NetEngine 8000 M1C Service Router Datasheet

Overview

NetEngine 8000 M1C is a high-density compact router designed for the cloud era. It's featured with 1U height, 220 mm depth, and supports up to 172G port capacity. The compact design saves precious space resources. It supports flexible service access of 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 M1C Service Router

NetEngine 8000 M1C (DC)

NetEngine 8000 M1C (AC)

Product Features

Table 2-1 lists the features of Huawei NetEngine8000 M1C router.

Features of Huawei NetEngine8000 M1C Router

Features	Description
Interfaces	The NetEngine 8000 provides the following high-density user- and network-side interfaces to meet the deployment requirements of different services and scenarios: 16*XGE+8*GE(o)+4*GE(e)
L2	● IEEE802.1q, IEEE802.1p, IEEE 802.3ad, IEEE 802.1ab ● STP/RSTP/MSTP, EVC
L3	● OSPFv2/V3, RIPv2, IS-IS/IS-ISv6, BGPv4/BGPV4+, IPv4 ACL/Telnet, 6VPE and Static routing protocol ● Dynamic ARP , static ARP, VLANIF interface and VxLAN
MPLS	LDP, RSVP-TE, Segment Routing(SR) MPLS, L2VPN(VPLS, HVPLS, and VLL), L3VPN, and seamless MPLS
SRv6/EVPN	Segment Routing IPv6(SRv6), EVPN L3VPN, EVPN VPWS, EVPN VPLS
VAS	NAT/CGN、IPSec
Multicast	IGMP v1/v2/v3, IGMP Snooping, Static multicast routing, PIM-SM/SSM, MBGP, NG-MVPN
QoS	3 level H-QoS, CAR
ISIS	512K
OSPF	512K
IPv4 RIB	512K
IPv6 RIB	64K
IPv4 FIB	512K
IPv6 FIB	64K

Features	Description
MAC	256K
ACL	2048
IPSec	0.98Gbps (1400 Bytes)
Reliability	● IP FRR, LDP FRR, TE FRR, and VPN FRR ● TE-tunnel APS ● 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. ● AAA: Authentication, Authorization, and Accounting ● HWTACACS/TACACS+ ● SSH (Secure Shell) ● ACL/Layer 2 ACL/ACL6
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 ● SNMP (v1/v2c/v3) ● CLI ● NETCONF ● RMON
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

Features	Description
	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 M1C
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)
Weight without packaging (full configuration)	• DC: 3.8 kg (8.38 lb) • AC: 3.9 kg (8.60 lb)
Cabinet installation standard	ETSI(21-inch);IEC(19-inch); IMB(3U);F01M50 Outdoor Cabinet
Typical power consumption	• DC：88.98 W • AC：89.21 W
Typical heat dissipation	• DC: 288.68 BTU/hour • AC: 289.43 BTU/hour
DC input voltage	• input voltage range: -40V to -72V
AC input voltage	• input voltage range: 90V to 290V
MTBF	40 years
MTTR	2 hours
Availability	0.99999
Redundant fans	2
Redundant power supply	• DC: Supports two power input redundancy backup • AC: Supports two power input redundancy backup
Forwarding performance	78Mpps
Switching capacity	344G bit/s
Buffer size	740MB
Memory Size	8G
Long-term operating temperature	-40 °C to 65 °C (-40°F to 149°F)
Short-term operating temperature	N/A
Restriction on the operating temperature variation rate	Restriction on the temperature variation rate: 30°C/hour (86°F/hour).
Storage temperature	-40 °C to 70 °C (-40°F to 158°F)

Item	NetEngine 8000 M1C
Long-term operating relative humidity	5% to 95% RH, non-condensing
Short-term operating relative humidity	5% to 95% RH, non-condensing
Relative storage humidity	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.].)
Storage altitude	Lower than 5000 meters(16404 ft.)
Regulatory compliance	**EMC** • ANSI C63.4 • AS/NZS CISPR 32 • CISPR 24 • CISPR 32 • EN 55024 • EN 55032 • 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

Item	NetEngine 8000 M1C
	• 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 **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".

Ordering Information

Basic Hardware Configurations

NetEngine 8000 M1C Basic Configurations

BOM	Order Name	Description	Remarks
02354ARK	CR8PM1CBASC0	NetEngine 8000 M1C Basic Configuration (Includes M1C Chassis, Fixed Interface(4*10GE + 12*GE),2*DC Power,without Software and Document)	
02354ARL	CR8PM1CBASC1	NetEngine 8000 M1C Basic Configuration (Includes M1C Chassis, Fixed Interface(4*10GE + 12*GE),2*AC Power,without Software and Document)	
02354ARP	CR8PM1CBASC2	NetEngine 8000 M1C Basic Configuration (Includes M1C Chassis, Fixed Interface(6*10GE + 22*GE),2*DC Power,without Software and Document)	

BOM	Order Name	Description	Remarks
02354ARQ	CR8PM1CBASC3	NetEngine 8000 M1C Basic Configuration (Includes M1C Chassis, Fixed Interface(6*10GE + 22*GE),2*AC Power,without Software and Document)	
02354ART	CR8PM1CBASC4	NetEngine 8000 M1C Basic Configuration (Includes M1C Chassis, Fixed Interface(16*10GE + 12*GE),2*DC Power,without Software and Document)	
02354ARU	CR8PM1CBASC5	NetEngine 8000 M1C Basic Configuration (Includes M1C Chassis, Fixed Interface(16*10GE + 12*GE),2*AC Power,without Software and Document)	

