ENTERPRISE PRODUCT PORTFOLIO

2019

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LEADING NEW ICT

HUAWEI

Company Profile

Huawei is a global leader in ICT solutions. Founded in 1987, Huawei has grown into a Global Fortune 500 company with annual sales revenue of nearly USD $92.549 billion (CNY 603.621 billion). Our telecom network equipment, IT products and solutions, and smart devices are used in more than 170 countries and regions. Huawei is committed to bringing digital to every person, home, and organization for a fully connected, intelligent world.

We are committed to providing a holistic set of competitive, end-to-end ICT solutions and services for telecom carriers, enterprises, and consumers, helping them achieve success in this digital society. With a customer-centric focus as our strategy, we invest heavily in Research and Development (R&D) for telecom carrier networks, cloud data centers, and smart devices, making constant innovations driven by both customer needs and cutting-edge technologies.

Leveraging our experience and expertise in the ICT sector, we help bridge the digital divide and promote high-quality broadband connectivity for all. As an advocate of socioeconomic sustainability, we make every effort to support secure and stable network operations, and help customers and industries improve efficiency to drive low-carbon economic growth. By localizing our operations while building a global value chain, we help local innovators maximize their global value and share win-win outcomes.

With continuous technology innovation, Huawei is committed to fully leveraging the power of cloud computing, Software-Defined Networking (SDN), Big Data, and the Internet of Things (IoT) to build an open, flexible, resilient, and secure platform, and foster a collaborative and win-win ecosystem in which all players can thrive and prosper. Huawei Enterprise BG follows the Business-Driven ICT Infrastructure (BDII) program of action, and is committed to carrying out joint innovations with customers and partners, and helping customers across industries, including government and public sectors, financial services, energy, transportation, and manufacturing to achieve digital upgrades with ‘agility and intelligence’ at the core.

211 enterprises of Fortune 500 and 48 enterprises of Fortune 100 have chosen Huawei as their partner for digital transformation.

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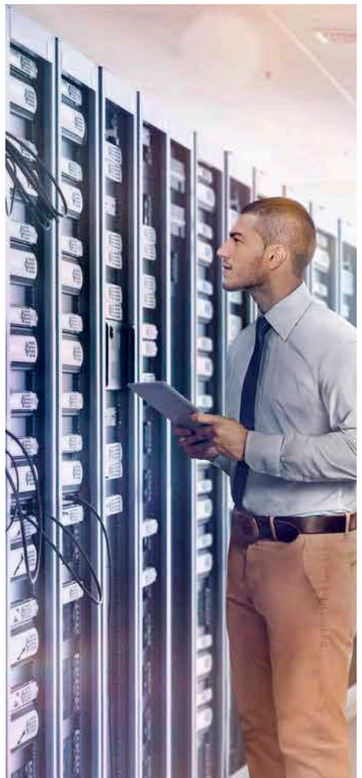

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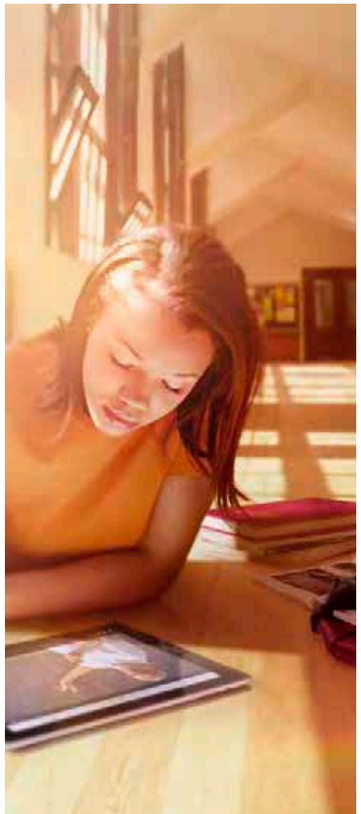

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01
Enterprise IT

Storage

Storage Solutions

Storage as a Service Solution

Huawei Storage-as-a-Service (STaaS) Solution enables automated storage service provisioning and intelligent data management, and helps accelerate the cloud transformation of your data center by moving mission-critical businesses to the cloud.

Service on Demand
- Storage resources allocated according to business workload, self-service, simple, and easy-to-use.

Smart Management
- Smart O&M and decision-making support, implementing lifecycle management of storage and data resources.

Open Ecosystem
- Open architecture and ecosystem, leading the industry storage trend.

SAP HANA TDI Solution

Based on the gateway-free HyperMetro feature, this converged active-active for SAN and NAS solution ensures the high availability of both database and file services, ensuring zero service interruption and zero data loss.

- Adopts a complete TDI architecture which is manageable to general data centers and supports virtualization evolution, not requiring changes to the application architecture, disaster tolerance architecture, and management architecture.
- Provides industry-leading SAP service bearing and integration capabilities based on the outstanding performance of Huawei's all-flash storage.
- Leverages both the SAP snapshot backup solution and a unified disaster recovery solution for applications and databases, ensuring stable running of mission-critical enterprise services.
- Implements the snapshot function without compromising performance, which can be combined with the SAP LAMA management platform to support fast development & test and sandbox environment setup, promoting service innovation for customers.

FusionROBO Solution for Branches

Huawei FusionROBO Solution is an integrated solution designed for Remote Offices/ Branch Offices (ROBOs) of large enterprises. It integrates all IT resources such as servers, storage devices, switches, firewalls, routers, and UPSs required by ROBOs — all in a single cabinet. In addition, it adopts FusionROBO Manager to centrally manage IT resources, making it easier than ever to operate your system. After many successful deployments for enterprises in different fields, FusionROBO has become an ideal choice for IT enablement of branches.

Plug-and-Play
- 50% shorter system delivery time thanks to one-stop procurement and all-in-one cabinet delivery. Intelligent cabinets that support outstanding heat dissipation and noise reduction can be deployed in the office. Wizard-based site deployment shortens the deployment time by 99% and saves up to 75% on IT manpower investment.

Attendance-Free
- Remote, visualized management of branch sites with real-time presentation of ROBO status from multiple monitoring terminals (including PCs and mobile phones), intelligent fault prediction, and remote fault rectification.

Edge-Cloud Synergy
- Software defined batch-provisioning of business applications for ROBOs. The solution creates application packages at the central site in a unified manner so business applications can be batch distributed. Enabling direct data migration to the cloud and back-up of ROBO data to the central site, FusionROBO Manager can be deployed on HUAWEI CLOUD and FusionCloud to reduce customers' TCO.

Converged Data Management Solution

The Huawei Converged Data Management (CDM) Solution provides efficient storage self-protection in a multi-cloud environment, implementing unified management of disaster recovery, backup, and data reuse, to improve data value.

Efficient Protection
- 30-fold improved backup frequency so snapshots backup in seconds, incremental recovery achieves 20-fold acceleration, and adjustable backup intervals for on-demand data protection throughout the lifecycle.

Cost Reduction
- Storage self-protection with optional backup software or gateway reduces TCO by 50%, disaster recovery, backup, development, and tests share data copies to conserve storage space by 45%.

Cloud Expansion
- Gateway-free cloud storage disaster recovery with optional on-premise disaster recovery centers allows for flexible expansion and instant cloud recovery with service restoration within minutes.

Active-Active Storage Solution

Based on the gateway-free HyperMetro feature, this converged active-active for SAN and NAS solution ensures the high availability of both database and file services, ensuring zero service interruption and zero data loss.

Reliability
- Active-active SAN and NAS unified storage solution with no need for a virtualized gateway powered on the exclusive Huawei HyperMetro feature ensures zero data loss and service interruption.

High performance
- Optimized storage protocols improve service performance by 30%.

Easy O&M
- Visualized resource management and monitoring and disaster recovery testing simplify management while doubling efficiency.

BC&DR Solution

This solution supports the backup and disaster recovery of data from traditional data centers to clouds, ensuring service continuity on- and off-premises.

- Service-level active-active: E2E active-active architecture, zero interruption of applications, zero loss of data
- High-performance active-active: HyperMetro improving performance by 30%; active-active all-flash storage with only 1 ms latency
- Expansion to clouds: Elastic scalability of on-premise and off-premise disaster recovery capabilities, implementing on-demand construction of remote disaster recovery centers.

Storage Products

All-Flash Array

OceanStor Dorado V3

Huawei OceanStor Dorado V3 all-flash storage system is specially built for enterprises' mission critical business. Applying the innovative Huawei FlashLink™ technology, the OceanStor Dorado V3 delivers 3x business performance increase, satisfying the most demanding data service requirements with the industry's highest performance and 99.9999% availability.

Key Specifications
- Up to 16 controllers, 7million IOPS (with inlinecompression enabled)
- Up to 16 TB cache
- Up to 3200 enterprise class SSDs, 32 PB effective capacity 3:1 data reduction guarantee

Outstanding Performance
- Employs the flash-oriented Huawei FlashLink™ technology to achieve 0.5 ms latency and 10x storage performance increase. The system can scale out to 16 controllers to deliver 7 million IOPS in performance.

Stable and Reliable
- Provides the HyperMetro gateway-free active-active solution to ensure 99.9999% availability, and the RAID-TP technology to tolerate up to three simultaneous SSD failures.

Converged and Efficient
- Inline deduplication and compression supports a 3:1 data reduction ratio, resulting in higher ROI with 75% OPEX savings.

OceanStor 18000F V5 Series

Huawei OceanStor 18000F series of mission-critical all-flash storage systems are dedicated to providing the highest level of data services for enterprises' mission-critical businesses. Innovative SmartMatrix 2.0 architecture, industry- leading scalability, flash-enabled performance, and hybrid-cloud-ready solution provide the optimal data services for enterprises. The OceanStor 18000F V5 series satisfies the storage requirements of large-database OLTP/ OLAP and cloud computing, making it a perfect choice for the government, finance, telecommunications, and manufacturing sectors.

Key Specifications
- Up to 16 controllers
- Up to 16 TB cache
- Up to 3200 enterprise-class SSDs

Outstanding Performance
- The all-flash system design ensures rapid response to core services. With outstanding scalability, OceanStor 18000F V5
- series can be equipped with a maximum of 16 controllers, 16 TB of cache, and 3,200 enterprise-class SSDs, delivering 6 million IOPS with 1 ms latency.

Solid Reliability
- The cutting-edge intelligent SmartMatrix 2.0 architecture, in combination with the gateway-free converged active-active solution, ensures 99.9999% availability, guaranteeing business continuity for customers.

Intelligent Services
- The OceanStor 18000F V5 series employs eService to support intelligent device management throughout the entire lifecycle (plan, design, and O&M), and accelerates cloud transformation for enterprises using hybrid cloud solutions.

OceanStor 6800F V5

Huawei OceanStor 6800F V5 Storage System is the new generation of missioncritical all-flash storage, dedicated to providing the highest level of data services for enterprises' mission-critical business. Flexible scalability, flash-enabled performance, and hybrid-cloud-ready architecture, provide the optimal data services for enterprises along with simple and agile management. The OceanStor 6800F V5 satisfies the data storage requirements of large-database OLTP/OLAP, cloud computing, and many other applications, making it a perfect choice for the government, finance, telecommunications, and manufacturing sectors.

Key Specifications
- Up to 8 controllers
- Up to 8 TB cache
- Up to 2000 enterprise-class SSDs

Superb Performance
- The all-flash system design ensures rapid response to core businesses. With outstanding scalability, OceanStor 6800F V5 can be equipped with a maximum of 8 controllers, 8 TB of cache, and 2000 enterprise-class SSDs, delivering million-level IOPS with 1 ms latency.

Solid Reliability
- The cutting-edge intelligent SmartMatrix 2.0 architecture in combination with the gateway-free converged active-active solution ensures 99.9999% availability, guaranteeing business continuity for customers.

Intelligent Services
- OceanStor 6800F V5 employs eService to support intelligent device management throughout the entire lifecycle (plan, design, and O&M), and accelerates cloud transformation of enterprises with hybrid cloud solutions.

OceanStor 5000F V5 Series

Huawei OceanStor 5000F V5 series of mid-range all-flash storage systems features the high performance, low latency, and high scalability that are required in this age of cloud computing. A cloud-ready operating system, flash-enabled performance, and intelligent management software deliver top-of-the-line functionality, performance, efficiency, reliability, and ease of use. The OceanStor 5000F series satisfies the storage requirements of large-database OLTP/OLAP, file sharing, and cloud computing, making it a perfect choice for the government, finance, telecommunications, healthcare, and manufacturing sectors.

Key Specifications
- Up to 8 controllers
- Up to 4 TB cache
- Up to 1500 enterprise-class SSDs

Outstanding Performance
- The all-flash system design ensures rapid response to core services. With outstanding scalability, the OceanStor 5000F V5 series can be equipped with a maximum of 8 controllers, 4 TB of cache, and 1500 enterprise-class SSDs, delivering million-level IOPS with 1 ms latency.

Multi-level Convergence
- Convergence of SAN and NAS, heterogeneous storage systems, and primary and backup storage double system efficiency. A gateway-free, converged active-active solution delivers 99.9999% availability, guaranteeing 24/7 stable operation of services.

Intelligent Services
- The OceanStor 5000F V5 series employs eService to support intelligent device management throughout the entire lifecycle (plan, design, and O&M), and accelerates the cloud transformation of enterprises with hybrid cloud solutions.

Hybrid Flash Storage

OceanStor 18000 V5 series

Huawei OceanStor 18000 V5 series of mission-critical hybrid flash storage systems are ded cated to providing the highest level of data services for enterprises' mission-critical bus nesses. Industry-leading SmartMatrix 2.0 system architecture, the HyperMetro gateway-free active-active feature, flash-oriented optimization technology, a cutting-edge hardware pla form, and a full range of efficiency improvements and data protection software deliver topof-the-line reliability, performance, and solutions. TheOceanStor 18000 V5 series satisfies the storage requirements of large-database OLTP/OLAP and cloud computing, making it a perfect choice for the government, finance, telecommunications, and manufacturing sectors.

Key Specifications
- Up to 16 controllers
- Up to 16 TB cache
- Up to 9600 enterprise-class disk drives

Solid Reliability
- The cutting-edge intelligent SmartMatrix 2.0 architecture, in combination with the gateway-free converged active-active solution, ensures 99.9999% availability, guaranteeing business continuity for customers.

Excellent Performance
- The flash-oriented system design ensures rapid response to core services. With outstanding scalability, OceanStor 18000 V5 series can be equipped with a maximum of 16 controllers, 16 TB of cache, and 9,600 enterprise-class disk drives, delivering up to 6 million IOPS.

Intelligent Services
- The OceanStor 18000 V5 series employs eService to support intelligent device management throughout the entire lifecycle (plan, design, and O&M), and accelerate cloud transformation for enterprises using hybrid clwith hybrid cloud solutions.

OceanStor 6800 V5

Huawei OceanStor 6800 V5 mission-critical hybrid flash storage systems provide data services for enterprises' core businesses. A cloud-ready operating system, flash-enabled performance, and intelligent management software, deliver top-of-the-line functionality, performance, efficiency, reliability, and ease of use, and provide a wide range of flexible backup and Disaster Recovery (DR) solutions to ensure business continuity and data security. The OceanStor 6800 V5 satisfies the data storage requirements of large-database OLTP/OLAP and cloud computing, making it a perfect choice for the government, finance, telecommunications, healthcare, and manufacturing sectors.

Key Specifications
- Up to 8 controllers
- Up to 8 TB cache
- Up to 3200 enterprise-class disk drives

Solid Reliability
- The cutting-edge intelligent SmartMatrix 2.0 architecture in combination with the gateway-free converged active-active solution ensures 99.9999% availability, guaranteeing business continuity for customers.

Excellent Performance
- The flash-oriented system design ensures rapid response to core services. With outstanding scalability, the OceanStor 6800 V5 can be equipped with a maximum of 8 controllers, 8 TB of cache, and 3,200 enterprise-class disk drives, supporting million-level IOPS.

Intelligent Services
- OceanStor 6800 V5 employs eService for intelligent device management throughout the entire lifecycle (plan, design, and O&M), and accelerates cloud transformation of enterprises with hybrid cloud solutions.

OceanStor 5000 V5 series

Huawei OceanStor 5000 V5 series of mid-range hybrid flash storage systems are dedicated to providing reliable and efficient data services for enterprises. A cloud-ready operating system, flash-enabled performance, and intelligent management software deliver top-of-the-line functionality, performance, efficiency, reliability, and ease of use. The OceanStor 5000 V5 series satisfies the data storage requirements of large-database OLTP/OLAP and cloud computing, making it a perfect choice for the government, finance, telecommunications, healthcare and manufacturing sectors.

Key Specifications
- Up to 8 controllers
- Up to 4 TB cache
- Up to 1500 enterprise-class disk drives

Multi-level Convergence
- Convergence of SAN and NAS, heterogeneous storage systems, and primary and backup storage double system efficiency. A gateway-free converged active-active solution delivers 99.9999% availability, guaranteeing 24/7 stable operation of services.

Excellent Performance
- The flash-oriented system design ensures rapid response to core services. With outstanding scalability, the OceanStor 5000 V5 series can be equipped with a maximum of 8 controllers, 4 TB of cache, and 1,500 disk drives, supporting million-level IOPS.

Intelligent Services
- The OceanStor 5000 V5 series employs eService to support intelligent device management throughout the entire lifecycle (plan, design, and O&M), and accelerates the cloud transformation of enterprises with hybrid cloud solutions.

OceanStor 2800 V5

Huawei OceanStor 2800 V5 video cloud converged storage system is a next-generation high-performance converged storage system dedicated to the video surveillance field. While retaining the enterprise storage capabilities, the controllers adopt an open converged data platform, giving full play to the computing capabilities of the controllers. Users can migrate video applications that were deployed on physical severs to storage controllers. Open and direct storage of video streams, rapid video aggregation capabilities, robust data protection options, and many other easy-to-use utilities make integration with ISV service platforms simple when building large video cloud storage systems, significantly reducing TCO.

Key Specifications
- Max. 1600 channels of video streams per system
- Up to 128 GB cache
- Up to 750 enterprise-class disks (dual-controller)

Open Converged Data Platform
- Open management interfaces that support open video stream storage, both SAN and NAS, and is compatible with multiple video access protocols and paths. Supporting applications of up to 6 servers, OceanStor 2800 V5 can easily interconnect with the video application management platforms of ISVs/Sis.

High Reliability and Availability
- Enterprise-class reliability designs ensure 99.9999% availability of data. The RAID2.0+ software architecture improves the disk reconstruction speed to 1 TB in 30 minutes.

High Performance and Scalability
- Intel's new-generation V5 multi-core processor, new-generation PCI-E 3.0 bus, and 12 Gbit/s SAS 3.0 high-speed disk enclosure interface enable one OceanStor 2800 V5 to support the ingestion of up to 1,600 channels of 4 Mbit/s videos.

OceanStor 2600 V3

Huawei OceanStor 2600 V3 is flash-oriented and specifically designed for enterprise-class applications. It offers a cloud architecture-oriented operating system, high-performance hardware platform, and a complete suite of smart management software. It is scalable to eight controllers, has a 256 GB cache and 5 PB storage capacity, with a variety of interfaces, including 10 Gbit/s FCoE, 16 Gbit/s FC, PCIe 3.0, and 12 Gbit/s SAS. The OceanStor 2600 is the perfect storage systems for large OLTP/OLAP databases, file sharing, and cloud computing in the government, finance, telecom, energy, and media industries.

Key Specifications
- Up to 8 controllers
- Up to 256 GB cache
- Up to 500 disk drives (dualcontroller)

- Enables convergence in five areas: SAN and NAS, heterogeneous devices, entry-level to high-end storage, HDD and SSD, storage and backup.
- Provides industry-leading specifications: Up to 8 controllers, 256 GB cache, 5 PB storage capacity, and various interface types, including 10 Gbit/s FCoE, 16 Gbit/s FC, PCIe 3.0, and 12 Gbit/s SAS.
- The simplest management platform handles multiple product models with a graphical interface and is available in Windows, iOS, and Android versions.
- Protects customers' initial investment and reduces TCO for multiple applications, various product models, and fast business growth.

OceanStor 2200 V3

Huawei OceanStor 2200 V3 is a next-generation, entry-level storage product specifically designed for enterprise-class applications. It is scalable up to 2.4 PB capacity, with a variety of interfaces, including 10 Gbit/s FCoE, 16 Gbit/s FC, PCIe 3.0, and 12 Gbit/s SAS. Built to support rapid business growth of SMB, the OceanStor 2200 V3 is widely applied in industries including government, health care, education, telecommunications, energy, and manufacturing.

Key Specifications
- Up to 2 controllers
- Up to 32 GB cache
- Up to 300 enterpriseclass disk drives

Simple
- The unique, easy-to-use SmartConfig significantly simplifies system configuration. Resources can be allocated in minutes with only three steps.

Converged
- Convergence of SAN and NAS supports both block and file services. The flash-oriented design ensures full performance of SSDs with latency lower than 1 ms.

Efficient
- Automatic storage tiering and smart identification of hot data significantly improve storage resource utilization. The intelligent service quality control technology enables the system to identify important services and ensure their performance

Cloud Storage

FusionStorage

Huawei FusionStorage fully distributed cloud storage features massive scaleout capability designed for cloud-based architectures. The on-board storage system software combines the local storage resources of standard x86 servers into fully distributed storage pools, providing block, object, or file storage resources to the upper layer. An enterprise can easily obtain the required flexibility and efficiency in data storage to keep up with the ever-changing dynamics of business.

Key Specifications
- Erasure coding mechanism improves storage utilization to 80%
- Large-scale active-active clusters under a fully distributed architecture
- Scales out to 10 million-level IOPS and EB-level capacity

High Availability
- Large-scale active-active clusters under a fully distributed architecture provide 99.9999% solution-level availability to move core enterprise businesses to the cloud. Multi-level reliability technologies enable services to be deployed on demand.

Excellent Performance
- FusionStorage supports NVMe SSDs and provides the SPC-1 V3 proven performance of 4.5 million IOPS at < 1 ms of latency. Its single system meets the performance requirements of millions of VMs. EC data protection technology provides up to 90% disk space utilization, reducing purchase costs and achieving high availability, efficiency, and performance.

On-demand Scalability
- FusionStorage enables scale-out for 10 million-level IOPS and EB-level capacity, supporting rapid growth of cloud business. It also deploys block, object, or file storage resources on demand.

Open Architecture
- Compatible with diverse computing virtualization platforms, the open cloud architecture is OpenStack-compliant. Compatible with Amazon S3 and providing HDFS interfaces, FusionStorage can be integrated into the Hadoop Big Data ecosystem.

OceanStor 9000

Huawei OceanStor 9000 is a scale-out NAS storage system specifically designed for massive data storage. It employs a fully symmetric distributed architecture, supports either file or object storage, and delivers superior performance, extensive scale-out capabilities, and super-large single file system for unstructured data storage. The OceanStor 9000 is widely applied in media, satellite mapping, gene sequencing, energy exploration, scientific research, education, backup and archiving.

Key Specifications
- 3 to 288 nodes
- Up to 100 PB in capacity
- Up to 400 GB/s in throughput

Outstanding performance
- Delivers high-performance read and write functionality. Using proprietary InfoTurbo dynamic storage tiering technology, the throughput of a single client reaches 2.5 GB/s while the entire system reaches 400 GB/s.

Flexible Scalability
- Accommodates from 3 to 288 nodes, eliminates data silos caused by multiple namespaces.

Simplified Management
- Unified namespace allows unified management of all hardware and software resources in the system, minimizing system management and maintenance complexity.

