



# Huawei CloudEngine 8800 Switch Datasheet

Huawei CloudEngine 8800 series switches provide high-density 100GE/40GE/25GE/10GE ports and high performance.

## Product Overview

Huawei CloudEngine 8800 series switches are 100G Ethernet switches designed for data centers and high-end campus networks. The switches provide high-performance, high-density 100GE/40GE/25GE/10GE ports, and low latency. Using the Huawei VRP8 software platform, CloudEngine 8800 series switches provide extensive data center service features and high stacking capability. In addition, the airflow direction (front-to-back or back-to-front) can be changed. CloudEngine 8800 series switches can work with CloudEngine 16800/CloudEngine 12800/CloudEngine 8800/CloudEngine 6800/CloudEngine 5800 switches to build an elastic, virtualized, high-quality fabric that meets the requirements of cloud-computing data centers.

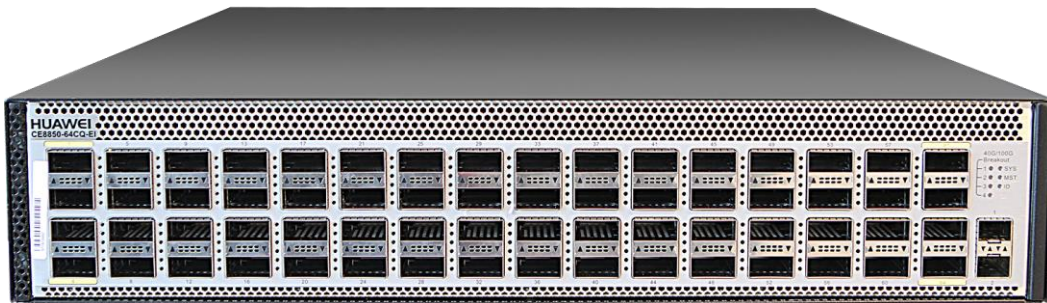
CloudEngine 8800 series switches can function as core or aggregation switches on data center networks to help enterprises and carriers build a scalable data center network platform in the cloud computing era. They can also be used as aggregation or core switches for enterprise campus networks.

## Product Appearance

CloudEngine 8850-32CQ-EI provides 32\*100GE QSFP28 ports and 2\*10GE SFP+ ports.



CloudEngine 8850-64CQ-EI provides 64\*100GE QSFP28 ports.

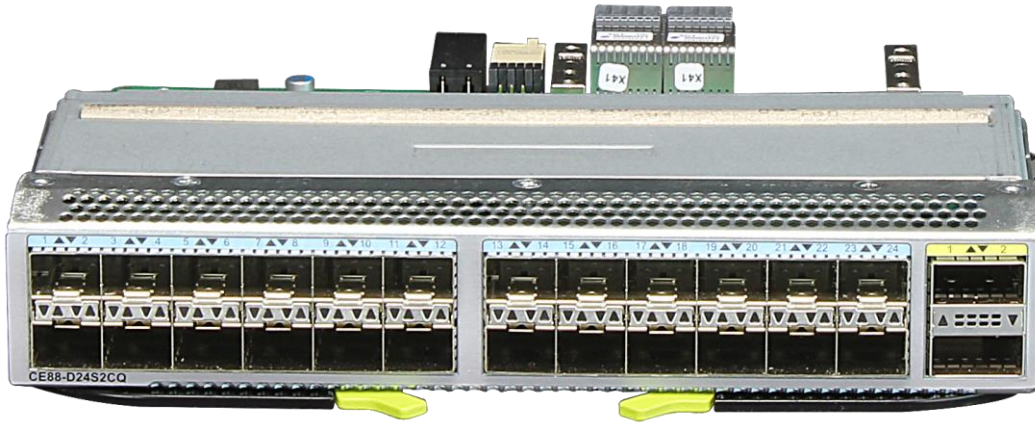


CloudEngine 8861-4C-EI supports four flexible cards of half the standard width.

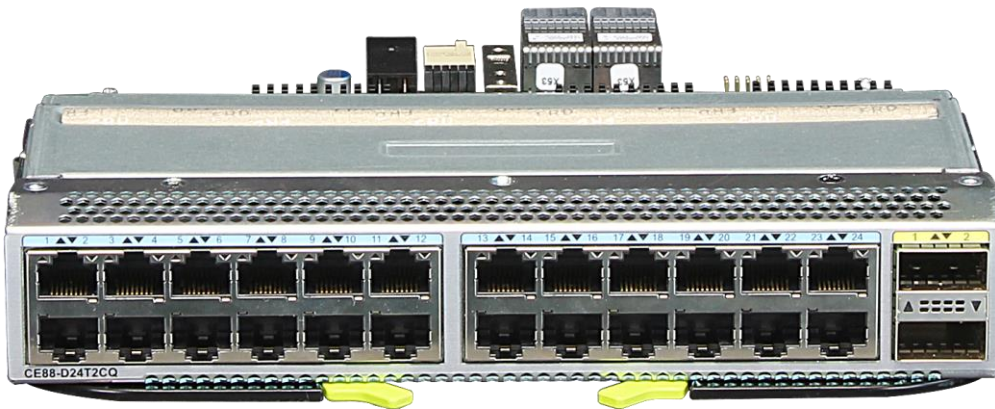


The CloudEngine 8800 series switches support the following models of cards.

