

NetEngine 8000 M1D-B Universal Service Router Datasheet

Overview

NetEngine 8000 M1D-B is a cost-effective 10GE access 50GE uplink access router. 1U, 220 mm deep, small size, large capacity, and up to 184G, flexible adaptation to different services, 50GE/25GE/10GE/GE ports, and compact design, saving precious space resources and greatly reducing the Capex. It supports features such as SRv6/EVPN, FlexE, and 1588v2 high-precision clock.

The product fully supports the future-oriented next-generation unified network SRv6 technology and can be used to build IP backbone, metro, mobile backhaul, and data center networks. It can be used for individual/enterprise cloud migration, inter-cloud interconnection, IoT, government and enterprise private lines, home broadband applications, and CDN. As a basic bearer protocol of the entire network, SRv6 implements end-to-end full-service bearer capabilities. SRv6 enables simplified protocols, large-scale networking, seamless integration, high reliability, integrated service chains, network and service programmability, and a full ecosystem.

The NetEngine 8000 series router integrates multiple functions, simplifies the network structure, provides rich service types, reliable service quality, and intelligent O&M. It leads the IP WAN to an intelligent network with self-driving driving, and continuously drives the business success of enterprise customers.



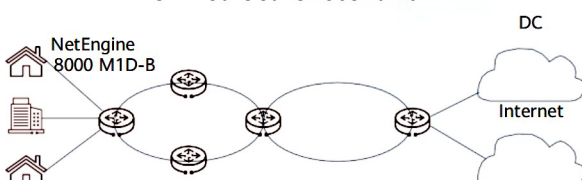
NetEngine 8000 M1D-B service router DC



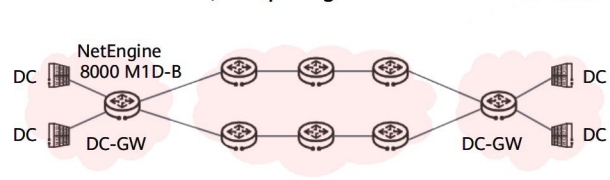
NetEngine 8000 M1D-B service router AC

Application Scenario

Unified bearer scenario



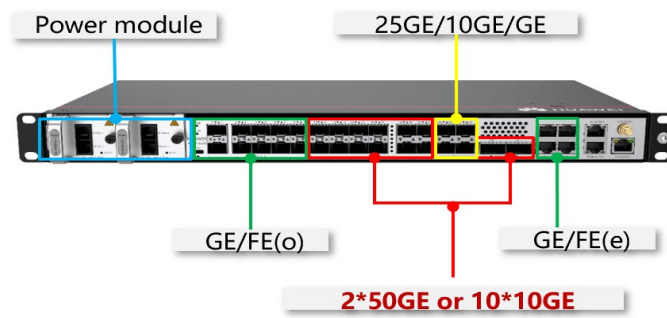
DC/Campus egress



Product Features

Features	Description
Interface type	50E/25GE/10GE/GE/FE
Typical port density	50GE:2; 25GE:2; 10GE:16; GE:26; electrical port: 4
L2 function	IEEE 802.1q, IEEE 802.1p, IEEE 802.3ad, IEEE 802.1ab, and STP/RSTP/MSTP
L3 function	OSPF, OSPFv3, RIP, RIPng, IS-IS, BGP, BGP4+, ACL, 6vPE, ARP, VLANIF, VXLAN, EVPN
IPv4	Tracert, NQA, IP policy-based routing, specified next hop forwarding based on flows, IP policy-based routing load balancing, QinQ interfaces (QinQ and dot1q tag termination sub-interfaces), IPv4 load balancing, and enabling/disabling the ping fast reply function based on the interface board Egress of an MPLS in UDP tunnel
IPv6	IPv6 (ND), Path MTU (PMTU), TCP6, ping IPv6, tracert IPv6, socket IPv6, DHCPv6 relay, static IPv6 DNS, TFTP IPv6 client, IPv6 policy routing, and IPv6 ND fast reply
MPLS	LDP, RSVP-TE, Segment Routing MPLS, and seamless MPLS
Multicast	IGMP, static multicast routing, PIM-SM/SSM, NG MVPN, BIER, and BIERv6
SRv6	IS-IS for SRv6, OSPFv3 for SRv6, SRv6 TE Policy, SRv6 TE Policy Shortcut, SRv6 Flex-Algo, SRv6 SRH compression, SRv6 network slicing BGP for SRv6, SRv6 BE, SBFD for SRv6 BE, SRv6 TI-LFA FRR, SRv6 middle-node protection, SRv6 micro-loop avoidance, SRv6 OAM, SRv6 SFC, G-SRv6
EVPN	EVPN L3VPN, EVPN VPWS, and EVPN VPLS
L2VPN	PWE3/VLL, VPLS, VXLAN, VPWS, L2TPv3, BGP/MPLS IPv4/IPv6 VPN, PBB-EVPN, PBB VPLS, GRE
L3VPN	CE routers can access the L3VPN through L3 interfaces. Support static routes between CE and PE, BGP, RIPv1/v2, OSPF and IS-IS Inter-AS VPN, including RFC2547bis option A Inter-AS VPN, including RFC2547bis option B Inter-AS VPN, including RFC2547bis option C NG MVPN IPv6 VPN HoVPN Seamless MPLS BGP LSP entropy label Redirect to VPN L3VPN PIPE/Uniform mode L3VPN statistics
Value added service	IPsec, data redundancy elimination
Clock	1588v2, 1588 ATR, 1588 ACR
QoS	QPPB, DiffServ, HQoS, and redirection
Reliability	IP FRR, LDP FRR, TE FRR, VPN FRR, BGP FRR, mLDP FRR
OAM	IFIT, IP FPM, NQA, TWAMP, BFD, MPLS OAM, MPLS-TP OAM, VRRP, Ethernet OAM, 802.3ah, Y.1731, Ethernet LPT, and bit error-triggered switching