Storage Networking

OceanStor SNS5604, SNS5608

Proven and dedicated network infrastructure products oriented to data centers' missioncritical business.
- 192/384 x 32 Gbit/s ports
- Full-fabric architecture of 239 switches

OceanStor SNS2624, SNS3664, SNS3696E

Unique network infrastructure for mission-critical storage to deliver 32 Gbit/s performance, increased scalability, and operational stability.
- Up to 24/64 ports
- Auto-sensing of 4/8/16/32 Gbit/s port speeds
- Locally switched port latency is 900 ns with FEC

OceanStor SNS2124, SNS2224, SNS2248

Fibre Channel switches designed for small-scale, independent SANs and the edge topologies of largescale,core switching networks and are cost-effective choices for network expansion.
- 24 ports at a rate of 8 Gbit/s per port; or 24 to 48 ports at a rate of 16 Gbit/s per port
- Full fabric architecture with a maximum of 239 switches
- 700 ns local switching port latency

OceanStor SNS3096, SNS5192, SNS5384

Proven and dedicated network infrastructure for data centers.
- 96, 256, or 512 ports at a rate of up to 16 Gbit/s per port
- Auto-sensing of port rates of 2, 4, 8, and 16 Gbit/s
- Full fabric architecture with a maximum of 239 switches

Data Management Software

OceanStor DJ

Huawei OceanStor DJ is service-driven storage control software, which supports unified management of storage resources, flexible orchestration of service catalogs, and automatic deployment of storage services and data applications to improve operational efficiency at data centers.

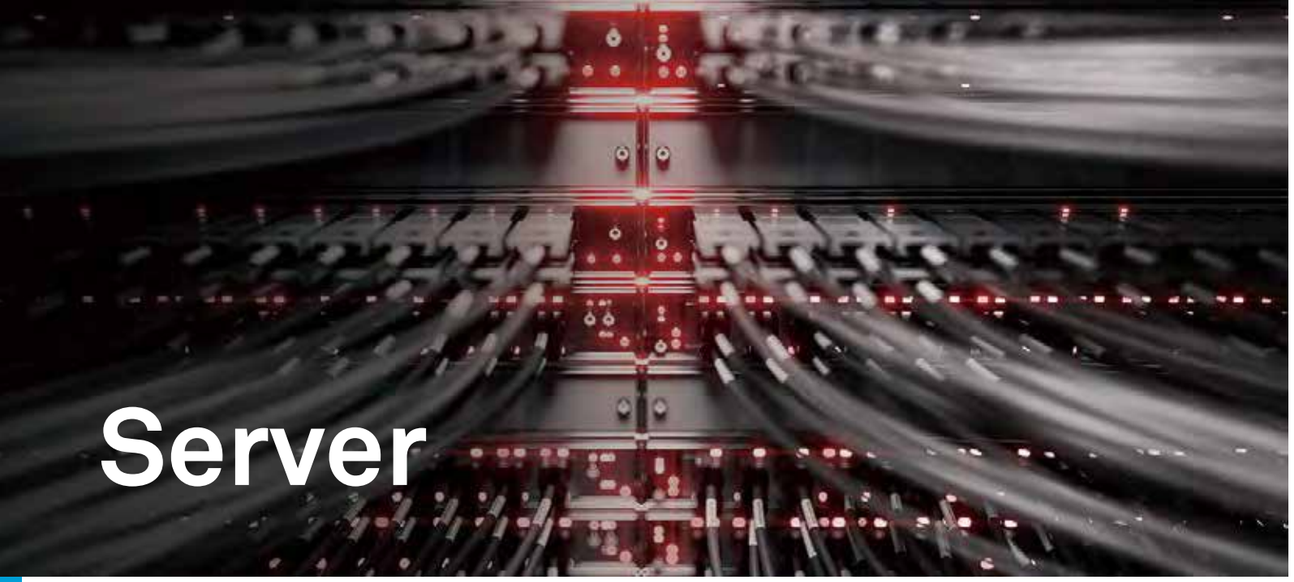
Storage resource virtualization
- Grounded in OpenStack precepts, OceanStor DJ can take over management of heterogeneous storage devices and consolidate resources into pools.

Automatic Service Deployment
- Allocates resources according to workloadbased best practice templates; self-help service applications and complete service catalogs.

Data-Application-as-a-Service
- You can select Huawei or third-party backup applications to provide data protection services.

eSight Storage Software

A component of Huawei eSight management software, that integrates the management of server, storage, and related resources. The eSight Storage Manager component provides centralized O&M of storage devices in enterprise data centers to:
- Simplify device management by centrally managing over 30 storage devices from different vendors
- Facilitate fault location with end-to-end storage path analysis
- Manage Fibre Channel switches (Brocade and QLogic)
- Deliver capacity analysis reports to facilitate space planning and reduce storage costs
- Provide storage health assessment and system diagnosis improve system stability



Server

Blade Server

E9000 Series Blades

CH121 V5

- 1 or 2 Intel® Xeon® Scalable Processors
- 24 DDR4 DIMMs
- Two 2.5-inch SAS/SATA HDDs/SSDs or four M.2 SSD
- 2 PCIe mezzanine-card slots and 1 standard PCIe slot (front-accessible)

CH242 V5

- 2 or 4 Intel® Xeon® Scalable Processors
- 48 DDR4 DIMMs
- Four 2.5-inch SAS/SATA HDDs/SSDs or eight M.2 SSD
- 4 PCIe mezzanine-card slots and 1 standard PCIe slot

CH221 V5

- 1 or 2 IntelR XeonR Scalable Processors
- 24 DDR4 DIMMs
- Two 2.5-inch SAS/SATA HDDs/SSDs or four M.2 SSDs
- 2 PCIe mezzanine-card slots and 2 standard PCIe slot

CH225 V5

- 1 or 2 IntelR XeonR Scalable Processors
- 24 DDR4 DIMMs
- 12 x 2.5'' HDDs/NVMe SSDs, and 2 x 2.5'' SSDs or SAS/SATA HDDs or 6 x M.2
- 4 PCIe mezzanine-card slots

E9000 Blade Server Chassis

FusionServer E9000 is a 12U blade server that integrates computing, storage, switching, and management subsystems to form a powerful integrated infrastructure platform.

- 16 half-width server nodes or 8 full-width server nodes
- 4 switch modules support GE, 10 GE, 25GE, 40 GE, FCoE, FC, OPA, IB EDR switching
- 6 hot-swappable AC or DC PSUs in N+N or N+M redundancy mode
- 2 management modules in 1+1 redundancy mode
- 14 hot-swappable fan modules in N+1 redundancy mode
- Complies with IPMI v2.0 and provides management functions such as remote startup, shutdown, reset, logging, hardware monitoring, SOL, KVM over IP, virtual media, fan module monitoring, and PSM monitoring

High-Density Server

X6800 Data Center Server

FusionServer X6800 is ideally suited for cloud computing and Big Data scenarios as it offers a flexible configuration for a wide range of server nodes, meeting differentiated requirements for computing, storage, and I/O.

- 4U multiple-node server for centralized power supply (supports high-voltage DC) and heat dissipation
- 5 fan modules in N+1 redundancy mode
- 4 hot-swappable AC or DC PSUs in N+N redundancy mode

X6800 Server Node

XH628 V5

- 2 Intel® Xeon® Scalable processors of up to 165 W TDP
- 16 DDR4 DIMM slots
- 12 x 3.5-inch or 2.5-inch SSDs or SAS/SATA HDDs
- 2 x PCIe slots
- 2 x 10GE ports + 2GE ports

X6000 Data Center Server

X6000 is a high-density server that Huawei developed for the data center scale-out architecture. With an optimized density design, the X6000 improves data center space utilization and investment efficiency, and is ideal for service scenarios such as cloud computing, web applications, and high-performance computing (HPC).

- 2U chassis 4 half-width server nodes
- 2 hot-swappable AC PSUs (1,500 W enhanced, 2,000 W, or 3,000 W), with support for 1+1 redundancy
- 4 hot-swappable fan modules in N+1 redundancy mode
- Up to twenty-four 2.5-inch NVMe SSDs

X6000 Server Node

XH321 V5

- 1/2 Intel® Xeon® Scalable Processors
- 16 DDR4 DIMMs
- 6 x 2.5-inch SAS/SATA/SSD/NVMe disks
- 2 PCIe expansion slots
- 2 x GE + 2 x 10GE

Rack Server

1288H V5

Huawei FusionServer 1288H V5 is a 1U 2-socket rack server. It is ideal for cloud computing, virtualization, high-performance computing (HPC), big data processing and other computingintensive workloads.

- 2 Intel® Xeon® Scalable Processors
- 24 DDR4 DIMMs slots
- 4 x 3.5-inch hard drives or 8/10 x 2.5-inch hard drives, and 4/8 NVMe SSDs
- 5 PCIe extension slots, with support for 2 HHHL single-slot GPUs or FPGA heterogeneous accelerator cards
- Two GE and two 10GE LAN on motherboard (LOM) ports

2288H V5

Huawei FusionServer 2288H V5 is a 2U 2-socket rack server. It supports configuration of over 100 types of resources by just one model, flexibly meeting the hardware resource requirements of diverse workloads. It is an ideal choice for application scenarios such as cloud computing virtualization, databases, high-performance computing (HPC), and big data processing.

- 2 Intel® Xeon® Scalable Processors
- 24 DDR4 DIMM slots
- Supports 12/16/20 x 3.5-inch hard drives or
- 8/24/25/31 x 2.5-inch hard drives, and 4 to 28 NVMe SSDs
- 10 PCIe extension slots, with support for 2 halfheight half-length double-slot GPUs or FPGA heterogeneous accelerator cards
- Two GE and two 10GE LAN on motherboard (LOM) ports

5288 V5

Huawei FusionServer 5288 V5 is a 4U, 2-socket rack server, applicable to services such as tiered storage of hot, warm, and cold data, and historical data archiving. With high efficiency design, the server ensures excellent computing performance and provides flexible and ultra-large local storage scalability to reduce data storage costs.

- 2 Intel® Xeon® Scalable processors
- 24 DDR4 DIMM slots
- 44 x 3.5-inch and 4 x 2.5-inch hard drives (up to 8 NVMe SSDs)
- Up to 8 PCIe slots
- Two GE and two 10GE LAN on motherboard (LOM) ports

2488 V5

FusionServer 2488 V5 is the latest 2U 4-socket rack server released by Huawei. It is ideal for compute-intensive scenarios such as virtualization, high-performance computing (HPC) and databases.

- 2 or4 Intel® Xeon® Scalable Processors (Platinum 8100, Gold 6100, or Gold 5100 series processors)
- 32 DDR4 DIMM slots
- 9 PCIe slots
- 2 x GE + 2 x 10GE
- Up to 25 2.5-inch SAS/SATA HDDs. The NVMe model can be configured with 8 NVMe SSDs, and supports hardware RAID.
- Compared with two 2U 2-socket servers, 2488 V5 can save up to 32% OPEX, and provide higher computing efficiency.

2488H V5

FusionServer 2488H V5 is Huawei's latest 2U, 4-socket (4S) rack server. It is ideal for computeintensive scenarios such as virtualization, high-performance computing (HPC), databases, and SAP HANA.

- 2 or 4 Intel® Xeon® Scalable Processors
- 48 DDR4 DIMM slots
- 11 PCIe slots
- 2 x GE + 2 x 10GE
- Up to 25 2.5-inch SAS/SATA HDDs. The NVMe model can be configured with 8 NVMe SSDs
- Compared with two 2U 2-socket servers, one 2488H V5 can save up to 32% OPEX, and provide higher computing efficiency.

5885H V5

Huawei FusionServer 5885H V5 is a 4U, 4-socket rack server. It applies to mission-critical applications that demand high reliability and performance, and is ideal for compute-intensive services such as virtualization, High-Performance Computing (HPC), and databases.

- 2 or 4 Intel® Xeon® Scalable processors
- 48 DDR4 DIMM slots
- Supports up to 25 x 2.5-inch local hard drives (configurable with 8 NVMe SSDs)
- 15 PCIe slots
- Two GE and two 10GE LAN on motherboard (LOM) ports

Heterogeneous Server

G5500

The Huawei FusionServer G5500 is a heterogeneous server positioned for data center deployment. It delivers high-density heterogeneous compute power. It is a best-in-class heterogeneous computing platform for application scenarios such as AI, HPC, intelligent cloud, video analytics, and database acceleration.

- Supports 2 Intel® Xeon® E5-2600 v4 processors or 4 Intel® Xeon® Scalable processors
- Supports One G560 full-width heterogeneous computing node or two G530 V5 half-width heterogeneous computing nodes
- Up to 8 NVIDIA® Tesla® V100/P100/P40 or 32 NVIDIA® Tesla® P4
- Supports GPUDirect RDMA and Peer-to-Peer interconnect technologies, enabling direct memory access for multiple GPU cards
- Supports one-click topology switching and multiple topologies with CPU/GPU configuration ratios of 1:2, 1:4, and 1:8

G560 Full-width Heterogeneous Computing Node

Huawei FusionServer G560 is a full-width heterogeneous computing node that delivers high-density heterogeneous compute power. It is the best-in-class heterogeneous computing platform for AI training, High-Performance Computing (HPC), intelligent cloud, and database acceleration.

- Up to 8 Nvidia® Tesla® V100/P100/P40/P4
- 2 Intel® Xeon® E5-2600 v4 processors
- Up to 24 DDR4 DIMMs
- Support for GPUDirect RDMA and Peer-to-Peer interconnect technologies, enabling direct memory access for multiple GPU cards
- Support for one-click topology switching and different CPU/GPU configuration ratios for diverse applications

G530 V5 Half-Width Heterogeneous Computing Node

Huawei FusionServer G530 V5 is a half-width heterogeneous computing node that delivers high-density heterogeneous compute power. It is the best-in-class heterogeneous computing platform for AI inference, HPC, intelligent cloud, and database acceleration.

- Up to 16 NVIDIA® Tesla® P4 or 4 V100/P100/P40 or 8 V100(150 Watt)
- 2 Intel® Xeon® Scalable processors
- Up to 24 DDR4 DIMMs
- Support for GPUDirect RDMA and Peer-to-Peer interconnect technologies enables direct memory access for multiple GPU cards
- Flexible configuration supports different CPU/GPU configuration ratios for diverse applications

G2500

The Huawei FusionServer G2500 smart video analytics server provides superior capabilities for video, picture, and voice analysis, as well as ultra-large local storage. The Huawei FusionServer G2500 is designed for scenarios with hybrid applications of smart analytics and data storage. It is an ideal analytics platform for applications such as safe city and smart transportation.

- 2 Intel® Xeon® E5-2600 v4 processors
- 12 DDR4 DIMMs
- Up to 16 Nvidia® Tesla® P4s
- Support 24 x 3.5-inch SAS/SATA hard drives
- 1 x GE + 1 x 10GE

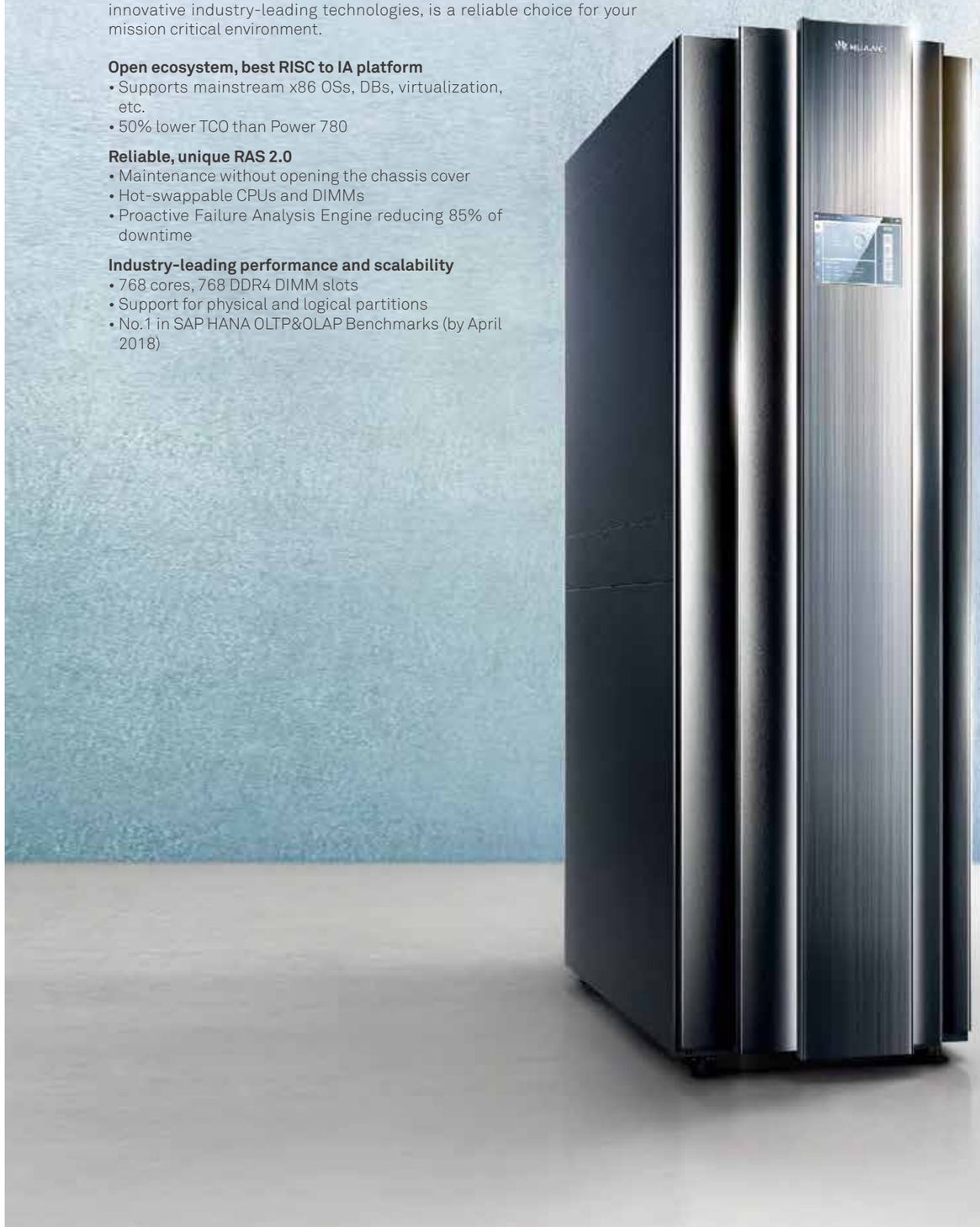
KunLun 9008/9016/9032 & 9008 V5

As the optimal server for next-generation data centers, Huawei KunLun 8/16/32-sockets x86 server, that integrates open ecosystem and innovative industry-leading technologies, is a reliable choice for your mission critical environment.

Open ecosystem, best RISC to IA platform
- Supports mainstream x86 OSs, DBs, virtualization, etc.
- 50% lower TCO than Power 780

Reliable, unique RAS 2.0
- Maintenance without opening the chassis cover
- Hot-swappable CPUs and DIMMs
- Proactive Failure Analysis Engine reducing 85% of downtime

Industry-leading performance and scalability
- 768 cores, 768 DDR4 DIMM slots
- Support for physical and logical partitions
- No.1 in SAP HANA OLTP&OLAP Benchmarks (by April 2018)



ES3000 SSD

Huawei ES3000 V5 SSDs are the seventh generation of enterprise-level high-performance SSD with Huawei self-developed SSD controller chip, provide PCIe and SAS interface SSD products. ES3000 SSDs solve HDD IO bottlenecks, significantly improving the performance of database, virtualization, cloud, big data and distributed storage, help customers reduce system TCO.

SAS SSD Disk

- Formfactor: 2.5-inch disk
- Interface: SAS 3.0 12 Gb/s
- ES3500S V5: read-intensive, 960 GB to 15.36 TB
- ES3600S V5: mixed-use, 800 GB to 6.4 TB
- Performance: up to 2.2 GB/s bandwidth, 430k IOPS

NVMe SSD Disk

- Formfactor: U.2 (2.5-inch) disk
- Interface: PCIe 3.0 x4, NVMe 1.3 standard
- ES3500P V5: read-intensive, 1 TB to 8 TB
- ES3600P V5: mixed-use, 800 GB to 6.4 TB
- Performance: up to 3.5 GB/s bandwidth, 825k IOPS

NVMe SSD Card

- Formfactor: HH-HL card
- Interface: PCIe 3.0 x4, NVMe 1.2 standard
- ES3600C V3: mixed-use, 800 GB to 3.2 TB
- ES3620C V3: mixed-use, 6.4 TB
- Performance: up to 3.2 GB/s bandwidth, 800k IOPS

Remark:

1. Read-intensive: ≤ 1 DWPD for 5-year; Mixed-use: ≈ 3 DWPDs for 5-year; Write-intensive: ≤ 10 DWPDs for 5-year
2. DWPD: Disk Writes Per Day

FusionCube Hyper-Converged Infrastructure

Huawei FusionCube is a hyper-converged infrastructure, which consists of computing, storage, network, virtualization and management system.

- High performance, low latency, fast deployment, and built-in distributed storage
- Database support: Oracle, DB2, Sybase IQ, SQL Server and SAP HANA
- Virtualization support: VMware

FusionCube 9000

- Database or virtualization scenarios
- 56 or 100 Gbit/s InfiniBand
- 7.2 million IOPS (maximum/cabinet)
- 192 GB/s throughput (maximum/cabinet)
- 1T rebuild time < 15 minutes

FusionCube 6000C

- For virtualization and desktop cloud scenarios
- 2U 4 nodes, Integrated delivery, simple to simplify
- 11 minutes to complete deployment, Hardware discovery, wizard-mounted
- Supports SAS disk and NVMe SSD disk to meet different performance requirements

FusionCube 6000

- For cloud or virtualization scenarios
- Easy-to-use: Fast deployment, automatic hardware discovery, installation wizard, and unified management of hardware and software
- Flexible configuration for different virtualization scenarios
- 4 U with 3 nodes at minimum, smooth online expansion up to 256 nodes

FusionCube 2000

- For virtualization, desktop cloud, bulk database scenarios
- 2U Rack server with strong versatility
- Flexible configuration, easy to expand
- Support SAS/SATA HDDs and SAS/SATA/NVMe SSDs
- Flexible and versatile PCIe standard slots, support 10GE、IB、SSD、GPU

Huawei Solutions for SAP HANA®

Huawei joins hands with SAP to develop the Huawei solutions for SAP HANA based on Huawei high-performance hardware platform.
This innovative solution implements real-time data processing and analysis, with results presented to frontline engineers and business decision makers at the earliest time, helping customers learn about the business operation status at any time.

