NetEngine 8000 M1 Series Service Router

Overview

NetEngine 8000 M1 Series is a high-density compact router designed for the cloud era. It's featured with 1U height, 220 mm depth, and supports up to 880G port capacity. The compact design saves precious space resources. It supports flexible service access of 100GE 10GE and GE (optical and electrical ports) and supports features such as SRv6, EVPN, Telemetry, and 1588v2 high-precision clock, which is the best choice for multi-service high-density bearer in the future cloud era.

NetEngine 8000 M1A   NetEngine 8000 M1D

Product Features

Table 2-1 lists the features of Huawei NetEngine8000 M1 Series router.

Features of Huawei NetEngine8000 M1 Series Router

Features	NetEngine 8000 M1A	NetEngine 8000 M1D
Interfaces	16*10GE/GE+12*GE(o)+4*GE(e)	4*100GE/50GE+16*25GE/10GE/GE+8*10GE/GE
L2	• IEEE802.1q, IEEE802.1p, IEEE 802.3ad, IEEE 802.1ab • STP/RSTP/MSTP • E-LAN and E-Line	
L3	• OSPFv2/V3, RIPv2, IS-IS/IS-ISv6, BGPv4/BGPV4+, BGP-LS,IPv4 ACL/Telnet, 6VPE and Static routing protocol • Dynamic ARP , static ARP, VLANIF interface and VxLAN	
MPLS	LDP, RSVP-TE, L2VPN(VPLS, HVPLS, and VLL), L3VPN, and seamless MPLS	
SR/EVPN	Segment Routing/SRv6,　EVPN L3VPN, EVPN VPWS, EVPN VPLS	
Multicast	IGMP v1/v2/v3, IGMP Snooping, Static multicast routing, PIM-SM/SSM, MBGP	
QoS	3 level H-QoS	5 level H-QoS
ISIS	512K	1M
OSPF	512K	1M
IPv4 FIB	512K	1M
IPv6 FIB	64K	128K
MAC	256K	256K
Pseudo wire	8K	8K
RSVP TE	8K	8K
ACL	2048	6144
Reliability	• IP FRR, LDP FRR, TE FRR, and VPN FRR	

Features	NetEngine 8000 M1A	NetEngine 8000 M1D
	- TE-tunnel APS - ERPS-G.8032 - PW redundancy protection and PW APS - Bit error-triggered protection switching	
Security	- URPF: used to prevent network attacks based on source IP address spoofing. - Local attack defense: includes management and control plane protection, attack source tracing, and alarm generation in the event that the discarded packet threshold is crossed. - Whitelist association at the application layer - IPSec provides security services for IP packets mainly through encryption and authentication.	
Maintainability	- A network management system (NMS) with a graphical user interface, which simplifies NE management, improves O&M capabilities, and facilitates network-wide or end-to-end performance monitoring and fault diagnosis. - Plug-and-play based on DHCP or DCN. The NMS can automatically detect and configure the newly connected devices, which helps to implement remote batch commissioning. - Directional Forwarding Detection (BFD), Ethernet OAM MPLS OAM and MPLS-TP OAM - ITU-T Y.1731 - Bandwidth association with microwave devices is supported. Bandwidth association simplifies QoS configurations and requirements on the microwave device, and the complex QoS logic is implemented on the NetEngine 8000 device. - IP FPM - ITU-T Y.1564 - Seamless MPLS - Zero touch provisioning	
Synchronization	The Device supports complete clock synchronization solutions to provide precise frequency or time synchronization. The following clock features are used: - Physical-layer synchronization, including Ethernet clock synchronization - Network Time Protocol (NTP) 1588v2, which meets the LTE network's requirements for clock synchronization G8275.1	
Others	Energy conservation: Idle interfaces can be manually disabled.	

Product Specifications

Item	NetEngine 8000 M1A	NetEngine 8000 M1D
Dimensions (H x W x D)	44.45 mm x 442 mm x 220 mm (1.75in. x 17.40 in. x 8.66 in.)(1U)	44.45 mm x 442 mm x 220 mm (1.75in. x 17.40 in. x 8.66 in.)(1U)
Weight without packaging (full configuration)	- DC: 3.6 kg (7.94 lb) - AC: 4.45 kg (9.81 lb)	- DC: 4.2 kg (9.26 lb) - AC: 4.3 kg (9.48 lb)
Cabinet installation standard	ETSI(21-inch);IEC(19-inch); IMB(3U);F01M50 Outdoor Cabinet	ETSI(21-inch);IEC(19-inch); IMB(3U);F01M50 Outdoor Cabinet
Typical power consumption	- DC：74.8 W - AC：74.7 W	- DC：124.5 W (880G) - AC：145 W (880G)

