



NetEngine 8000 M1A Service Router Datasheet



Overview

NetEngine 8000 M1A is a high-density compact router designed for the cloud era. It's featured with 1U height, 220 mm depth, and supports up to 176G 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 M1A Service Router](#)



NetEngine 8000 M1A (DC)

NetEngine 8000 M1A (AC)

Product Features

Table 2-1 lists the features of Huawei NetEngine8000 M1A router.

Features of Huawei NetEngine8000 M1A 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+12*GE(o)+4*GE(e)
L2	<ul style="list-style-type: none"> IEEE802.1q, IEEE802.1p, IEEE 802.3ad, IEEE 802.1ab STP/RSTP/MSTP, EVC
L3	<ul style="list-style-type: none"> 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、MPLS-TP
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

Features	Description
IPv6 FIB	64K
MAC	256K
ACL	2048
IPSec	0.98Gbps (1400 Bytes)
Reliability	<ul style="list-style-type: none"> ● IP FRR, LDP FRR, TE FRR, and VPN FRR ● TE-tunnel APS ● PW redundancy protection and PW APS ● Bit error-triggered protection switching
Security	<ul style="list-style-type: none"> ● 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	<ul style="list-style-type: none"> ● 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

Features	Description
	<p>synchronization. The following clock features are used:</p> <ul style="list-style-type: none"> ● 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
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)	<ul style="list-style-type: none"> ● DC: 3.85 kg (8.49 lb) ● AC: 4.45 kg (9.81 lb)
Cabinet installation standard	ETSI(21-inch);IEC(19-inch); IMB(3U);F01M50 Outdoor Cabinet
Typical power consumption	<ul style="list-style-type: none"> ● DC: 78.84 W ● AC: 74.7 W
Typical heat dissipation	<ul style="list-style-type: none"> ● DC: 242.81 BTU/hour ● AC: 242.36 BTU/hour
DC input voltage	<ul style="list-style-type: none"> ● input voltage range: -38.4V to -72V ● input rated voltage: -48V/-60V
AC input voltage	<ul style="list-style-type: none"> ● input voltage range: 100V to 240V ● input rated voltage: 110V/220V
MTBF	35.99 years
MTTR	2 hours
Availability	0.99999
Redundant fans	3
Redundant power supply	<ul style="list-style-type: none"> ● DC: Supports two power input redundancy backup ● AC: N/A
Forwarding performance	72Mpps
Switching capacity	352G bit/s
Buffer size	740MB
Memory Size	4G
Long-term operating temperature	-40 °C to 65 °C (-40°F to 149°F)

Item	NetEngine 8000 M1A
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)
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	<p data-bbox="651 719 711 745">EMC</p> <ul data-bbox="651 768 1043 1688" style="list-style-type: none"> <li data-bbox="651 768 839 795">• ANSI C63.4 <li data-bbox="651 808 912 835">• AS/NZS CISPR 32 <li data-bbox="651 848 820 875">• CISPR 24 <li data-bbox="651 889 820 916">• CISPR 32 <li data-bbox="651 929 820 956">• EN 55024 <li data-bbox="651 969 820 996">• EN 55032 <li data-bbox="651 1010 900 1037">• ETSI EN 300 386 <li data-bbox="651 1050 1043 1077">• FCC CFR47 Part 15 Subpart B <li data-bbox="651 1090 900 1117">• ICES-003 Issue 6 <li data-bbox="651 1131 912 1158">• ICES-GEN Issue 1 <li data-bbox="651 1171 868 1198">• IEC 61000-3-2 <li data-bbox="651 1211 868 1238">• IEC 61000-3-3 <li data-bbox="651 1252 880 1279">• IEC 61000-4-11 <li data-bbox="651 1292 868 1319">• IEC 61000-4-2 <li data-bbox="651 1332 884 1359">• IEC 61000-4-29 <li data-bbox="651 1373 868 1400">• IEC 61000-4-3 <li data-bbox="651 1413 868 1440">• IEC 61000-4-4 <li data-bbox="651 1453 868 1480">• IEC 61000-4-5 <li data-bbox="651 1494 868 1520">• IEC 61000-4-6 <li data-bbox="651 1534 868 1561">• IEC 61000-6-1 <li data-bbox="651 1574 868 1601">• IEC 61000-6-3 <li data-bbox="651 1615 884 1641">• VCCI-CISPR 32 <p data-bbox="651 1709 794 1736">Environment</p> <ul data-bbox="651 1758 944 2058" style="list-style-type: none"> <li data-bbox="651 1758 944 1785">• ETSI EN 300 019-1-1 <li data-bbox="651 1798 944 1825">• ETSI EN 300 019-1-2 <li data-bbox="651 1839 944 1865">• ETSI EN 300 019-1-3 <li data-bbox="651 1879 900 1906">• ETSI EN 300753 <li data-bbox="651 1919 944 1946">• ETSI EN 300 019-2-1 <li data-bbox="651 1960 944 1986">• ETSI EN 300 019-2-2