Product Specifications



NetEngine 8000 M1D-B AC

Specifications	Description
Cabinet installation standards	ETSI (21-inch); IEC (19-inch); IMB (3U); F01M50 outdoor cabinet
Dimensions without packaging (H x W x D) [mm(in.)]	44.5 mm x 442 mm x 220 mm (1.75 in. x 17.4 in. x 8.66 in.)
Dimensions with packaging (H x W x D) [mm(in.)]	255 mm x 585 mm x 390 mm (10.04 in. x 23.03 in. x 15.35 in.)
Chassis height [U]	1 U
Weight without packaging [kg(lb)]	4.4 kg (9.70 lb)
Weight with packaging [kg(lb)]	6.7 kg (14.77 lb)
Typical power consumption (with configuration) [W]	108.7 W
Typical heat dissipation (with configuration) [BTU/hour]	352.6 BTU/hour
MTBF [year]	45.32 years
MTTR [hour]	2 hours
Availability	0.99999
CPU	8-core 1.5 GHz
SDRAM	4 GB x 1
Flash memory	64 MB
Storage	8 GB

Specifications	Description
Power supply mode	AC/HVDC
Rated input voltage [V]	200 V–240 V/100 V–127 V dual-live wire, supporting 240 V HVDC
Input voltage range [V]	100 V to 240 V
Maximum input current [A]	4 A
Maximum input cable size [mm ²]	Standard C13 cable
Front-end circuit breaker/fuse [A]	≥ 4 A
Heat dissipation mode	Air cooling
Airflow direction	From left to right
Noise at normal temperature (acoustic power) [dB(A)]	55 dB(A)
Switching capacity	368 Gbit/s (Bidirectional)
Redundant power supply	1+1
Redundant fans	Three built-in fans. If one fan fails, the system can run at a maximum ambient temperature of 50° C for a short period of time.
Long-term operating temperature [°C(°F)]	–40°C to +65°C (–40°F to +149°F)
Restriction on the operating temperature variation rate [°C(°F)]	≤ 0.5° C/min (32.9° F/min), non-condensing
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158 °F)
Long-term operating relative humidity [RH]	5% to 95% RH, non-condensing
Storage relative humidity [RH]	5% to 100% RH, non-condensing
Long-term operating altitude [m(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 [1.8°F] for every 220 m [721.78 ft.]
Storage altitude [m(ft.)]	< 5000 m (16404 ft.)
Maximum number of supported ports	50GE: 2, 25GE: 2, 10GE: 16, GE:26 (optical) + 4 (electrical)
MACsec	Ports 22 to 27

Specifications	Description
Port slicing	Ports 26 and 27

NetEngine 8000 M1D-B DC

Specifications	Description
Cabinet installation standards	ETSI (21-inch); IEC (19-inch); IMB (3U); F01M50 outdoor cabinet
Dimensions without packaging (H x W x D) [mm(in.)]	44.5 mm x 442 mm x 220 mm (1.75 in. x 17.4 in. x 8.66 in.)
Dimensions with packaging (H x W x D) [mm(in.)]	255 mm x 585 mm x 390 mm (10.04 in. x 23.03 in. x 15.35 in.)
Chassis height [U]	1 U
Weight without packaging [kg(lb)]	4.3 kg (9.48 lb)
Weight with packaging [kg(lb)]	6.6 kg (14.55 lb)
Typical power consumption (with configuration) [W]	107.2 W
Typical heat dissipation (with configuration) [BTU/hour]	347.9 BTU/hour
MTBF [year]	45.32 years
MTTR [hour]	2 hours
Availability	0.99999
CPU	8-core 1.5 GHz
SDRAM	4 GB x 1
Flash memory	64 MB
Storage	8 GB
Power supply mode	DC
Rated input voltage [V]	-48 V/-60 V
Input voltage range [V]	-40 V to -72 V
Maximum input current [A]	10 A
Maximum input cable size [mm ²]	4 mm ²
Front-end circuit breaker/fuse [A]	≥6 A