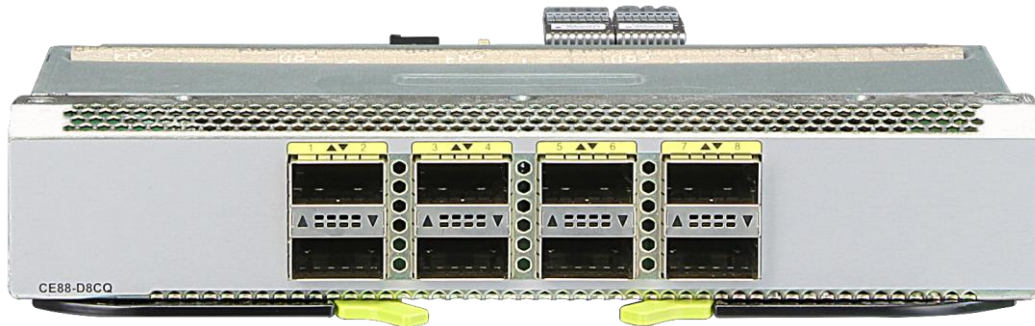
CE88-D24S2CQ card: 24\*10GE/25GE (SFP28) and 2\*100GE (QSFP28)



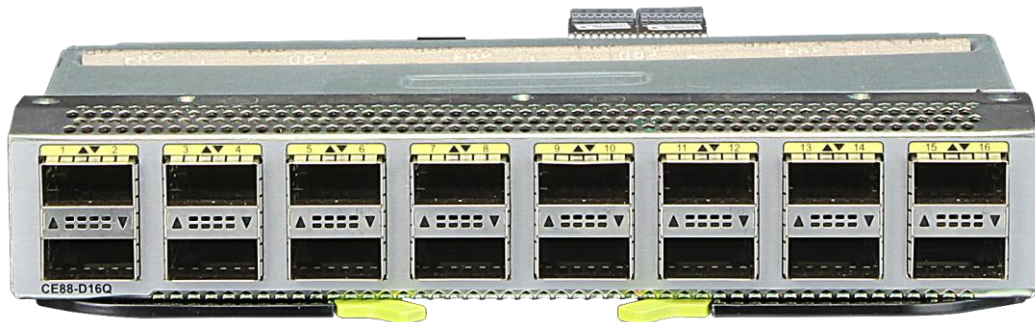
CE88-D24T2CQ card:24\*10GE (BASE-T) and 2\*100GE (QSFP28)



CE88-D8CQ card: 8\*100GE (QSFP28)



CE88-D16Q card: 16\*40GE (QSFP+)



# Product Characteristics

## 25GE Access Switch with Flexible Cards

- CloudEngine 8861 supports 25GE (SFP28)/10GE (SFP+) auto-sensing interfaces and is applicable to scenarios of high-density 25GE/10GE server access.
- CloudEngine 8861 supports a maximum of 32\*100GE, 64\*40GE, or 128\*25GE/10GE ports, delivering high-density access and aggregation capabilities through flexible card combinations.
- CloudEngine 8850 supports a maximum of 64\*100GE, 64\*40GE, 128\*25GE, or 128\*10GE ports, delivering high density access and aggregation capabilities.

## High-Density 100GE/40GE Aggregation and Outstanding Switching Capacity

- The CloudEngine 8850-64CQ-EI provides 12.8 Tbps switching capacity, forwarding performance of 4,482 Mpps, and supports L2/L3 line-speed forwarding.
- The CloudEngine 8850-64CQ-EI provides a maximum of 64\*100GE QSFP28 or 64\*40GE QSFP+ ports, and can function as the core or aggregation switch on a data center or campus network.
- The 100GE QSFP28 port supports 100GE optical modules. One 100GE port can be used as four 25GE SFP28 ports. The 100GE QSFP28 port also supports 40GE QSFP+ optical modules. 40GE ports can be converted to 10GE ports through QSFP+ breakout cable.
- The CloudEngine 8861 supports 100GE/40GE/25GE/10GE flexible cards, delivering flexible networking capability. It can work with CE12800/CE6800/CE5800 series data center switches to build a non-blocking network platform.

## Network-Wide Reliability, Ensuring Zero Service Interruptions

- The CloudEngine 8800 series switches support multichassis link aggregation group (M-LAG), which enables links of multiple switches to aggregate into one to implement device-level link backup.
- Switches in an M-LAG system can be upgraded independently. During the upgrade, other switches in the system take over traffic forwarding to ensure uninterrupted services.
- With the comprehensive inter-device link aggregation technology, the device networking coupling relationship evolves from stacking at the control plane to the use of M-LAG and then finally to coupling-free M-LAG Lite. This achieves active-active server access and high reliability during switch upgrade.

## Programmable Network Device, Flexible Customization

- The CloudEngine 8800 series switches use the Open Programmability System (OPS) embedded in the VRP8 software platform to provide programmability at the control plane.
- The OPS provides open APIs. APIs can be integrated with mainstream cloud platforms (including commercial and open cloud platforms) and third-party controllers. The OPS enables services to be flexibly customized and provides automatic management.
- Users or third-party developers can use open APIs to develop and deploy specialized network management policies to implement extension of fast service functions, automatic deployment, and intelligent management. The OPS also implements automatic operation and maintenance, and reduces management costs.
- The OPS provides seamless integration of data center service and network in addition to a service-oriented, software-defined networking (SDN).

