FiberHome Networks

F-ENGINE M8416E
Carrier Ethernet Multi-service Platform

Product Overview

The Carrier Ethernet Multi-service Platform, namely CESP, integrates voice, data and video services into a single platform through a brand-new design notion derived from traditional transport network. F-engine M8416E series products, acting as the fabric of carrier-class IP-based transport network, pose an important engine for services roll-out.

F-ENGINE M8416E series Carrier Ethernet Multi-service Platform, which developed by FiberHome Networks, dedicate to the IP-based Metro network which calling for manageable and operational. It pools the latest technologies and standards in terms of Carrier Ethernet to facilitate the operators rolling out their profit-orient services, including broadband service, TDM and data service, video services and so on. Thanks to the low cost and high scalability, it also widely had been opted for the main player in the area of key account and enterprise network which provides a private network in cost-effective way. In addition, F-engine M8416E series products play a vital role in 3G and other emerging services.

F-ENGINE M8416E series products provide hierarchical transport pipes, advanced protection mechanism, resilient service management as well as end-to-end QoS based on users and services which not only weakened the network performance cap sharply as a whole, but promote the Service-Level Agreement (SLA) and improve the quality of experience (QoE) for customers which in turn brings considerable profits to operators.

Benefits and Features

✧ Multifarious topologies

F-ENGINE M8416E series support various topologies including ring, bus, hub-and-spoke, dual-home, etc. The time of protection switching based on Ethernet can be located within 50ms. Besides, it ensures the critical services away from the impacts by network malfunctions and takes full advantage of existing resources as well.

✧ End-to-end QoS

End-to-end QoS is another striking features in F-engine M8416E series products which lead to the delivery of services more efficiently. The high-priority service with jitter and delay-sensitive will be ensured due to multiple schedule mechanisms.

✧ Dynamic multicast

F-ENGINE M8416E series products strive to supply advanced multicast technologies for emerging services, IPTV in particular, which reduce the network pressure enormously.

✧ Robust security

F-ENGINE M8416E series products adopt hardware-based chips to prevent the attacks stemmed from invalid IP packets, virus and flood in multi-dimensional according to the information from layer 2 to layer 7. The user can set its own rules to conduct anti-attack measures.

✧ Resilient service management

The analysis based on its front 80 bytes within the packet and implements relevant policies are the heart of service

management. It is of importance to control and adjust the bandwidth and QoS, for example, IPTV or P2P service, to provide SLA for customers.

✧ High availability (HA)

The high availability designs F-engine M8416E series products follows contribute to the excellent performance in different conditions, which comprising advanced anti-lighten protection, backup power supplies, dynamic temperature control.

✧ Service-based network-level management

The Carrier-class Multi-Service Platform complies with connective-orient fashion in which two notions are come up with, one is the link upon which the bandwidth can be configured, and the other is the service that could be specified and controlled over the link.

Technical Specifications

Interface type

✧ Interface

Fast Ethernet/Gigabit Ethernet/10Gigabit Ethernet

✧ Console port

RS-232

Performance

✧ Switching capacity

160Gbps

✧ Packet forwarding rate

96Mpps

✧ MAC

32K

✧ MAC (type)

Wire-speed

Layer 2 functionality

✧ VLAN

Port-based VLAN, 802.1q VLAN, 4K for maximum

Standard SVLAN (QinQ) and selective VLAN

✧ Trunk

Link aggregation (GE: up to 8, 10GE: up to 2)

✧ Suppression

Suppression in flood, multicast and DLF packet (one packet per second)

✧ Mirroring

Port-based and flow-based bi-directional mirroring

✧ Protection switching

MSR in accordance with ITU-T X.87

ACL

Access-control list (ingress/egress)

Based on MAC, 802.1p priority, VLAN ID, IP address, port

2K

Multicast

IGMP Snooping

Maximum entry: 1024

IGMP fast leave

QoS

Classification and marking based on port, VLAN, source/destination MAC address, source/destination IP address, IP port, protocol num.

