



# Huawei CloudEngine 6870 Switch Datasheet

CloudEngine 6870 series provide high-density 10GE access 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 Overview

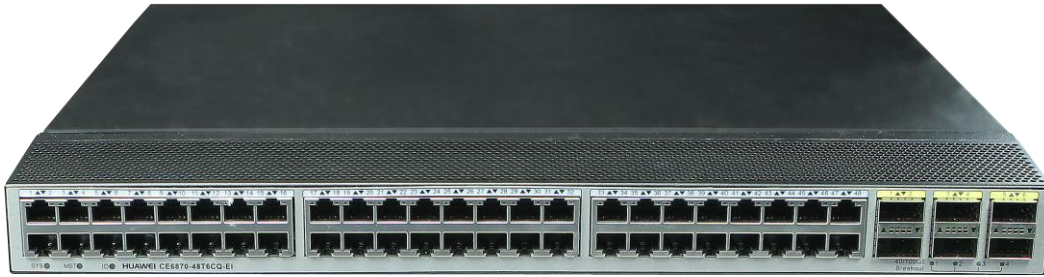
Huawei CloudEngine 6870 series switches are next-generation 10GE Ethernet switches designed for data centers and high-end campus networks, providing high-performance, high-density 10GE ports, and low latency. The CloudEngine 6870 series have advanced hardware architecture with 100GE uplink ports and high-density 10GE access ports. The 4 GB buffer can effectively cope with traffic bursts in video and search services.

Using the Huawei VRP8 software platform, CloudEngine 6870 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 6870 series can work with CloudEngine 16800 or CloudEngine 12800 switches to build an elastic, virtualized, high-quality fabric with end-to-end large buffer, meeting the requirements of cloud-computing data centers.

CloudEngine 6870 series provide high-density 10GE access 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 6870-48T6CQ-EI provides 48\*10GE BASE-T ports, 6\*100GE QSFP28 ports or 6\*40GE QSFP+ ports.



CloudEngine 6870-48S6CQ-EI provides 48\*10GE SFP+ ports, 6\*100GE QSFP28 ports or 6\*40GE QSFP+ ports.



## Product Characteristics

### Large Buffer, High-Density Access

- High-density 10GE access capability
  - » CloudEngine 6870 series (1 U ToR switches) provide 835 Mpps forwarding performance and supports L2/L3 line-rate forwarding.
  - » CloudEngine 6870 series provide up to 48\*10GE ports, allowing for high-density 10GE server access.
  - » CloudEngine 6870 series provide six 100GE QSFP28 ports. Each QSFP28 port can be used as one 40GE QSFP+ port, four 25GE SFP28 ports, or four 10GE SFP+ ports, providing flexibility in networking. The 100GE uplink ports four 25GE SFP28 ports, or four 10GE SFP+ ports, providing flexibility in networking. The 100GE uplink ports can be connected to CE12800 switches to build a 100GE fully-connected network platform without oversubscription.
- Super large buffer size
  - » All ports on CloudEngine 6870 series support ingress distributed buffering to effectively cope with traffic bursts.
  - » CloudEngine 6870 series provide a 4 GB buffer, which is dynamically shared among all ports. With this large buffer capacity, CloudEngine 6870 switches can work with CE12800 switches to provide an end-to-end large buffer network solution to deliver more reliable network services.

## Inter-device Link Aggregation, High Efficiency and Reliability

- CloudEngine 6870 series 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 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.
- 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 zero interruption of services when upgrading switches.

## Virtualized Gateway Achieves Fast Service Deployment

- CloudEngine 6870 series can work with a mainstream virtualization platform. As the high-performance, hardware gateway of an overlay network (VXLAN), the CloudEngine 6870 series can support more than 16 million tenants.
- CloudEngine 6870 series can connect to a cloud platform through an open API to provide unified management of software and hardware networks.
- The hardware gateway deployment enables fast service deployment without changing the customer network, providing investment protection.
- CloudEngine 6870 series support Border Gateway Protocol - Ethernet VPN (BGP-EVPN), which can run as the VXLAN control plane to simplify VXLAN configuration within and between data centers.

