FSP 150-Z4806V2

100G multi-technology platform for aggregation of edge data center services
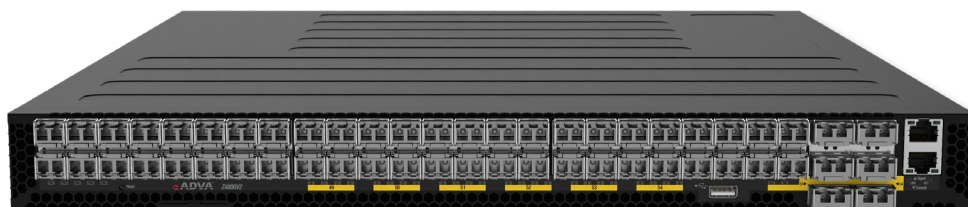
Benefits

- **High-capacity business services**
  Meeting bandwidth demand of cloud-centric networks with EVPL and VPLS L2 VPN connectivity

- **Comprehensive data center feature set**
  Termination of L2 Carrier Ethernet traffic and tunnels

- **Industry-leading design**
  Achieving high-capacity edge demarcation and aggregation with smallest footprint and lowest power consumption

- **Automated provisioning**
  Standard, open interfaces for central control and resource abstraction in line with MEF LSO architecture

- **Versatile solution**
  Hierarchical QoS and multi-layer OAM for a wide range of applications

- **Highly resilient architecture**
  Protecting services against network or device failures as well as fiber breaks with multiple resilience mechanisms

Overview

The number of small data centers at the network edge is continuously growing. New applications and technologies, such as over-the-top video and the proliferation of IoT, require content and data computing to be as close as possible to end users. Server-based virtual network functions are also replacing traditional equipment at central offices. Our FSP 150-Z4806V2 is an innovative edge aggregation solution designed to work in this new environment empowered by the Adtran Ensemble Activator network operating system.

Our FSP 150-Z4806V2 is a 100GbE aggregation solution that provides high-capacity aggregation for flexible delivery of advanced end-to-end SLA-based MEF 3.0 CE services, as well as aggregating advanced data center services. Its outstanding flexibility, capacity and hierarchical QoS capabilities make it ideal to aggregate high-bandwidth data center traffic. It can scale and accommodate many 10Gbit/s and 100Gbit/s Carrier Ethernet services and tunnel the traffic to the data center, while keeping cost, space and power consumption at a minimum. The FSP 150-Z4806V2 connects major business sites with private and public clouds, managing data traffic into and out of the edge of cloud networks. It also provides high-capacity connectivity services to multi-tenant locations where space and power are at a premium.

FSP 150-Z4806V2

High-level technical specifications

Switching capacity
- 1.6Tbit/s (800Gbit/s full duplex) switching capacity
- Front panel ports: 48x 10GbE ports plus 6x 40G/100G ports (any combination up to 800Gbit/s total capacity)

Ethernet Layer 2 services
- Highly scalable and resilient Layer 2 solution
- MEF E-LINE, E-TREE, E-LAN, E-ACESS services
- VSI support
- E-LINE/VPWS, E-LAN/VPLS services, statics labels

Data center services
- IP forwarding with IS-IS and OSPF and BGP routing
- Equal cost multi-path (ECMP)
- Virtual router redundancy protocol (VRRP)
- VxLAN tunneling and termination

Advanced service capabilities
- HQoS with advanced policing and scheduling mechanisms
- NETCONF/YANG open control
- Egress hierarchical shaping and scheduling; ingress hierarchical policing MEF per 10.3
- Counters per shaper

