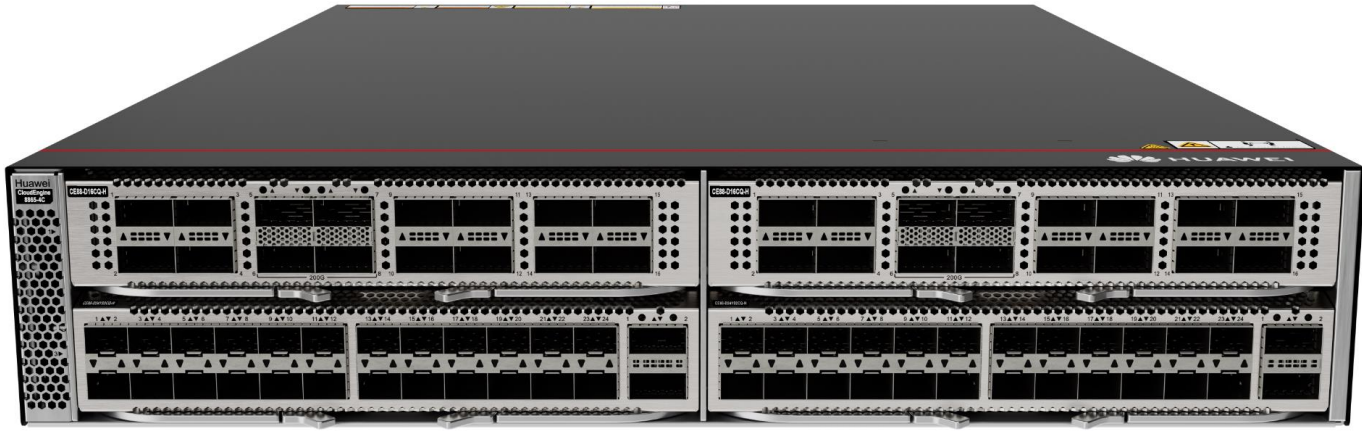
Huawei CloudEngine 8865-4C Data Center Switch Datasheet

Huawei CloudEngine 8865 series switches are next-generation switches that support flexible cards ranging from GE to 400GE and are designed for data centers (DCs).



Product Overview

CloudEngine 8865-4C series are Huawei's next-generation Ethernet switches designed for DCs. They feature high performance, high density, low latency, and flexible cards. They are built on an advanced hardware structure and provide high-density 400GE, 100GE, and 25GE ports. Running over the Huawei YunShan software platform, they support abundant DC features. In addition, they can work with CloudEngine 16800/8800/6800/5800 switches to build an elastic, virtual, and high-quality data center network (DCN), meeting networking requirements of DCs in the cloud computing era. CloudEngine 8865-4C series switches can function as core or aggregation switches on DCNs to help enterprises and carriers to build a DCN platform for the cloud computing era. They can also be used as aggregation or core switches on campus networks.

Product Models and Appearances

CloudEngine 8865 series switches fall into the following models:

CloudEngine 8865-4C

Product Appearance	Description
 **Port side**	2 U high, supporting four half-width flexible cards and flexible combination of five types of cards ● 4 x 400GE + 8 x 25GE ● 24 x 10GE (electrical) + 2 x 100GE