## Virtualized Gateway Achieves Fast Service Deployment

- The CloudEngine 8800 series switches can work with a mainstream virtualization platform. As the high performance, hardware gateway of an overlay network (VXLAN), the CloudEngine 8800 series switches can support more than 16 million tenants.
- The CloudEngine 8800 series switches can connect to a cloud platform through an open API to provide unified management of software and hardware networks.
- This function implements fast service deployment without changing the customer network. It also protects customer investments.

## Standard Interfaces, Enabling Openness and Interoperability

- CloudEngine 8800 series support NETCONF and can work with Huawei iMaster NCE-Fabric.
- CloudEngine 8800 series support Ansible-based automatic configuration and open-source module release, expanding network functions and simplifying device management and maintenance.
- CloudEngine 8800 series can be integrated into mainstream SDN and cloud computing platforms flexibly and quickly.

## ZTP, Implementing Automatic O&M

- The CloudEngine 8800 series switches support Zero Touch Provisioning (ZTP). ZTP enables the CloudEngine 8800 to automatically obtain and load version files from a USB flash drive or file server, freeing network engineers from onsite configuration or deployment. ZTP reduces labor costs and improves device deployment efficiency.
- ZTP provides built-in scripts for users through open APIs. Data center personnel can use the programming language they are familiar with, such as Python, to provide unified configuration of network devices.
- ZTP decouples configuration time of new devices from device quantity and area distribution, which improves service provisioning efficiency.

## Intelligent Lossless DCN, Improving Reliability of High-Performance Computing

- In a distributed system, RoCE technology becomes the mainstream. To ensure the throughput and meet strict requirements on packet loss, Huawei ultra-fast Ethernet provides forwarding capabilities with high throughput, high reliability, and low latency for the distributed system, which is 25% lower than the average latency in the industry.
- The CloudEngine 8861-4C-EI/8850-64CQ-EI switches support Virtual Input Queue (VIQ) technology. It uses Huawei customized algorithm to customize virtual queues based on services, implementing refined management. It pre-determines uplink and downlink queue congestion to eliminate packet loss.
- The CloudEngine 8861-4C-EI/8850-64CQ-EI switches use fast CNP and dynamic ECN to pre-determine network congestion and provide fast feedback, reducing retransmission and throughput decrease caused by packet loss on a network. This keeps a low queue delay while ensuring the throughput.
- The CloudEngine 8861-4C-EI/8850-64CQ-EI switches provide dynamic load balancing (DLB) based on the ECMP group or LAG.
- The CloudEngine 8861-4C-EI/8850-64CQ-EI switches support analyzing RoCE flow KPIs, including the flow path, RTT, throughput, packet loss rate, abnormal sessions, and top sessions, and display the RoCE network topology of each node and ECN thresholds of Huawei AI Fabric. In this way, more proper network parameters can be configured and network faults can be quickly located, improving configuration and O&M efficiency.
- The CloudEngine 8850-64CQ-EI switches support Integrated Network and Computing (INC), improving the computing efficiency in the HPC small-sized packet scenario

## FabricInsight-based Intelligent O&M

- The CloudEngine 8800 provides telemetry technology to collect device data in real time and send the data to Huawei data center network analyzer iMaster NCE-FabricInsight. The iMaster NCE-FabricInsight analyzes network data based on the intelligent fault identification algorithm, accurately displays the real-time network status, effectively demarcates and locates faults in a timely manner, and identifies network problems that affect user experience, accurately guaranteeing user experience.

## iMaster NCE-based Simplified Network Deployment

- CloudEngine 8800 series switches can interconnect with iMaster NCE-Fabric through standard protocols such as NetConf and SNMP to implement network automatic management and control, providing more efficient and intelligent operation methods, simplifying network management, and reducing the OPEX.

## Flexible Airflow Design, High Energy Efficiency

Flexible front-to-back/back-to-front airflow design

- The CloudEngine 8800 series switches use a front-to-back/back-to-front airflow design that isolates cold air channels from hot air channels. This design meets heat dissipation requirements in data center equipment rooms.
- Air can flow from front to back or back to front depending on the fans and power modules that are used.
- Redundant power modules and fans can be configured to ensure service continuity.

Innovative energy-saving technologies

- The CloudEngine 8800 series switches have energy-saving chips and can measure system power consumption in real time. Fan speed can be adjusted dynamically based on system consumption. These energy-saving technologies reduce O&M costs and contribute to a greener data center.

## Clear Indicators, Simplifying Maintenance

### Clear indicators

- Port indicators clearly show the port status and port rate. The 40GE port indicators can show the states of all ports derived from the 40GE ports.
- State and stack indicators on both the front and rear panels enable users to maintain the switch from either side.
- The CloudEngine 8800 series switches support remote positioning. Operators can turn on remote positioning indicators on the switches they want to maintain, so that they can find switches easily in an equipment room full of devices.

### Simple maintenance

- The management port, fans, and power modules are on the front panel, which facilitates device maintenance.
- Data ports are located at the rear, facing servers. This simplifies cabling.