Advanced Ethernet OAM
- Automated service activation and testing (RFC-2544)
- Link trace for fault analysis
- IEEE 802.3ah/ITU-T G.8021 PHY level monitoring
- Y.1731 delay measurements
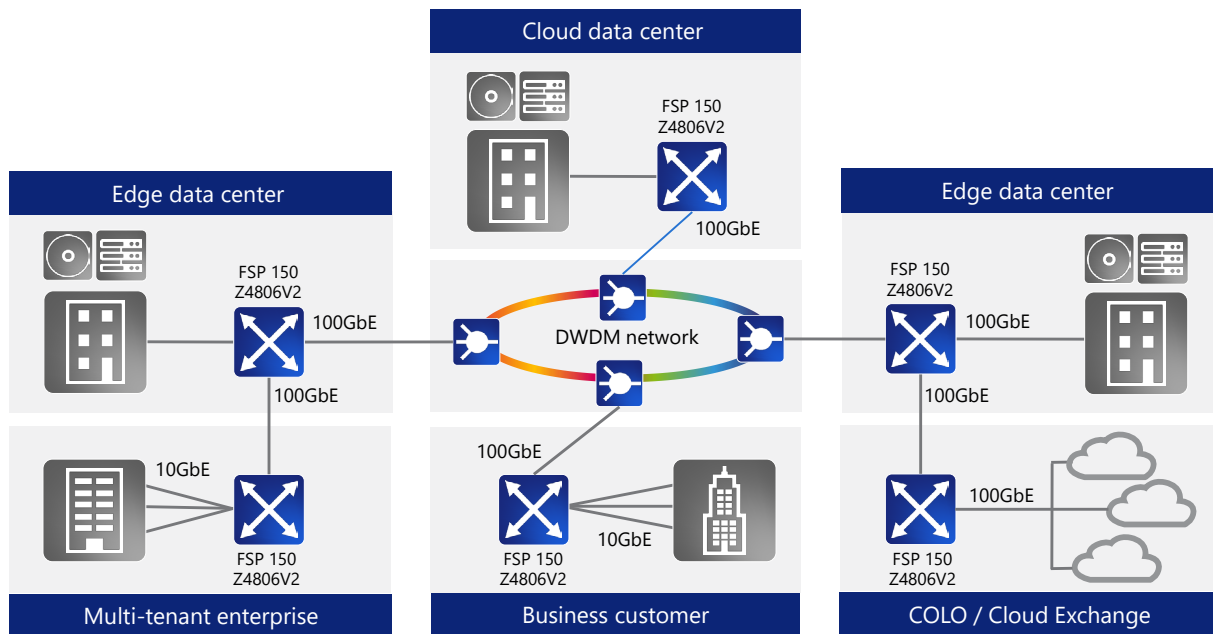- Multi-CoS monitoring on EVCs

Environmental specifications
- 1RU chassis
- Operating temp.: 0ºC to 40ºC
- Storage temp.: -40ºC to 70ºC
- Redundant dual hot-swappable AC and/or DC power supplies

Applications in your network

Connectivity at edge data centers and overlay connectivity among data centers

- Aggregation of high bandwidth, SLA-based MEF 3.0 CE and IP services at edge data centers
- High-capacity, multi-cloud interconnect at cloud exchange peering points
- Interconnect data centers using tunneling technologies such as VxLAN

FSP 150-Z4806V2

Product specifications

Switching capacity and ports
- 1.6Tbit/s (800Gbit/s full duplex) switching capacity
- Front panel ports:
  - 48 x 10Gbit/s SFP+ ports and
  - 6x 40G/100G QSFP28

Chassis features
- Serial Console
- Out of Band Ethernet Management port with LEDs
- 5+1 replaceable 12V FANs
- 1+1 Hot swap AC or DC Power supplies with power consumption and temperature indications
- One LED per traffic port
- 4 System LEDs
- USB 2.0
- 19" Rack mount

Services
- E-LAN services
- E-LINE services
- Multiplexing
- Bundling
- All-to-one Bundling
- VxLAN termination and tunneling
- L2 VPN
- IP routing

Layer 1
- SFP digital diagnostics
- Jambo frames per port up to 9216 bytes
- Port mirroring

Layer 2 bridging
- Layer 2 transparent bridging
- Layer 2 MAC learning and switching by hardware
- Layer 2 aging
- Up to 250,000 MAC addresses per bridge domain
- Learning table limit per bridge domain
- Up to 700,000 MAC addresses per device
- Link aggregation
- Hash function according to type of packet for link aggregation: L2 header, L3 header, MPLS header
- Link aggregation control protocol (LACP) with minimum Links
- VLAN tag manipulation
- VLAN ranges

- All-to-one bundling
- G.8032 / Y.1344 ITU-T Ethernet ring protection switching (ERPS V2)
- Ethernet in the first mile (EFM)
- L2 control protocols (drop, forwarding or Cisco tunneling)
- L2 service loopback
- Jumbo frame support
- Port link reflection