Software Configuration

License

BOM	Order Name	Description	Remarks
88036AXW	N1-N8KM1AF-LIC	N1-NetEngine 8000 M1 Series Foundation SW License	
88035XEY	N1-N8KM1AA-LIC	N1-NetEngine 8000 M1 Series Advanced SW License	
88036AXV	N1-N8KM1AF2A-LIC	N1-NetEngine 8000 M1 Series Foundation to Advanced SW License	
88035XFA	N1-N8KM1ASRV6-LIC	N1-NetEngine 8000 M1 Series SRv6 Function License	
88035XFB	N1-N8KM1ACLK-LIC	N1-NetEngine 8000 M1 Series Time Synchronization Function License	
88035XFD	N1-N8KM1AIPS-LIC	N1-NetEngine 8000 M1 Series Time Synchronization Function License	
88036AYX	N1-N8KM1ASLI-LIC	N1-NetEngine 8000 M1 Series Port Slicing Function License	
88060SDB	N1-N8KM1AF-SNS1Y	N1-NetEngine 8000 M1 Series Foundation SW License SnS(1 year)	
88060SCW	N1-N8KM1AA-SNS1Y	N1-NetEngine 8000 M1 Series Advanced SW License SnS(1 year)	
88060UEV	N1-N8KM1AF2A-SNS1Y	N1-NetEngine 8000 M1 Series Foundation to Advanced SW License SnS(1 year)	
88060SCY	N1-N8KM1ASRV6-SNS1Y	N1-NetEngine 8000 M1 Series SRv6 Function	

BOM	Order Name	Description	Remarks
		License SnS(1 year)	
88060SDD	N1-N8KM1ACLK-SNS1Y	N1-NetEngine 8000 M1 Series Time Synchronization Function License SnS(1 year)	
88060SDH	N1-N8KM1AIPS-SNS1Y	N1-NetEngine 8000 M1 Series IPSec Function License SnS(1 year)	
88060UFY	N1-N8KM1ASLC-SYS1Y	N1-NetEngine 8000 M1 Series Port Slicing Function License SnS(1 year)	

Optical/Electrical Transceivers

155Mbps eSFP optical module

BOM Number	Order Name	Description	Remarks
S4015755	eSFP-FE-LX-SM1310	155Mbps-eSFP-SMF-1310nm-15km-commercial	
S4015715	eSFP-FE-LH40-SM1310	155Mbps-eSFP-SMF-1310nm-40km-commercial	
S4015716	eSFP-FE-LH80-SM1550	155Mbps-eSFP-SMF-1550nm-80km-commercial	

155Mbps eSFP BIDI optical module

BOM Number	Order Name	Description	Remarks
02310QNG	OSC015B01	155Mbps-eSFP-SM-1310nm-15km-commercial	
02310QNH	OSC015B02	155Mbps-eSFP-SM-1550nm-15km-commercial	

1Gbps electrical module

BOM Number	Order Name	Description	Remarks
02310VPT	OEGD01N02	1Gbps-SFP-100m-industry	

1.25Gbps eSFP optical module

BOM Number	Order Name	Description	Remarks
S4017307	OMGD50N02	1.25Gbps-eSFP-MMF-850nm-500m-extended	
S4016067	OSG010N05	1.25Gbps-eSFP-SMF-1310nm-10km-commercial	
S4016954	OSG040002	1.25Gbps-eSFP-SMF-1310nm-40km-commercial	
02310RAW	OSG080N01	1.25Gbps-eSFP-SMF-1550nm-80km-commercial	

1.25Gbps eSFP BIDI optical module

BOM Number	Order Name	Description	Remarks
34060470	SFP-GE-LX-SM1310-BIDI	1.25Gbps-eSFP-SMF-1310nm-10km-commercial	
34060475	SFP-GE-LX-SM1490-BIDI	1.25Gbps-eSFP-SMF-1490nm-10km-commercial	
34060540	OGEBIDI40	1.25Gbps-eSFP-SMF-1490nm-40km-commercial	
34060539	OGEBIDI41	1.25Gbps-eSFP-SMF-1310nm-40km-commercial	

10Gbps SFP+ optical module

BOM Number	Order Name	Description	Remarks
S4017482	OSX040N03	10Gbps-SFP+-MMF-850nm-0.3km-commercial	
S4017483	OSX001002	10Gbps-SFP+-SMF-1310nm-10km-commercial	
S4017484	OMXD30002	10Gbps-SFP+-SMF-1550nm-40km-commercial	
02310PVU	OSX080N04	10Gbps-SFP+-SMF-1550nm-80km-commercial	

1.25/9.953/10.3125Gbps SFP+ Optical Module

BOM Number	Order Name	Description	Remarks
34061042	OSX010N13	1.25/9.953/10.3125Gbps-SFP+-SMF-1310nm-10km-commercial	

10Gbps SFP+ BIDI optical module

BOM Number	Order Name	Description	Remarks
34060544-002	OSX010B10	10Gbps-SFP+-SMF-1270nm-10km-industry	
34060546-002	OSX010B11	10Gbps-SFP+-SMF-1330nm-10km-industry	

For More Information

For more information about the NetEngine 8000 M1C Series Routers, visit http://e.huawei.comor 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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