## Licensing

CloudEngine 8800 supports both the traditional feature based licensing mode and the latest Huawei IDN One Software (N1 Huawei IDN One Software (N1 mode for short) licensing mode. The CloudFabric N1 business model combines the NCE controller, analyzer, and CloudEngine switch software for use in a range of common scenarios. This simplifies transactions, provides customers with more functions and value, and protects their software investment with Software License Portability.

Product	Feature	N1 Mandatory Software Packages			N1 Add on Software Packages		
CloudEngine 8800 series switch		Foundation	Advanced	Premium	AI Fabric Function Package	AI Fabric for the HPC Scenarios	Multi-cloud Multi-DC
	Basic software	√	√	√			
	IPv6	√	√	√			
	VXLAN	√	√	√			
	Lossless upgrade	√	√	√			
	Telemetry	√	√	√			
	PTP	√	√	√			
	MPLS		√	√			
	LLETH				√		
	INC					√	
iMaster NCE-Fabric controller	SDN automation	√	√	√			
	Basic intent functions (simulation and verification, and network-wide configuration rollback)			√			
	Multi-cloud multi-DC						√

Product	Feature	N1 Mandatory Software Packages			N1 Add on Software Packages		
	function						
iMaster NCE-FabricInsight analyzer	Basic network analysis functions of telemetry	√	√	√			
	Network health ("1-3-5" intelligent O&M)		√	√			
	Value-added functions for network traffic analysis (managing 100 VMs)			√			
Version mapping		Select one from three options. The Advanced software package contains functions from the Foundation software package.			It is used with the Advanced or Premium software package.		It is used with the Foundation, Advanced or Premium software package.
For details about product function differences, refer to the product documentation.							

Note: For detailed information of Huawei CloudFabric N1 business model, visit <https://e.huawei.com/en/material/networking/dcs/switch/03a0e69bfa2c4f168323ba94a75f1f09>.

## Product Specifications

Note: This content is applicable only to regions outside mainland China. Huawei reserves the right to interpret this content.

### Functions and Features

Item	CloudEngine 8850-32CQ-EI	CloudEngine 8850-64CQ-EI	CloudEngine 8861-4C-EI
Device virtualization	iStack		
	M-LAG		
Network virtualization	VXLAN in routing and bridging modes		
	BGP-EVPN		
	QinQ access VXLAN		
Data center interconnect (DCI)	VXLAN mapping, implementing interconnection between multiple DCI networks at Layer 2		
SDN	iMaster NCE-Fabric		
	VMware NSX (supported by CloudEngine 8861)		
Network convergence	DCBX, PFC, and ETS		
	RDMA and RoCE (RoCEv1 and RoCEv2)		

Item	CloudEngine 8850-32CQ-EI	CloudEngine 8850-64CQ-EI	CloudEngine 8861-4C-EI
Programmability	OPS		
	Ansible-based automatic configuration and open-source module release		
Traffic analysis	NetStream		
	sFlow		
VLAN	Adding access, trunk, and hybrid interfaces to VLANs		
	Default VLAN		
	QinQ		
	MUX VLAN		
	GVRP		
MAC address table	Dynamic learning and aging of MAC address entries		
	Static, dynamic, and blackhole MAC address entries		
	Packet filtering based on source MAC addresses		
	MAC address limiting based on ports and VLANs		
IP routing	IPv4 routing protocols, such as RIP, OSPF, IS-IS, and BGP		
	IPv6 routing protocols, such as RIPng, OSPFv3, IS-ISv6, and BGP4+		
IPv6	IPv6 Neighbor Discovery (ND)		
	IPv6 VXLAN over IPv4		
	Path MTU Discovery (PMTU)		
	TCP6, IPv6 ping, IPv6 tracer, IPv6 socket, UDP6, and raw IPv6		
Multicast	Multicast routing protocols such as IGMP, PIM-SM, PIM-DM, MSDP, and MBGP		
	IGMP snooping		
	IGMP proxy		
	Fast leaving of multicast member interfaces		
	Multicast traffic suppression		
	Multicast VLAN		
	Multicast VXLAN		
Reliability	Fine-grained microsegmentation isolation (supported only by CE8861-4C-EI)		
	Link Aggregation Control Protocol (LACP)		
	STP, RSTP, VBST, and MSTP		
	BPDU protection, root protection, and loop prevention		
	Smart Link and multi-instance		
	Device Link Detection Protocol (DLDP)		
	ERPS (G.8032)		
	Hardware-based Bidirectional Forwarding Detection (BFD) (supported by CloudEngine 8850-64CQ-		



