and in book-ended applications. With five Ethernet service ports and advanced service definition capabilities, the FSP 150CC-825 is capable of supporting multiple customers and multiple services over a shared network connection. Network interface protection and redundant power supplies ensure highest service availability.

Service Intelligence

The sophisticated and MEF-certified UNI function is designed for highest performance and provides the service intelligence necessary to offer a differentiated Carrier Ethernet service portfolio. Rate limitation, scheduling and shaping per EVC and CoS allows service providers to maintain QoS commitments and ensure fair bandwidth distribution even when network resources are over-subscribed or congested. The FSP 150CC-825 supports a large number of EVCs and hierarchical QoS management to support all E-Line, E-LAN and E-Tree applications. It enables service providers to deliver Ethernet services that can be remotely configured, monitored and managed.

End-to-End Etherjack™ Service Assurance

The FSP 150CC-825 is designed for highest service availability and scalability. ADVA Optical Networking's patent-pending Etherjack™ demarcation technology enables service providers to provide an intelligent Carrier Ethernet service demarcation point, compliant with the latest OAM standards such as 802.3ah, 802.1ag, Y.1731 and RFC 2544. SLA verification can be performed on a per-service basis to ensure high latency, jitter and packet delivery performance for mission-critical applications. With its in-service and out-of-service loopback testing capability, service verification can be performed at turn-up and on-demand without service interruption.

Scalability for Wholesale Deployment

As Carrier Ethernet networks scale, low-touch provisioning capabilities become essential to ensure cost-efficient service rollout and to significantly reduce the need for truck rolls. With the extensive set of standards-based auto-configuration functions and remote OAM capabilities built into the FSP 150CC-825, unskilled craft personnel can install and turn-up services without onsite provisioning.

Features & Benefits

- Optimized for MEF-certifiable business Ethernet and Internet access services with advanced service intelligence for integrated service delivery
- MEF-certified UNI implementation with hierarchical traffic management for advanced service definition and low-latency forwarding
- Etherjack™ demarcation technology for support of stringent SLAs and integration with a wide range of back-office support tools
- Low-touch provisioning capability to ensure that unskilled craft personnel can install and turn-up services without any onsite provisioning
- Network interface protection and redundant power supplies match requirements for highest service availability

Technical Information

Access Capacity
- 4 ports 10/100BaseT ports plus 1 port 10/100/1000BaseT or 100/1000BaseX (SFP)

Network Interface
- 2 ports 100/1000BaseT or 100/1000BaseX (SFP)

Network Interface Redundancy
- LAG Active/Standby

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 3-color marking and 8 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)
- ITU-T Y.1731 Performance Monitoring
- 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)
- Multi-vendor SLA monitoring with UDP/ICMP echo and ICMP timestamp (ESA)
- 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

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
- Multi-CoS monitoring on EVCs
- Threshold-setting and threshold-crossing alerts
- Physical parameter monitoring for SFP optics, including TCAs
- Temperature monitoring and thermal alarms

Low-Touch Provisioning
- DHCP/BOOTP auto-configuration
- 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
- Full interoperability with FSP 150CM and FSP 150CC products

Management Protocols
- 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

Regulatory and Standards Compliance
- 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.8031 (APS)
- MEF-6, MEF-9, MEF-10.1, MEF-11, MEF-14, MEF-21
- IETF RFC 2544 (Frame Tests), RFC 2863 (IF-MIB), RFC 2865 (RADIUS), RFC 2819 (RMON)
- 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: 1U compact chassis, 439mm x 43mm x 269mm / 17.3” x 1.7” x 10.6” (W x H x D), ETSI-compliant
- Operating temperature: 0 to +50°C
- 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: 25 Watts

Etherjack®