Huawei Solutions for SAP HANA Scale-up Configuration

Scale-up solution	2288H V5/2488H V5(Skylake 8180/8180m/8176/8176m)						2488H V5
HANA memory	192GB	384GB	576GB	768GB	1536GB	3072GB	6144GB
Number of processors	2	2	2	2	2	2/4	4
Basic version(SAS HDD) HANA log/data volume	4 x 1800 GB /9 x 1800 GB	4 x 1800 GB /9 x 1800 GB	4 x 1800 GB /9 x 1800 GB	4 x 1800 GB /9 x 1800 GB	6 x 1800 GB /9 x 1800 GB	9 x 1800 GB	18 x 1800 GB
Advanced version (allflash) HANA log/data volume	5 x 800 GB /4 x 3200 GB	5 x 800 GB /4 x 3200 GB	7 x 800 GB /4 x 3200 GB	7 x 800 GB /4 x 3200 GB	10 x 800 GB /4 x 3200 GB	20 x 800 GB /4 x 3200 GB	10 x 3200 GB
Operating system	SLES 12.2, RHEL 7.3						

Scale-up solution	2288H V5/2488H V5(Skylake 8180/8180m/8176/8176m)					2488H V5		
HANA memory	768GB	1536GB	3072GB	6144GB	12288GB	9TB	12TB	16TB
Number of processors	4	4	4	4	8	12	12/16	12
Basic version(SAS HDD) HANA log/data volume	9 x 1800 GB	9 x 1800 GB	9 x 1800 GB	18 x 1800 GB	N/A	N/A	N/A	N/A
Advanced version (allflash) HANA log/data volume	6 x 3200 GB	6 x 3200 GB	6 x 3200 GB	10 x 3200 GB	20 x 3200 GB	19 x 3200 GB	19 x 3200 GB	24 x 3200 GB
Operating system	SLES 12.2, RHEL 7.3							

Huawei Solutions for SAP HANA Scale-out Configuration

Computing					
Scale-out solution	2488H V5 / E9000(CH242) V5		KunLun 9008 V5		
Single-node memory	1.5TB	3TB	3TB	6TB	12TB
Number of processors	4	4	4	8	8
Number of expansion nodes (including one backup node)	15+1	15+1	15+1	15+1	4+1
Available memory	24TB	48TB	48TB	96TB	60TB

Storage	
Storage system	OceanStor converged storage
HANA log volume	High-performance SSDs
HANA data volume	High-performance SAS
Service switch	High-performance 10GE switches
Storage switch	High-performance FC switches
Operating system	SLES 12.2

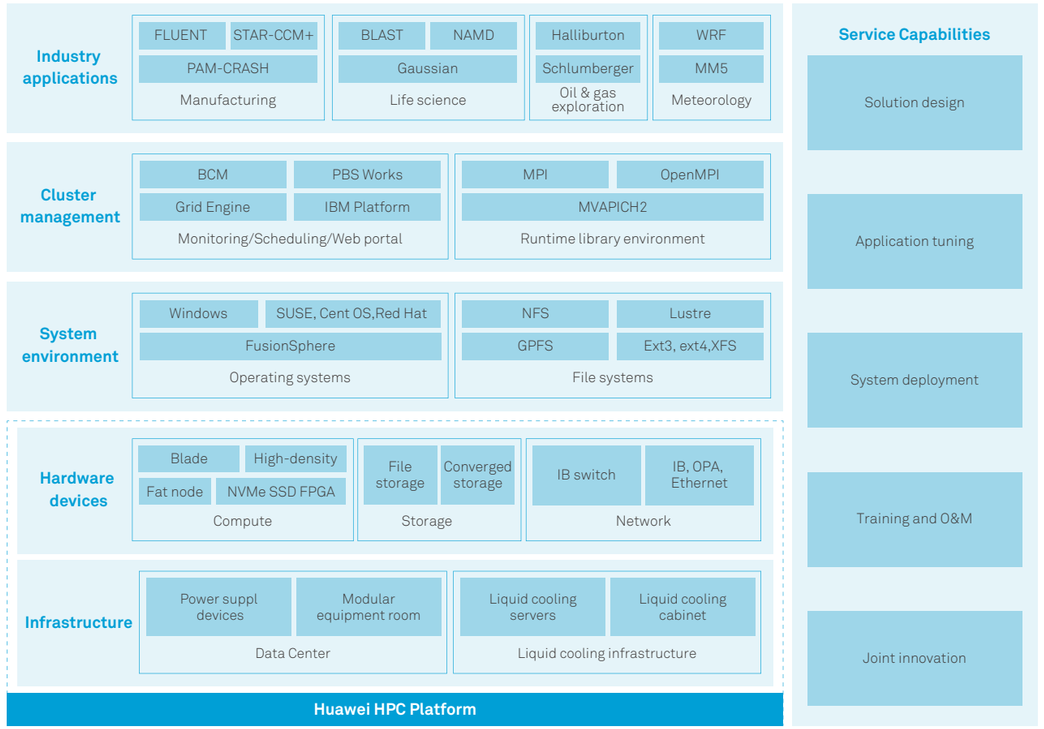
Switch			
Service switch	OceanStor converged storage	High-performance 10GE switch	High-performance 10GE switch
Storage switch	High-performance SSDs	High-performance FC switch	High-performance Infiniband switch

Huawei HPC Solution

Huawei's High-Performance Computing (HPC) Solution is a highly reliable, high-performance computing platform developed based on Huawei's server, storage, and network products. It provides customers from various industries with energy-efficient board-level and cabinet-level liquid cooling solutions and prefabricated HPC infrastructure for HPC clusters that meet diversified computing scales.

HPC Industrial Solutions

HPC solutions for the CAE, scientific computing, oil & gas, and meteorology industries: integrate mainstream HPC clusters and scheduling management software, and are deeply optimized for mainstream HPC applications in the industries.
HPC global innovation centers: support technical verification, solution incubation, and industry practice to build a cooperative, win-win ecosystem.



HPC Platform

- Diversified hardware platforms, such as rack servers, blade servers, and multi-node servers, providing industry-leading performance and simplified management
- Various types of heterogeneous acceleration cards, such as GPUs, FPGAs, intelligent NICs, and NVMe SSDs, based on underlying chip and hardware computing innovation

G5500

Heterogeneous acceleration

E9000

Converged architecture computing

X6000

High-density computing

Integrated HPC Infrastructure

- Integrating computing, network, storage IT devices, and modular data centers, the prefabricated HPC infrastructure solution shortens the construction periods of the L1 and L2 layers of data centers.
- The efficient and reliable cold plate design enables board-level and cabinet-level liquid cooling. The overall HPC liquid cooling solution achieves a data center PUE of 1.1 or less.

L1+L2: integrated HPC infrastructure

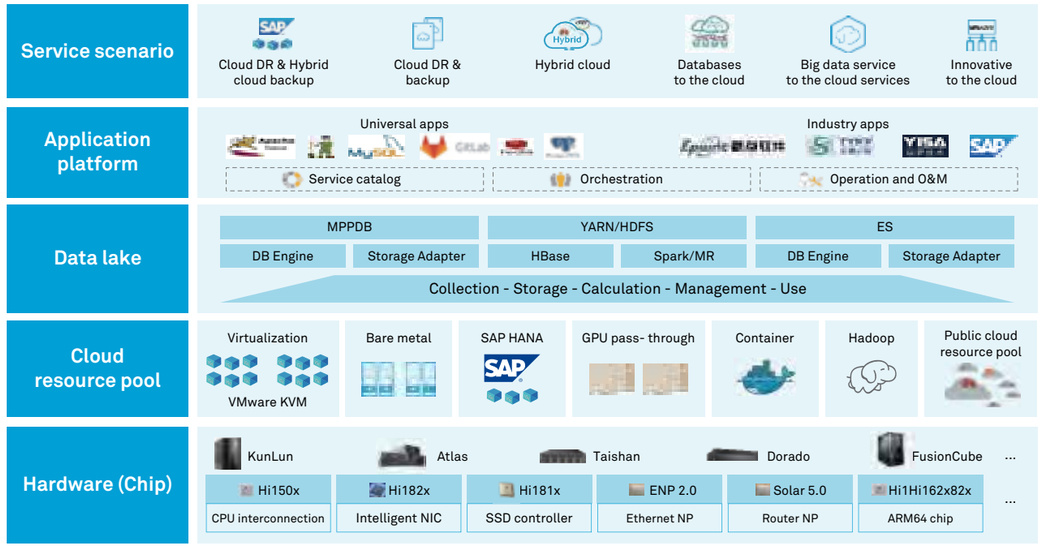
HPC liquid cooling solution

Cloud Computing and Big Data

FusionCloud Solution

What Is Full-Stack FusionCloud?

- Full-stack business bearer: FusionCloud 6.3 supports cloud-based transformation of enterprises' traditional business and business innovation based on distributed/mi- croservices architecture. It helps migrate core databases to the cloud and aggregate multiple types of data for business innovation;
- Full-stack service capability: FusionCloud 6.3 supports comprehensive cloud services: a. Basic services in computing, storage, network, and security to move non-core applications to the cloud; b. Value-added services such as BMS, SAP HANA, and GPU services to run core applications on the cloud; c. Innovative services such as big data, PaaS, IoT, and AI services to support innovative, future-proof service exploration of enterprises;
- Full-stack resource management: FusionCloud 6.3 supports mixed management of diverse hardware such as UNIX, Intel x86, and ARM servers. It supports management of multiple resource pools at the resource layer. Pools to be managed include KVM, VMware, Hyper-V, and container;
- Full-stack architecture evolution: Powered by a unified distributed architecture, FusionCloud 6.3 supports cloud center-edge collaboration, enabling unified management of central and edge DCs. It also connects to public clouds through hybrid clouds to support the long-term evolution of enterprise businesses.



Core Competitiveness

One cloud: Resource convergence

- Unified management of KVM, BMS, GPU enhancement, SAP, and VMware resource pools;
- Cooperates with public clouds to build a seamless hybrid cloud (HUAWEI CLOUD, AWS, and Azure);
- Chip acceleration: Builds high-performance resource pools based on self-developed chips and hardware to achieve 32x video processing density and a 10-fold increase in data access efficiency.

One lake: Data intelligence

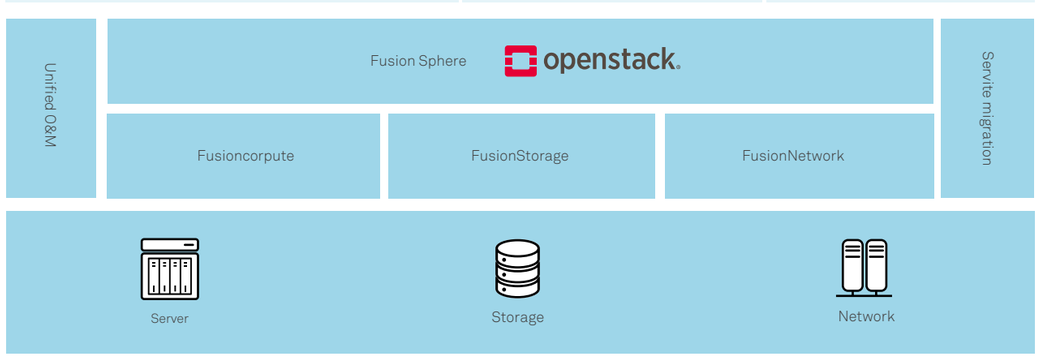
- Comprehensive services: Provides a complete set of database services, including RDS, Oracle, and MPPDB services to support OLTP and OLAP scenarios;
- Large clusters: A single Hadoop cluster supports 5000+ nodes, and MPPDB supports 1000+ nodes;
- Collaborative computing: Implements converged computing across data centers and data sources, and builds a unified data lake;
- Convergent analysis: MPPDB and Hadoop are interconnected to build a converged data warehouse.

One platform: Service innovation

- Huawei FusionCloud enables non-intrusive reconstruction and quick entry into third-party applications, and provides 70+ out-of-the-box third-party ISV services to quickly build the middle-end capabilities of enterprises.

FusionSphere Virtualization Solution

FusionSphere Cloud OS



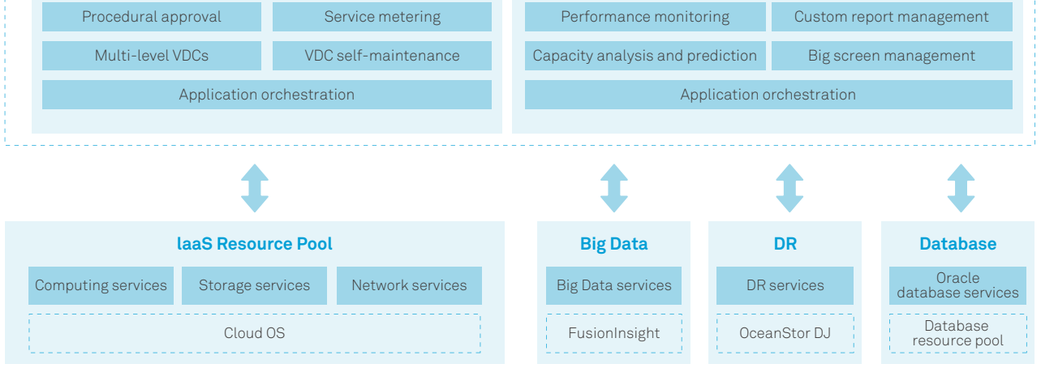
Openness
- Open cloud architecture seamlessly connects services across clouds, no vendor lock-in.
- Open cloud APIs make it easy to build upper-layer applications, helping enterprises integrate their services.
- Open cloud ecosystem realizes win-win cooperation among customers, partners, and developers.

Enterprise-class services
- Full cloud adoptions able to satisfy mission-critical services, development testing, and rapid rollouts.
- Meets even the most stringent of security compliance requirements.
- Provides offline and migration services able to span public and private cloud profiles.

Progressive
- Easy interconnection with physical machines, existing applications do not need to be modified before being placed on the cloud.
- Manages virtual pools comprising heterogeneous resources over one pane of glass with better leveraging of existing investments.

Core Components

ManageOne Cloud Management Platform



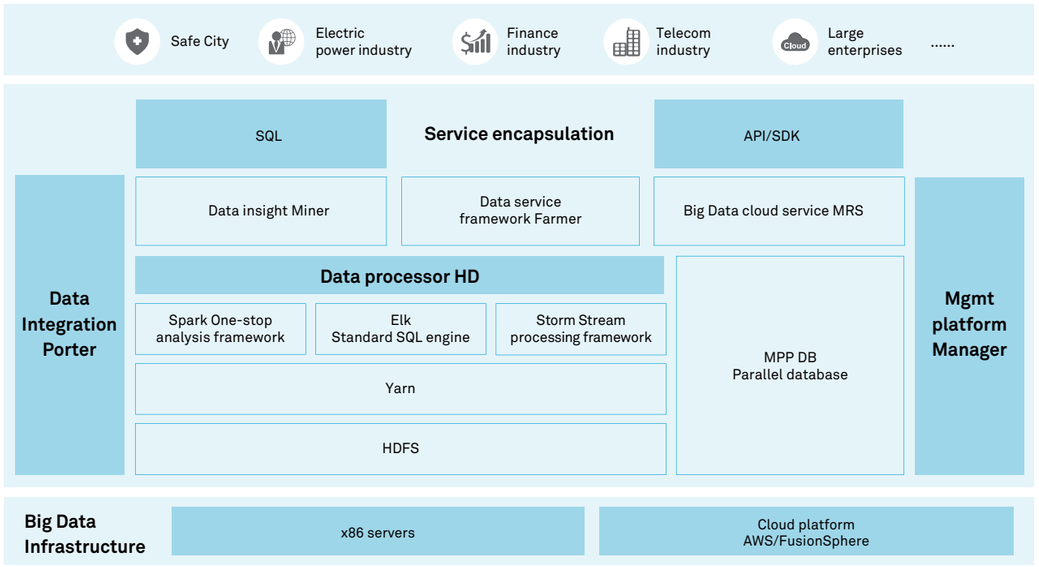
Unified O&M
- Service catalog orchestration; rich store of cloud services.
- Supports various heterogeneous virtualization schemes, enables centralized management over infrastructures.
- Layered operation models incorporating multiple VDCs into the mix to suit the customer's operating model.

Unified operations
- Multi-dimensional centralized alarm management.
- Unified resource management and monitoring.
- Customized O&M video walls.

FusionInsight Big Data Platform

Huawei's Enterprise-Class Big Data Platform Helps Enterprise Discover New Business Opportunities

Huawei FusionInsight Big Data Platform Solution delivers all the tools enterprises need to quickly build massive data processing systems. Using real-time and non-real-time analysis and mining tools on the massive amounts of data flowing in and out of the organization, value is extracted from complex and unstructured data to help the enterprise improve decision-making capabilities with the decisiveness and accuracy it takes to grab hold of business opportunities. Huawei FusionInsight (IDC , 2017) platform ranks first among all Big Data platform vendors in the 2017 IDC MarketScape: China Big Data Management Platform 2017 Vendor Assessment.



Solution Highlights

Agile
- Able to meet varied offline requirements while keeping latency down to within one second and even to the sub-millisecond range.
- Fully automated online O&M with customized dashboard availability.
- Highly automated secondary development assistants help traditional enterprises easily gear into Big Data products.
- Standard SQL engines allow customers to migrate services quickly and smoothly.

Intelligent
- FusionInsight supports full data modeling to the million dimension range to improve the accuracy of data analysis and mining, enabling enterprises to dive down deep into user behavior.

Trustworthy
- High availability for all components; disaster recovery over a geographical distance of more than 1,000 km. fully compliant with China's information security standards for the finance industry; enhanced security and reliability.

Application Scenarios

Public safety industry
- Empowers municipal law enforcement with the tech to work smarter, solve more cases, and share more information in their data repositories across regions. Ultra-intelligent systems to aid investigations and improve fingerprint comparison analysis. Integrated command and control platform for traffic police sections.

Financial industry
- Support for precision marketing, real-time credit reporting, ad recommendations, traffic monitoring, and real-time risk controls.

e-Government
- Enables data sharing across platform, centralized image storage, rapid search and call up of electronic information, multidimensional analysis on customs clearance and taxation.

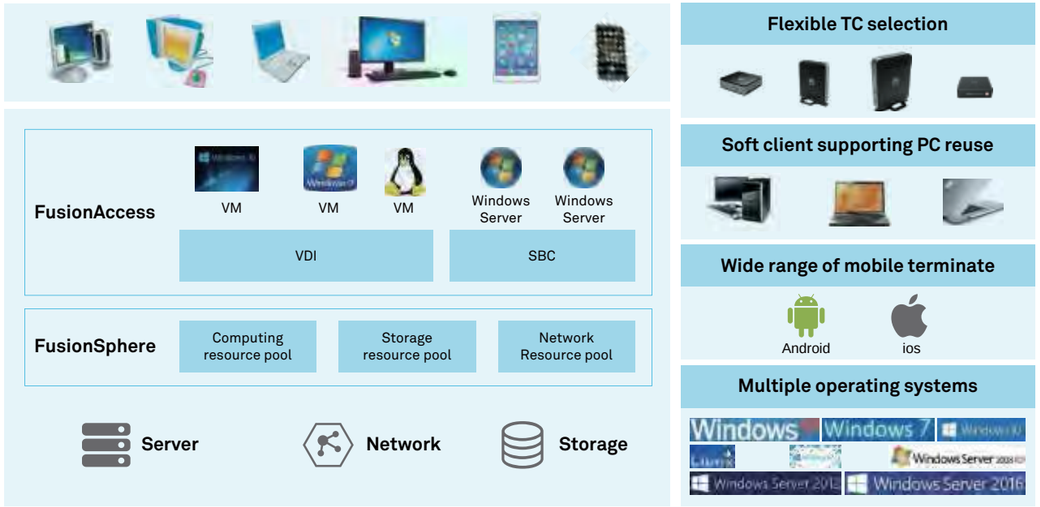
Large enterprise
- Real-time monitoring and proactive O&M on manufacturing equipment.

Carrier
- Support for precision marketing and realtime log analysis.

FusionAccess Desktop Cloud Solution

Powering Through the Move to Cloud-Based Office Operations with Huawei FusionAccess

Huawei FusionAccess Desktop Cloud Solution runs on the FusionSphere Cloud Platform. Computing and storage resources are centralized and resources are sharable across the entire network. Unified scheduling and management of cloud-based data centers equates to higher efficiencies in O&M and delivers much more flexibility in office operations, including everything from OA, public terminal, secure office, remote office/branch office, and a long list of other use cases. FusionAccess: Powering enterprises through their cloud adoptions in office operations



Solution Highlights

Superior experience
• Support for multiple peripherals, GPU acceleration and mobile office.

Secure and reliable
• Full assurances in terminal, network, and data security.

Agile and efficient
• Easy O&M, fast deployments, service agility.

Application Scenarios

Simplified O&M;
improved green
credentials (energysavings)

Zoned office
(tiered security indexes);
full data security assurances

Unified builds;
flexible and efficient

Efficient and professional;
secure and agile

Excellent user experience;
convenient and efflcient

Added efficiencies in
maintenance and flexible
access

Remote access to applications
for improved cost effectiveness

Unified management
secufe and efficient

32 Switch
54 WLAN
60 Router
80 Security
92 eSight Network
94 SDN Controller
98 FabricInsight
100 Access
112 Transmission

02

Enterprise Network

Switch

Data Center Switch

Product and Solution Overview

Huawei CloudEngine (CE) series switches are high-performance cloud switches designed for nextgeneration data centers and high-end campus networks. This series includes Huawei's flagship CE12800 and CE12800E core switches with the world's highest performance, CE8800/7800/6800/5800 high-performance aggregation and access switches, and CE1800V distributed virtual switch. The CloudEngine series uses Huawei's next-generation VRP8 software platform and supports extensive data center and campus network service features.
The CloudFabric solution is based on Huawei's flagship CloudEngine 12800 12800E series data center core switches, CloudEngine 8800/7800/6800/5800 series high-performance fixed switches, and CloudEngine 1800V virtual switch. These switches are used with the Huawei Agile Controller to provide customers with an all-cloud data center network. The solution also integrates transmission, routing, security, and network management products, which can be combined with the data center switches to deliver a one- stop data center network solution.

CE12800 Series

CE12800 switches are high-performance core switches designed for data center networks and high-end campus networks.
Their advanced hardware architecture offers the highest performance of any currently available core switches, with as much as 178 Tbit/s per chassis switching capacity and up to 576*100GE, 576*40GE, 2,304*25GE, or 2,304*10GE line rate ports.
The CE12800 switches use an industry-leading Clos architecture and a front-to-back airflow design to provide industrial-grade reliability. The switches also provide comprehensive virtualization capabilities and data center service features. Moreover, their energy-saving designs greatly reduce power consumption.
The CE12800 series is available in six models: CE12816, CE12812, CE12808, CE12804, CE12808S, and CE12804S. They all use interchangeable modules to reduce costs of spare parts. This design ensures device scalability and provides investment protection.

Item	CE12804S	CE12808S	CE12804	CE12808	CE12812	CE12816
Switching capacity (Tbit/s)	30/258[1]	59/516[1]	45/258[1]	89/516[1]	134/774[1]	178/1032[1]
Forwarding performance (Mpps)	17,280	34,560	17,280	34,560	51,840	69,120
Service slots	4	8	4	8	12	16
Switching fabric module slots	2	4	6	6	6	6
Fabric architecture	Clos architecture, cell switching, VoQ, and distributed large buffer					
Airflow design	Strict front-to-back					
Device virtualization	VS, CSS, SVF, M-LAG					
Network virtualization	BGP-EVPN, VxLAN					
Intelligent O&M	Proactive path detection on the entire network, real-time monitoring of network health status					

1 Roadmap

CE12800E Series

Huawei CloudEngine 12800E (CE12800E for short) series switches are high-performance core switches designed for enterprise data centers. CE12800E switches use a fully programmable architecture to meet customers' flexible and fast customization requirements. CE12800E switches use the VRP8 operating system and an orthogonal design of line processing units (LPUs) and service fabric units (SFUs). In addition to providing stable and reliable Layer 2 and Layer 3 switching services, the switches support refined network O&M, including proactive network-wide path and connectivity detection, real-time monitoring of network health status, and intelligent fault location.

Item	CE12804E	CE12808E	CE12816E
Switching capacity (Tbit/s)	26/258[1]	52/516[1]	78/ 1,032[1]
Forwarding performance (Mpps)	6,480	12,960	25,920
Service slots	4	8	16
Switching fabric module slots	6	6	6
Fabric architecture	Clos architecture, cell switching, VoQ		
Airflow design	Strict front-to-back		
Device virtualization	VS, CSS, M-LAG		
Network virtualization	VxLAN, BGP-EVPN		
Intelligent O&M	Proactive path detection on the entire network, real-time monitoring of network health status, supporting iPCA		

CE8800 Series

The CE8800 series switch is a high-performance 100GE TOR switch released for data centers and high-end campus networks. It can act as an access node to support high-density 25GE/10GE server access, a compact core or aggregation node on a small-sized network, or connect to High-Performance Computing (HPC) servers.
The CE8860 is the industry's first 25GE access TOR switch and provides high-density 100GE/40GE uplink ports for connection with core switches. It provides up to 32*100GE, 64*40GE, or 128*25GE/10GE ports, which can be used in combinations through cards, delivering flexible, high-density access and aggregation capabilities.
The CE8850 switch provides high-density 100GE QSFP28 ports, L2/L3 line-rate forwarding, extensive data center features, high-performance stacking capability.