Item	CloudEngine 8850-32CQ-EI	CloudEngine 8850-64CQ-EI	CloudEngine 8861-4C-EI
	EI and CloudEngine 8861)		
	VRRP, VRRP load balancing, and BFD for VRRP		
	BFD for BGP/IS-IS/OSPF/static route		
	BFD for VXLAN		
QoS	Traffic classification based on Layer 2 headers, Layer 3 protocols, Layer 4 protocols, and 802.1p priority		
	ACL, CAR, re-marking, and scheduling		
	Queue scheduling algorithms, including PQ, WRR, DRR, PQ+WRR, and PQ+DRR		
	Congestion avoidance mechanisms, including WRED and tail drop		
	Traffic shaping		
Intelligent O&M	Network-wide path detection		
	PTP-IEEE 1588v2 (supported by CloudEngine 8850-64CQ-EI)		
	Telemetry		
	ERSPAN+ (supported by CloudEngine 8861)		
	Statistics on the buffer microburst status		
	VXLAN OAM: VXLAN ping and VXLAN tracet		
	Intelligent Traffic Analysis		
Intelligent and lossless network	VIQ, Dynamic ECN, Fast CNP, Dynamic load balancing (DLB), RoCE flow visibility (supported by CloudEngine 8850-64CQ-EI and CloudEngine 8861)		
	INC (supported by CloudEngine 8850-64CQ-EI)		
Configuration and maintenance	Console, Telnet, and SSH terminals		
	Network management protocols, such as SNMPv1/v2/v3		
	File upload and download through FTP and TFTP		
	BootROM upgrade and remote upgrade		
	802.3az Energy Efficient Ethernet (EEE)		
	Hot patches		
	User operation logs		
	Zero Touch Provisioning (ZTP)		
Security and management	Command line authority control based on user levels, preventing unauthorized users from using commands		
	Defense against DoS address attacks, ARP storms, and ICMP attacks		
	Port isolation, port security, and sticky MAC		
	Binding of the IP address, MAC address, port number, and VLAN ID		
	Authentication methods, including AAA, RADIUS, and HWTACACS		
	Remote Network Monitoring (RMON)		

## Performance and Scalability

Item	CloudEngine 8850-32CQ-EI	CloudEngine 8850-64CQ-EI	CloudEngine 8861-4C-EI
Maximum number of MAC address entries	136K	264K	288K
Maximum number of routes (FIB IPv4/IPv6)	192K/128K	360K/256K	380K/256K
ARP size	84K	156K	168K
Maximum number of VRFs	1024	2048	4096
IPv6 ND table size	32K	48K	64K
Maximum Number of multicast routes (multicast FIB IPv4/IPv6)	8K/2K		
Maximum VRRP groups	256	1000	1000
Maximum number of ECMP paths	128		
Maximum Number of broadcast domains	8K		16K
Maximum number of BDIF interfaces	4K		8K
Maximum number of virtual tunnel endpoints (VTEPs)	2K		
Maximum number of LAGs	1024/512/256/128/64		
Maximum number of links in a LAG	2/4/8/16/32		
Maximum number of MSTIs	64		
Maximum number of VLANs where VBST can be configured	500		
Maximum number of PTP slaves	N/A	64	N/A

Note: This specification may vary between different scenarios. Contact Huawei for details.

## Hardware Specifications

Item		CloudEngine 8850-32CQ-EI	CloudEngine 8850-64CQ-EI	CloudEngine 8861-4C-EI
Physical features	Dimensions (W x D x H)	442 mm x 420 mm x 43.6 mm	442 mm x 600 mm x 88.1 mm	442 mm x 600 mm x 88.1 mm
	Weight (excluding optical modules, power modules, and fan assemblies/ including AC power modules and fan assemblies, excluding optical modules, kg)	6.2/9	16.9/22.2	16.8/21.3
	Switching capacity (Tbps)	6.44	12.8	6.4
	Forwarding performance (Mpps)	3200	4482	2030

Item		CloudEngine 8850-32CQ-EI	CloudEngine 8850-64CQ-EI	CloudEngine 8861-4C-EI
Ports		32*100GE QSFP28 and 2*10GE SFP+	64*100GE QSFP28	4 slots; different cards can be flexibly used in combinations to achieve a maximum of 32*100GE QSFP28, 64*40GE QSFP+, 128*25GE SFP28, or 128*10GE SFP+ ports
Card	Number of card slots	0	0	4
	Card type	Fixed card	Fixed card	Flexible card
	Card specification	N/A	N/A	CE88-D24S2CQ CE88-D24T2CQ CE88-D16Q CE88-D8CQ
Management interface	Out-of-band management port	1*GE RJ45 management interfaces	2*GE RJ45 management interfaces	2*GE RJ45 management interfaces
	Console port	1*RJ45 interface	1*RJ45 interface + 1*MiniUSB interface (multiplexing)	1*RJ45 interface + 1*MiniUSB interface (multiplexing)
	USB port	1		
CPU	Main frequency (GHz)	1.5		
	Number of cores	8	8	4
Storage	RAM	4 GB	4 GB	4 GB
	NOR flash	32 MB	32 MB	32 MB
	NAND flash	1 GB	2 GB	2 GB
System	System buffer	22 MB	42 MB	32 MB
Power supply system	Power modules	AC: 600 W DC: 600 W -48 V	AC: 1200 W HDC: 1200 W 380 V DC: 1200 W -48 V	AC: 1200 W HDC: 1200 W 380 V DC: 1200 W -48 V
	Rated voltage range (V)	AC: 100 V to 240 V DC: -48 V to -60 V	AC: 100 V to 240 V DC 380 V HVDC: 240 V to 380 V DC: -48 V to -60 V	AC: 100 V to 240 V DC 380 V HVDC: 240 V to 380 V DC: -48 V to -60 V
	Maximum voltage range (V)	AC: 90 V to 290 V DC: -38.4 V to -72 V	AC: 90 V to 290 V 240 V HVDC: 188 V to 290 V 380 V HVDC: 188 V to 400 V DC: -38.4 V to -72 V	AC: 90 V to 290 V 240 V HVDC: 188 V to 290 V 380 V HVDC: 188 V to 400 V DC: -38.4 V to -72 V
	Maximum input current	AC 600 W: 100 V to 240 V 9A -48 V DC 600 W: -48 V to	1200 W AC power module: 200 V to 240 V 8A; 100 V to 130 V	1200 W AC power module: 200 V to 240 V 8A; 100 V to 130 V