Fan module and power module side

- 24 x 25GE + 2 x 100GE
- 16 x 100GE
- 10 x 100GE

Product Features

High-Density Access, Providing Superior Capacity

- 4 x 400GE + 8 x 25GE card (CE88-D8YS4DQ-H): A CloudEngine 8865-4C series switch supports up to 16 400GE QSFP-DD ports and 32 25GE SFP28 ports. A 400GE port can be split into four 100GE ports (4 x 100GE) or two 200GE ports (2*200GE). A 25GE port can work at the rate of 50 Gbit/s, 10 Gbit/s, or Gbit/s.
- 10 x 100GE card (CE88-D10CQ-H): A CloudEngine 8865-4C series switch supports up to 40 100GE QSFP28 ports. Each 100GE port can work at the rate of 40 Gbit/s, be split into four 25GE or 10GE ports, or upgraded to a 200GE port by using RTU licenses. A 200GE port can be split into two 100GE ports.
- 16 x 100GE card (CE88-D16CQ-H): A CloudEngine 8865-4C series switch supports up to 64 100GE QSFP28 ports. It uses 16 x 100GE ports by default, and four of the ports can be upgraded to 200GE ports by using RTU licenses, supporting 12 x 100GE + 4 x 200GE. A 200GE port can be split into four 50GE, 25GE, or 10GE ports or two 100GE ports. Ports (except 5 to 8) can function as 40GE ports. Ports 1 to 4, 9 to 12, and 13 to 16 form different groups. In each group, an odd-numbered port can be split into four ports (4 x 25GE/4 x 10GE). When an odd-numbered port in each group is split, the corresponding even-numbered port is unavailable.
- 24 x 25GE + 2 x 100GE card (CE88-D24YS2CQ-H): A CloudEngine 8865-4C series switch supports up to eight 100GE QSFP28 ports and 96 25GE SFP28 ports. The ports can be upgraded to downlink 50GE ports and uplink 200GE ports by using RTU licenses. A 25GE port can work at the rate of 10 Gbit/s or Gbit/s, and a 100GE port can work at the rate of 40 Gbit/s. An uplink 200GE port can be split into four 50GE, 25GE, or 10GE ports, or two 100GE ports.
- 24 x 10GE electrical + 2 x 100GE card (CE88-D24T2CQ-H): A CloudEngine 8865-4C series switch supports up to 96 10GE electrical ports and eight 100GE QSFP28 ports. A 10GE electrical port can work at the rate of Gbit/s. A 100GE port can work at the rate of 40 Gbit/s, and be upgraded to a 200GE port by using RTU licenses. An uplink 200GE port can be split into four 50GE, 25GE, or 10GE ports, or two 100GE ports.

Inter-Device Link Aggregation, Ensuring High Efficiency and Reliability

- CloudEngine 8865 series switches support Multichassis Link Aggregation Group (M-LAG) to implement link aggregation among multiple devices, improving link reliability from the card level to the device level.
- Switches in an M-LAG all work in active state to share traffic and back up each other, enhancing system reliability.
- 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.
- M-LAG supports dual-homing to Ethernet, VXLAN, and IP networks, allowing for flexible networking.

Virtualized Hardware Gateway, Achieving Rapid Deployment

- CloudEngine 8865 series switches can work with the industry's mainstream virtualization platforms. When functioning as high-performance hardware gateways on an overlay network (VXLAN), CloudEngine 8865 series switches can support the operations of a DC with up to 16 million tenants.
- When functioning as hardware gateways on an overlay network, CloudEngine 8865 series switches can connect to cloud platforms through open APIs, facilitating unified management of virtual and physical networks.
- The hardware virtualized gateway solution achieves rapid service deployment without having to change the customer network, protecting customer investments.
- CloudEngine 8865 series switches support Border Gateway Protocol - Ethernet VPN (BGP-EVPN), which can run as the VXLAN control plane to simplify VXLAN configuration within and between DCs.

Standard Ports, Enabling Open Interconnection

- CloudEngine 8865 series switches support NETCONF and can interconnect with iMaster NCE-Fabric.

- CloudEngine 8865 series switches support Ansible — an automatic management and O&M tool — to implement unified provisioning of physical and virtual networks.
- CloudEngine 8865 series switches are integrated with mainstream cloud platforms (including commercial and open-source cloud platforms) and third-party controllers, enabling flexible service customization and automatic management.

Zero Touch Provisioning (ZTP), Enabling Automatic O&M

- CloudEngine 8865 series switches support Zero Touch Provisioning (ZTP). ZTP enables the switches to automatically obtain and load version files from a file server, freeing network engineers from onsite configuration and deployment. ZTP reduces labor costs and improves device deployment efficiency.
- ZTP supports embedded script languages and provides them for users through open APIs. DC users can use a familiar programming language (such as Python) to centrally configure network devices.
- ZTP decouples the configuration time of new devices from device quantity and geographical distribution, shortening the service provisioning time and improving the service provisioning efficiency.