CE8860-4C-EI

- Supports four half-width interface cards:
  - 24*10GE/25GE(SFP28) and 2*100GE (QSFP28) card
  - 24*10GE (BASE-T) and 2*100GE (QSFP28) card
  - 8*100GE (QSFP28) card
  - 16*40GE (QSFP+) card
  - 24*25GE (SFP28)/10GE (SFP+)/16GE (FC) and 2*40GE (QSFP+)/100GE (QSFP28) card
- 6.4 Tbit/s switching capacity, forwarding performance 3200Mpps
- Rich data center features: M-LAG, VxLAN, BGP-EVPN, iStack, FCoE
- Flexible front-to-back or back-to-front airflow
- Supports telemetry

CE8850-32CQ-EI

- 32*100GE QSFP28 ports, 2*10GE SFP+ ports
- 6.4 Tbit/s switching capacity, forwarding performance 4400Mpps
- Rich data center features: M-LAG, VxLAN, BGP-EVPN, iStack, FCoE
- Flexible front-to-back or back-to-front airflow
- Supports telemetry

CE8850-64CQ-EI

- 64*100GE QSFP28 ports
- 12.8 Tbit/s switching capacity, forwarding performance 4400Mpps
- Rich data center features: M-LAG, VxLAN, BGP-EVPN, iStack, FCoE
- Flexible front-to-back or back-to-front airflow
- Supports telemetry

CE7800 Series

The CE7800 switches can be used as core or aggregation switches on data centers and campus networks.
Using an advanced hardware design, the CE7800 series provides high-density 40GE QSFP+ ports (each can be split into four 10GE SFP+ ports), L2/L3 line-rate forwarding, extensive data center features, high-performance stacking capability. CE7800 switches support front-to-back and back-to-front airflows for you to choose based on the airflow direction in your equipment room.
The CE7800 series comes in one model.

CE7855-32Q-EI

- 32*40GE QSFP+ ports
- 2.56Tbit/s switching capacity, forwarding performance 1440Mpps
- Rich data center features: M-LAG, VxLAN, BGP-EVPN, iStack, SVF, FCoE
- Flexible front-to-back or back-to-front airflow
- Supports telemetry

CE6800 Series

The CE6800 switches provide high-density 10GE/25GE access in data centers and can also be used as core or aggregation switches on campus networks.
The CE6800 series has an advanced hardware design, which provides the industry's highest density of 10GE/25GE downlink ports as well as 100GE QSFP28 or 40GE QSFP+ uplink ports. (A 100GE QSFP28 port can be split into four 25GE SFP28 ports or work as a 40GE QSFP+ port. A 40GE QSFP+ port can be split into four 10GE SFP+ ports). The CE6800 switches provide L2/L3 line-rate forwarding on these interfaces and support extensive data center features, high-performance stacking capability. They support front-to-back and back-to-front airflows for you to choose based on the airflow direction in your equipment room.

CE6870-48S6CQ-EI

- 48*10GE SFP+ ports, 6*100GE QSFP28 ports
- 4 GB deep bufer, 2.16 Tbit/s switching capacity, forwarding performance 720Mbps
- Rich data center features: M-LAG, VxLAN, BGP-EVPN, iStack, FCoE
- Flexible front-to-back or back-to-front airflow
- Supports telemetry

CE6875-48S4CQ-EI

- 48*10GE SFP+ ports, 4*100GE QSFP28 ports
- 4GB deep buffer, 1.76Tbit/s switching capacity, forwarding performance 835Mpps
- Rich data center features: M-LAG, VxLAN, BGP-EVPN, iStack, FCoE
- Flexible front-to-back or back-to-front airflow
- Supports telemetry

CE6865-48S8CQ-EI

- 48*25GE SFP28 ports, 8*100GE QSFP28 ports
- 4Tbit/s switching capacity, forwarding performance 2000Mpps
- Rich data center features: M-LAG, VxLAN, BGP-EVPN, iStack, FCoE
- Flexible front-to-back or back-to-front airflow
- Supports telemetry

CE6856-48S6Q-HI

- 48*10GE SFP+ ports, 6*40GE QSFP+ ports
- 2.56Tbit/s switching capacity, forwarding performance 1080Mpps
- Rich data center features: M-LAG, VxLAN, BGP-EVPN, iStack, SVF, FCoE
- Flexible front-to-back or back-to-front airflow
- Supports telemetry

CE6855-48S6Q-HI

- 48*10GE SFP+ ports, 6*40GE QSFP+ ports
- 2.56Tbit/s switching capacity, forwarding performance 1080Mpps
- Rich data center features: M-LAG, VxLAN, VxLAN RIOT, BGP-EVPN, iStack, SVF, FCoE
- Flexible front-to-back or back-to-front airflow
- Supports telemetry

CE5800 Series

The CE5800 switches provide high-density GE access in data centers and can also be used as aggregation or access switches on campus networks.
The CE5800 series is the first in the industry to provide 40GE uplink ports, and the advanced hardware design supports the industry's highest density of GE access ports. The CE5800 switches provide L2/L3 line-speed forwarding, extensive data center features, and high-performance stacking capability. They support front-to-back and back-to-front airflows for you to choose based on the airflow direction in your equipment room.
The CE5800 series comes in three models.

CE5855-48T4S2Q-EI

- 48*GE BASE-T ports, 4*10GE SFP+ ports, 2*40GE QSFP+ ports
- 1.28Tbit/s switching capacity, forwarding performance 252Mpps
- Rich data center features: M-LAG, iStack, SVF
- Flexible front-to-back or back-to-front airflow

CE5855-24T4S2Q-EI

- 24*GE BASE-T ports, 4*10GE SFP+ ports, 2*40GE QSFP+ ports
- 1.28Tbit/s switching capacity, forwarding performance 215Mpps
- Rich data center features: M-LAG, iStack, SVF
- Flexible front-to-back or back-to-front airflow

CE5850-48T4S2Q-HI

- 48*GE BASE-T ports, 4*10GE SFP+ ports, 2*40GE QSFP+ ports
- 1.28Tbit/s switching capacity, forwarding performance 252Mpps
- Rich data center features: M-LAG, iStack
- Flexible front-to-back or back-to-front airflow

CloudEngine 1800V

Huawei CloudEngine 1800V (CE1800V) is a distributed virtual switch designed for virtualized environments in cloud data centers. It provides best-in-class forwarding performance, open architecture, and enhanced security protection. And it can run on multiple compute virtualization platforms such as Huawei FusionSphere, VMware ESXi, as well as open-source platforms.
The CE1800V can be combined with Huawei CloudEngine hardware switches and Huawei Agile Controller to offer a Software-Defined Networking (SDN) solution for data centers based on hybrid or host overlays. This solution supports Virtual Machines (VMs), containers, and physical servers with the same architecture.

Award and Certification

Best of ShowNet Award Grand Prize

At Interop Tokyo 2016, Huawei CE8860 and CE6850 data center switches received the Best of Show Award Grand Prix in the ShowNet Product category for the Open SDN Capabilities.

Huawei Positioned as a Leader in Data Center Hardware Platforms for SDN

Huawei has been positioned as a Leader in the new report "The Forrester Wave™: ardware Platforms For Software-Defined Networking, Q1 2018" published by Forrester Research, a top technology industry research and advisory firm. This was the first time for Forrester Research to evaluate data center hardware platforms for software-defined networking (SDN) and included nine players in the industry. According to this report, CloudEngine series switches, core components in Huawei CloudFabric Solution, had the highest score in the product strategy category and the third highest score in the current offering and market presence categories.

Campus Switch SX700 Series Products

S12700 Series

HUAWEI S12700 series agile switches are designed for next-generation campus networks. Using a fully programmable switching architecture, the S12700 series allows fast, flexible function customization and supports a smooth evolution to Software-Defined Networking (SDN). The S12700 series uses a Huawei Ethernet Network Processor (ENP) and provides a native Wireless Access Controller (AC) to help build a wired and wireless converged network. Its Unified User Management capabilities deliver unified user and service management, and Huawei's Packet Conservation Algorithm for Internet (iPCA) supports hop-by-hop monitoring of any service flows, helping manage services in a more refined way. The S12700 series runs the Huawei Versatile Routing Platform (VRP), which provides high-performance L2/L3 switching services and rich network services, such as Multiprotocol Label Switching (MPLS) VPN, hardware IPv6, desktop cloud, and video conferencing. In addition, the S12700 series offers a variety of reliability technologies, including non-stop forwarding, Cluster Switch System Generation2(CSS2), a switch fabric hardware clustering system that allows 1+N backup of Main Processing Units (MPUs), hardware Eth-OAM/BFD, and ring network protection. These technologies help improve productivity and maximize network operation time, reducing Total Cost of Ownership (TCO).
The S12700 series is available in four models: S12704, S12708, S12710 and S12712.

S12712

S12710

S12708

S12704

Product Specifications

Item	S12704	S12708	S12710	S12712
Switching capacity	4.88Tbps/ 16.08Tbps	12.32Tbps/ 44.96Tbps	13.12Tbps/ 38.56Tbps	17.44Tbps/ 44.96Tbps
Packet forwarding rate	3,120Mpps/ 4,560Mpps	6,240Mpps/ 30,240Mpps	7,440Mpps/ 11,040Mpps	9,120Mpps/ 30,240Mpps
MPU slots	2	2	2	2
SFU slots	2	4	4 (2 integrated in MPU)	4
Service card slots	4	8	10	12

S7700 Series

Product Overview

The S7700 series agile switches (S7700 for short) are high-end smart routing agile switches designed for next-generation enterprise networks. The S7700 design is based on Huawei's intelligent multi-layer switching technology to provide intelligent service optimization methods, such as MPLS VPN, traffic analysis, comprehensive HQoS policies, controllable multicast, load balancing, and security, in addition to high-performance Layer 2 to Layer 4 switching services. The S7700 also features super scalability and reliability.
The S7700 can function as an aggregation or core node on a campus network to provide integrated wireless access. The S7700 also offers voice, video, and data services, helping enterprises build routing and switching integrated end-to-end networks.
The S7700 series is available in three models: S7703, S7706, and S7712. The switching capacity and port density of all three models is expandable. The S7700 is developed based on a new hardware platform and adopts a left-to-rear ventilation channel to achieve better energy efficiency. Key components work in redundancy mode to minimize risks of system breakdown and service interruption. Using innovative energy-saving chips, the S7700 provides an industry-leading solution for a sustainable energy-saving network.

S7703

S7706

S7712

Product Specifications

Item	S7703	S7706	S7712
Switching capacity	1.92 Tbps	3.84 Tbps	3.84Tbps
Forwarding performance	1440 Mpps	2880 Mpps	2880 Mpps
MPU slot	2	2	2
Service slot	3	6	12

S6720-HI Series

Product Specifications

Huawei S6720-HI series switches are fixed agile switches with 10GE downlink and 40GE/100GE uplink ports, and are applicable to enterprise campus, carrier, university, and government networks.
The S6720-HI delivers abundant agility features, and uses the fully programmable architecture to implement software-defined functions and on-demand service changes. With services and network convergence as the core, the S6720-HI supports the native AC function to manage APs. In addition, the switch provides the free mobility feature to ensure consistent user experience, and the Super Virtual Fabric (SVF) feature to virtualize the entire network into one device.
The S6720-HI supports both cloud management and on-premise management modes. These two management modes can be flexibly switched as required to achieve smooth evolution while maximizing return on investment (ROI). The Huawei cloud management platform allows users to configure, monitor, and inspect switches on the cloud, reducing on-site deployment and O&M manpower costs and decreasing network OPEX.

S6720-50L-HI-48S

- 48×10 Gig SFP+,6×40 Gig QSFP+ or 44×10 Gig SFP+,4×40 Gig QSFP+,2×100 Gig QSFP28
- Dual pluggable power modules, 600 W AC or 350 W DC (no equipped power modules by default)
- Switching capacity: 2.56 Tbit/s

S6720-30L-HI-24S

- 24×10 Gig SFP+,4×40 Gig QSFP+,2×100 Gig QSFP28
- Dual pluggable power modules, 600 W AC or 350 W DC (no equipped power modules by default)
- Switching capacity: 2.56 Tbit/s

S6720-EI Series

Product Overview

The S6720-EI series switches are next-generation 10GE box switches. The S6720-EI can function as an access switch in an Internet data center (IDC) or a core/aggregation switch on a campus network.
The S6720-EI has industry-leading performance, provides line-speed 10GE access ports and line-speed 40GE uplink ports. It can be used in a data center to provide 10 Gbit/s access to servers or function as a core switch on a campus network to provide 10 Gbit/s traffic aggregation. In addition, the S6720-EI provides a wide variety of services, comprehensive security policies, and various QoS features to help customers build scalable, manageable, reliable, and secure data centers.
The S6720-EI supports both cloud management and on-premise management modes. These two management modes can be flexibly switched as required to achieve smooth evolution while maximizing return on investment (ROI). The Huawei cloud management platform allows users to configure, monitor, and inspect switches on the cloud, reducing on-site deployment and O&M manpower costs and decreasing network OPEX.
S6720S-26Q-EI-24S is a compact switch with 220mm depth , perfectly suitable in a 300 mm deep cabinet, saving installation space for customers.

S6720-30C-EI-24S-AC
S6720-30C-EI-24S-DC

- 24×10 Gig SFP+, 2×40 Gig QSFP+ ports
- One extended slot
- Double hot swappable AC/DC power supplies
- Forwarding performance: 720 Mpps
- Switching capacity: 2.56 Tbps

S6720-54C-EI-48S-AC
S6720-54C-EI-48S-DC

- 48×10 Gig SFP+, 2×40 Gig QSFP+ ports
- One extended slot
- Double hot swappable AC/DC power supplies
- Forwarding performance: 1080 Mpps
- Switching capacity: 2.56 Tbps

S6720S-26Q-EI-24S-AC
S6720S-26Q-EI-24S-DC

- 24×10 Gig SFP+, 2×40 Gig QSFP+ ports
- Double hot swappable AC/DC power supplies
- Forwarding performance: 480 Mpps
- Switching capacity: 2.56 Tbps

S6720-SI Series Multi-Gigabit Switches

Product Overview

Huawei S6720-SI series switches are next-generation multi-gigabit 10 GE fixed switches. The S6720-SI series can provide access for high-speed wireless devices and 10G data center servers, and can serve as campus network access/aggregation switches.
The S6720-SI series provides the industry's highest performance among multi-gigabit fixed switches, with line-rate 100M/1G/2.5G/5G/10G access ports and 40 GE uplink ports. They can provide access for high-speed APs and high-density 10G servers, and can serve as 40 GE core/aggregation switches on campus networks. In addition, the S6720-SI series offers a wide range of services, comprehensive security policies, and various QoS features to help customers build scalable, manageable, reliable, and secure campus and data center networks.
The S6720-SI supports both cloud management and on-premise management modes. These two management modes can be flexibly switched as required to achieve smooth evolution while maximizing return on investment (ROI). The Huawei cloud management platform allows users to configure, monitor, and inspect switches on the cloud, reducing on-site deployment and O&M manpower costs and decreasing network OPEX.

S6720-26Q-SI-24S-AC
S6720S-26Q-SI-24S-AC

- 24×10 Gig SFP+ ports, 2×40 Gig QSFP+ ports
- Double pluggable power supplies, AC power supply
- Forwarding performance: 240 Mpps
- Switching capacity: 2.56 Tbit/s

S6720-32X-SI-32S-AC

- 32×10 Gig SFP+ ports
- Double pluggable power supplies, AC power supply
- Forwarding performance: 240 Mpps
- Switching capacity: 2.56 Tbit/s

S6720-32C-PWH-SI-AC
S6720-32C-PWH-SI

- 24×100M/1G/2.5G/5G/10G Base-T Ethernet ports, 4×10 Gig SFP+ ports
- One extended slot
- Double pluggable power supplies, AC/DC power supply
- Long distance PoE++
- Forwarding performance: 240 Mpps
- Switching capacity: 2.56 Tbit/s

S6720-56C-PWH-SI-AC
S6720-56C-PWH-SI

- 32×10/100/1,000 Base-T Ethernet ports, 16×100M/1G/2.5G/5G/10G Base-T Ethernet ports, 4×10 Gig SFP+ ports
- One extended slot
- Double pluggable power supplies, AC/DC power supply
- PoE++
- Forwarding performance: 240 Mpps
- Switching capacity: 2.56 Tbit/s

S6720-52X-PWH-SI

- 48×100M/1G/2.5G/5G/10G Base-T Ethernet ports, 4×10 Gig SFP+ ports
- Double pluggable power supplies, AC/DC power supply
- PoE++
- Forwarding performance: 480 Mpps
- Switching capacity: 2.56 Tbit/s

S6720-LI Series

Product Overview

The S6720-LI series switches are next-generation simplified 10 GE fixed switches and can be used as access switches for campus and data center networks.
The S6720-LI series provides line-rate 10 GE access ports and 40 GE uplink ports. In addition, the S6720-LI series delivers a wide range of services, comprehensive security control policies, and various QoS features to help customers build scalable, reliable, manageable, and secure campus and data center networks.

S6720-16X-LI-16S-AC
S6720S-16X-LI-16S-AC

- 16×10 Gig SFP+ ports
- Built-in AC power supply and Redundant Power Supply (RPS)
- Packet forwarding rate: 240 Mpps
- Switching capacity: 1.28 Tbit/s

S6720-26Q-LI-24S-AC
S6720S-26Q-LI-24S-AC

- 24×10 Gig SFP+ ports, 2×40 Gig QSFP+ ports
- Built-in AC power supply and RPS
- Packet forwarding rate: 240 Mpps
- Switching capacity: 1.28 Tbit/s

S6720-32X-LI-32S-AC
S6720S-32X-LI-32S-AC

- 32×10 Gig SFP+ ports
- Built-in AC power supply and RPS
- Packet forwarding rate: 240 Mpps
- Switching capacity: 1.28 Tbit/s

S5730-HI Series

Product Overview

Huawei 44c-HI gigabit Ethernet switches (hereinafter referred to as the S5730-HI) are Huawei-developed next-generation agile switches that provide fixed full gigabit access and 10GE uplink interfaces as well as one or two slots for uplink interface extension. The switches are developed based on Huawei Versatile Routing Platform (VRP), and use the fully programmable structure to implement software definition and service change on demand. With services and network convergence as the core, the switches provide the free mobility function to ensure consistent user experience. The Super Virtual Fabric (SVF) function virtualizes the entire network into one device. In addition, the switches support flexible Ethernet networking, comprehensive VPN tunnel solutions, various security control methods, on Huawei Versatile Routing Platform (VRP), and use the fully programmable structure to implement software definition and service change on demand. With services and network convergence as the core, the switches provide the free mobility function to ensure consistent user experience. The Super Virtual Fabric (SVF) function virtualizes the entire network into one device. In addition, the switches support flexible Ethernet networking, comprehensive VPN tunnel solutions, various security control methods, intelligent deployment, and simple operations & maintenance (O&M). The S5730-HI series switches are the best choices for the access or aggregation layers of large- and middle-sized campus networks, and the core layer of branch or small campus networks.

S5730-36C-HI
S5730-36C-PWH-HI

- 24×10/100/1000Base-T Ethernet ports,4×10 Gig SFP+ ports
- One extended slot
- 1+1 power backup, with AC, DC, or AC+DC power supply
- PoE++(PWH model)
- Switching capacity: 758 Gbit/s

S5730-44C-HI
S5730-44C-PWH-HI

- 24×10/100/1000Base-T Ethernet ports,4×10 Gig SFP+ ports
- Two extended slots
- 1+1 power backup, with AC, DC, or AC+DC power supply
- PoE++(PWH model)
- Switching capacity: 758 Gbit/s

S5730-60C-HI
S5730-60C-PWH-HI

- 48×10/100/1000Base-T Ethernet ports,4×10 Gig SFP+ ports
- One extended slot
- 1+1 power backup, with AC, DC, or AC+DC power supply
- PoE++(PWH model)
- Switching capacity: 758 Gbit/s

S5730-68C-HI
S5730-68C-PWH-HI

- 48×10/100/1000Base-T Ethernet ports,4×10 Gig SFP+ ports
- Two extended slots
- 1+1 power backup, with AC, DC, or AC+DC power supply
- PoE++(PWH model)
- Switching capacity: 758 Gbit/s

S5730-SI Series

Product Overview

The S5730-SI series switches (S5730-SI for short) are next-generation standard gigabit Layer 3 Ethernet switches. They can be used as an access or aggregation switch on a campus network or as an access switch in a data center.
The S5730-SI series switches provide flexible full gigabit access and cost-effective fixed GE/10 GE uplink ports. Meanwhile, the S5730-SI can provide 4 x 40 GE uplink ports with an interface card.

S5730-48C-SI-AC

- 24×Ethernet 10/100/1,000 ports, 8×10 Gig SFP+
- One extended slot
- Dual pluggable AC or DC power supplies, one 150W AC power supply equipped by default
- Forwarding performance: 240 Mpps
- Switching capacity: 680 Gbit/s

S5730-48C-PWR-SI-AC

- 24×Ethernet 10/100/1,000 ports, 8×10 Gig SFP+
- One extended slot
- One 500W AC power supply equipped by default
- PoE+
- Forwarding performance: 240 Mpps
- Switching capacity: 680 Gbit/s

S5730-68C-SI-AC

- 48×Ethernet 10/100/1,000 ports, 4 ×10 Gig SFP+
- One extended slot
- Dual pluggable AC or DC power supplies, one 150W AC power supply equipped by default
- Forwarding performance: 240 Mpps
- Switching capacity: 680 Gbit/s

S5730-68C-PWR-SI-AC

- 48×Ethernet 10/100/1,000 ports, 4 ×10 Gig SFP+
- One extended slot
- One 500W AC power supply equipped by default
- PoE+
- Forwarding performance: 240 Mpps
- Switching capacity: 680 Gbit/s

S5730-68C-PWR-SI

- 48×Ethernet 10/100/1,000 ports, 4 × 10 Gig SFP+, PoE+
- One extended slot
- PoE+
- Forwarding performance: 240 Mpps
- Switching capacity: 680 Gbit/s

S5720-EI Series

Product Overview

The S5720-EI series enhanced gigabit Ethernet switches (S5720-EI for short) are next-generation switches that provide flexible GE access ports (including optical, electrical, and combo ports) and 10GE uplink ports. Built on next-generation high-performing processors and the Huawei Versatile Routing Platform (VRP), the S5720-EI provides larger table sizes and higher hardware processing capabilities than equivalent switches. comprehensive service processing capabilities, enhanced security control, and mature IPv6 features, and supports MACsec, intelligent stack (iStack), flexible Ethernet networking, and easy operations and maintenance (O&M). With all these advantages, the S5720-EI is widely used for access/aggregation in enterprise campus networks or gigabit access in data center networks.