Item		CloudEngine 8850-32CQ-EI	CloudEngine 8850-64CQ-EI	CloudEngine 8861-4C-EI
		-60 V 20A	10A 1200 W 240 V DC power module: 240 V 8A 1200 W 380 V DC power module: 240 V to 380 V 8A 1200 W -48 V power module: -48 V to 60 V 38A	10A 1200 W 240 V DC power module: 240 V 8A 1200 W 380 V DC power module: 240 V to 380 V 8A 1200 W -48 V power module: -48 V to 60 V 38A
	Typical power	219 W (100% traffic load, copper cable, normal temperature, dual power modules) 314 W (100% traffic load, short-distance optical modules, normal temperature, dual power modules)	375 W (100% traffic load, copper cable, normal temperature, dual power modules) 568 W (100% traffic load, short-distance optical modules, normal temperature, dual power modules)	Test condition 1: 100% traffic load, passive copper cables on optical ports, normal temperature, dual power modules: four CE88-D24S2CQ cards: 437 W four CE88-D24T2CQ cards: 532 W four CE88-D16Q cards: 383 W four CE88-D8CQ cards: 398 W Test condition 2: 100% traffic load, short-distance optical modules on optical ports, normal temperature, dual power modules: Four CE88-D24S2CQ cards: 457 W Four CE88-D24T2CQ cards: 562 W Four CE88-D16Q cards: 465 W Four CE88-D8CQ cards: 487 W
	Maximum power	453 W	965 W	Four CE88-D24S2CQ cards: 674 W Four CE88-D24T2CQ cards: 747 W Four CE88-D16Q cards: 620 W Four CE88-D8CQ cards: 658 W
	Frequency (AC, Hz)	50/60		
Heat dissipation	Heat dissipation mode	Air cooling		

Item		CloudEngine 8850-32CQ-EI	CloudEngine 8850-64CQ-EI	CloudEngine 8861-4C-EI
	Number of fan trays	2	3	2
	Heat dissipation airflow	Front-to-back or back-to-front airflow		
	Maximum heat consumption (BTU/hr)	1544	3293	Four CE88-D24S2CQ cards: 2300 Four CE88-D24T2CQ cards: 2549 Four CE88-D16Q cards: 2116 Four CE88-D8CQ cards: 2245
Environment specifications	Long-term operating temperature (°C)	0°C to 40°C (0-1800 m) The temperature decreases by 1°C each time the altitude increases by 220 m.		
	Storage temperature (°C)	-40°C to +70°C		
	Relative humidity	5% to 95%		
	Operating altitude (m)	Up to 5000		
	Sound power at 27°C (dBA)	Front-to-back airflow: < 65 Back-to-front airflow: < 64	Front-to-back airflow: < 73 Back-to-front airflow: < 74	Front-to-back airflow: <65 Back-to-front airflow: < 68
	Sound power at 40°C (dBA)	Front-to-back airflow: < 88 Back-to-front airflow: < 86	Front-to-back airflow: < 92 Back-to-front airflow: < 94	Front-to-back airflow: < 88 Back-to-front airflow: < 91
	Sound pressure at 27°C (dBA)	Front-to-back airflow: 47 in average (maximum: 52) Back-to-front airflow: 46 in average (maximum: 52)	Front-to-back airflow: 60 in average (maximum: 64) Back-to-front airflow: 60 in average (maximum: 64)	Front-to-back airflow: 52 in average (maximum: 56) Back-to-front airflow: 54 in average (maximum: 58)
Surge protection	AC power supply protection: 6 kV in common mode and 6 kV in differential mode DC power supply protection: 4 kV in common mode and 2 kV in differential mode	AC power supply protection: 4 kV in common mode and 2.5 kV in differential mode DC power supply protection: 4 kV in common mode and 2 kV in differential mode	AC power supply protection: 4 kV in common mode and 2.5 kV in differential mode DC power supply protection: 4 kV in common mode and 2 kV in differential mode	
Reliability	MTBF (year)	45.34	37.03	36.02
	MTTR (hour)	1.68	1.61	1.38
	Availability	0.99999576496	0.999995034	0.999995612

Note: For detailed information of CloudEngine 8800 Platform hardware information, visit

## Safety and Regulatory Compliance

The following table lists the safety and regulatory compliance of CloudEngine switches.