Intelligent O&M Through Collaboration with iMaster NCE-FabricInsight

- CloudEngine 8865 series switches support telemetry technology to collect device data in real time and send the collected data to iMaster NCE-FabricInsight — the DCN analysis component of Huawei iMaster NCE. Leveraging the intelligent fault identification algorithm, iMaster NCE-FabricInsight can analyze network data, accurately display the real-time network status, locate faults and identify their root causes in a timely and effective manner, and detect network problems that can affect user experience, precisely guaranteeing user experience.
- CloudEngine 8865 series switches can insert IFIT extension headers into packets, visualize paths, and analyze interface-level packet loss, traffic, and latency to implement high-precision service-level packet loss measurement and facilitate fault demarcation.
- CloudEngine 8865 series switches support Packet Event. When a device discards packets due to reasons such as abnormal forwarding, specified packet discarding rules, a full buffer, or ACL rule deny actions, or when the latency of packets exceeds a specified threshold, the device reports related flow entries to the iMaster NCE-FabricInsight collector.
- CloudEngine 8865 series switches support application views. An application view clearly displays the applications, IP subnets, and their indicators and access relationships on the network.

Simplified DCN Deployment via Collaboration with iMaster NCE-Fabric

- CloudEngine 8865 series switches can interconnect with iMaster NCE-Fabric through standard protocols such as NETCONF and SNMP to adapt to networks and implement automatic network management. This helps to provide more efficient and intelligent operation methods, simplifying network management and reducing the OPEX.

Intelligent Lossless Network, Meeting High Performance Requirements of RoCEv2 Applications

- CloudEngine 8865 series switches support the iLossless algorithm to eliminate packet loss on the conventional Ethernet. This helps to build a lossless, low-latency, and high-throughput network environment for RoCEv2 traffic, meeting high performance requirements of RoCEv2 applications.
- CloudEngine 8865 series switches support PFC deadlock prevention. They can identify service flows that may cause PFC deadlocks and change queue priorities of these flows to prevent PFC deadlocks.
- CloudEngine 8865 series switches support Artificial Intelligence Explicit Congestion Notification (AI ECN). This future-oriented function can intelligently adjust the ECN thresholds of lossless queues based on the live-network traffic model to ensure low latency and high throughput with zero packet loss, maximizing the performance of lossless services.
- CloudEngine 8865 series switches support Explicit Congestion Notification (ECN) Overlay. ECN Overlay applies ECN to a VXLAN network, enabling the traffic receiver to detect congestion on the overlay network in a timely manner and instruct the traffic sender to reduce its packet sending rate to relieve network congestion.

Strict Front-to-Back Airflow Design, Achieving High Energy Efficiency

Flexible front-to-back or back-to-front airflow design:

- CloudEngine 8865-4C series switches use a strict front-to-back airflow design that isolates cold air channels from hot air channels, meet heat dissipation requirements in DC equipment rooms.
- Air can flow from front to back or from back to front depending on the fan modules and power modules in use.
- Redundant power modules and fan modules can be configured to ensure service continuity.

Innovative energy-saving technologies:

- CloudEngine 8865 series switches use energy-saving chips and an intelligent fan speed control scheme to measure system power consumption in real time. This can reduce O&M costs and help to build a green DC.

Clear Indicators, Simplifying O&M

Clear indicators:

- The innovative port indicators can clearly show the port status, port speed, and status of all sub-ports.
- State indicators on both the front and rear panels enable users to maintain the switch from either side.
- CloudEngine 8865 series switches support remote positioning. Users can turn on the remote positioning indicator through the network management system (NMS) or console to easily identify the switches they want to maintain in an equipment room full of devices.

Simple maintenance:

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

Licensing

Huawei CloudEngine 8865 series switches support the CloudFabric IDN One Software (N1) business model, which bundles iMaster NCE-Fabric, iMaster NCE-FabricInsight, and CloudEngine switches in a range of typical scenarios. This approach simplifies transactions, provides customers with more functions and value, and protects customers' software investment through Software License Portability.