S5720-32X-EI-AC

- 24 × Ethernet 10/100/1000 ports, 4×100/1000 SFP, 4×10 Gig SFP+, 2×QSFP+ dedicated stack ports
- Fixed AC power supply, RPS supported
- Forwarding performance: 102 Mpps
- Switching capacity: 598 Gbit/s

S5720-36C-EI-28S-AC
S5720-36C-EI-28S-DC

- 24 × Gig SFP, 4×Combo Gig ports , 4×10 Gig SFP+
- One extended slot
- Hot-swappable dual AC/DC power supplies, one AC/DC power supply equipped by default
- Forwarding performance: 132 Mpps
- Switching capacity: 598 Gbit/s

S5720-52X-EI-AC

- 48 × Ethernet 10/100/1000 ports, 4×10 Gig SFP+, 2×QSFP+ dedicated stack ports
- Fixed AC power supply, RPS supported
- Forwarding performance: 132 Mpps
- Switching capacity: 598 Gbit/s

S5720-56C-EI-48S-AC
S5720-56C-EI-48S-DC

- 48 × Gig SFP, 4 ×10 Gig SFP+
- One extended slot
- Hot-swappable dual AC/DC power supplies, one AC/DC power supply equipped by default
- Forwarding performance: 162 Mpps
- Switching capacity: 598 Gbit/s

S5720-56C-EI-AC
S5720-56C-EI-DC

- 48 × Ethernet 10/100/1000 ports, 4 ×10 Gig SFP+
- One extended slot
- Hot-swappable dual AC/DC power supplies, one AC/DC power supply equipped by default
- Forwarding performance: 162 Mpps
- Switching capacity: 598 Gbit/s

S5720-SI Series

Product Overview

The S5720-SI series switches (S5720-SI for short) are next-generation standard gigabit Layer 3 Ethernet switches that provide flexible full gigabit access and cost-effective fixed GE ports and 10GE uplink ports. The S5720-SI was developed based on next-generation high-performing hardware and the Huawei Versatile Routing Platform (VRP). The S5720-SI supports simplified operations and maintenance (O&M), intelligent stack (iStack), flexible Ethernet networking, and MACsec. It also provides enhanced Layer 3 features and mature IPv6 features. The S5720-SI can be used in various scenarios. For example, it can be used as an access or aggregation switch on a campus network or as an access switch in a data center.
The S5720-SI supports both cloud management and on-premise management modes. These two management modes can be flexibly switched as required to achieve smooth evolution while maximizing return on investment (ROI). The Huawei cloud management platform allows users to configure, monitor, and inspect switches on the cloud, reducing on-site deployment and O&M manpower costs and decreasing network OPEX.

S5720-28X-SI-24S-AC
S5720-28X-SI-24S-DC

- 24 × Gig SFP, 8 of which are dual-purpose 10/100/1000 or SFP, 4×10 Gig SFP+
- Hot-swappable dual AC/DC power supplies, one AC/DC power supply equipped by default
- Forwarding performance: 96 Mpps
- Switching capacity: 336 Gbit/s

S5720-28X-SI-AC
S5720-28X-SI-DC

- 20 × Ethernet 10/100/1000 ports, 4 × Combo Gig ports, 4 ×10 Gig SFP+ ports
- Hot-swappable dual AC/DC power supplies, one AC/DC power supply equipped by default
- Forwarding performance: 96 Mpps
- Switching capacity: 336 Gbit/s

S5720-28X-PWR-SI-AC
S5720-28X-PWR-SI-DC

- 20 × Ethernet 10/100/1000 PoE+ ports, 4×Combo Gig ports , 4 ×10 Gig SFP+
- Hot-swappable dual AC/DC power supplies, one AC/DC power supply equipped by default
- PoE+
- Forwarding performance: 96 Mpps
- Switching capacity: 336 Gbit/s

S5720-52X-SI-AC
S5720-52X-SI-DC

- 48 × Ethernet 10/100/1000 ports, 4×10 Gig SFP+
- Hot-swappable dual AC/DC power supplies, one AC/DC power supply equipped by default
- Forwarding performance: 132 Mpps
- Switching capacity: 336 Gbit/s

S5720-52X-PWR-SI-AC
S5720-52X-PWR-SI-DC

- 48 × Ethernet 10/100/1000 PoE+ ports, 4 ×10 Gig SFP+
- Hot-swappable dual AC/DC power supplies, one AC/DC power supply equipped by default
- PoE+
- Forwarding performance: 132 Mpps
- Switching capacity: 336 Gbit/s

S5720I-SI Series

Product Overview

The S5720I-SI series switches (S5720I-SI for short) are next-generation standard gigabit Layer 3 Ethernet switches that provide flexible full gigabit access and cost-effective fixed GE ports and 10GE uplink ports. The S5720I-SI was developed based on next-generation high-performing hardware and the Huawei Versatile Routing Platform (VRP). The S5720I-SI supports simplified operations and maintenance (O&M), intelligent stack (iStack) and flexible Ethernet networking. It also provides enhanced Layer 3 features and mature IPv6 features.
The S5720I-SI supports high range of operating temperature, so the switch can be working in the outdoor cabinet in the very cold and very hot environments. S5720I-SI can be widely used in safe city, ETTx and other scenarios.

S5720I-10X-PWH-SI-AC

- All-in-one model by integrating multiple modules, such as protection shell, built-in surge protector, fiber splice tray, multi-channel power output
- 8x10/100/1000Base-T ports, 4x10 Gig SFP+ ports
- PoE++
- IP65
- Salt spray resistance
- Fixed AC power supply
- Forwarding performance: 42 Mpps
- Switching capacity: 168 Gbit/s
- Operating temperature: -40°C to +55°C

S5720I-12X-SI-AC

- 8 × Ethernet 10/100/1000 ports,4×10 Gig SFP+ ports
- Fixed AC power supply
- Forwarding performance: 72 Mpps
- Switching capacity: 336 Gbit/s
- Operating temperature: -40°C to 75°C

S5720I-12X-PWH-SI-DC

- 8 × Ethernet 10/100/1000 ports,4×10 Gig SFP+
- -50--56V DC power input or optional DC power supply module
- PoE++
- Forwarding performance: 72 Mpps
- Switching capacity: 336 Gbit/s
- Operating temperature: -40°C to 75°C

S5720I-28X-SI-AC

- 24 × Ethernet 10/100/1000 ports, 4×10 Gig SFP+ ports
- Built-in dual AC power module
- Forwarding performance: 96 Mpps
- Switching capacity: 336 Gbit/s
- Operating temperature: -40°C to 65°C

S5720I-28X-PWH-SI-AC

- 24 × Ethernet 10/100/1000 ports, 4×10 Gig SFP+ ports
- Built-in dual AC power module
- PoE++
- Forwarding performance: 96 Mpps
- Switching capacity: 336 Gbit/s
- Operating temperature: -40°C to 65°C

S5720-LI Series

Product Overview

The S5720-LI is a next-generation energy-saving gigabit Ethernet switch that provides flexible GE access ports and 10GE uplink ports. Building on next-generation, high-performance hardware and the Huawei Versatile Routing Platform (VRP), the S5720-LI supports intelligent stack (iStack), flexible Ethernet networking, and diversified security control. It provides customers with a green, easy-to-manage, easy-to-expand, and cost-effective gigabit to the desktop solution.
The S5720-LI supports both cloud management and on-premise management modes. These two management modes can be flexibly switched as required to achieve smooth evolution while maximizing return on investment (ROI). The Huawei cloud management platform allows users to configure, monitor, and inspect switches on the cloud, reducing on-site deployment and O&M manpower costs and decreasing network OPEX.

S5720-12TP-LI-AC

- 8 × Ethernet 10/100/1000 Base-T ports, 2 × Gig SFP ports, 2× Combo Gig ports
- AC power supply
- Forwarding performance:22.5 Mpps
- Switching capacity: 336 Gbit/s

S5720-12TP-PWR-LI-AC

- 8 × Ethernet 10/100/1000 Base-T ports, 2 × Gig SFP ports, 2 × Combo Gig ports
- AC power supply
- PoE+
- Forwarding performance: 22.5 Mpps
- Switching capacity: 336 Gbit/s

S5720-28P-LI-AC

- 24 × Ethernet 10/100/1000 Base-T ports, 4 × Gig SFP ports
- AC power supply
- Forwarding performance: 51 Mpps
- Switching capacity: 336 Gbit/s

S5720-28P-PWR-LI-AC

- 24 × Ethernet 10/100/1000 Base-T ports, 4 × Gig SFP ports
- AC power supply
- PoE+
- Forwarding performance: 51 Mpps
- Switching capacity: 336 Gbit/s

S5720-52P-LI-AC

- 48 × Ethernet 10/100/1000 Base-T ports, 4 × Gig SFP ports
- AC power supply
- Forwarding performance: 87 Mpps
- Switching capacity: 336 Gbit/s

S5720-52P-PWR-LI-AC

- 48 × Ethernet 10/100/1000 Base-T ports, 4 × Gig SFP ports
- AC power supply
- PoE+
- Forwarding performance: 87 Mpps
- Switching capacity: 336 Gbit/s

Enterprise Network

S5720S-LI Series

Product Overview

The S5720S-LI is a next-generation energy-saving gigabit Ethernet switch that provides flexible GE access ports and 10GE uplink ports. Building on next-generation, high-performance hardware and the Huawei Versatile Routing Platform (VRP), the S5720S-LI supports intelligent stack (iStack), flexible Ethernet networking, and diversified security control. It provides customers with a green, easy-to-manage, easy-to-expand, and cost-effective gigabit to the desktop solution. In addition, Huawei customizes specialized models to meet customer requirements to suit special scenarios.
The models with front power sockets can be installed in the 300 mm deep cabinet. They can be maintained through the front panel, saving space in small equipment rooms.
The S5720S-LI supports both cloud management and on-premise management modes. These two management modes can be flexibly switched as required to achieve smooth evolution while maximizing return on investment (ROI). The Huawei cloud management platform allows users to configure, monitor, and inspect switches on the cloud, reducing on-site deployment and O&M manpower costs and decreasing network OPEX.
As part of Huawei's channel distribution products, the S5720S-LI is only sold in Russia, Switzerland, Hong Kong, Dubai, Turkey, Malaysia, Saudi Arabia, Singapore, Qatar, and New Zealand.

S5720S-12TP-LI-AC

- 8 × Ethernet 10/100/1000Base-T ports, 2 × Gig SFP ports, 2× Combo Gig ports
- AC power supply
- Forwarding performance: 22.5 Mpps
- Switching Capacity: 336Gbit/s

S5720S-28P-PWR-LI-AC

- 24 × Ethernet 10/100/1000Base-T ports, 4 × Gig SFP ports
- AC power supply
- PoE+
- Forwarding performance: 51Mpps
- Switching Capacity: 336Gbit/s

S5720S-28P-LI-AC

- 24 × Ethernet 10/100/1000Base-T ports, 4 × Gig SFP ports
- AC power supply
- Forwarding performance: 51Mpps
- Switching Capacity: 336Gbit/s

S5720S-28P-PWR-LI-AC

- 24 × Ethernet 10/100/1000Base-T ports, 4 × Gig SFP ports
- AC power supply
- PoE+
- Forwarding performance: 51Mpps
- Switching Capacity: 336Gbit/s

S5720S-52P-LI-AC

- 48 × Ethernet 10/100/1000Base-T ports, 4 × Gig SFP ports
- AC power supply
- Forwarding performance: 87Mpps
- Switching Capacity: 336Gbit/s

S5720S-52P-PWR-LI-AC

- 48 × Ethernet 10/100/1000Base-T ports, 4 × Gig SFP ports
- AC power supply
- PoE+
- Forwarding performance: 87Mpps
- Switching Capacity: 336Gbit/s

S3700 Series

Product Overview

The S3700 series enterprise switches (S3700s) are next-generation energy-saving Layer 3 switches. The S3700 utilizes cutting-edge hardware and Huawei Versatile Routing Platform (VRP) software to provide high-performance access and aggregation to an enterprise campus network. The S3700 is easy to install and maintain. With its flexible VLAN deployment, PoE capabilities, comprehensive routing functions, and capability to migrate to an IPv6 network, the S3700 helps enterprise customers build next-generation IT networks. In addition, the S3700 uses advanced reliability technologies such as stacking, VRRP, and RRPP, enhancing network reliability and diversity.
The S3700 is a box device that is 1 U high. It is available in a standard version (SI), an enhanced version (EI). The SI version provides Layer 2 functions and basic Layer 3 functions. The EI version supports complex routing protocols and provides more functions than the SI version offers.

S3700-28TP-SI-AC
S3700-28TP-EI-AC

- 24×10/100Base-TX ports, 2×1000Base-X SFP ports, 2×Combo Gig ports (10/100/1000Base-T or 100/1000Base-X)
- AC power supply
- Forwarding performance: 9.6 Mpps
- Switching Capacity: 64Gbps

S3700-28TP-PWR-EI

- 24×10/100Base-TX ports, 2×1000Base-X SFP ports, 2×Combo Gig ports (10/100/1000Base-T or 100/1000Base-X)
- AC power supply
- PoE+
- Forwarding performance: 9.6 Mpps
- Switching Capacity: 64Gbps

S3700-28TP-EI-24S-AC

- 24×100Base-FX SFP ports, 2×1000Base-X SFP ports, 2×Combo Gig ports (10/100/1000Base-T or 100/1000Base-X)
- AC power supply
- Forwarding performance: 9.6 Mpps
- Switching Capacity: 64Gbps

S3700-52P-SI-AC
S3700-52P-EI-AC

- 28×10/100Base-TX ports, 2×100/1000Base-X SFP ports, 2×1000Base-X SFP ports
- AC power supply
- Forwarding performance: 13.2 Mpps
- Switching Capacity: 64Gbps

S3700-52P-PWR-EI

- 28×10/100Base-TX ports, 2×100/1000Base-X SFP ports, 2×1000Base-X SFP ports
- AC power supply
- PoE+
- Forwarding performance: 13.2 Mpps
- Switching Capacity: 64Gbps

Enterprise Network

S2700 Series

Product Overview

The S2700 series enterprise switches (S2700 for short), including S2710, S2720,S2750, and S2751 series, are next-generation energy-saving intelligent 100M Ethernet switches developed by Huawei. The S2700 utilizes cutting-edge switching technologies and Huawei Versatile Routing Platform (VRP) software to meet the demand for multi-service provisioning and access on Ethernet networks. It is easy to install and maintain. With its flexible network deployment, comprehensive security and quality of service (QoS) policies, and energy-saving technologies, the S2700 helps enterprise customers build next-generation IT networks.
The S2700 is a box device that is 1 U (44.45 mm or 1.75 in.) high. It is available in a standard version (SI) or an enhanced version (EI).

S2720-12TP-EI

- 4×Ethernet 10/100 ports, 4×Ethernet10/100/1000 ports,2 dual-purpose 10/100/1000 or SFP,2×Gig SFP
- AC power supply
- Forwarding performance: 12.6 Mpps
- Switching Capacity: 68 Gbit/s

S2720-12TP-PWR-EI

- 4×Ethernet 10/100 ports, 4×Ethernet10/100/1000 ports,2 dual-purpose 10/100/1000 or SFP,2×Gig SFP
- PoE+
- AC power supply
- Forwarding performance: 12.6 Mpps
- Switching Capacity: 68 Gbit/s

S2720-28TP-EI

- 16×Ethernet 10/100 ports,8×Ethernet10/100/1000,4 x Gig SFP and 2 dual-purpose 10/100/1000 or SFP
- AC power supply
- Forwarding performance: 20.4 Mpps
- Switching Capacity: 68 Gbit/s

S2720-28TP-PWR-EI

- 16×Ethernet 10/100 ports,8×Ethernet10/100/1000,4 x Gig SFP and 2 dual-purpose 10/100/1000 or SFP
- PoE+
- AC power supply
- Forwarding performance: 20.4 Mpps
- Switching Capacity: 68 Gbit/s

S2720-52TP-EI

- 32×Ethernet 10/100 ports,16×Ethernet 10/100/1000 ports,4 Gig SFP
- AC power supply
- Forwarding performance: 34.8 Mpps
- Switching Capacity: 336 Gbit/s

S2720-52TP-PWR-EI

- 32× Ethernet 10/100 ports,16×Ethernet 10/100/1000 ports,4 Gig SFP
- PoE+
- AC power supply
- Forwarding performance: 34.8 Mpps
- Switching Capacity: 336 Gbit/s

S1700 Series

Product Overview

The S1700 series enterprise switches (S1700s) are next-generation energy-saving Ethernet access switches. The S1700 uses high-performance hardware, which offers a wide array of features to help customers build secure, reliable, high-performance networks. The S1700 is easy to install and maintain, and is ideal for small-size and medium-size enterprises, Internet cafes, hotels, and schools.
The S1700 consists of unmanaged switches, Web/SNMP-based switches, and a web-managed switch:

- Unmanaged switches include the S1700-24-AC, S1724G-AC, S1700-16G, S1700-24GR, S1700-28GR-4X, S1700-52R-2T2P-AC, S1700-52GR-4X.
- The web-managed switches include the S1720-10GW-2P, S1720-10GW-PWR-2P, S1720-28GWR-4P, S1720-28GWR-4X, S1720-28GWR-PWR-4P, S1720-28GWR-PWR-4X, S1720-52GWR-4P, S1720-52GWR-4X, S1720-52GWR-PWR-4P, S1720-52GWR-PWR-4X, S1720-28GWR-PWR-4TP, S1720X-16XWR, S1720X-16XWR.
- Web/SNMP-based switches include the S1700-28FR-2T2P-AC, S1700-28GFR-4P-AC, S1700-52FR-2T2P-AC, S1700-52GFR-4P-AC, S1720-20GFR-4TP and S1720-28GFR-4TP, S1720-10GW-2P-E, S1720-10GW-PWR-2P-E,S1720-28GWR-4P-E, S1720-28GWR-4X-E, S1720-28GWR-PWR-4P-E,S1720-28GWR-PWR-4TP-E,S1720-28GWR-PWR-4X-E, S1720-52GWR-4P-E,S1720-52GWR-4X-E,S1720-52GWR-PWR-4P-E,S1720-52GWR-PWR-4X-E, S1720X-16XWR-E, S1720X-32XWR-E.

S1720-10GW-2P

- 8×Ethernet 10/100/1000 ports,2×Gig SFP
- AC power supply
- Forwarding performance: 15 Mpps
- Switching Capacity: 68Gbps

S1720-10GW-PWR-2P

- 8×Ethernet 10/100/1000 ports,2×Gig SFP
- PoE+
- AC power supply
- Forwarding performance: 15 Mpps
- Switching Capacity: 68Gbps

S1720-28GWR-4P

- 24×Ethernet 10/100/1000 ports,4×Gig SFP
- AC power supply
- Forwarding performance: 42Mpps
- Switching Capacity: 68Gbps

S1720-28GWR-PWR-4P

- 24×Ethernet 10/100/1000 ports,4×Gig SFP
- PoE+
- AC power supply
- Forwarding performance: 42Mpps
- Switching Capacity: 68Gbps

S1720-52GWR-4P

- 48×Ethernet 10/100/1000 ports,4×Gig SFP
- AC power supply
- Forwarding performance: 78Mpps
- Switching Capacity: 336Gbps

S1720-52GWR-PWR-4P

- 48×Ethernet 10/100/1000 ports,4×Gig SFP
- PoE+
- AC power supply
- Forwarding performance: 78Mpps
- Switching Capacity: 336Gbps

Award and Certification

National and International Certificates

Huawei switches have won 90+ international and national certifications (for example, MEF2.0, Common Criteria, IPv6 Ready Logo Certificate, and TÜV Green Product Certificate), and are providing high-quality services to users across 150+ countries and regions.

Miercom Performance Verified Certification

The Huawei S12708 earned Miercom Performance Verified Certification.

Best of Show Award 2017

At Interop, the biggest annual ICT exhibition in Japan, thanks to its series of innovative and differentiated features, such as the all-new management concepts, unique dual-stack mode, and flexible business models, the Huawei CloudCampus Solution successfully claimed the Best of Show Award 2017.

WLAN

Overview

As the IEEE 802.11ac Wave 1 and Wave 2 standards have been released, Wi-Fi is declared to embrace the gigabit era, providing choices for customers who require better performance, higher-bandwidth wireless access networks.
After in-depth survey and analysis on customer requirements, Huawei conducted scenario segmentation based on customers' coverage targets and STA service types, and launched 20+ AP products falling into five categories: indoor settled, indoor wall plate, agile distributed, rail transportation, and outdoor. Such a wide assortment of AP products will support wireless network deployment and coverage in various service scenarios.

Indoor Settled AP

Wave 2 AP: AP7052DE

- 802.11ac Wave 2 compliance, MU-MIMO (4SU-4MU), delivering services simultaneously on 2.4G and 5G radios; 800 Mbit/s at 2.4 GHz; 1.73 Gbit/s at 5 GHz; and 2.53 Gbit/s for the device.
- 5GE uplink interface that can connect to a 100M/1000M/2.5G interface, to improve the service load capability.
- Smart antenna array technology enables targeted signal coverage for mobile terminals, reduces interferences, and improves signal quality. Additionally, it implements millisecond-level switchover as STAs move.
- Dual PoE power supply for backup.
- Built-in Bluetooth (BLE4.1) to implement precise location with eSight.
- USB interface used for external power supply and storage.
- Cloud-managed.

Wave 2 AP: AP7052DN&AP7152DN

- 802.11ac Wave 2 compliance, MU-MIMO (4SU-4MU), delivering services simultaneously on 2.4G and 5G radios; 800 Mbit/s at 2.4 GHz; 1.73 Gbit/s at 5 GHz; and 2.53 Gbit/s for the device.
- 2.4G-to-5G switchover. In dual-5G mode, the device rate can reach up to 3.46 Gbit/s.
- 5GE uplink interface that can connect to a 100M/1000M/2.5G interface, to improve the service load capability.
- Dual PoE power supply for backup.
- Built-in Bluetooth (BLE4.1) to implement precise location with eSight.
- USB interface used for external power supply and storage.
- IoT module to allow for flexible expansion of IoT applications.
- Cloud-managed.

Wave 2 AP: AP7050DE

- Applicable to mobile office, high-density coverage, elementary education, and higher education scenarios.
- 802.11ac Wave 2 and MU-MIMO (4SU-4MU) technology, delivering services simultaneously on 2.4G and 5G radios; 800 Mbit/s at 2.4 GHz; 1.73 Gbit/s at 5 GHz; and 2.53 Gbit/s for the device.
- Smart antenna array technology enables targeted signal coverage for mobile terminals, reduces interferences, and improves signal quality. Additionally, it implements millisecond-level switchover as terminals move.
- Built-in Bluetooth, which collaborates with eSight Network to accurately locate Bluetooth terminals.
- Dual GE ports, supporting data backup.
- Cloud-managed

Wave 2 AP: AP6052DN

- 802.11ac Wave 2 compliance, MU-MIMO (4SU-3MU), delivering services simultaneously on 2.4G and 5G radios; 800 Mbit/s at 2.4 GHz; 1.73 Gbit/s at 5 GHz; and 2.53 Gbit/s for the device.
- 2.4G-to-5G switchover. In dual-5G mode, the device rate can reach up to 3.46 Gbit/s.
- 5GE uplink interface that can connect to a 100M/1000M/2.5G interface, to improve the service load capability.
- Built-in Bluetooth (BLE4.1) to implement precise location with eSight.
- USB interface used for external power supply and storage.
- Cloud-managed.

Wave 2 AP: AP6050DN&AP6150DN

- Applicable to medium- to large-scale scenarios such as mobile office, high-density coverage, elementary education, and higher education.
- 802.11ac Wave 2 and MU-MIMO (4SU-3MU) technology, delivering services simultaneously on 2.4G and 5G radios; 800 Mbit/s at 2.4 GHz; 1.73 Gbit/s at 5 GHz; and 2.53 Gbit/s for the device.
- Dual GE ports, supporting data backup.
- Cloud-managed

Wave 2 AP: AP4051TN

- 802.11ac Wave 2 compliance, delivering services simultaneously on one 2.4G radio and two 5G radios (one 5G radio supporting 2x2 MU-MIMO and the other 5G radio supporting 4x4 MU-MIMO); 400 Mbit/s at 2.4 GHz; 867 Mbit/s + 1733 Mbit/s at 5 GHz; and 3 Gbit/s for the device.
- Dual Ethernet interfaces support link aggregation and traffic load balancing to ensure link reliability. Both of the two interfaces support the PoE in function.
- Built-in Bluetooth (BLE4.1) to implement precise location with eSight.
- USB interface used for external power supply and storage.
- Cloud-managed.