Item	NetEngine 8000 M1A	NetEngine 8000 M1D
Typical heat dissipation	• DC: 242.81 BTU/hour • AC: 242.36 BTU/hour	• DC: 403.8 BTU/hour • AC: 470.4 BTU/hour
DC input voltage	• input voltage range: -38.4V to -72V • input rated voltage: -48V/-60V	• input voltage range: -40V to -72V • input rated voltage: -48V/-60V
AC input voltage	• input voltage range: 100V to 240V • input rated voltage: 110V/220V	• input voltage range: 100V to 240V • input rated voltage: 110V/220V
MTBF	35.99 years	40 years
MTTR	2 hours	2 hours
Availability	0.99999	0.99999
Redundant fans	3	3
Redundant power supply	• DC: Supports two power input redundancy backup • AC: N/A	• Redundant DC • Redundant AC
Switching capacity	352G bit/s	880 G bit/s
Long-term operating temperature	-40 °C to 65 °C (-40°F to 149°F)	-40 °C to 65 °C (-40°F to 149°F)
Short-term operating temperature	N/A	N/A
Restriction on the operating temperature variation rate	Restriction on the temperature variation rate: 30°C/hour (86°F/hour).	Restriction on the temperature variation rate: 30°C/hour (86°F/hour).
Storage temperature	-40 °C to 70 °C (-40°F to 158°F)	-40 °C to 70 °C (-40°F to 158°F)
Long-term operating relative humidity	5% to 95% RH, non-condensing	5% to 95% RH, non-condensing
Short-term operating relative humidity	5% to 95% RH, non-condensing	5% to 95% RH, non-condensing
Relative storage humidity	5% to 100% RH, non-condensing	5% to 100% RH, non-condensing
Long-term operating altitude	≤ 4000 m (13123.2 ft.) (For the altitude in the range of 1800 m to 4000 m [5905.44 ft. to 13123.2 ft.], the operating temperature of the device must decrease by 1°C [33.8°F] for every 220 m [721.78 ft.].)	≤ 4000 m (13123.2 ft.) (For the altitude in the range of 1800 m to 4000 m [5905.44 ft. to 13123.2 ft.], the operating temperature of the device must decrease by 1°C [33.8°F] for every 220 m [721.78 ft.].)
Storage altitude	Lower than 5000 meters(16404 ft.)	Lower than 5000 meters(16404 ft.)
Regulatory compliance	**EMC** • ANSI C63.4 • AS/NZS CISPR 32 • CISPR 24 • CISPR 32 • EN 55024 • EN 55032	

Item	NetEngine 8000 M1A	NetEngine 8000 M1D
	• ETSI EN 300 386	
	• FCC CFR47 Part 15 Subpart B	
	• ICES-003 Issue 6	
	• ICES-GEN Issue 1	
	• IEC 61000-3-2	
	• IEC 61000-3-3	
	• IEC 61000-4-11	
	• IEC 61000-4-2	
	• IEC 61000-4-29	
	• IEC 61000-4-3	
	• IEC 61000-4-4	
	• IEC 61000-4-5	
	• IEC 61000-4-6	
	• IEC 61000-6-1	
	• IEC 61000-6-3	
	• VCCI-CISPR 32	
	Environment	
	• ETSI EN 300 019-1-1	
	• ETSI EN 300 019-1-2	
	• ETSI EN 300 019-1-3	
	• ETSI EN 300753	
	• ETSI EN 300 019-2-1	
	• ETSI EN 300 019-2-2	
	• ETSI EN 300 019-2-3	
	• IEC 60068-2-1	
	• IEC 60068-2-2	
	• IEC 60068-2-14	
	• IEC 60068-2-30	
	• IEC 60068-2-64	
	• IEC 60068-2-27	
	• IEC 60068-2-6	
	• IEC 60068-2-31	
	• IEC 60068-2-78	
	• ISTA 2A	
	• ISO 7779	
	• GB/T 2423.26—2008	
	Safety	
	• IEC/EN/UL/CSA 60950-1	
	• IEC/EN 62368-1	

Item	NetEngine 8000 M1A	NetEngine 8000 M1D
	Environmental protection	
	• 2011/65/EU & (EU)2015/863 (EU RoHS)	
	• Regulation (EC) No.1907/2006 (REACH)	
	• 2012/19/EU (WEEE)	
	2006/66/EC & 2013/56/EU on batteries and accumulators	

📖 **NOTE**

- Regarding the physical dimensions provided in the table, the width (W) does not take mounting ears into account.
- Temperature and humidity are measured at 1.5 m (4.92 ft.) above the ground and 0.4 m (1.31 ft.) in front of the cabinet. There should be no protection board on the front or back of the cabinet.
- "Short-term" refers to continuous working time that does not exceed 96 hours and an accumulated working time per year that does not exceed 15 days. If the working time exceeds either of these values, it is considered "long-term".

For More Information

For more information about the NetEngine 8000 Series Routers, visit http://e.huawei.com or contact us in the following ways:

- Global service hotline: http://e.huawei.com/en/service-hotline
- Logging into the Huawei Enterprise technical support web: http://support.huawei.com/enterprise/
- Sending an email to the customer service mailbox: support_e@huawei.com

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