Feature	N1 Software Package (Mandatory)			N1 Add-On Package (Optional)									
	Foundation	Advanced	Premium	TCP Acceleration	Distributed Storage	HPC	AI Scenario	Security	Multi-Cloud and Multi-DC	xFlow Specified Flow Analysis	xFlow Intelligent Full-Flow Analysis	Financial-Grade High Availability	Digital Map
Basic functions (including IPv6 and VXLAN)	•	•	•										
Telemetry	•	•	•										
PTP	•	•	•										
Multicast NAT		•	•										
M-LAG virtual peer-link[1]	•	•	•										
MACsec								•					
AI ECN 2.0					•	•							
TCP optimization				•	•	•	•						
NSLB						•	•						
Enhanced network scale load balancing (NSLB)							•						
MoFRR												•	
INC						•							
Adaptive routing						•							
Automation functions	•	•	•										
Basic intent functions			•										
Runbook		•	•										
Multi-cloud and multi-DC automation scenario package									•				
Basic digital map functions													•
Basic network analysis functions	•	•	•										
Network health functions		•	•										
Network flow analysis (100 VMs)			•							•			
Intelligent full-flow analysis (per 20 Gbps)											•		
IFIT service assurance		•	•										
Value-added package of the multi-cloud and multi-DC analysis scenario									•				

Feature	N1 Software Package (Mandatory)	N1 Add-On Package (Optional)
	Foundation Advanced Premium	TCP Acceleration Distributed Storage HPC AI Scenario Security Multi-Cloud and Multi-DC xFlow Specified Flow Analysis xFlow Intelligent Full-Flow Analysis Financial-Grade High Availability Digital Map
Version mapping	Select one from the three packages. The Advanced package contains the features of the Foundation package, and the Premium package contains the features of the Advanced package.	Used together with the Foundation, Advanced, or Premium package.

Product Specifications

Item	CloudEngine 8865-4C
Device virtualization	M-LAG
Port	Jumbo frames
Network virtualization	VXLAN routing and VXLAN bridging
	BGP-EVPN
SDN	iMaster NCE-Fabric
Network convergence	PFC and AI ECN
	RDMA and RoCE (RoCE v1 and RoCE v2)
Programmability	OpenFlow
	OPS programming
Traffic analysis	NetStream
VLAN	Access, trunk, and hybrid ports
	Default VLAN
MAC address table	Automatic MAC address learning and aging
	Static, dynamic, and blackhole MAC address entries
	Source MAC address filtering
	MAC address learning limiting based on ports and VLANs
IP routing	IPv4 dynamic routing protocols such as RIP, OSPF, IS-IS, and BGP
	IPv6 dynamic routing protocols such as RIPng, OSPFv3, IS-ISv6, and BGP4+
IPv6	VXLAN over IPv6
	IPv6 VXLAN over IPv4
	IPv6 neighbor discovery (ND)
	Path MTU discovery (PMTU)
	TCP6, IPv6 ping, IPv6 tracert, IPv6 socket, UDP6, and raw IPv6
Multicast	Multicast routing protocols such as IGMP, PIM-SM, and MSDP
	IGMP snooping and IGMP proxy
	IPv6 Layer 3 multicast and configuration of both Layer 2 and Layer 3 multicast services
	Fast leaving of multicast member interfaces
	Multicast traffic suppression
	Multicast NAT
Reliability	LACP
	STP, RSTP, VBST, and MSTP
	BPDU protection
	Smart link and multi-instance
	Hardware-based Bidirectional Forwarding Detection (BFD), with a minimum packet sending interval of 3.3 ms
	VRRP, VRRP load sharing, and BFD for VRRP
	BFD for BGP, IS-IS, OSPF, and static routing
	BFD for VXLAN
QoS	Traffic classification based on Layer 2 headers, Layer 3 protocols, and Layer 4 protocol priorities

Item	CloudEngine 8865-4C
	ACL, CAR, re-marking, and scheduling
	Queue scheduling modes such as PQ, DRR, and PQ+DRR
	Congestion avoidance mechanisms such as WRED and tail drop
	Traffic shaping
	IEEE 1588v2 (PTP)
Intelligent O&M	Network-wide path detection
	Telemetry
	Enhanced ERSPAN
	In-situ Flow Information Telemetry (IFIT)
	Packet Event: packet loss visualization and ultra-long latency visualization
	Statistics collection on the buffer microburst status
	VXLAN OAM: VXLAN ping and VXLAN tracert
Intelligent lossless network	PFC deadlock prevention
	AI ECN
	ECN Overlay
	Enhanced NSLB
Configuration and maintenance	Terminal login through the console port, Telnet, and SSH
	Network management protocols, such as SNMPv1/v2/v3
	File upload and download through FTP and TFTP
	Boot Read-Only Memory (BootROM) upgrade and remote online upgrade
	Hot patching
	User operation logs
	Configuration rollback
	ZTP
Security and management	MACsec
	Command line authority control based on user levels, preventing unauthorized users from using commands
	Defense against DoS, ARP, and ICMP attacks
	Port isolation, port security, and sticky MAC
	Binding of the IP address, MAC address, port ID, and VLAN ID
	Authentication methods, including AAA, LDAP, RADIUS, and HWTACACS
	RMON