## Converged Enhanced Ethernet, Allowing for Data, Storage, and Computing Traffic on One Network

- CloudEngine 6870 series switches support Fibre Channel over Ethernet (FCoE), which permits storage, data, and computing services to be transmitted on one network, reducing the costs of network construction and maintenance.
- CloudEngine 6870 series switches support centralized FCoE/FC gateway deployment, which makes network O&M simpler.
- Various CloudEngine 6870 series switches support multiple data center features: Priority-based Flow Control (PFC), Enhanced Transmission Selection (ETS) and Data Center Bridging Exchange (DCBX). These features ensure low latency and zero packet loss for FC storage and high-speed computing services.

## Full Openness and Programmability, Flexible Customization

- CloudEngine 6870 series 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.
- CloudEngine 6870 series support CE modules for Ansible, which enables unified provisioning of physical and virtual networks.
- CloudEngine 6870 series can seamlessly integrate with systems of F5, an industry-leading application delivery network provider, to build an active-active data center network.
- The OPS provides seamless integration of data center service and network in addition to a service-oriented, software-defined networking (SDN).

## Zero Touch Provisioning, Automatic O&M

- CloudEngine 6870 series support Zero Touch Provisioning (ZTP). ZTP enables CloudEngine 6870 series 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.

## FabricInsight-based Intelligent O&M

- The CloudEngine 6870 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 6870 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
  - » CloudEngine 6870 series use 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 when different fans and power modules are used.
  - » Redundant power modules and fans can be configured to ensure uninterrupted service transmission.
- Energy-saving technology
  - » CloudEngine 6870 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, Simple Maintenance

- Clear indicators
  - » Port indicators clearly show port status and port speeds. The 100GE port indicators can show the states of all ports derived from the 100GE ports.
  - » State and stack indicators on both the front and rear panels enable operators to maintain the switch from either side.
  - » CloudEngine 6870 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 6870 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 6881 Series Switch		Management	Foundation	Advanced	Premium	Multi-cloud Multi-DC Value-added Package

Product	Feature	N1 Mandatory Software Packages				N1 Add on Software Packages
	Basic software	√	√	√	√	
	IPV6	√	√	√	√	
	VXLAN	√	√	√	√	
	Lossless upgrade	√	√	√	√	
	Telemetry		√	√	√	
	MPLS			√	√	
iMaster NCE-Fabric Controller	SDN Automation		√	√	√	
	Basic intent functions (simulation and verification, and network-wide configuration rollback)				√	
	Multi-Cloud Multi-DC function					√
iMaster NCE-FabricInsight Analyzer	Basic network analysis functions of Telemetry		√	√	√	
	Network Health (Intelligent O&M 1-3-5)			√	√	
	Value-added functions for network traffic analysis (managing 100 VMs)				√	
Version Mapping	Select one from the four options. The Foundation software package contains functions of the Management software package, the Advanced software package contains functions of the Foundation software package, and the Premium software package contains functions of the Advanced 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 6870-48T6CQ-EI	CloudEngine 6870-48S6CQ-EI
Device virtualization	iStack	
	M-LAG	
Network virtualization	VXLAN routing and bridging	
	BGP-EVPN	
	QinQ access VXLAN	
SDN	iMaster NCE-Fabric	
	VMware NSX (Supported only by CloudEngine 6870-48S6CQ-EI)	
Network convergence	FCoE	
	DCBX, PFC, ETS	
	RDMA and RoCE (RoCE v1 and RoCE v2)	
Programmability <sup>4</sup>	Programming on the 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	
	Dynamic learning and aging of MAC addresses	
	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, BGP, and IS-IS	
	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 IP6 <sup>4</sup>	
Multicast	IGMP, PIM-SM, PIM-DM, MSDP, and MBGP	
	IGMP snooping	
	IGMP proxy	
	Fast leaving of multicast member interfaces	