Item	NetEngine 8000 M1A
	<ul style="list-style-type: none"> • 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 <p>Safety</p> <ul style="list-style-type: none"> • IEC/EN/UL/CSA 60950-1 • IEC/EN 62368-1 <p>Environmental protection</p> <ul style="list-style-type: none"> • 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 M1A Basic Configurations

BOM	Order Name	Description	Remarks
02353DAF	CR8PM1ABASC0	NetEngine 8000 M1A Basic Configuration (Includes M1A Chassis, 1*IPU,Fixed Interface(4*10GE + 12*GE),2*DC Power,without Software and Document)	

BOM	Order Name	Description	Remarks
02353DAG	CR8PM1ABASC1	NetEngine 8000 M1A Basic Configuration (Includes M1A Chassis,1*IPU, Fixed Interface(4*10GE+12*GE),1*AC Power,without Software and Document)	
02353DAH	CR8PM1ABASC2	NetEngine 8000 M1A Basic Configuration(Includes M1A Chassis,1*IPU, Fixed Interface(6*10GE+26*GE),2*DC Power,without Software and Document)	
02353EGG	CR8PM1ABASC4	NetEngine 8000 M1A Basic Configuration(Includes M1A Chassis, 1*IPU,Fixed Interface(6*10GE+26*GE),1*AC Power,without Software and Document)	
02353JWJ	CR8PM1ABASC6	NetEngine 8000 M1A Basic Configuration(Includes M1A Chassis,1*IPU, Fixed Interface(16*10GE+16*GE),2*DC Power,without Software and Document)	
02353JVU	CR8PM1ABASC8	NetEngine 8000 M1A Basic Configuration(Includes M1A Chassis, 1*IPU,Fixed Interface(16*10GE+16*GE),1*AC Power,without Software and Document)	
88036KAT	CR8SM1U086C0	NetEngine 8000 M1A basic configuration upgrade package (upgrade from 52G to 86G)	
88036KAW	CR8SM1U176C0	NetEngine 8000 M1A basic configuration upgrade package (upgrade from 86G to 176G)	

Software Configuration

License

BOM	Order Name	Description	Remarks
88036AXW	N1-N8KM1AF-LIC	NetEngine 8000 M1A Foundation SW License	
88035XEY	N1-N8KM1AA-LIC	NetEngine 8000 M1A Advance SW License	
88036AXV	N1-N8KM1AF2A-LIC	NetEngine 8000 M1A Foundation to Advance SW License	
88035XFA	N1-N8KM1ASRV6-LIC	NetEngine 8000 M1A SRv6 Function License	
88035XFB	N1-N8KM1ACLK-LIC	NetEngine 8000 M1A Time Synchronization Function License	
88035XFD	N1-N8KM1AIPS-LIC	NetEngine 8000 M1A IPSec Function License	
88036AYX	N1-N8KM1ASLI-LIC	N1-NetEngine 8000 M1 Series Port Slicing Function License	
88060SDB	N1-N8KM1AF-SNS1Y	NetEngine 8000 M1A Foundation SW License	

BOM	Order Name	Description	Remarks
		SnS(1 year)	
88060SCW	N1-N8KM1AA-SNS1Y	NetEngine 8000 M1A Advance SW License SnS(1 year)	
88060UEV	N1-N8KM1AF2A-SNS1Y	NetEngine 8000 M1A Foundation to Advance SW License SnS(1 year)	
88060SCY	N1-N8KM1ASRV6-SNS1Y	NetEngine 8000 M1A SRv6 Function License SnS(1 year)	
88060SDD	N1-N8KM1ACLK-SNS1Y	NetEngine 8000 M1A Time Synchronization Function License SnS(1 year)	
88060SDH	N1-N8KM1AIPS-SNS1Y	NetEngine 8000 M1A IPSec Function License SnS(1 year)	
88060UFY	N1-N8KM1ASLC-SYS1Y	N1-NetEngine 8000 M1 Series Port Slicing Function License SnS(1 year)	

Documents

Documents for NetEngine 8000 M1A

BOM	Order Name	Description	Remarks
31180BNE	CR8I8CDOCE00	HUAWEI NetEngine 8000 M1 Series Router Product Documentation	

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	OGE BIDI40	1.25Gbps-eSFP-SMF-1490nm-40km-commercial	
34060539	OGE BIDI41	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	

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

For More Information


For more information about the NetEngine 8000 M1A 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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