Performance and Scalability

Item	Value
Maximum number of MAC address entries	640K
Maximum number of routes (FIB IPv4/IPv6)	1.5M/750K

ARP size	128K
Maximum number of VRFs	4096
IPv6 ND table size	128K
Maximum number of multicast routes (multicast FIB IPv4/IPv6)	32K/16K
Maximum number of VRRP groups	1024
Maximum number of ECMP paths	128
Maximum number of ACLs	34K@160 bits (inbound) + 2K@320 bits (outbound) (K = 1024)
Maximum number of VXLAN bridge domains	16K
Maximum number of BDIF interfaces	16K
Maximum number of virtual tunnel endpoints (VTEPs)	16K
Maximum number of LAGs	1024
Maximum number of links in a LAG	256
Maximum number of MSTIs	1000
Maximum number of VLANs where VBST can be configured	640K

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

Hardware Specifications

Item		CloudEngine 8865-4C
Physical features	Dimensions (H x W x D)	88.1 mm x 442.0 mm x 600.0 mm
	Weight without packaging (full configuration) [kg (lb)]	16.54
	Switching capacity (Tbps)	16
	Forwarding performance (Mpps)	2400
Management interface	Console port	1 x RJ45 interface
	USB port	1
CPU	Number of cores	16
Buffer	System Buffer	65 MB

Item		CloudEngine 8865-4C
Power supply	Power modules	2000 W AC&240 V DC power module 1800 W AC&240 V DC power module 2000 W high-voltage DC power module
	Rated input voltage [V]	2000 W AC&240 V DC power module: AC: 100 V AC to 240 V AC, 50/60 Hz; DC: 240 V DC 1800 W AC&240 V DC power module: AC: 100 V AC to 240 V AC, 50/60 Hz; DC: 240 V DC 2000 W high-voltage DC power module: 336 V DC
	Input voltage range [V]	2000 W AC&240 V DC power module: AC: 90 V AC to 290 V AC, 45 Hz to 66 Hz; DC: 190 V DC to 290 V DC 1800 W AC&240 V DC power module: AC: 90 V AC to 290 V AC, 45 Hz to 66 Hz; DC: 190 V DC to 290 V DC 2000 W high-voltage DC power module: 260 V DC to 400 V DC
	Maximum input current	2000 W AC&240 V DC power module: 10 A (100 V AC to 240 V AC); 10 A (240 V DC) 1800 W AC&240 V DC power module: 10 A (100 V AC to 240 V AC); 10 A (240 V DC) 2000 W high-voltage DC power module: 10 A (336 V DC)
	Typical power	Configured with four CE88-D16CQ-H cards: - 650 W (100% traffic load, copper cables on 32 x 100GE ports, normal temperature, dual AC power modules) - 728 W (100% traffic load, short-distance optical modules on 32 x 100GE ports, normal temperature, dual AC power modules) Configured with four CE88-D10CQ-H cards: - 315 W (100% traffic load, copper cables on 20 x 100GE ports, normal temperature, dual AC power modules) - 338 W (100% traffic load, copper cables on 20 x 200GE ports, normal temperature, dual AC power modules) - 345 W (100% traffic load, short-distance optical modules on 20 x 100GE ports, normal temperature, dual AC power modules) - 420 W (100% traffic load, short-distance optical modules on 20 x 200GE ports, normal temperature, dual AC power modules) Configured with four CE88-D8YS4DQ-H cards: - 306 W (100% traffic load, copper cables on 8 x 400GE + 16 x 25GE ports, normal temperature, dual AC power modules) - 406 W (100% traffic load, short-distance optical modules on 8 x 400GE + 16 x 25GE ports, normal temperature, dual AC power modules) Configured with four CE88-D24YS2CQ-H cards: - 305 W (100% traffic load, copper cables on 48 x 25GE + 4 x 100GE ports, normal temperature, dual AC power modules) - 338 W (100% traffic load, short-distance optical modules on 48 x 25GE + 4 x 100GE ports, normal temperature, dual AC power modules) Configured with four CE88-D24T2CQ-H cards: - 381 W (100% traffic load, copper cables on 48 x 10GE electrical + 4 x 100GE ports, normal temperature, dual AC power modules) - 388 W (100% traffic load, short-distance optical modules on 48 x 10GE electrical + 4 x 100GE ports, normal temperature, dual AC power modules)
	Maximum power	Configured with four CE88-D16CQ-H cards: - 888 W (100% traffic load, short-distance optical modules on 64 x 100GE ports, normal temperature, dual AC power modules) - 1318 W (100% traffic load, long-distance optical modules on 64 x