Specifications	Description
Heat dissipation mode	Air cooling
Airflow direction	From left to right
Noise at normal temperature (acoustic power) [dB(A)]	55 dB(A)
Switching capacity	368 Gbit/s (Bidirectional)
Redundant power supply	1+1
Redundant fans	Three built-in fans. If one fan fails, the system can run at a maximum ambient temperature of 50° C for a short period of time.
Long-term operating temperature [°C(°F)]	–40°C to +65°C (–40°F to +149°F)
Restriction on the operating temperature variation rate [°C(°F)]	≤ 0.5° C/min (32.9° F/min), non-condensing
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158 °F)
Long-term operating relative humidity [RH]	5% to 95% RH, non-condensing
Storage relative humidity [RH]	5% to 100% RH, non-condensing
Long-term operating altitude [m(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 [1.8°F] for every 220 m [721.78 ft.])
Storage altitude [m(ft.)]	< 5000 m (16404 ft.)
Maximum number of supported ports	50GE: 2, 25GE: 2, 10GE: 16, GE:26 (optical) + 4 (electrical)
MACsec	Ports 22 to 27
Port slicing	Ports 26 and 27

Flexible Port Modes

NetEngine 8000 M1D-B support four port bandwidth allocation modes: eth-2x50ge-2x25ge-2x10gf-14xgf-mode, eth-2x50ge-6x10gf-14xgf-mode, eth-2x25ge-12x10gf-14xgf-mode and eth-16x10gf-14xgf-mode. By default, the port bandwidth allocation mode is eth-2x50ge-2x25ge-2x10gf-14xgf-mode.

You can run the **set service-mode card-bandwidth-mode** command to change the interface bandwidth mode. For details, see "Commands Reference" in Reference.

X: Can't be used

50GE Optical interface

25G/10GE/GE/FE Optical interface

10GE/GE/FE Optical interface

GE/FE Optical interface

GE/FE Electrical interface

eth-2x50ge-2x25ge-2x10gf-14xgf-mode

1	3	5	7	9	11	13	15	17	19	21	23	25			29	31
GE	GE	GE	GE	GE	X	X	X	X	X	10GE/GE	X	25GE/10GE/GE			GE	GE
GE	GE	GE	GE	GE	X	X	X	X	X	10GE/GE	X	25GE/10GE/GE	50GE	50GE	GE	GE
0	2	4	6	8	10	12	14	16	18	20	22	24	26	27	28	30

eth-2x50ge-6x10gf-14xgf-mode

1	3	5	7	9	11	13	15	17	19	21	23	25			29	31
GE	GE	GE	GE	GE	X	X	X	X	X	10GE/GE	10GE/GE	10GE/GE			GE	GE
GE	GE	GE	GE	GE	X	X	X	X	X	10GE/GE	10GE/GE	10GE/GE	50GE	50GE	GE	GE
0	2	4	6	8	10	12	14	16	18	20	22	24	26	27	28	30

eth-2x25ge-12x10gf-14xgf-mode

1	3	5	7	9	11	13	15	17	19	21	23	25			29	31
GE	GE	GE	GE	GE	10GE/GE	10GE/GE	10GE/GE	10GE/GE	10GE/GE	10GE/GE	X	25GE/10GE/GE			GE	GE
GE	GE	GE	GE	GE	10GE/GE	10GE/GE	10GE/GE	10GE/GE	10GE/GE	10GE/GE	X	25GE/10GE/GE	X	X	GE	GE
0	2	4	6	8	10	12	14	16	18	20	22	24	26	27	28	30

eth-16x10gf-14xgf-mode

1	3	5	7	9	11	13	15	17	19	21	23	25			29	31
GE	GE	GE	GE	GE	10GE/GE	10GE/GE	10GE/GE	10GE/GE	10GE/GE	10GE/GE	10GE/GE	10GE/GE			GE	GE
GE	GE	GE	GE	GE	10GE/GE	10GE/GE	10GE/GE	10GE/GE	10GE/GE	10GE/GE	10GE/GE	10GE/GE	X	X	GE	GE
0	2	4	6	8	10	12	14	16	18	20	22	24	26	27	28	30

Port	Quantity
50GE	2
25GE	2
10GE	16
GE	26 optical; 4 electrical

Port	MACsec Port
50GE	Port 26, 27
25GE/10GE/GE	Port 24, 25
10GE/GE	Port 22, 23

Software Upgrade Paths

Visit [Software Upgrade Paths](#) or contact local Huawei engineers for more detailed information.

For More Information


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

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

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