Wave 2 AP: AP4050DN-E

- Applicable to scenarios including shopping malls, supermarkets, healthcare, warehousing, manufacturing, and logistics.
- 802.11ac Wave 2 and MU-MIMO (2SU-2MU) technology, delivering services simultaneously on 2.4G and 5G radios; 400 Mbit/s at 2.4 GHz; 867 Mbit/s at 5 GHz; and 1.267 Gbit/s for the device.
- Built-in Bluetooth, which collaborates with eSight Network to accurately locate Bluetooth terminals.
- 3 IoT module slots, allowing for flexible IoT application extension.
- PoE out function, supplying power to other APs or devices.
- Dual GE ports, supporting data backup.
- Cloud-managed

Wave 2 AP: AP4050DN-HD

- Applicable to high-density scenarios such as indoor stadiums, auditoriums, shopping malls, and supermarkets.
- 802.11ac Wave 2 and MU-MIMO (2SU-2MU) technology, delivering services simultaneously on 2.4G and 5G radios; 400 Mbit/s at 2.4 GHz; 867 Mbit/s at 5 GHz; and 1.267 Gbit/s for the device.
- Built-in smart directional high-density antennas, reducing inter-AP interference and saving construction costs.
- PoE out function, supplying power to other APs or devices.
- Dual GE ports, supporting data backup.
- Cloud-managed

Wave2 AP: AP4050DN&AP4051DN

- Applicable to commercial chains, medical, warehousing, manufacturing, and logistics environments
- 802.11ac Wave 2 standards compliance, MU-MIMO (2SU-2MU), delivering services simultaneously on 2.4G and 5G radios; 400 Mbit/s at 2.4 GHz; 867 Mbit/s at 5 GHz; and 1.267 Gbit/s for the device.
- AP4051DN: Dual GE ports, supporting data backup
- USB interface used for external power supply and storage.

AP4050DN

AP4051DN

Wave 1 AP: AP5030DN&AP5130DN

- Recommended for use in enterprise offices, airports and stations, digital trains, and stadiums.
- 3 x 3 MIMO with three spatial streams; 450 Mbit/s at 2.4 GHz; 1.3 Gbit/s at 5 GHz; and 1.75 Gbit/s for the device.

AP5030DN

AP5130DN

Indoor Wall Plate AP

AP2050DN&AP2050DN-E

- Recommended for environments with densely distributed small rooms, such as hotels, dormitories, hospitals, and offices.
- Compliance with 802.11ac Wave 2, MU-MIMO (2SU-2MU);400Mbit/s at 2.4 GHz; 867 Mbit/s at 5 GHz; and 1.267 Gbit/s for the device.
- One GE uplink port, four GE downlink ports for Ethernet connections or wired terminal connections, and two RJ45 pass-through phone ports (compatible with RJ11).
- Various installation modes for easy deployment, including plate-mounting, and desk-mounting modes.
- USB port for storage and external power supply.
- AP2050DN-E:Built-in Bluetooth, working with eSight Network to implement
- AP2050DN-E:PoE OUT, supplying power for STAs such as IP phones.
- Cloud-managed

Wave2 AP: AP2051DN&AP2051DN-E

- Recommended for environments with densely distributed small rooms, such as hotels, dormitories, hospitals, and offices.
- Compliance with 802.11ac Wave 2, MU-MIMO (2SU-2MU);400Mbit/s at 2.4 GHz; 867 Mbit/s at 5 GHz; and 1.267 Gbit/s for the device.
- Smart antenna array technology features targeted signal coverage for mobile terminals, reduces interferences, and improve signal quality.
- One GE uplink port, four GE downlink ports for Ethernet connections or wired terminal connections, and two RJ45 pass-through phone ports (compatible with RJ11).
- Various installation modes for easy deployment, including 86/118/120-type boxes and wall-mounting scenarios with adapter.
- AP2051DN-E:USB port for storage and external power supply.
- AP2051DN-E:Built-in Bluetooth, working with eSight Network to implement
- AP2051DN-E:PoE OUT, supplying power for STAs such as IP phones.
- Cloud-managed

Distributed Central AP and RU

Central AP: AD9431DN-24X& AD9430DN-24 & AD9430DN-12

- Manages and configures remote units. The AD9431DN-24X&AD9430DN-24&AD9430DN-12 can be flexibly deployed in the equipment rooms, weak-current wells, and corridors, to cover scenarios with a high density of rooms and complex wall structure, such as schools, hotels, hospitals, and office conference rooms.
- AD9431DN-24X&AD9430DN-24 provide 24 downlink GE ports supporting standard
- The AD9431DN-24X have 4 uplink 10 * GE interfaces.
- PoE power supply, and supports direct management over 24 remote units, which can be extended through the switch to a maximum of 48 remote units. The AD9431DN-24X&AD9430DN-24 support a maximum of 1000 concurrent users and association from a maximum of 4000 users.
- An AD9430DN-12 central AP provides 2 uplink GE ports and 12 downlink GE ports, and supports direct management over 12 remote units, which can be extended through the switch to a maximum of 24 remote units. The AD9430DN-12 supports a maximum of 512 concurrent users and association from a maximum of 2000 users.
- Cloud-managed

AD9431DN-24X

AD9430DN-24

AD9430DN-12

Remote Unit: R251D&R251D-E

- Recommended for environments with densely distributed small rooms, such as hotels, dormitories, hospitals, and offices.
- Compliance with 802.11ac Wave 2, MU-MIMO (2SU-2MU);400Mbit/s at 2.4 GHz; 867 Mbit/s at 5 GHz; and 1.267 Gbit/s for the device.
- Smart antenna array technology features targeted signal coverage for mobile terminals, reduces interferences, and improve signal quality.
- One GE uplink port, four GE downlink ports for Ethernet connections or wired terminal connections, and two RJ45 pass-through phone ports (compatible with RJ11).
- Various installation modes for easy deployment, including 86/118/120-type boxes and wall-mounting scenarios with adapter.
- R251DN-E:USB port for storage and external power supply.
- R251DN-E:Built-in Bluetooth, working with eSight Network to implement.
- R251DN-E:PoE OUT, supplying power for STAs such as IP phones.

Remote Unit: R250D-E

- Managed by the central AP, remote units can be directly installed in rooms to cover scenarios with a high density of rooms and complex wall structure, such as schools, hotels, hospitals, and office conference rooms.
- Compliance with 802.11ac Wave 2, MU-MIMO (2SU-2MU);400 Mbit/s at 2.4 GHz; 867 Mbit/s at 5 GHz; and 1.267 Gbit/s for the device.
- One GE uplink port, four GE downlink ports for Ethernet connections or wired terminal connections.
- Built-in Bluetooth, working with eSight Network to implement Bluetooth device location.
- Supports PoE power supply in compliance with IEEE 802.3af/at and power supply of –48 V DC.
- PoE OUT, supplying power for STAs such as IP phones.
- Various installation modes for easy deployment, including plate-mounting, and desk-mounting modes.

Rail Transportation AP

Wave 1 AP: AP9132DN&AP9131DN

- Serves as the vehicle-mounted AP, trackside AP, or compartment AP and applies to transportation industry train-ground backhaul and compartment coverage scenarios.
- 802.11ac Wave 1, delivering services simultaneously on 2.4G and 5G radios; 450 Mbit/s at 2.4 GHz; 1.3 Gbit/s at 5 GHz; and 1.75 Gbit/s for the device.
- External dual-band antenna (2.4 GHz and 5 GHz), which can adjust the radiation direction to ensure the coverage.
- Soft switchover technology that establishes the link and then conducts the switchover, implementing fast link switching in train-to-ground communication and minimizing packet loss during the switchover.
- High-level material, overall heat dissipation design, –40°C to +65°C wide operating temperature range, and industrial M12 shockproof connectors for power supply Ethernet ports that meet shockproof, waterproof, and fireproof requirements, supporting vehicle-mounted deployment required by the rail transportation industry.
- Fast link switching in train-to-ground communication, controlling the switchover time within 50 ms and providing a stable and high-speed train-ground backhaul network.
- AP9132DN: supports the splitting function, that is, compartments are covered at 2.4 GHz and bridged at 5 GHz, which are flexible and easy to deploy.

AP9132DN

AP9131DN

Outdoor AP

Wave 2 AP: AP8082DN&AP8182DN

- 802.11ac Wave 2 compliance, MU-MIMO (4SU-4MU), delivering services simultaneously on 2.4G and 5G radios; 800 Mbit/s at 2.4 GHz; 1.73 Gbit/s at 5 GHz; and 2.53 Gbit/s for the device.
- The AP8182DN can switch from the 2.4 GHz frequency band to the 5 GHz frequency band. When working at dual 5 GHz frequency bands simultaneously, the AP provides a system rate of 3.46 Gbit/s.
- Built-in 5 kA surge protectors; no additional surge protection device required. This design simplifies installation and saves costs.
- Uses a metal shell and heat dissipation design, adapts to a wide temperature range from –40°C to +65°C, and provides 6 kA or 6 kV surge protection capability on an Ethernet interface, and IP68 protection level, meeting industry-level use requirements.
- Cloud-managed.

Wave 2 AP: AP8050TN-HD

- 802.11ac Wave 2 compliance, MU-MIMO (2SU-2MU-2MU), delivering services simultaneously on one 2.4G radio and two 5G radios; 400 Mbit/s at 2.4 GHz; 867 Mbit/s+867 Mbit/s at 5 GHz; and 2.134 Gbit/s for the device.
- Built-in 5 kA surge protectors; no additional surge protection device required. This design simplifies installation and saves costs.
- Uses a metal shell and heat dissipation design, adapts to a wide temperature range from –40°C to +65°C, and provides 6 kA or 6 kV surge protection capability on an Ethernet interface, and IP68 protection level, meeting industry-level use requirements.
- Cloud-managed.

Wave2 AP: AP8050DN&8150DN

- recommended for use in coverage scenarios (for example, high-density stadiums, squares, pedestrian streets, and amusement parks) and bridging scenarios (for example, wireless harbors, data backhaul, video surveillance, and train-to-ground backhaul).
- 802.11ac wave 2 standards compliance, MU-MIMO (2SU-2MU), delivering services simultaneously on 2.4G and 5G radios; 400 Mbit/s at 2.4 GHz; 867 Mbit/s at 5 GHz; and 1.267 Gbit/s for the device
- PoE power supply in compliance with IEEE 802.3at, making APs easy to install.
- Uplink optical port and dual GE Ethernet ports, supporting data backup and PoE power supply.
- The AP8150DN can switch from the 2.4 GHz frequency band to the 5 GHz frequency band. When working at dual 5 GHz frequency bands simultaneously, the AP provides a system rate of 1.73 Gbit/s and can function as a relay AP to implement wireless bridging functions, which reduces costs and improves device installation efficiency.
- Built-in 5 kA surge protectors; no additional surge protection device required. This design simplifies installation and saves costs.
- Use a metal shell and heat dissipation design, adapt to a wide temperature range from -40℃ to +65℃, provide 6 kA or 6 kV surge protection capability on an Ethernet interface, and IP68 protection level, meeting industry-level use requirements.

AP8050DN

AP8150DN

Wave 1 AP: AP8030DN&AP8130DN

- Recommended for use in coverage scenarios (for example, high-density stadiums, squares, pedestrian streets, and amusement parks) and bridging scenarios (for example, wireless harbors, data backhaul, video surveillance, and vehicle-ground backhaul).
- 3 x 3 MIMO with three spatial streams; 450 Mbit/s at 2.4 GHz; 1.3 Gbit/s at 5 GHz; and 1.75 Gbit/s for the device.
- PoE power supply in compliance with IEEE 802.3at, making APs easy to install.
- Uplink optical port and dual GE Ethernet ports, supporting data backup and PoE power supply.
- AP8130DN: uses external antennas. Antennas can be configured, and deployment locations are determined based on networking requirements.
- AP8030DN: uses built-in antennas with 10 dBi gain at 2.4 GHz and 10 dBi gain at 5 GHz (horizontal: 60 degrees; vertical: 30 degrees).
- Cloud-managed

AP8030DN

AP8130DN

Award and Certification

IF Design and Red Dot Awards

Huawei AP7X52 series Won iF Design and Red Dot Awards for its groundbreaking innovative design. These are two of the world's highest honors. The AP7052DE also stirred up interests of media and analysts on Huawei Global Analyst Summit 2017.

Router

NetEngine

Huawei NetEngine 9000 Series Cloud Backbone Routers

Product Overview

As the Internet enters the Cloud Era, cloud business diversification will make data traffic unpredictable, and as Over the Top (OTT) and 4K video services consume a lot of bandwidths, IP backbone networks will need greater bandwidths, more flexibility, and continuous expanding capability. Huawei's NetEngine9000 series router (NE9000) is Huawei's flagship router created for the Cloud Internet Era. With features that include high capacity, high stability and a green design, the NE9000 is positioned for large-scale Data Center Interconnect (DCI), and core nodes on large-scale enterprise networks.
As the industry's largest Pbit router, the NE9000 adopts Huawei's self-developed Solar series NP chips for excellent wire-speed forwarding performance. The NE9000 is based on the CLOS distributed multi-stage architecture with non-blocking switching technology. The NE9000 supports SDN technology and can work in SDN solutions such as SDN PCE+/RR+, SDN IP+Optical and SDN VXLAN. The NE9000 continues to innovate based on an industry-leading platform for improved QoS mechanism and carrier-class reliability to rapidly deal with the new challenges that backbone networks face in the Cloud

Product Appearance

NE9000-20 with front doors closed

NE9000-20 with front doors open

NE9000-20 back

NE9000-8

NE9000-8

Product Specifications

	NE9000-20	NE9000-8
Number of Slots	2 MPUs ,8SFUs,20LPUs	2 MPUs ,8SFUs,8LPUs
Slot Capacity	4T, scale to 8T	4T, scale to 8T
System Capacity	80Tbps, scale to 160Tbps	32Tbps, scale to 64Tbps
Forwarding Performance(Mpps)	36,160Mpps	14,464Mpps
Power Consumption	0.4W/G	0.4W/G
Physical Dimensions (H x W x D)	2200mm x 600mm x 1000mm	1016mm x 442mm x 945mm
Interface Type	100GE、100GE DWDM、40GE、10GE、10GE OTN、10GE DWDM、1000M	

Huawei NetEngine 5000E Series Cluster Routers

Product Overview

NetEngine5000E cluster router (NE5000E) delivers industry-leading huge capacity, carrier-level availability and green design，which fully guarantees the network robustness, service flexibility and TCO saving for service providers. Powered advanced backplane connection design, distributed and highly scalable Versatile Routing Platform (VRP) operating system, NE5000E, a super-core routing platform, service steadily and high-efficiency at Internet backbone, Internet data center and Internet bearer network.
Offering the innovative and advanced solutions such as the industry-largest capacity board, back-to-back cluster system and hybrid-chassis cluster system, the NE5000E makes network configured on demand and helps customer improve earnings, as well as save TCO.
The NE5000E has two parts in hardware: Cluster Central Chassis (CCC) and Cluster Line Chassis (CLC). CLC is used to forward service flow and CCC is used to connect CLC's control plane and data plane in cluster system.

Product Appearance

Single Chassis

Back-to-Back Cluster System

2+8 Cluster System

Product Specifications

Attribute	Description
Throughput capability	Non-block switch fabric, support multi Chassis 2048Tbps/64 Chassis (1T)
Swithing Capability	81.92Tbps/single Chassis
Slots/CLC	16 slots/single Chassis
Interface Types	GE, 10GE, 10G POS, 40GE, 40G POS, 100GE, 100G OTN, etc.
Routing protocol	IPv4 static route, OSPF, IS-IS, BGP, PIM, MSDP, MBGP

Huawei NetEngine 40E Series Aggregation Services Routers

Product Overview

NetEngine 40E series aggregation services routers (NE40E), a high-end network product, features wire-speed forwarding capability, a well designed Quality of Service (QoS) mechanism, strong service-processing capability, and excellent expansibility and are usually deployed at the edges of backbone networks, Internet Data Centers (IDCs) networks and other large-scale IP networks. The NE40E can provide comprehensive services for enterprises, residential as universal edge device.
Based on distributed hardware forwarding and non-blocking switching technologies, the NE40E provides maximum 2T line cards to satisfy the increased demand for bandwidth.

Product Appearance

NE40E-X16A

NE40E-X16

NE40E-X8A

NE40E-X8

NE40E-X3A

NE40E-X3

Product Specifications

Attribute	NE40E-X16A	NE40E-X16	NE40E-X8A	NE40E-X8	NE40E-X3A	NE40E-X3
Number of slots	22 slots, including 2 MPUs (1:1 backup), 4 SFUs (3+1 backup), and 16 LPUs	22 slots, including 2 MPUs (1:1 backup), 4 SFUs (3+1 backup), and 16 LPUs	12 slots, including 2 SRUs (1:1 backup), 2 SFUs (3+1 backup), and 8 LPUs	11 slots, including 2 SRUs (1:1 backup), 1 SFUs (2+1 backup), and 8 LPUs	5 slots (for 3 LPUs and 2 MPUs)	5 slots (for 3 LPUs and 2 MPUs)

Item	NE40E-M2H	NE40E-M2K
Switching capacity	960Gps	1.8 Tbs
Forwarding performance	333Mpps	410Mpps
Fixed ports	Model 1, 16*(10GE SFP+) + 12*(10GE SFP+/GE SFP) Model 2, 16*(10GE SFP+) + 10*(10GE SFP+/GE SFP) + 18*(GE SFP) Model 3, 16*(10GE SFP+) + 4*(10GE SFP+/GE SFP) + 24*(GE SFP)	2*(100GE QSFP28) + 20*(10GE SFP+) + 10*(10GE SFP+/GE SFP) + 10*(GE SFP)
Number of slots	2 PICs	2 PICs
Interface type	100GE/40GE/10GE/GE/FEOC-3c/STM-1c POSOC-12c/STM-4c POSChannelized OC-3/STM-1 POSOC-3c/STM-1c ATME1/CE1	100GE/40GE/10GE/GE/FEOC-3c/STM-1c POSOC-12c/STM-4c POSChannelized OC-3/STM-1 POSOC-3c/STM-1c ATME1/CE1

Huawei NetEngine 20E Series Aggregation Services Routers

Product Overview

NetEngine 20E series aggregation services routers (NE20E) are high-end network products developed by Huawei for transportation, finance, electricity, government, education, and enterprise networks. They mainly serve as aggregation nodes on corporation networks, core nodes on small and medium enterprise networks, edge nodes on campus networks, and access nodes on small and medium education networks.
The NE20E runs on the Versatile Routing Platform (VRP) operating system and uses Huawei-developed NP chips and hardware-based forwarding and non-blocking switching technologies. The NE20E has the following features:
Wire-speed forwarding capabilities, carrier-class reliability, excellent scalability, a well-designed quality of service (QoS) mechanism, and strong service processing capabilities
Powerful service access and aggregation capabilities and various features, such as Layer 2 virtual private network (L2VPN), L3VPN, multicast, multicast VPN (MVPN), Multiprotocol Label Switching (MPLS) Traffic Engineering (TE), and QoS, to ensure carrier-class service transmission reliability
Various service features, such as Generic Routing Encapsulation (GRE), IP Security (IPSec), Network Address Translation (NAT), and NetStream
Support for IPv6 and smooth transition from IPv4 to IPv6
The NE20E can be flexibly deployed at the access and aggregation layer of IP/MPLS networks and work with other NE routers to provide an all-around network solution for enterprise users, satisfying diversified service requirements in the future.

Product Appearance

NE20E-S2E

NE20E-S2F

NE20E-S4

NE20E-S8

NE20E-S16

NE20E-S8A

NE20E-S16A

Product Specifications

Item	NE20E-S2E	NE20E-S2F	NE20E-S4	NE20E-S8	NE20E-S16	NE20E-S8A	NE20E-S16A
Switching capacity	160 Gbps	320 Gbps	480 Gbps	960Gbps	960Gbps	2Tbps	2Tbps
Forwarding performance	120Mpps	160Mpps	360Mpps	360 Mpps	360 Mpps	452Mpps	452Mpps
Fixed ports	2*10 GE (SFP+) and 24*GE (SFP)	4*10 GE (SFP+) and 40*GE (SFP)	-	-	-	-	-
Number of slots	2PICs	2PICs	2 MPUs 1 NSP 4 PICs	2 MPUs 2 NSPs 8 PICs	2 MPUs 2 NSPs 16 PICs	2 MPUs 2 NSPs 8 PICs	2 MPUs 2 NSPs 16 PICs
Interface type	10GE/GE/FEOC-3c/STM-1c POSOC-12c/STM-4c POS Channelized OC-3/STM-1 POSOC-3c/STM-1c ATME1/CE1	40GE/10GE/GE/FEOC-3c/STM-1c POSOC-12c/STM-4c POSCh annelized OC-3/STM-1 POSOC-3c/STM-1c ATME1/CE1	40GE/10GE/GE/FEOC-3c/STM-1c POSOC-12c/STM-4c POSChanne lized OC-3/STM-1 POSOC-3c/STM-1c ATME1/CE1	40GE/10GE/GE/FEOC-3c/STM-1c POSOC-12c/STM-4c POS Channelized OC-3/STM-1 POSOC-3c/STM-1c ATME1/CE1	100GE/40GE/10GE/GE/FEOC-3c/STM-1c POSOC-12c/STM-4c POSChannelized OC-3/STM-1 POSOC-3c/STM-1c ATME1/CE1		

Huawei NetEngine 08E&05E Series Aggregation Services Routers

Product Overview

NetEngine 08E&05E series aggregation services routers are the cloud era ENP-based aggregation service routers which help transportation, finance, power, government, education, enterprise to build agile networks, can be flexibly applied to IP / MPLS network edge access scenarios, to meet the diverse needs of users for future business development. NetEngine08E / NetEngine05E series is cloud service architecture design oriented, large cache to ensure the best service experience; IP pipeline firmness and flexibility, support IP soft pipes for statistical multiplexing to improve resource efficiency and IP hard pipe exclusive resources to ensure the best customer experience .

Product Appearance

NE08E-S9

NE08E-S6/6E

NE05E-S2

NE05E-SQ

NE05E-SJ/SR

NE05E-SM

Product Specifications

Attribute	NE08E-S9	NE08E-S6E/ S6	NE05E-SQ	NE05E-S2	NE05E-SJ/SR	NE05E-SM
Switching capacity (Bi-direction)	320Gbps	320Gbps/ 112Gbps	272Gbps	24Gbps	12Gbps	8Gbps
Typical power consumption	DC:182W/ AC:250W	164W/ 127W	80.4W	55W	11.4W	17.4W
Slots	redundant MPUs 9 FICs 10GE/GE/FE/ STM-1/E1/PCM	redundant MPUs 6 FICs 10GE/GE/FE/ STM-1/E1/ PCM	Fixbox 4*10GE (SFP+)+ 8*10GE/GE/ FE (O) + 8*GE/ FE (O) + 8*GE/ FE (E)	1 CXP with 6GE(O)+ 4GE(E) and 2 FICs	Fixbox 2*GE/ FE(O)+2*GE/ FE(E)+ 2*GE/ FE Combo	1*GE(O)+ 2*GE/FE(E)+ 1*FE/GE Combo
Dimension (W×D×H)	442mm× 220mm× 155.6 mm (3.5U)	442mm× 220mm× 88.9mm(2U)	442mm× 220mm× 44.45mm （1U）	442mm× 220mm× 44.45mm （1U）	250 mm × 180 mm × 43.6 mm （1U）	250mm× 180mm× 52mm
Operating Temperature	-40°C to +65°C	-40°C to +65°C	-40°C to +65°C	-20°C to +60°C	-40°C to +65°C	-40°C to +55°C

Award and Certification

Huawei IP Hard Pipe Solution Wins Interop Best of Show Grand Prix Award

Huawei's IP hard pipe solution has won the Best of Show Grand Prix Award at Interop Tokyo 2016. Interop is the ICT industry's most influential annual exhibition that focuses on technical innovation and new products. Every year, more than 300 ICT manufacturers choose Interop as the platform to launch new products and services. Huawei's IP hard pipe solution was given the award for its innovation, representing the first time the Interop Executive Committee has given the award to a solution.