Item		CloudEngine 8865-4C
		100GE ports, high temperature, dual AC power modules) - 1376 W (100% traffic load, long-distance optical modules on 48 x 100GE + 16 x 200GE ports, high temperature, dual AC power modules) Configured with four CE88-D10CQ-H cards: - 406 W (100% traffic load, short-distance optical modules on 40 x 100GE ports, normal temperature, dual AC power modules) - 549 W (100% traffic load, short-distance optical modules on 40 x 200GE ports, normal temperature, dual AC power modules) - 612 W (100% traffic load, long-distance optical modules on 40 x 100GE ports, high temperature, dual AC power modules) - 965 W (100% traffic load, long-distance optical modules on 40 x 200GE ports, high temperature, dual AC power modules) Configured with four CE88-D8YS4DQ-H cards: - 531 W (100% traffic load, short-distance optical modules on 16 x 400GE + 32 x 25GE ports, normal temperature, dual AC power modules) - 830 W (100% traffic load, long-distance optical modules on 16 x 400GE + 32 x 25GE ports, high temperature, dual AC power modules) Configured with four CE88-D24YS2CQ-H cards: - 410 W (100% traffic load, short-distance optical modules on 96 x 25GE + 8 x 100GE ports, normal temperature, dual AC power modules) - 718 W (100% traffic load, long-distance optical modules on 96 x 25GE + 8 x 100GE ports, high temperature, dual AC power modules) Configured with four CE88-D24T2CQ-H cards: - 455 W (100% traffic load, short-distance optical modules on 96 x 10GE electrical + 8 x 100GE ports, normal temperature, dual AC power modules) - 732 W (100% traffic load, long-distance optical modules on 96 x 10GE electrical + 8 x 100GE ports, high temperature, dual AC power modules)
	Frequency (AC, Hz)	50/60
Heat dissipation	Heat dissipation mode	Air cooling
	Number of fans	3
	Heat dissipation airflow	Front-to-back or back-to-front airflow
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
	Storage relative humidity (RH)	5% to 95%
	Operating altitude (m)	Up to 5000
	Noise at normal temperature (27°C, sound pressure) (dBA)	Port-side air intake: < 64.3 dB(A) Port-side air exhaust: < 65.2 dB(A)
	Noise at high temperature (40°C, sound pressure) (dBA)	Port-side air intake: < 86.1 dB(A) Port-side air exhaust: < 87.9 dB(A)
	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

Item		CloudEngine 8865-4C
Reliability	MTBF (year)	48.4
	MTTR (hour)	1.86
	Availability	0.9999964621

Safety and Regulatory Compliance

The following table lists the safety and regulatory compliance of CloudEngine 6800 series switches.