Certification Category	Description
Safety	<ul style="list-style-type: none"> <li>• EN 60950-1</li> <li>• EN 60825-1</li> <li>• EN 60825-2</li> <li>• UL 60950-1</li> <li>• CSA-C22.2 No. 60950-1</li> <li>• IEC 60950-1</li> <li>• AS/NZS 60950-1</li> <li>• GB4943</li> </ul>
Electromagnetic Compatibility (EMC)	<ul style="list-style-type: none"> <li>• EN 300386</li> <li>• EN 55032: CLASS A</li> <li>• EN 55024</li> <li>• IEC/EN 61000-3-2</li> <li>• IEC/EN 61000-3-3</li> <li>• FCC 47CFR Part15 CLASS A</li> <li>• ICES-003: CLASS A</li> <li>• CISPR 32: CLASS A</li> <li>• CISPR 24</li> <li>• AS/NZS CISPR32</li> <li>• VCCI- CISPR32: CLASS A</li> <li>• GB9254 CLASS A</li> </ul>
Environment	<ul style="list-style-type: none"> <li>• 2011/65/EU EN 50581</li> <li>• 2012/19/EU EN 50419</li> <li>• (EC) No.1907/2006</li> <li>• GB/T 26572</li> <li>• ETSI EN 300 019-1-1</li> <li>• ETSI EN 300 019-1-2</li> <li>• ETSI EN 300 019-1-3</li> <li>• ETSI EN 300 753 GR63</li> </ul>

### Note

EMC: electromagnetic compatibility

CISPR: International Special Committee on Radio Interference

EN: European Standard

ETSI: European Telecommunications Standards Institute

CFR: Code of Federal Regulations

FCC: Federal Communication Commission

IEC: International Electrotechnical Commission

AS/NZS: Australian/New Zealand Standard

VCCI: Voluntary Control Council for Interference

UL: Underwriters Laboratories

CSA: Canadian Standards Association

## Supported MIBs

For details about the MIB information, visit

<https://support.huawei.com/hedex/hdx.do?docid=EDOC1100136525&lang=en&idPath=24030814%7C21782165%7C21782239%7C22318540%7C7597815>.

## Optical Transceivers and Cable

For details about the optical transceivers and cables information, visit

<https://e.huawei.com/en/material/networking/dcs/switch/f6d91cf16df0474998087676a33fd41e>.

## Ordering Information

Mainframe	
CE8850-EI-F-B0A	CE8850-32CQ-EI Switch (32-Port 100GE QSFP28,2-Port 10GE SFP+,2*AC Power Module,2*FAN Box, Port-side Exhaust)
CE8850-EI-B-B0A	CE8850-32CQ-EI Switch (32-Port 100GE QSFP28, 2-Port 10GE SFP+,2*AC Power Module,2*FAN Box, Port-side Intake)
CE8850-32CQ-EI	CE8850-32CQ-EI Switch (32-Port 100GE QSFP28 Optical,2*FAN Box, Port-side Exhaust, Without Power Module)
CE8850-EI-F-B0B	CE8850-64CQ-EI Switch (64-Port 100GE QSFP28,2*AC Power Module,3*FAN Box, Port-side Exhaust)
CE8850-EI-B-B0B	CE8850-64CQ-EI Switch (64-Port 100GE QSFP28,2*AC Power Module,3*FAN Box, Port-side Intake)
CE8850-64CQ-EI	CE8850-64CQ-EI Switch (64-Port 100GE QSFP28, Without Fan and Power Module)
CE8861-4C-EI-F	CE8861-4C-EI Mainframe (With 4 Subcard Slots,2*FAN Box, Port-side Exhaust, Without Power Module)
CE8861-4C-EI-B	CE8861-4C-EI Mainframe (With 4 Subcard Slots,2*FAN Box, Port-side Intake, Without Power Module)
CE8861-4C-EI	CE8861-4C-EI Mainframe (With 4 Subcard Slots, Without FAN Box, Without Power Module)

Subcard	
CE88-D8CQ	8 Port 100GE QSFP28 Interface Card
CE88-D16Q	16 Port 40GE QSFP+ Interface Card
CE88-D24T2CQ	24 Port 10GE Base-T and 2 Port 100GE QSFP28 Interface Card
CE88-D24S2CQ	24 Port 25GE SFP28 and 2 Port 100GE QSFP28 Interface Card

Fan box		
Model	Description	Applicable Product

Fan box		
FAN-180A-F	Fan box (F, FAN panel side intake)	CE8850-64CQ-EI/CE8861-4C-EI
FAN-180A-B	Fan box (B, FAN panel side exhaust)	CE8850-64CQ-EI/CE8861-4C-EI
FAN-40HA-F	Fan box (HA, Front to Back, FAN panel side intake)	CE8850-32CQ-EI
FAN-40HA-B	Fan box (HA, Back to Front, FAN panel side exhaust)	CE8850-32CQ-EI

Power		
Model	Description	Applicable Product
PHD-1K2WA-F	1200W HVDC Power Module (Power panel side intake)	CE8850-64CQ-EI/CE8861-4C-EI
PHD-1K2WA-B	1200W HVDC Power Module (Power panel side exhaust)	CE8850-64CQ-EI/CE8861-4C-EI
PDC1K2S12-DF	1200W DC Power Module (Power panel side intake)	CE8850-64CQ-EI/CE8861-4C-EI
PDC1K2S12-DB	1200W DC Power Module (Power panel side exhaust)	CE8850-64CQ-EI/CE8861-4C-EI
PAC1K2S12-CB	1200W AC&240V DC Power Module (Back to Front,Power panel side air-out)	CE8850-64CQ-EI/CE8861-4C-EI
PAC1K2S12-CF	1200W AC&240V DC Power Module (Front to Back,Power panel side intake)	CE8850-64CQ-EI/CE8861-4C-EI
PAC-600WA-F	600W AC Power Module (Front to Back, Power panel side intake)	CE8850-32CQ-EI
PAC-600WA-B	600W AC Power Module (Back to Front, Power panel side exhaust)	CE8850-32CQ-EI
PDC600S12-CF	600W DC Power Module (Front to Back, Power panel side intake)	CE8850-32CQ-EI
PDC600S12-CB	600W DC Power Module (Back to Front, Power panel side exhaust)	CE8850-32CQ-EI