Routing
- Wire-speed L3 forwarding
- Static routes
- OSPFv2/v3
- IS-IS
- BGP
- ECMP IPv4/IPv6
- VRRP
- Up to 700,000 IPv4 and 100,000 IPv6 per addresses device

EVPN
- EVPN over VxLAN
- EVPN over MPLS
- EVPN for BUM traffic, support over VxLAN and MPLS
- EVPN multi-homing
- EVPN MPLS multi-homing
- EVPN MPLS multicast routes

L3VPN
- L3VPN over MPLS
- VRF to VRF IPv4 communication across L3VPN
- OSPF PE-CE over L3VPN

Segment Routing
- MPLS with OSPF for IPv4
- MPLS with IS-IS for IPv4

Tunneling
- MPLS layer 2 VPNs, E-LAN,
  - LDP, RSVP, RSVP-TE
  - Static labels
  - BFD (for OSPF, ISIS, LDP, RSVP)
  - PING and traceroute
  - MPLS LSP PING and traceroute
  - MPLS PW VCCV PING
- VxLAN

Ethernet OAM

- Continuity Check Messages (CCMs)
- Delay Measurement Tests
- Loopback Tests
- Link Trace
- RFC-2544 Tests
- Y.1731 delay measurements

Management features

- Out-of-band management
- Inband management
- Management VLAN
- Command line interface (CLI) – through Serial, TELNET, or SSH connection (protocol versions 1 and 2)
- SNMP versions 2, and 3
- Openconfig YANG Data Modeling over NETCONF
- TACACS+ authentication, authorization and accounting
- RADIUS authentication and accounting
- Upload/download of configuration files using SCP server
- Copy-paste of configuration
- Time of day + time zone
- Internal syslog + remote syslog
- DHCP client, server and relay
- IPFIX
- Telemetry streaming

HQoS

- Egress shaping per port / AC
- Ingress policer per port / AC
- Strict priority (SP) and weighted Round Robin scheduling mechanisms
- Statistics per port
- Statistics per AC interface
- Congestion-avoidance mechanism WRED

Additional protocols and features

- Linux Shell
- Domain name server (DNS) client
- Network time protocol (NTP)
- Link layer discovery protocol (LLDP)
- Multi chassis LAG MC-LAG

Environmental

- Dimensions (W x D x H): 435 x 515 x 43.84 mm (17.12 x 20.27 x 1.72 inch)
- Weight: 9.72 kg (21.42 lb), with two installed PSUs
- Operating temperature: 0ºC to 40ºC / 32ºF to 104ºF
- Storage temperature: -40ºC to +70ºC / -40ºF to 158ºF
- Humidity: 5% to 95%, non-condensing
- Power supply: 850WAC, 850WDC
- Typical power consumption: 450W

System Input Power Rating

- AC input 100 to 240 VAC, 50 to 60 Hz, 6 A maximum
- DC input −36 to −72 VDC, 28 to 14 A

Ordering Information Bundles

- F150/Z4806V2/BASE/2AC
- Includes : Z4806V2 with dual AC PSU, power cords, 6 x Fan Tray modules, 19" brackets, grounding kit and Serial console cable.
- F150/Z4806V2/BASE/2DC
- Includes: Z4806V2 with dual DC PSU,6 x Fan Tray modules, 19" brackets, grounding kit, Serial console cable and ring lugs.

Spare parts

- F150/Z4806V2/PSU/AC
- F150/Z4806V2/PSU/DC
- F150/Z4806V2/FAN

Compliance

- Safety: UL (CSA 22.2 No 60950-1 & UL60950-1)
- CB (IEC/EN60950-1)
- BSMI Class A, CNS 14336-1
- Immunity: EN 55024:2010+A1:2015
- IEC 61000-4-2/3/4/5/6/8/11
- Emissions: EN 55032:2015+AC:2016, Class A
- EN 61000-3-2:2014, Class A
- EN 61000-3-3:2013
- FCC Class A
- VCCI Class A
- CE Mark
- BSMI Class A, CNS 13438
- Taiwan RoHS: CNS 15663