Bandwidth control with 64Kbit/s in minimum

8 priority-orient queues for each port

SP/WRR/DRR/WRED

Network management

✧ Fashion

Telnet, CLI, SNMPv1, v2, v3, SSH

✧ Type

In-band / Out-of-band

Physical description

✧ Power supply

AC：100～240V；DC：－40～－60V

✧ Working condition

Working temperature：0～45℃

Storagetemperature：-15～75℃

Humidity：10 ～ 90%

✧ Power capacity

450W

✧ Weight

<30Kg

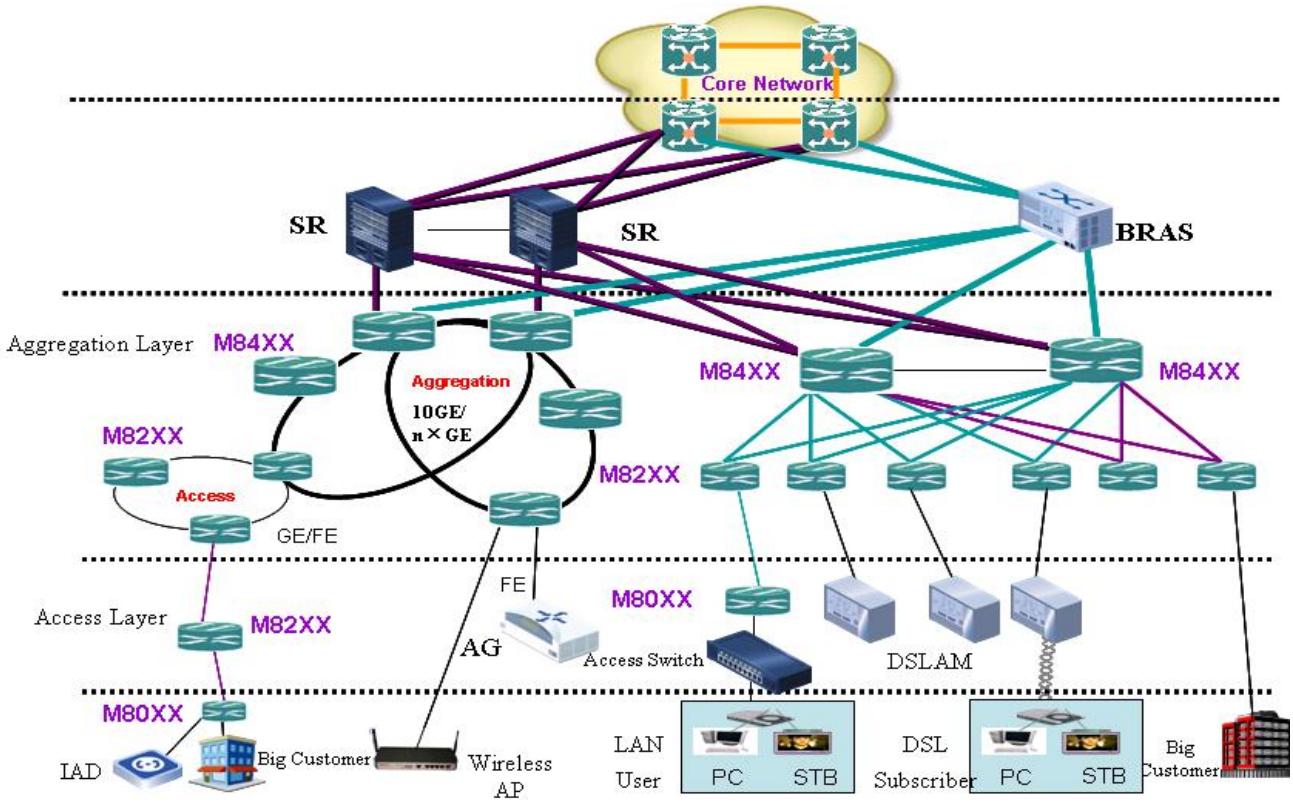
✧ Dimension

440mm×430mm×390mm

✧ Heat dissipation

Active fan plus heat sink

Network Application



Ordering Information

Part Number	Description
M8416E Carrier Ethernet Multi-Service Platform	
M8416E	M8416E chassis, 2 slots for main control line card, 4 slots for service line card, 3 slots for power supply module
PM-AC600W	600W AC power supply module
PM-DC600W	600W DC power supply module
SRP-M8416E	Main control line card
LC-F01-12GE-SFP	12-port 1000Base-X Ethernet SFP optical interface line card(SFP module is required)

LC-F02-2XGE-XFP	2-port 10GBase-R Ethernet XFP interface line card(XFP module is required)
LC-F02-2XGE-FM	2-port modular 10GE line card, 2 module slots
FM-F02-1XGE-XENPAK	1-port 10GBase-R Ethernet XENPAK interface line card (XENPAK module is required)
LC-F02-48FE-SFP	48-port 100Base-FX Ethernet SFP optical interface line card(SFP module is required)
LC-F02-48FE-RJ45	48-port 10/100Base-TX Ethernet interface line card
SFP Module	
SFP-155M-MM-31-2KM	100M Ethernet SFP optical interfce module, MM, 1310nm, 2KM
SFP-155M-SM-31-15KM	100M Ethernet SFP optical interfce module, SM, 1310nm, 15KM
SFP-155M-SM-31-40KM	100M Ethernet SFP optical interfce module, SM, 1310nm, 40KM
SFP-1.25G-TX	1000M Ethernet SFP electrical RJ45 connector module
SFP-1.25G-MM-8-550M	1000M Ethernet SFP optical interfce module, MM, 850nm, 550M
SFP-1.25G-SM-31-10KM	1000M Ethernet SFP optical interfce module, SM, 1310nm, 10KM
SFP-1.25G-SM-31-40KM	1000M Ethernet SFP optical interfce module, SM, 1310nm, 40KM
SFP-1.25G-SM-55-40KM	1000M Ethernet SFP optical interfce module, SM, 1550nm, 40KM
SFP-1.25G-SM-55-80KM	1000M Ethernet SFP optical interfce module, SM, 1550nm, 80KM
SFP-1.25G-SM-55-120KM	1000M Ethernet SFP optical interfce module, SM, 1550nm, 120KM
SFP-1.25G-SSM-35-20KM	1000M Ethernet SFP optical interface module, single fiber, single mode, xmt: 1310nm，rcv:1550nm, 20KM, LC
SFP-1.25G-SSM-53-20KM	1000M Ethernet SFP optical interface module, single fiber, single mode, xmt: 1550nm，rcv:1310nm, 21KM, LC
XFP module	
XFP-10G-SM-31-10KM	10G XFP optical interface module, SM, 1310nm, 10km
XFP-10G-SM-55-40KM	10G XFP optical interface module, SM, 1550nm, 40km
XENPAK module	
XENPAK-10G-SM-31-10KM	10G XENPAK optical interface module, SM, 1310nm, 10km
XENPAK-10G-SM-55-40KM	10G XENPAK optical interface module, SM, 1550nm, 40km
XENPAK-10G-SM-55-80KM	10G XENPAK optical interface module, SM, 1550nm, 80km

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