Certification Category	Description
Safety	EU CE: 2006/95/EC, EN 60950-1 Germany GS: EN 60950-1 CB: IEC 60950-1 USA UL: UL 60950-1 Canada CUL: CSA C22.2 No. 60950-1 Australia RCM: AS/NZS 60950-1 China CCC: GB 4943
Electromagnetic Compatibility (EMC)	EU CE: 2014/30/EU, EN55032, EN 55024, and EN 300386 US FCC: 47CFR Part 15 Canada IC: ICES-003 Australia C-Tick: AS/NZS CIPSR22 Japan VCCI: VCCI-3 and VCCI-4 China CCC: GB 9254
Environment	EU ROHS: 2002/95/EC & 2011/65/EU EU REACH: 1907/2006/EC EU WEEE: 2002/96/EC China RoHS: GB/T 26572
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	

Ordering Information

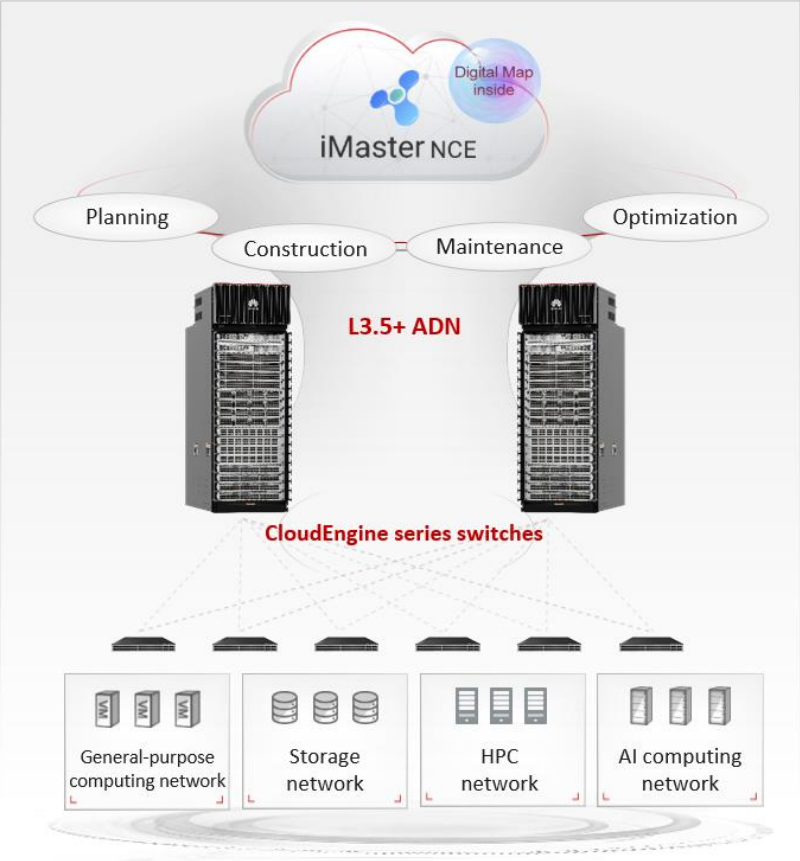
Device	Description
CE8865-4C	CE8865-4C Mainframe (With 4 Subcard Slots, Without Fan and Power Modules)
CE8865-4C-B	CE8865-4C Mainframe (With 4 Subcard Slots, 2*AC Power Modules, 3*Fans, Port-side Intake)
CE8865-4C-F	CE8865-4C Mainframe (With 4 Subcard Slots, 2*AC Power Modules, 3*Fans, Port-side Exhaust)
Fan module	
Model	**Description**
FAN-180E-B	Fan box (B,FAN panel side exhaust)
FAN-180E-F	Fan box (F,FAN panel side intake)
Power supply modules	
Model	**Description**
PAC2KS12-PB	2000W AC&240V DC Power Module (Back to Front,Power panel side exhaust)
PAC1K8S12-PF	1800W AC&240V DC Power Module (Front to Back,Power panel side intake)
PDC2K2S12-PB	2200W DC Power Module (Back to Front, Power panel side exhaust)
PDC2K2S12-PF	2200W DC Power Module (Front to Back, Power panel side intake)
PHD2KS12-PB	2000W HVDC Power Module (Back to Front, Power panel side exhaust)
Hardware RTU	
CE88-RTU-U2CQ	100GE upgraded to 200GE
CE88-RTU-U24YS	25GE upgraded to 50GE
Software	
N1-CE88LIC-CFFD	N1-CloudFabric Foundation SW License for CloudEngine 8800
N1-CE88CFFD-SnS1Y	N1-CloudFabric Foundation SW License for CloudEngine CE8800-SnS-Year
N1-CE88LIC-CFAD	N1-CloudFabric Advanced SW License for CloudEngine 8800
N1-CE88CFAD- SnS1Y	N1-CloudFabric Advanced SW License for CloudEngine CE8800-SnS-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-CE88UPG-F-A	N1-CloudEngine 8800 Upgrade SW License:Foundation to Advanced
N1-CE88UGFA- SnS1Y	N1-CloudEngine 8800 Upgrade SW License:Foundation to Advanced-SnS-Year
N1-CE88UPG-A-P	N1-CloudEngine 8800 Upgrade SW License:Advanced to Premium
N1-CE88UGAP- SnS1Y	N1-CloudEngine 8800 Upgrade SW License:Advanced to Premium-SnS-Year
N1-CE88LIC-AFRD-2	N1-CloudEngine 8800 AI Fabric RDMA Application Acceleration Function 2
N1-CE88AFRD2- SnS1Y	N1-CloudEngine 8800 AI Fabric RDMA Application Acceleration Function 2-SnS-Year
N1-CE168LIC-HPC	N1-CE88LIC-HPC,N1-CloudEngine 16800 AI Fabric Value-added Package for the HPC Scenarios
N1-CE168HPC-SnS1Y	N1-CloudEngine 16800 AI Fabric Value-added Package for the HPC Scenarios-SnS-1 Year,
N1-CE88LIC-AI	N1-CloudEngine 8800 Value-added Package for the AI Scenarios
N1-CE88AI-SnS1Y	N1-CloudEngine 8800 Value-added Package for the AI Scenarios-SnS Year
N1-CE88LIC-SEC	N1-CloudEngine 8800 Security Function
N1-CE88SEC-SnS1Y	N1-CloudEngine 8800 Security Function-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