Item	CloudEngine 6870-48T6CQ-EI	CloudEngine 6870-48S6CQ-EI
	Multicast traffic suppression	
	Multicast VLAN	
	Multicast VXLAN	
Reliability	LACP	
	STP, RSTP, VBST, and MSTP	
	BPDU protection, root protection, and loop protection	
	Smart Link and multi-instance	
	DLDP	
	ERPS (G.8032)	
	VRRP, VRRP load balancing, and BFD for VRRP	
	BFD for BGP/IS-IS/OSPF/Static route	
QoS	Traffic classification based on Layer 2 headers, Layer 3 protocols, Layer 4 protocols, and 802.1p priority	
	Actions of ACL, CAR, re-marking, and scheduling	
	Queue scheduling algorithms, including PQ, WFQ and PQ+WFQ	
	Congestion avoidance mechanisms, including WRED and tail drop	
	Traffic shaping	
O&M	Network-wide path detection	
	Telemetry	
	Statistics on the buffer microburst status	
	VXLAN OAM: VXLAN ping, VXLAN tracer	
Configuration and maintenance	Console, Telnet, and SSH terminals	
	Network management protocols, such as SNMPv1/v2c/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	
	User operation logs	
	ZTP	
Security and management	Command line authority control based on user levels, preventing unauthorized users from using commands	
	DoS, ARP, and ICMP attack defenses	
	Port isolation, port security, and sticky MAC	
	Binding of the IP address, MAC address, interface number, and VLAN ID	

Item	CloudEngine 6870-48T6CQ-EI	CloudEngine 6870-48S6CQ-EI
	Authentication methods, including AAA, RADIUS, and HWTACACS	
	Remote Network Monitoring (RMON)	

## Performance and Scalability

Item	CloudEngine 6870-48T6CQ-EI	CloudEngine 6870-48S6CQ-EI
Maximum number of MAC address entries	750K	
Maximum number of Forwarding routes (FIB IPv4/ IPv6)	380K/128K	
ARP table size	750K	
Maximum number of VRF	4096	
IPv6 ND (Neighbor Discovery) table size	96K	
Maximum Number of multicast routes (Multicast FIB IPv4/IPv6)	32K/8K	
Maximum VRRP groups	1024	
Maximum number of ECMP paths	128	
Maximum ACL number	20K (Ingress/Egress sharing)	
Maximum Number of broadcast domains	32K	
Maximum number of BDIF	32K	
Maximum number of tunnel endpoints (VTEP)	2K	
Maximum number of lag group	1024/512/256	
Maximum number of links in a lag group	16/32/64	
Maximum number of MSTP instance	64	
VBST (Maximum number of VLANs where VBST can be configured)	240	

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

## Hardware Specifications

Item		CloudEngine 6870-48T6CQ-EI	CloudEngine 6870-48S6CQ-EI
Physical Features	Dimensions (W × D × H,mm)	442*420*43.6	
	Weight (excluding optical transceivers, power modules, and fan assemblies / including AC power modules and	7.0/9.8	5.8/8.6