AR G3

AR100, AR120, AR160 and AR200 Series Access Router

Huawei's next-generation routers, the AR100, AR120, AR160 and AR200 series are designed for enterprise branch offices and small businesses, delivering a comprehensive set of services, including routing, switching, voice, security, and wireless access.

Product Overview

The AR100, AR120, AR160 and AR 200 series are fixed interface routers that provide a comprehensive platform for a variety of network topologies, including IMS, NGN, WAN and PSTN. The AR100, AR120, AR160 and AR200 also employ embedded hardware encryption for security as well as a voice Digital Signal Processor (DSP) for voice services.
The AR100, AR120, AR160 and AR200 series are mature, stable and quiet routers that offer high performance functionality for small networks, enabling small businesses to greatly increase productivity at a lower cost.
AR100s, AR120s, AR160s and AR 200s are easy to deploy, configure and customize, greatly reducing cost of deployment and maintenance, while offering maximum value to customers. These models allow network administrators to expand their networks easily and quickly, saving time and costs. Both models support firewalls, call processing, and application program functionalities.
The AR100, AR120,AR160 and AR200 series includes the following models:
AR109, AR109W, AR109GW-L
AR129CV , AR129CVW, AR129CGVW-L
AR161, AR161G-L, AR161W, AR169, AR169G-L, AR169W,AR161F, AR161F-DGP, AR161FG-L, AR161FGW-L, AR161FW, AR161FV-1P, AR168F, AR169F, AR169FVW,AR169FVW-8S, AR169FGW-L, AR168F-4P,AR161EW, AR169EW, AR169EGW-L
AR201, AR207
The specifications for these models are shown in the following table.

AR100 Models

AR109

- WAN speed with services (IMIX): 40 Mbps
- Fixed ports: 4 x GE LAN, 1 x VDSL2/ADSL, 1 x GE WAN
- Dimensions (H x W x D): 30 mm x 230mm x 130 mm(1.18 in. x 9.1 in. x 5.1 in.)

AR109W

- WAN speed with services (IMIX): 40 Mbps
- Fixed ports: 4 x GE LAN, 1 x VDSL2/ADSL, 1 x GE WAN
- WLAN: 802.11b/g/n
- Dimensions (H x W x D): 30 mm x 230mm x 130 mm(1.18 in. x 9.1 in. x 5.1 in.)

AR109GW-L

- WAN speed with services (IMIX): 40 Mbps
- Fixed ports: 4 x GE LAN, 1 x VDSL2/ADSL, 1 x GE WAN
- LTE: LTE FDD
- WLAN: 802.11b/g/n
- Dimensions (H x W x D): 30 mm x 230mm x 130 mm(1.18 in. x 9.1 in. x 5.1 in.)

AR120 Models

AR129CV

- WAN speed with services (IMIX): 50 Mbps
- Fixed ports: 4 x GE LAN(can be configured as WAN interfaces), 1 x VDSL2, 1 x GE WAN
- Voice ports: 2 x FXS
- Dimensions (H x W x D): 30 mm x 230mm x 130 mm(1.18 in. x 9.1 in. x 5.1 in.)

AR129CVW

- WAN speed with services (IMIX): 50 Mbps
- Fixed ports: 4 x GE LAN, 1 x VDSL2, 1 x GE WAN
- Voice ports: 2 x FXS
- WLAN: 802.11ac, 802.11b/g/n
- Dimensions (H x W x D): 30 mm x 230mm x 130 mm(1.18 in. x 9.1 in. x 5.1 in.)

AR129CGVW-L

- WAN speed with services (IMIX): 50 Mbps
- Fixed ports: 4 x GE LAN, 1 x VDSL, 1 x GE WAN
- Voice ports: 2 x FXS
- LTE: LTE FDD
- WLAN: 802.11ac, 802.11b/g/n
- Dimensions (H x W x D): 30 mm x 230mm x 130 mm(1.18 in. x 9.1 in. x 5.1 in.)

AR160 Models

AR161

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 4 x GE LAN(can be configured as WAN interfaces), 1 x GE WAN
- Dimensions (H x W x D): 44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)

AR169G-L

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 4 x GE LAN(can be configured as WAN interfaces), 1 x VDSL2, FDD LTE
- Dimensions (H x W x D): 44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)

AR169FVW

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 4 x GE LAN(can be configured as WAN interfaces), 1 x GE Combo WAN, 1 x VDSL2 with bonding, 802.11 b/g/n
- Fixed Voice ports: 4 x FXS, 1 x FXO
- Dimensions (H x W x D): 44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)

AR161EW

- WAN speed with services (IMIX): 600 Mbps
- Fixed ports: 4 x GE RJ45 LAN, 1 x GE Combo WAN
- WLAN: 802.11a/b/g/n/ac/ac wave2, 4x4:4 MU-MIMO
- Dimensions (H x W x D): 44.0 mm x 300.0 mm x 216.4 mm (1.73 in. x 11.8 in. x 8.5 in.)

AR169EGW-L

- WAN speed with services (IMIX): 600 Mbps
- Fixed ports: 4 x GE RJ45 LAN, 1 x VDSL2 with Bonding, 1 x GE Combo WAN
- WWAN: LTE FDD
- WLAN: 802.11a/b/g/n/ac/ac wave2, 4x4:4 MU-MIMO
- Dimensions (H x W x D): 44.0 mm x 300.0 mm x 216.4 mm (1.73 in. x 11.8 in. x 8.5 in.)

AR200 Models

AR201

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 8 x FE LAN(can be configured as WAN interfaces), 1 x FE WAN
- Dimensions (H x W x D): 44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)

AR207

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 8 x FE LAN(can be configured as WAN interfaces), 1 x ADSL2+ Annex A/M
- Dimensions (H x W x D): 44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)

AR1200 Series Access Router

Huawei AR1200 Series routers are designed to provide secure and scalable unified voice and data communications for small enterprises or large enterprise branch offices.

Product Overview

Huawei AR1200 series Access Router are next-generation enterprise-class routers based on the Huawei proprietary Versatile Routing Platform (VRP). They build on Huawei's record of leadership in data communication and networking to provide industry-leading system performance and scalability to meet current and future business needs.
The AR1200 series integrates routing, switching, 3G service, Wireless LAN (WLAN), voice, and security functions. The AR1200 uses an embedded hardware encryption technique and supports a voice-optimized Digital Signal Processor (DSP). The router supports firewall security, call processing, voice mail, and other applications. It supports wired and wireless access modes, including E1/T1, xDSL, xPON, WiFi, 3G, and more. The AR1220EV and AR1220EVW models provide Power over Ethernet (PoE) on fixed 100M Ethernet interfaces.
The AR1220 series has been qualified with Microsoft Lync server, and can be seamlessly integrated into Microsoft unified communications solutions.

AR1200 Models

AR1220C

WAN speed with services(IMIX): 200Mbps
Fixed port: 8xGE(can be configured as WAN interfaces), 4xGE + 1xGE SFP
Slot: 2xSIC
Dimensions (H x W x D): 44.5mm x 390 mm x 220 mm

AR1220E

WAN speed with services(IMIX): 400Mbps
Fixed port: 8xGE(can be configured as WAN interfaces), 2xGE Combo
Slot: 2xSIC
Dimensions (H x W x D): 44.5mm x 390 mm x 220 mm

AR1220EV

WAN speed with services(IMIX): 400Mbps
Fixed port: 8xGE(four GE ports support PoE) (can be configured as WAN interfaces), 2XGE combo
PoE: compliance with IEEE 802.3af and 802.3at
DSP: 32 channels supported
Slot: 2xSIC
Dimensions (H x W x D): 44.5mm x 390 mm x 220 mm

AR1220EVW

- WAN speed with services(IMIX): 400Mbps
- Fixed port: 8xGE(four GE ports support PoE) (can be configured as WAN interfaces), 2XGE combo
- PoE: compliance with IEEE 802.3af and 802.3at
- DSP: 32 channels supported
- Slot: 2xSIC
- WiFi: compliance with 802.11b/g/n
- Dimensions (H x W x D): 44.5mm x 390 mm x 220 mm

AR1220-D

- WAN speed with services(IMIX): 200Mbps
- Fixed port: 8xFE(can be configured as WAN interfaces), 2xGE
- Slot: 2xSIC
- Embedded DC power supply
- Dimensions (H x W x D): 44.5mm x 390 mm x 220 mm

The AR1200 supports optional interface cards, including: Ethernet, E1/T1/PRI/VE, synchronous/asynchronous, ADSL2+, G.SHDSL, and VDSL, FXS and FXO, ISDN, EPON and GPON, 3G, LTE and E&M interface cards. These cards are classified into SIC (Smart Interface Card) cards and WSIC (Double-Width SIC) cards depending on slot type.

AR2200 Series Access Router

With industry-leading performance, Huawei AR2200 series Access Router provide secure and scalable unified voice and data communications for enterprise headquarters or branch offices.

Product Overview

The AR2200 routers are next-generation enterprise-class routers based on the Huawei proprietary Versatile Routing Platform (VRP). These modular-chassis routers integrate routing, switching, 3G service, LTE service, voice, and security functions. Users customize the routers by selecting the interface cards that meet their requirements.
The AR2200 use the embedded hardware encryption technique and support a voice-optimized Digital Signal Processor (DSP). They provide firewall security, call processing, voice mail, and other application programs.
The AR2200 routers support wired and wireless access modes, including E1/T1, xDSL, xPON, CPOS and 3G. Building on Huawei's leading data communication and networking technologies, they provide industry-leading system performance and scalability to meet current and future business needs.

AR2200 Models

AR2204-51GE-P

WAN speed with services(IMIX): 200Mbps
Fixed port: 3xGE (one combo port), 48xGE(8 GE ports support PoE)
PoE: compliance with IEEE 802.3af and 802.3at
Slot: 4xSIC
Dimensions (H x W x D): 44.5mm x 442mm x 420mm

AR2204XE

- WAN speed with services(IMIX): 900 Mbps
- Fixed port: 2x10GE SFP+, 10xGE SFP , 8xGE RJ45 WAN (PoE supported)
- 2 x HDD or SSD
- PoE: Compliance with IEEE 802.3af and 802.3at
- Slot: 4xSIC
- Dimensions (H x W x D): 44.5mm x 442mm x 420mm

AR2220E

- WAN speed with services(IMIX): 800 Mbps
- Fixed port: 3xGE (one combo port)
- Slot: 4xSIC + 2xWSIC
- Dimensions (H x W x D): 44.5 mm x 442 mm x 420mm

AR2240C

- WAN speed with services(IMIX): 1Gbps
- Fixed port: 4 xGE + 4xGE SFP + 2 x GE Combo
- Slot: 4xSIC + 2xWSIC + 2xXSIC
- Dimensions (H x W x D): 88.1 mm x 442 mm x 470 mm

AR2240

- WAN speed with services(IMIX):
  -1Gbps (with SRU40*)
  -2Gbps (with SRU80*)
  -1Gbps (with SRU100E*)
  -4.5Gbps(with SRU200*)
- Hardware-based Traffic Management (with SRU80*)
- Hardware-based HQoS (with SRU80*)
- Fixed port:
  -SRU40: 3 x GE(2 x Combo)
  -SRU80: 3 x GE(2 x Combo)
  -SRU100E: 4 x GE Combo+ 2 x GE SFP
  -SRU200: 4 x GE Combo+ 2 x 10GE SFP+
- Slot: 4xSIC + 2xWSIC + 2xXSIC
- Dimensions (H x W x D): 88.1 mm x 442 mm x 470 mm

* Main control board model number

The AR2200 supports optional interface cards, including Ethernet, E1/T1/PRI/VE1, synchronous/asynchronous, ADSL2+/G.SHDSL, FXS/FXO, ISDN, CPOS, EPON/GPON, 3G, LTE and E&M interface cards.
These cards are designated SIC (Smart Interface Card) cards, WSIC (Double-Width SIC) cards, or XSIC (Double-Height WSIC) cards, depending on the number of slots they occupy.

AR3200 Series Access Router

With its flexible modular design, the Huawei AR3200 series Access Router are designed to provide secure unified voice and data communication with exceptional performance and scalability to meet the demands of today's enterprise requirements.

* The 3200 series routers only has one model AR3260 now, but we will add more new models in future.

Product Overview

The Huawei AR3200 Access Router are next-generation enterprise-class routers based on the Huawei proprietary Versatile Routing Platform (VRP), which takes advantage of Huawei's leadership in data communication, wireless, access network, and core network technologies.
The AR3200 routers integrate routing, switching, 3G,LTE, voice, and security functions. It utilizes a multi-core CPU and non-blocking switching structure providing industry-leading system performance and extensibility, supporting evolving service development requirements. The AR3200 routers provide an integrated solution for enterprise networks, speed up multi-service provisioning and protect customers' investments. The modular chassis allows customers to customize the router with interchangeable interface cards.
The AR3200 routers use embedded hardware encryption techniques and support a voice-optimized Digital Signal Processor (DSP). It supports firewall functions, call processing, voice mail, and other applications. The AR3200 routers support wired and wireless access modes, including E1/T1, xDSL, xPON, CPOS, 3G, and LTE.

AR3200 Models

AR3260

- WAN speed with services(IMIX):
  -1Gbps (with SRU40*)
  -2Gbps (with SRU80*)
  -1Gbps (with SRU100E*)
  -4.5 Gbps(SRU200*)
  -5.5 Gbps (SRU400*)
- Hardware-based Traffic Management (with SRU80, SRU200* and SRU400*)
- Hardware-based HQoS (with SRU80, SRU200* and SRU400*)
- Fixed port:
  -SRU40: 3 x GE(2 x Combo)
  -SRU80: 3 x GE(2 x Combo)
  -SRU100E: 4 x GE Combo+ 2 x GE SFP
  -SRU200: 4 x GE Combo+ 2 x 10GE SFP+
  -SRU400: 4 x GE Combo+ 2 x 10GE SFP+
- Slots: 4*SIC + 2*WSIC + 4*XSIC
- Dimensions (H x W x D): 130.5 mm x 442 mm x 470 mmv

* Main control board model number

The AR3200 routers support optional interface cards, including Ethernet, E1/T1/PRI/VE1, synchronous/asynchronous, ADSL2+/G.SHDSL, ISDN, CPOS, EPON/GPON 、 FXS/FXO voice cards, 3G, LTE and E&M interface cards. They are available in the following formats: SIC (Smart Interface Card), WSIC (Double-Width SIC), and XSIC (Double-Height WSIC), depending on the number of slots available.

AR160-M Series Access Router

The Huawei AR160-M series Access Router integrates a comprehensive set of services, including routing, switching, security, and wireless access. With an open service platform, the AR160-M can provide computing, storage and network connection functions in one device.

Product Overview

The AR160-M has two models, AR169W-P-M9 and AR169RW-P-M9. The specifications for these models are shown in the following table.

AR169W-P-M9

- WAN speed with services (IMIX): 150Mbps
- Fixed ports: 4 x GE LAN(PoE)
  -1 x GE WAN,1 x VDSL2
  -1 x RS485/RS232/RS422
  -4 x USB
  -1 x HDMI, 1 x VGA
  -1 x 3.5mm Audio Output (Earphone)
  -1 x 3.5mm Audio input(MIC)
  -1 x Bluetooth
- 802.11 b/g/n + 802.11ac
- Dimensions (H x W x D): 44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)

AR169RW-P-M9

- WAN speed with services (IMIX): 150Mbps
- Fixed ports: 4 x GE LAN(PoE)
  -1 x GE WAN,1 x VDSL2
  -1 x RS485/RS232/RS422
  -4 x USB
  -1 x HDMI, 1 x VGA
  -1 x 3.5mm Audio Output (Earphone)
  -1 x 3.5mm Audio input(MIC)
  -1 x Bluetooth
  -1 x Zigbee
- 802.11 b/g/n + 802.11ac
- Dimensions (H x W x D): 44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)

AR650 Series Universal Computing Gateways

Huawei AR650 series universal computing gateways are designed to meet the requirements of cloud computing, Software-Defined Networking (SDN), and Network Functions Virtualization (NFV). The gateway is plug and-play and features high performance and high reliability. It is the universal customer premises equipment (uCPE) applicable to enterprise branches as well as small- and medium-sized enterprises.

Product Overview

Huawei AR650 series universal computing gateways use a universal computing platform, support virtualization functions and SDN architecture, and provide the virtualization environment and basic operating system (OS). The OS integrates some IP functions, for example, basic routing, switching, and IPSec. Huawei and third-party VNFs can be deployed on the AR650 to implement multiple services, such as routing, firewall, and WAN acceleration. The OS and VNFs of the AR650 are centrally managed by Huawei's Agile Controller, simplifying network deployment and management and reducing costs for enterprise branches. It also provides slots for extended storage and interface cards (such as 3G/LTE interface cards), allowing enterprise customers to easily expand service functions.

AR651W-X4

- WAN speed with services: 600 Mbit/s
- Processor: Intel 4-core Denverton-NS
- Fixed ports: 2 *GE WAN(Combo)+4* GE LAN
- Memory: 16GB
- Hard Disk: M.2 SATA 64 GB (default)
- Slots: 1*MIC
- The number of VMs: 1 (Recommended)
- WiFi: 2.4G/5G dual-band, 802.11 a/b/g/n/ ac, 3x3 MIMO

AR651-X8

- WAN speed with services: 1Gbit/s
- Processor: Intel 8-core Denverton-NS
- Fixed ports:2 *GE WAN(Combo)+4* GE LAN
- Memory: 16GB
- Hard Disk: M.2 SATA 64 GB (default)
- Slots: 1*MIC
- The number of VMs: 2 (Recommended)

AR1600 Series Universal Computing Gateways

Huawei AR1600 series universal computing gateways are designed to meet the requirements of cloud computing, Software-Defined Networking (SDN), and Network Functions Virtualization (NFV). The AR1600 series universal computing gateways are flexible and open, and can provide services on demand. They provide network access for enterprise branches and headquarters and feature cost-effectiveness, service scalability, and simple O&M.

Product Overview

The traditional customer premise equipment (CPE) has a closed architecture, and different services are supported by different devices. With the growing number of enterprise services, the management and O&M of enterprise branch networks are becoming more complex. In addition, the provisioning of services by enterprise branch networks must keep up with the rate at which they are being developed.
The universal CPE (uCPE) uses the X86-based universal hardware platform to virtualize bearer services. The Agile Controller centrally deploys virtualized network functions (VNFs) (such as vFW, vWOC, and SD-WAN) on the uCPE as required, to implement fast service provisioning and reduce network deployment costs.
Huawei AR1600 series universal computing gateways use a universal computing platform, support virtualization functions and SDN architecture, and provide the virtualization environment and basic operating system (OS). The OS integrates some IP functions, for example, basic routing, switching, and IPSec. Huawei and third-party VNFs can be deployed on the AR1600 to implement multiple services, such as routing, firewall, and WAN acceleration. The OS and VNFs of the AR1600 are centrally managed by Huawei's Agile Controller, simplifying network deployment and management and reducing costs for enterprise branches.

AR1610-X6

- WAN speed with services: 1Gbit/s
- Processor: Intel 8-core Denverton-NS
- Fixed ports:2 *GE WAN(Combo)+4* GE LAN
- Memory: 16GB
- Hard Disk: M.2 SATA 64 GB (default)
- Slots: 1*MIC
- The number of VMs: 2 (Recommended)

AR1000V Virtual Router

The AR1000V is a virtual router launched by Huawei to transform traditional enterprise networks into SD-WANs. Based on Network Functions Virtualization (NFV) technology, the AR1000V can be deployed on the server using the x86 hardware platform, private cloud, and public cloud. It is an access gateway for enterprise cloud applications, and its key features include application-based intelligent traffic steering, outstanding performance, and automatic O&M. It expands the enterprise WAN and provides ultimate cloud application experience for enterprises.

Product Overview

To address the preceding issues and cope with trends of network device cloudification and virtualization, Huawei launches the AR1000V virtual router that integrates routing, switching, security, VPN, and QoS functions. The AR1000V has features including software and hardware decoupling, easy service deployment, and intelligent O&M. The AR1000V can be deployed in the enterprise headquarters (hub), Point of Presence (PoP), and cloud environment to extend the enterprise network to the cloud. It implements the same security and management policies as those on the internal network of an enterprise. The AR1000V can use hybrid links to connect to a WAN. Based on application-based intelligent traffic steering, it optimizes the enterprise's cloud access path and improves the experience of enterprise access to cloud services. It plays an important role in the transformation from the traditional enterprise WAN to SD-WAN.(PoP), and cloud environment to extend the enterprise network to the cloud. It implements the same security and management policies as those on the internal network of an enterprise. The AR1000V can use hybrid links to connect to a WAN. Based on application-based intelligent traffic steering, it optimizes the enterprise's cloud access path and improves the experience of enterprise access to cloud services. It plays an important role in the transformation from the traditional enterprise WAN to SD-WAN.

AR1000V

- As a software product, based on x86 server hardware platform
- Compatible with mainstream virtualization platforms, such as VMWare/KVM/Amazon Machine Image/ FusionSphere
- Integrateing routing, switching, security, VPN, QoS, and other functions.
- Software-defined and flexible service deployment

Award and Certification

Huawei's SD-WAN uCPE AR650 Wins iF Design Award 2018

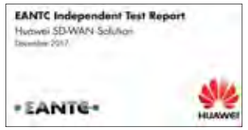
[Munich, Germany, February 22, 2018] Recently, the world-renowned iF DESIGN AWARD, known as the "Design Oscar", unveiled its recipients. With its simple appearance, excellent performance, and open service platform, Huawei's SDWAN uCPE (universal CPE) AR650 wowed 63 professional judges from around the world and saw off competition from 6402 candidates from 54 countries to take home the top design award.
After winning Japan's Good Design Award in 2017, the AR650 was once again recognized by the industry for its design and quality.

Huawei SD-WAN Honored with Right Stuff Innovation Award by ONUG

At the Open Networking User Group (ONUG) Fall 2017 conference in New York, USA, Huawei's SD-WAN solution won an 'ONUG Right Stuff Innovation Award.' This was achieved thanks to its innovative features including intelligent application-based full-path selection and acceleration, open service platform, and visualized cloud-based Operations and Maintenance (O&M).

Huawei Becomes the Only SD-WAN Solution Provider to Pass EANTC Testing

Based on the key advantages and outstanding performance of the SDWAN solution, such as applicationbased intelligent traffic steering, elastic scalability, and cloud-based visualized O&M, Huawei has become the only SDWAN vendor to pass the strict testing of EANTC.



IoT Gateway

AR501 Series IoT Gateways

Product Overview

The AR501 series IoT gateway is designed for industrial environments and supports communication in harsh environments such as extreme temperature, high humidity, and electromagnetic interference. The built-in industrial-grade communication module can support various local interfaces (PLC-IoT, RS485/RS422, RS232, Gigabit Ethernet and RF 6LoWPAN) for connecting serial interface devices, Ethernet devices. It can support AR530s or AR532 to complete the data communication channel switching, suitable for the applications where the space is limited and requires only transparent data transmission.
The AR501 Series comes in three models: AR501C1Pa, AR501L1Rc, and AR501L1Rz.