Software	
CE88-LIC-VXLAN	CloudEngine 8800 VXLAN Function
CE88-LIC-BUN01	CE8800 Function License Bundle 1
CE88-LIC-TLM	CE8800 Telemetry Function
CE88-LIC-PTP	CE8800 Precision Time Protocol Function (Supported only by CE8850-64CQ-EI)
CE88-LIC-AIF	CloudEngine 8800 AI Fabric Function (Supported only by CE8850-64CQ-EI & CE8861)
N1-CE88LIC-CFFD	N1-CloudFabric Foundation SW License for CloudEngine 8800
N1-CE88CFFD-SnS1Y	N1-CloudFabric Foundation SW License for CloudEngine 8800-SnS-1 Year
N1-CE88LIC-CFAD	N1-CloudFabric Advanced SW License for CloudEngine 8800



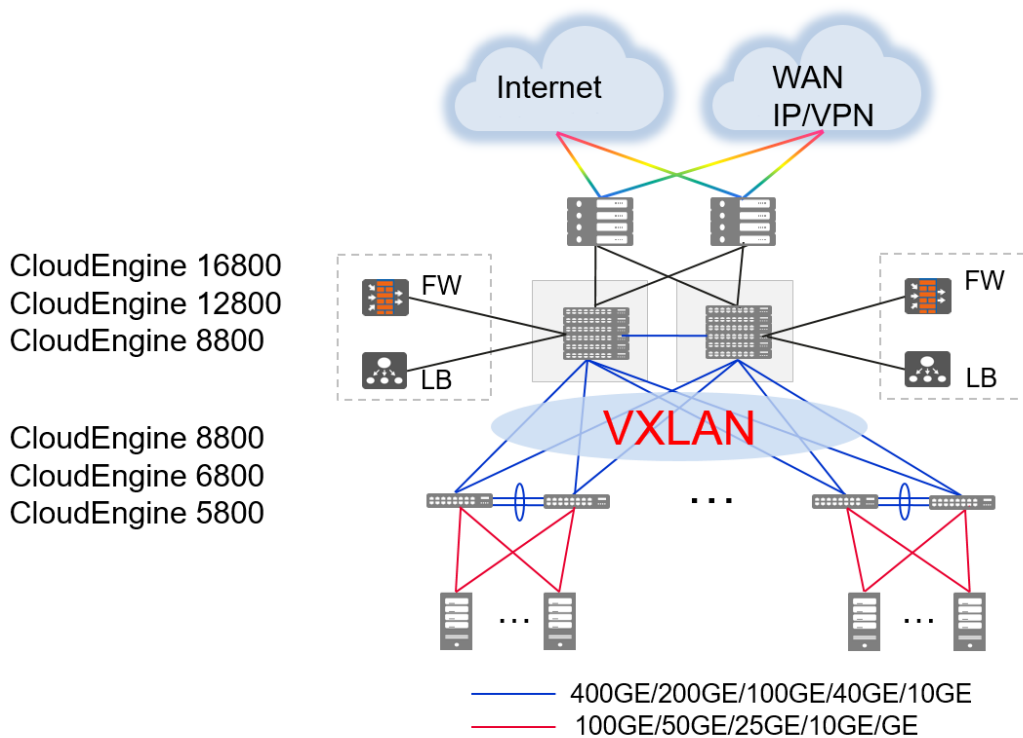
Software	
N1-CE88CFAD-SnS1Y	N1-CloudFabric Advanced SW License for CloudEngine 8800-SnS-1 Year
N1-CE88LIC-CFPM	N1-CloudFabric Premium SW License for CloudEngine 8800
N1-CE88CFPM-SnS1Y	N1-CloudFabric Premium SW License for CloudEngine 8800 -SnS-Year
N1-CE88LIC-AIF	N1-CloudEngine 8800 AI Fabric Function
N1-CE88AIF- SnS1Y	N1-CloudEngine 8800 AI Fabric Function-SnS-1 Year
N1-CE88LIC-HPC	N1-CloudEngine 8800 AI Fabric Value-added Package for the HPC Scenarios (Supported only by CE8850-64CQ-EI)
N1-CE88HPC-SnS1Y	N1-CloudEngine 8800 AI Fabric Value-added Package for the HPC Scenarios-SnS Year
N1-CE-F-LIC-MDCA	N1-CloudEngine Data Center Switch Multi-cloud Multi-DC Value-added Package - Fixed
N1-CEFMDCA -SnS1Y	N1-CloudEngine Data Center Switch Multi-cloud Multi-DC Value-added Package, Per Fixed device -SnS-Year

## Networking and Application

### Data Center Applications

On a typical data center network, CloudEngine 16800/12800/8800 switches work as core switches, whereas CloudEngine 6800 and CloudEngine 5800 switches work as ToR switches and connect to the core switches using 100GE/40GE/10GE ports. These switches use fabric technology

such as VXLAN to establish a nonblocking large Layer 2 network, which allows large-scale VM migrations and flexible service deployments.



Note: VXLAN can also be used on campus networks to support flexible service deployment in different service areas.

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