Item		CloudEngine 6870-48T6CQ-EI	CloudEngine 6870-48S6CQ-EI
	fan assemblies, excluding optical transceivers, kg)		
	Switching capacity (Tbps)	2.16	2.16
	Forwarding performance (Mpps)	720	720
10GE SFP+ ports		NA	48
10GE BASE-T		48	NA
100GE QSFP28 ports		6	6
Management interface	Out-of-band management port	1*GE management interface	
	Console port	1*RJ45	
	USB port	1	
CPU	Main frequency (GHZ)	1.5	
	Number of cores	8	4
Storage	RAM	4GB	4GB
	NOR Flash	32MB	16MB
	NAND Flash	1GB	1GB
System	System buffer	4GB	4GB
Power Supply System	Power modules	AC: 600W DC: 600W -48V	AC: 600W DC: 350 W -48V
	Rated voltage range(V)	AC: 100V to 240V AC DC: -48V to -60V	AC: 100V to 240V DC: -48V to -60V
	Maximum voltage range(V)	AC: 90V to 290V DC: -38.4V to -72V	AC: 90V to 290V DC: -38.4V to -72V
	Maximum input current	AC 600W: 100V to 240V 9A -48V DC 600W: -48V to -60V 20A	AC 600W: 100V to 240V 9A DC 350W: -48V to -60V 11A
	Typical power	280W (100% traffic load, 3 m network cable and copper cable, normal temperature, dual power modules) 287W (100% traffic load, 3 m network cable, short-distance optical transceivers, normal temperature, dual power modules)	159W (100% traffic load, copper cable, normal temperature, dual power modules) 222W (100% traffic load, short-distance optical transceivers, normal temperature, dual power modules)
	Maximum power	405W	333W
	Frequency (AC, HZ)	50/60	
Heat Dissipation	Heat dissipation mode	Air cooling	

Item		CloudEngine 6870-48T6CQ-EI	CloudEngine 6870-48S6CQ-EI
	Number of fan trays	2	
	Heat dissipation airflow	Front-to-back or back-to-front airflow	
	Maximum heat consumption (BTU/hr)	1382	1135
	Long-term operating temperature (°C)	0°C to 40°C (0-1800m) 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	
Environment specifications	Sound power at 27°C (dBA)	Front-to-back airflow: < 68 dBA Back-to-front airflow: < 66 dBA	Front-to-back airflow: < 62 dBA Back-to-front airflow: < 62 dBA
	Sound power at 40°C (dBA)	Front-to-back airflow: < 84 dBA Back-to-front airflow: < 83 dBA	Front-to-back airflow: < 82 dBA Back-to-front airflow: < 83 dBA
	Sound pressure at 27°C (dBA)	Front-to-back airflow: 54 dBA in average (maximum: 57 dBA) Back-to-front airflow: 52 dBA in average (maximum: 56 dBA)	Front-to-back airflow: 47 dBA in average (maximum: 51 dBA) Back-to-front airflow: 49 dBA in average (maximum: 55 dBA)
	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: 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
Reliability	MTBF (year)	44.44	54.28
	MTTR (hour)	1.76	1.66
	Availability	0.99999548998	0.99999651887

For detailed information of CloudEngine 6870 Platform hardware information, visit

<https://support.huawei.com/enterprise/en/doc/EDOC1000019246?idPath=7919710%7C21782165%7C21782239%7C22318540%7C7597815>

## 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> </ul>

Certification Category	Description
	<ul style="list-style-type: none"> <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 [huawei.com](https://support.huawei.com)

## Ordering Information

Mainframe	
CE6870-EI-F-B00	CE6870-48T6CQ-EI Switch (48-Port 10GE RJ45, 6-Port 100GE QSFP28, 2*AC Power Module, 2*FAN Box, Port-side Exhaust)
CE6870-EI-B-B00	CE6870-48T6CQ-EI Switch (48-Port 10GE RJ45, 6-Port 100GE QSFP28, 2*AC Power Module, 2*FAN Box, Port-side Intake)
CE6870-48T6CQ-EI	CE6870-48T6CQ-EI Switch (48-Port 10GE RJ45, 6-Port 100GE QSFP28, Without Fan and Power Module)
CE6870-48S6CQ-EI	CE6870-48S6CQ-EI Switch (48-Port 10GE SFP+, 6-Port 100GE QSFP28, Without Fan and Power Module)
CE6870-EI-F-B0A	CE6870-48S6CQ-EI Switch (48-Port 10GE SFP+, 6-Port 100GE QSFP28, 2*AC Power Module, 2*FAN Box, Port-side Exhaust)
CE6870-EI-B-B0A	CE6870-48S6CQ-EI Switch (48-Port 10GE SFP+, 6-Port 100GE QSFP28, 2*AC Power Module, 2*FAN Box, Port-side Intake)