Device	Description
N1-CE-F-LIC-DM	N1-CloudEngine Digital Map Basic Function-Fixed
N1-CEMDF-SnS1Y	N1-CloudEngine Digital Map Function
N1-CE-LIC-AFP100VM	N1-CloudEngine Specified Flow Analysis Value-added Package Per 100 VM
N1-CEAFP100VM-SnS1Y	N1-CloudEngine Specified Flow Analysis Value-added Package Per 100 VM-SnS-Year
N1-CE88LIC-TCPAC	N1-CE88LIC-TCPAC,N1-CloudEngine 8800 Value-added Package for the TCP Acceleration Scenarios
N1-CE-LIC-XFLOW20G	N1-CloudEngine xFlow Intelligent Full-flow Analysis

Networking and Applications

Typical Application in DCs

On a typical DCN, CloudEngine 16800-X or 16800 switches work as core switches, whereas CloudEngine 8865 series switches work as TOR switches and connect to the core switches through 40GE, 100GE, or 200GE ports to build an end-to-end and fully-connected 100GE/200GE/400GE network. The switches use VXLAN and other fabric protocols to establish a non-blocking large Layer 2 network, which allows large-scale VM migration and flexible service deployment.



More Information

For more information about Huawei products, visit http://e.huawei.com or contact Huawei's local sales office.

Alternatively, you can contact us through one of the following methods:

- Global service hotline: http://e.huawei.com/en/service-hotline
- Enterprise technical support website: http://support.huawei.com/enterprise/
- Service email address for enterprise users: support_e@huawei.com

Copyright © Huawei Technologies Co., Ltd. 2024. All rights reserved.
No part of this document may be reproduced or transmitted in any form or by any means without prior written consent of Huawei Technologies Co., Ltd.

Trademarks and Permissions
HUAWEI and other Huawei trademarks are trademarks of Huawei Technologies Co., Ltd.
All other trademarks and trade names mentioned in this document are the property of their respective holders.

Notice
The purchased products, services and features are stipulated by the contract made between Huawei and the customer. All or part of the products, services and features described in this document may not be within the purchase scope or the usage scope. Unless otherwise specified in the contract, all statements, information, and recommendations in this document are provided "AS IS" without warranties, guarantees or representations of any kind, either express or implied.
The information in this document is subject to change without notice. Every effort has been made in the preparation of this document to ensure accuracy of the contents, but all statements, information, and recommendations in this document do not constitute a warranty of any kind, express or implied.

Huawei Technologies Co., Ltd.
Address: Huawei Industrial Base, Bantian, Longgang, Shenzhen, People's Republic of China
Post code: 518129
Website: e.huawei.com