Fan box		
Part Number	Product Description	Support Product
FAN-40HA-F	Fan box (HA, Front to Back, FAN panel side intake)	CE6870-48T6CQ-EI, CE6870-48S6CQ-EI
FAN-40HA-B	Fan box (HA, Back to Front, FAN panel side exhaust)	CE6870-48T6CQ-EI, CE6870-48S6CQ-EI

Power		
Part Number	Product Description	Support Product
PAC-600WA-F	600W AC Power Module (Front to Back, Power panel side intake)	CE6870-48T6CQ-EI, CE6870-48S6CQ-EI
PAC-600WA-B	600W AC Power Module (Back to Front, Power panel side exhaust)	CE6870-48T6CQ-EI, CE6870-48S6CQ-EI
PDC-350WA-F	350W DC Power Module (Front to Back, Power panel side intake)	CE6870-48S6CQ-EI
PDC-350WA-B	350W DC Power Module (Back to Front, Power panel side exhaust)	CE6870-48S6CQ-EI

Power		
PDC600S12-CF	600W DC Power Module (Front to Back, Power panel side intake)	CE6870-48T6CQ-EI
PDC600S12-CB	600W DC Power Module (Back to Front, Power panel side exhaust)	CE6870-48T6CQ-EI

Software	
CE68-LIC-VXLAN	CloudEngine 6800 VXLAN Function
CE68-LIC-TLM	CE6800 Telemetry Function
N1-CE68LIC-CFMM	N1-CloudFabric Management SW License for CloudEngine 6800
N1-CE68CFMM-SnS1Y	N1-CloudFabric Management SW License for CloudEngine 6800-SnS- Year
N1-CE68LIC-CFFD	N1-CloudFabric Foundation SW License for CloudEngine 6800
N1-CE68CFFD-SYS1Y	N1-CloudFabric Foundation SW License for CloudEngine 6800-SnS- Year
N1-CE68LIC-CFAD	N1-CloudFabric Advanced SW License for CloudEngine 6800
N1-CE68CFAD-SYS1Y	N1-CloudFabric Advanced SW License for CloudEngine 6800-SnS- Year
N1-CE68LIC-CFPM	N1-CloudFabric Premium SW License for CloudEngine 6800
N1-CE68CFPM-SnS1Y	N1-CloudFabric Premium SW License for CloudEngine 6800 -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 Applications

### Data Center Applications

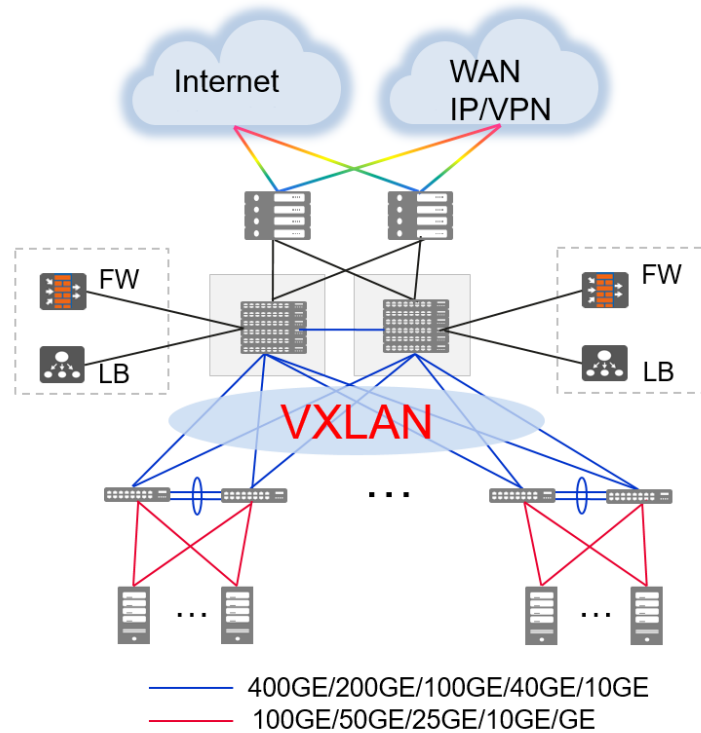
On a typical data center network that requires a large buffer, for example, a data center providing search and video services, CloudEngine 16800/CloudEngine 12800 switches can be used as core switches, whereas CloudEngine 6870 switches can be used as ToR switches and connect to CloudEngine 16800/CloudEngine 12800 switches using 100GE ports to build a 100GE network with end-to-end large buffer capacity. The

CloudEngine 12800 and CloudEngine 6870 switches use VXLAN to build a non-blocking Layer 2 network, which allows large-scale VM migrations and flexible service deployments.

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

CloudEngine 16800  
 CloudEngine 12800  
 CloudEngine 8800

CloudEngine 8800  
 CloudEngine 6800  
 CloudEngine 5800



## Campus Network Applications

CloudEngine 6870 switches can be used as aggregation or core switches on a campus network. Their high-density, line rate 10GE ports and high stacking capability can meet the ever-increasing demand for network bandwidth. CloudEngine 6800 switches are cost-effective campus network switches, thanks to their extensive service features and innovative energy-saving technologies.

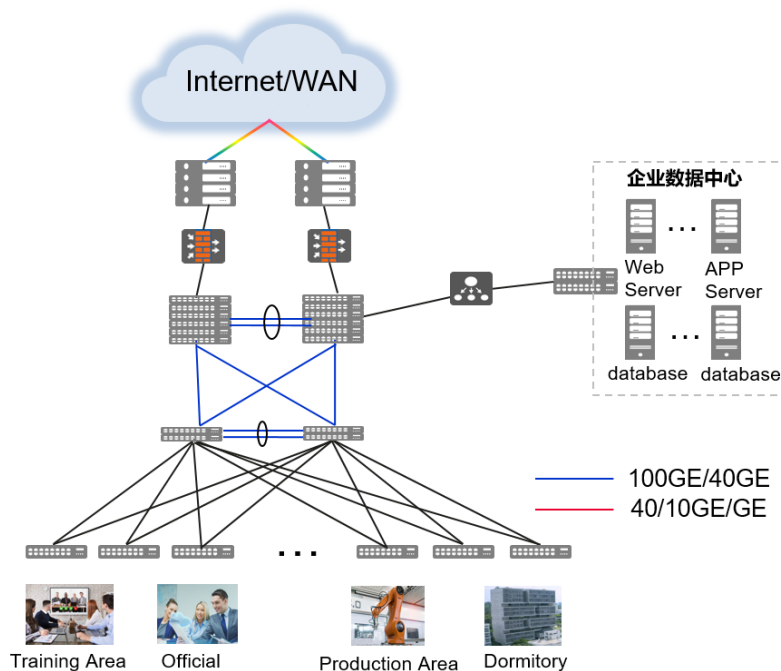
On a typical campus network, multiple CloudEngine 12800/CloudEngine 8800 switches are virtualized into a logical core switch using CSS or iStack technology. Multiple CloudEngine 8800/CloudEngine 6800 switches at the aggregation layer form a logical switch using iStack technology. CSS and iStack improve network reliability and simplify network management. At the access layer, CloudEngine 6800/CloudEngine 5800 switches are virtualized with CloudFabric technology, such as M-LAG, to provide high-density line-rate ports.

Note: CSS, iStack and M-LAG are also widely used in data centers to facilitate network management.

CloudEngine 16800  
 CloudEngine 12800  
 CloudEngine 8800

CloudEngine 8800  
 CloudEngine 6800

CloudEngine 6800  
 CloudEngine 5800



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