AR501C1Pa

- Fixed interfaces: RS485*1, DI*1, IRDA*1
- Support Huawei Broadband PLC
- IP51, dustproof, waterproof
- works at temperatures from -25℃ to +70℃

AR501L1Rz

- Communication mode:
- IEEE802.15.4 (ZigBee, 2400 MHz to 2483.5 MHz)
- Operating temperature: –40℃ to +65℃
- Encryption mode: AES-128
- Compliance with ANSI C136.41-2013
- IP66 except for bottom side
- D= 83.5, H = 119, Cylinder-shaped (D: diameter, H: height)

AR501L1Rc

- Communication mode:
- IEEE802.15.4 (RF 6LoWPAN, 433.8Mhz/433.05Mhz-434.79Mhz)
- Operating temperature: –40℃ to +65℃
- Encryption mode: AES-128
- Compliance with ANSI C136.41-2013
- IP66 except for bottom side
- D= 83.5, H = 119, Cylinder-shaped (D: diameter, H: height)

AR502 Series IoT Gateways

Product Overview

The AR502 series IoT gateway is designed for industrial environments and supports communication in harsh environments such as extreme temperature, high humidity, and electromagnetic interference. The built-in industrial-grade LTE module supports high bandwidth, low-latency wireless access, and various local interfaces (RS485/RS422, RS232, Gigabit Ethernet and radio-frequency) for connecting serial interface devices, Ethernet devices. The AR502 applies to multiple IoT fields, such as smart grid and smart transportation.
The AR502 Series comes in three models: AR502EG-L, AR502EGW-L,AR502CG-L, AR502EGRz-L .

AR502EG-L

- Fixed interfaces: 2 x GE RJ45, 1 x RS485/422, 1 x RS232, and 6 x digital input/output (DI/DO), 1 x USB2.0
- LTE: LTE FDD
- Operating temperature: –25°C to +70°C
- Dimensions (W x D x H): 150 mm x 100 mm x 44 mm
- Power supplies: DC: 8 V to 36 V

AR502EGW-L

- Fixed interfaces: 2 x GE RJ45, 1 x RS485/422, 1 x RS232, and 6 x digital input/output (DI/DO), 1 x USB2.0
- LTE: LTE FDD
- WLAN: 802.11b/g/n
- Operating temperature: –25°C to +70°C
- Dimensions (W x D x H): 150 mm x 100 mm x 44 mm
- Power supplies: DC: 8 V to 36 V

AR502EGRz-L

- Fixed interfaces: 2xGE RJ45, 1xRS485/422, 1xRS232, 1xDI,1 x DO, 1 x USB2.0
- LTE: LTE FDD
- ZigBee: 2.4GHz
- Operating temperature: –25°C to +70°C
- Dimensions (W x D x H): 150 mm x 100 mm x 44 mm
- Power supplies: DC: 8 V to 36 V
- IP protection Rating: IP30

AR502CG-L

- Fixed interfaces: 2 x GE RJ45, 1 x RS232, 1 x DI, 1 x DO, 1 x USB2.0
- LTE: LTE FDD
- Operating temperature: –25oC to +60oC
- Dimensions (W x D x H): 150 mm x 100 mm x 44 mm
- Power supplies: DC: 8 V to 36 V

AR509 Series IoT Gateways

Product Overview

HUAWEI AR509 series IoT gateway, is designed to work in harsh environments. It provides a rapidly deployable, highly available, reliable, and secure solution into the Internet of Things (IoT) applications for finance, energy, and electric power industries, telemetry, retail, and other industrial automation scenarios.
The AR509 series is available in the models: AR509G-L-D-H,AR509GW-L-D-H,AR509CGW-L and AR509CG-Lc

AR509G-L-D-H

- Fixed interface: 1xGE WAN , 4xGE LAN, 1xVDSL2
- FDD LTE (dual SIM slots)
- IP41, Waterproof and dustproof
- Dimensions (W x D x H): 190 x 220 x 44 mm

AR509GW-L-D-H

- Fixed interface: 1xGE WAN , 4xGE LAN, 1xVDSL2
- FDD LTE (dual SIM slots)
- 802.11a/b/g/n, dual-band AP, 2.4 GHz and 5 GHz, 2x2 MIMO
- IP41, Waterproof and dustproof
- Dimensions (W x D x H): 190 x 220 x 44 mm

AR509CGW-L

- Fixed interface: 4xGE LAN
- FDD LTE (dual Micro SIM slots)
- 802.11b/g/n
- Dimension (W x D x H): 150 x 100 x 44 mm

AR509CG-Lc

- Fixed interface: 4xGE LAN
- LTE TDD, LTE FDD(dual Micro SIM slots)
- Dimension (W x D x H): 150 x 100 x 44 mm

AR530 Series IoT Gateways

The AR530 series industrial IoT gateways, named industrial switching routers, are designed to work in harsh environments of Internet of Things (IoT) applications. They integrate routing, switching, security, and Advanced Metering Infrastructure (AMI) functions and provide various capabilities.

Product Overview

Compared with Access Router, industrial routers are more adaptable to harsh industrial environments because their components are more strictly selected. The AR530 handles a wider temperature range, a fanless design and provides Ingress Protection 51 (IP51). With these key technologies, the AR530 is high- and low-temperature resistant, dustproof, waterproof, and can resist electro-magnetic interference. The AR530 uses a modular design and integrates various types of interfaces, such as FE, GE, 3rd Generation (3G), Power Line Communication (PLC), ZigBee, Radio Frequency (RF) and RS485.
The AR530 provides AMI centralized meter reading services. It can automatically collect meter and status data, analyze and store data in a centralized manner, and send data to the management system. The AR530 provides uplink, downlink, and local networking, to meet the requirements for the Internet of Things (IoT) in the energy industry.
The AR530 is available in the following models: AR531-2C-H and AR532.

AR532

- Fixed interfaces: 1 GE,1 GE Combo,2 DI,2 DO,2 RS485,1 RS232,1 USB2.0, 1 Pulse out,1 Infrared, 6 Operation Keys
- Plastic, Float Equipment, Battery internal, AC 110/220V Power
- Support 1 SIM card for 3G/GPRS uplink
- Support Huawei PLC-IoT, Support 433M/915M RF(Optional)
- IP51, dustproof, waterproof
- Works at temperatures from -25°o to +70°t

AR531-2C-H

- Fixed interfaces: 6 x FE, 2 x FE combo, 2 x GE (SFP), 2 x RS485, 2 x DI
- IP51, dustproof, waterproof
- Fanless design, works at temperatures from -40°C to +70°C

AR550 Series IoT Gateways

Product Overview

AR550 series industrial IoT gateway are specially designed for network communication in challenging environments such as extreme temperature, high humidity, and electromagnetic interference. The AR550 series integrates routing, switching, IPSec VPN, and other functions, provides powerful application scalability, and widely applies to various industrial automation fields, such as electric power automation and transportation automation.
The AR550 series is available in four models: AR550C-4GE, AR550C-2C6GE, AR550-8FE-D-H and AR550-24FE-D-H.

AR550C-4GE

- Fixed interfaces: 2 x 2.5G SFP(compatible with GE), 4 x GE RJ45, 1 x USB2.0, 1 x DI, 1 x DO
- Working temperature: –40°C to +70°C
- Dimensions (W x D x H): 44 mm x 133 mm x 150 mm
- Redundant power supplies: 9.6V to 60V DC

AR550C-2C6GE

- Fixed interfaces: 2 x 2.5G SFP(compatible with GE), 2 x GE combo, 6 x GE RJ45, 1 x RS485, 1 x USB2.0, 1 x DI, 1 x DO
- Working temperature: –40°C to +70°C
- Dimensions (W x D x H): 44 mm x 133 mm x 150 mm
- Redundant power supplies: 9.6V to 60V DC

AR550-8FE-D-H

- Fixed interfaces: 4 x GE combo, 8 x FE RJ45, 1 x USB2.0, and 1 x digital output (DO)
- Working temperature: –40°C to +70°C
- Dimensions (W x D x H): 97 mm x 133 mm x 150 mm
- Redundant power supplies: 9.6 V to 60 V DC

AR550-24FE-D-H

- Fixed interfaces: 4 x GE combo, 24 x FE RJ45, 1 x USB2.0, and 1 x DO
- Working temperature: –40°C to +70°C
- Dimensions (W x D x H): 133 mm x 133 mm x 150 mm
- Redundant power supplies: 9.6 V to 60 V DC

AR2500 Series IoT Gateways

Product Overview

The AR2500 series IoT gateway is designed to work in challenging environments such as extreme temperatures, high humidity, and electromagnetic interference. The AR2500 uses the modular design and supports various types of communication interfaces such as Ethernet and serial interfaces to provide flexible networking modes.
The AR2500 provides the following functions:
Line-rate switching at Layer 2 and Layer 3.
Layer 2 functions such as VLAN, STP/MSTP, and SEP, and Layer 3 functions such as static and dynamic unicast routing, and multicast routing.
Integration of firewall, NAT, and IPSec VPN to meet increasingly complex service requirements of industrial networks.
The AR2500 can be used in a wide range of industries, such as smart grid and intelligent transportation.

The AR2500 is available in two models: AR2504-H and AR2504-D-H.

AR2504-H

- Fixed interfaces: 4*GE combo, 4*GE RJ45, 1*USB2.0, and 1*DO
- Slots: 2*WSIC
- Operating temperatures: –40°C to +70°C
- Dimensions (W x D x H): 442 mm x 420 mm x 44 mm
- Redundant power module: 220 V AC

AR2504-D-H

- Fixed interfaces: 4*GE combo, 4*GE RJ45, 1*USB2.0, and 1*DO
- Slots: 2*WSIC
- Operating temperatures: –40°C to +60°C
- Dimensions (W x D x H): 442 mm x 420 mm x 44 mm
- Redundant power module: 24V DC~48V DC

Enterprise Network

Security

USG6305&6310S&6320 Series Desktop Next-Generation Firewall

USG6305

USG6305-W

USG6310S

USG6310S-W

USG6310S-WL-OVS

USG6320

Product Overview

Huawei USG6305/6310S/6320 series desktop next-generation firewalls are security gateway products designed for small enterprises, branches, and chain businesses. This series of products integrate various security functions and support multiple IPv4/IPv6 routing protocols, applicable to all kinds of small network access scenarios. The USG6305/6310S/6320 series provides GE and WI-FI interfaces in the down link to directly provide WI-FI access services and provides GE uplink interfaces and 3G/4G LTE backup links for emergency Internet access services.
The USG6305/6310S/6320 series desktop next-generation firewalls can be deployed with the Agile Controller to form enterprise branch security access solutions, providing unified authentication of wired and wireless users, and portal customization services. Centralized service management can reduce branch management pressures and can also provide flexible service customization platforms for precise marketing in business shops.
It supports cloud-based management and enables Huawei Agile Controller-Campus to manage and configure the firewalls.

Specifications

Model	USG6305	USG6305 -W	USG6310S	USG6310S -W	USG6310S-WL-OVS	USG6320
Fixed port	4 x GE(RJ45)	4 x GE(RJ45)	8 x GE(RJ45)	8 x GE(RJ45)	8 x GE(RJ45)	8 x GE(RJ45)
USB2.0 port	Supported	Supported	Supported	Supported	Supported	Supported
WIFI	-	Supports 2.4G+5G dual-frequency. Supports 802.11a/b/g/n/ac .	-	Supports 2.4G+5G dual-frequency. Supports 802.11a/b/g/n/ac	Supports 2.4G+5G dual-frequency. Supports 802.11a/b/g/n/ac.	-
4G LTE	The USB port can house a 4G LTE data card.				The slot supports such standards as 4G LTE, 3G UMTS, and 2G GSM.	The USB port can house a 4G LTE data card.
Product model	Desktop					Desktop
Local storage	Optional, can house expandable 64 GB micro SD cards					-

USG6300 Series Next-Generation Firewall(Box-shaped)

USG6330/6360

USG6350

USG6370

USG6380/6390

Product Overview

Enterprise networks are evolving into next-generation networks that feature mobile broadband, big data, social networking, and cloud services. Yet, mobile applications, Web2.0, and social networks expose enterprise networks to the risks on the open Internet. Cybercriminals can easily penetrate a traditional firewall by spoofing or using Trojan horses, malware, or botnets.
HUAWEI Secospace USG6300 series is designed to address these challenges, and providing a reliable and secure network for small and medium-sized enterprises. It analyzes intranet service traffic from six dimensions, including application , content, time, user, attack, and location and then automatically generates security policies as suggestions to optimize the security management and provide high-performance application-layer protection for enterprise networks.
It supports cloud-based management and enables Huawei Agile Controller-Campus to manage and configure the firewalls.
Note: USG6300 is next-generation firewall products series in USG (Unified Security Gateway) product family.

Model	USG6330	USG6350	USG6360	USG6370	USG6380	USG6390
Firewall throughput[1] (1518byte, UDP)	1 Gbit/s	2 Gbit/s	3 Gbit/s	4 Gbit/s	6 Gbit/s	8 Gbit/s
FW + SA + IPS Throughput[2]	500 Mbit/s	950 Mbit/s	1.1 Gbit/s	2 Gbit/s	2 Gbit/s	2 Gbit/s
FW + SA + Antivirus Throughput[2]	500 Mbit/s	950 Mbit/s	1.1 Gbit/s	2 Gbit/s	2 Gbit/s	2 Gbit/s
Concurrent sessions (HTTP1.1)[1]	1,500,000	2,000,000	3,000,000	4,000,000	4,000,000	4,000,000
New sessions per second (HTTP1.1)[1]	30,000	30,000	30,000	60,000	70,000	80,000
Virtual firewalls	50	50	50	100	100	100
Fixed port	4×GE(RJ45)+2×GE(Combo)			8×GE(RJ45)+4×GE(SFP)		
Expansion Slots	2 x WSIC					
Interface module	2 x 10GE (SFP+)+8 x GE (RJ45), 8 x GE (RJ45), 8 x GE (SFP), 4 x GE (RJ45) BYPASS					
HDD	Optional supports 300 GB or 600 GB or 1200 GB hard disks.					

USG6600 Series Next-Generation Firewall

USG6620

USG6630

USG6650

USG6660/6670/6680

Product Overview

Enterprise networks are evolving into next-generation networks that feature mobile broadband, big data, social networking, and cloud services. Yet, mobile applications, Web2.0, and social networks expose enterprise networks to the risks on the open Internet. Cybercriminals can easily penetrate a traditional firewall by spoofing or using Trojan horses, malware, or botnets. HUAWEI Secospace USG6600 series is designed to address these challenges of Carrier, large- and medium-sized enterprises and next-generation data centers. It analyzes intranet service traffic from six dimensions, including application , content, time, user, attack, and location and then automatically generates security policies as suggestions to optimize the security management and provide highperformance application-layer protection for enterprise networks.
Note: USG6600 is next-generation firewall products series in USG (Unified Security Gateway) product family.

Specifications

Model	USG6620	USG6630	USG6650	USG6660	USG6670	USG6680
Firewall throughput[1] (1518byte, UDP)	12 Gbit/s	16 Gbit/s	20 Gbit/s	25 Gbit/s	35 Gbit/s	40 Gbit/s
FW + SA + IPS Throughput[2]	5.8 Gbit/s	5.8 Gbit/s	8.8 Gbit/s	8.8 Gbit/s	8.8 Gbit/s	15 Gbit/s
FW + SA + Antivirus Throughput[2]	5 Gbit/s	5 Gbit/s	8 Gbit/s	8 Gbit/s	8 Gbit/s	13 Gbit/s
Concurrent sessions (HTTP1.1)[1]	6,000,000	6,000,000	8,000,000	10,000,000	10,000,000	12,000,000
New sessions per second (HTTP1.1)[1]	200,000	250,000	300,000	350,000	400,000	400,000
IPsec VPN Throughput[1] (AES-128 + SHA1, 1420-byte)	9 Gbit/s	12 Gbit/s	15 Gbit/s	18 Gbit/s	18Gbit/s	18 Gbit/s
Virtual firewalls	200	200	500	500	500	1,000
Fixed port	8 x GE(RJ45)+4 x GE (SFP)		2 x 10GE (SFP+)+8 x GE(RJ45)+8 x GE (SFP)		4 x 10GE (SFP+)+16 x GE(RJ45)+8 x GE (SFP)	
Expansion Slots	2 x WSIC		6 x WSIC		5 x WSIC	5 x WSIC
Interface module	WSIC: 2 x 10GE (SFP+)+8 x GE (RJ45), 8 x GE (RJ45), 8 x GE (SFP) ,4 x GE (RJ45) BYPASS					
HDD	Optional supports 300 GB or 600 GB or 1200 GB hard disks (RAID1 and hot swappable).					

- Performance is tested under ideal conditions based on RFC2544, 3511. The actual result may vary with deployment environments.
- Antivirus, IPS, and SA performances are measured using 100 KB HTTP files.
- USG6680-DC doesn't support 600 GB and 1200 GB hard disk.

Enterprise Network

USG9500 Series Terabit-level Next-Generation Firewall

USG9520

USG9560

USG9580

In the dawn of cloud computing age, the cloud computing based on virtualization and high-speed network is considered as a revolution of the Internet. However, challenges arise to network security in the implementation of cloud computing and cause concerns.

- How can we control mass access in the cloud computing age?
- How can we ensure border security for cloud data centers?
- How can we ensure the security of dynamic virtualization in the cloud?

USG9500 is a security gateway developed for organizations deploying Cloud Data Centers such as cloud service providers, enterprises data centers, and organizations with large-scale core data networks. USG9500 delivers the impressive performance, dedicated security and dynamic policies required for a dynamic Cloud IT environment. Organizations with large-scale data centers can enjoy the benefits of increased capacity, high reliability and flexibility made possible by Cloud and have peace of mind with the Cloud security enabled by the Huawei USG9500.

Specifications

Model	USG9520	USG9560	USG9580
Hardware			
Expansion slot	3 (SPU + LPU)	8 (SPU + LPU)	16 (SPU + LPU)
MPU	2, HA mode		
SPU	Firewall SPU, IPS SPU		
Port type	12×GE (SFP/RJ45), 20×GE (SFP), 24×GE (SFP), 1×10 GE (XFP), 2×10 GE (XFP), 5×10GE (SFP+), 6×10GE (SFP+), 12×10GE (SFP+), 1×40GE(CFP) , 3×40GE(QSFP+), 1×100GE(CFP)		

USG6000V Virtual Integrated Service Gateway

Product Overview

With the wide application of cloud computing technology, IT and CT are rapidly converged. Consequently, requirements increase sharply for public and private cloud deployment, quick service provisioning, on-demand service migration, and tailored attack defense. Conventional service gateways with dedicated hardware can hardly meet the deployment requirements of the cloud network architecture.
The USG6000V virtual integrated service gateway provides various gateway service capabilities, such as vFW, vIPsec, vLB, vIPS, vAV, and vURL filtering. All security functions are virtualized. Multiple tenants can share virtual resources. Therefore, you can deploy USG6000Vs flexibly based on tenants' demands, meeting the security compliance requirements.

Product Specifications

Virtual Machine Resource Requirements1				
Hypervisor	Xen 4.4 VMware ESXi 5.5 and later Linux KVM, kernel 2.6.32 and later Huawei FusionSphere, kernel 2.6.32 and later			
vCPU[2]	1	2	4	8
Memory (GB)	2 GB	4 GB	8 GB	12 GB
Storage (min/max)	2 GB/2 TB	2 GB/2 TB	2 GB/2 TB	2 GB/2 TB
Interface number of vNICs (min/max)	2/16	2/16	2/16	2/16

- Virtual Machine Resource Requirements refer to the requirements for resources provided for deployed VMs. The requirements cover vCPU, memory, disk, and virtual interface resources.
- vCPU refers to a logical CPU virtualized from an Intel x86 64-bit CPU that supports VT technology. One core corresponds to two vCPUs.

NIP6300&6600 Series Next-Generation Intrusion Prevention Systems

Product Overview

HUAWEI NIP6300/6600 series is an advanced, new generation intrusion prevention system (NGIPS) designed to provide application and service security for enterprises, IDCs, campus networks, and carriers.
The NIP6000 provides context, application, and content awareness capabilities and defends against unknown threats to better protect network infrastructures, bandwidth performance, servers, and clients.

Appearance

NIP6650 NIP6610 NIP6620 NIP6680

Specifications

Model	NIP6610	NIP6330	NIP6620	NIP6650	NIP6680
NIP6330 Performance	Mid-range FE	Low-end Gigabit	Mid-range Gigabit	High-end Gigabit	Mid-range 10Gigabit
Scalability					
IPS throughput	500Mbit/s	1.0Gbit/s	2.0Gbit/s	6.0Gbit/s	15.0Gbit/s
Fixed ports	4GE+2Combo	8GE+4SFP	8GE+4SFP	8GE+4SFP	4 x 10GE +16GE+8SFP
Height	1U				3U
Dimensions (mm)	442 x 421 x 43.6				442 x 415 x 130.5
Weight	10 KG				24 KG
Hard disk	Optional. Supports one 300 GB hard disk (hot swappable).				Optional. Supports one 300 GB hard disk (RAID1 and hot swappable).
Redundant power supply	Optional				Standard
AC power supply	100 V to 240 V				
DC power supply	-			-48 V to -60 V	
Power consumption	170 W				350 W
Operating environment	Temperature 0°C to 45°C (without optional hard disk) 5°C to 40°C (with optional hard disk) Humidity 10% to 90%				

FireHunter6000 Series Sandbox

Product Overview

Advanced Persistent Threats (APTs) often use social engineering to obtain contact information and send phishing emails to unsuspecting people. They exploit security vulnerabilities in Internet of Things (IoT) devices, and hide, without being detected, in high-value business assets to steal or compromise target information. Attacks are commonly seen in compromised infrastructure, such as the finance sector, resource suppliers, and government agencies, affecting people's livelihoods. Before launching attacks, perpetrators are usually well-prepared and wait patiently for their opportunity. Once attacks are launched, perpetrators usually use technologies, such as advanced evasion techniques in combination, to exploit known vulnerabilities. This makes the security devices that detect attack traffic ineffective.
Huawei FireHunter 6000 series sandbox products (hereinafter referred to as Huawei FireHunter) are a family of APT detection systems. They reassemble network traffic mirrored by switches or traditional security devices, and detect files transferred over networks in virtualized environments to detect unknown malicious files. Through reputation-based scanning, real-time behavior analysis, big data-based correlation analysis, hypervisor-based detection, machine learning technologies and cloud reputation sharing, Huawei FireHunter collects and analyzes the behavior of target software programs to provide accurate detection results with the help of a unique behavior model library. Based on the results, Huawei FireHunter detects, blocks, and visualizes suspicious traffic streams, effectively preventing the spread of unknown threats and protecting business's core information assets. Huawei FireHunter has two deployment models, which are typical and cluster models. In the cluster mode, the higher processing performance and higher reliability can be provided. Huawei FireHunter is especially useful to finance and government agencies, resource providers, and high-tech enterprises.

Appearance

Model	Model FireHunter 6300
Hardware configuration	• x86 server in a 2-U rack • Memory 256 GB • Two power modules for redundancy • Hard drive with a capacity of no less than 2 TB *4 • SSD drive with a capacity of no less than 200 GB • 8 x GE electrical ports • 2 x 10GE optical ports
Performance	• 70,000 files (non-web pages) per day or 36,000 web pages per hour • Average detection response time of less than 30 seconds

Model	Model FireHunter 6200
Hardware configuration	• x86 server in a 2-U rack • Memory 128 GB • Two power modules for redundancy • Hard drive with a capacity of no less than 2 TB*2 • SSD drive with a capacity of no less than 200 GB • 8 x GE electrical ports • 2 x 10GE optical ports
Performance	• 50,000 files (non-web pages) per day or 50,000 web pages per hour • Average detection response time of less than 30 seconds

AntiDDoS1600 Series DDoS Protection System

Precise Protection, Second-Level Response, In-Line Deployment, Layered Defense

Solution Overview

As the Internet and IoT thrive, DDoS attacks are developing new characteristics:
- Attacks increase in frequency and traffic volume.
- An era of reflection attacks emerges, and reflection amplification attacks, such as NTP, SSDP, and DNS attacks are devouring limited enterprise and data center bandwidths.
- IoT devices can be used to construct Botnets for initiating large-scale attacks.
- Targets of DDoS attacks are developed from large enterprises to various industries.
- Attacks become more diversified, with volumetric and application attacks mixed to invalidate defense at a single layer.

In response to these characteristics, Huawei rolls out the AntiDDoS1600 DDoS protection system, which employs the big data analytics technology and supports modeling for 60+ types of network traffic to offer second-level attack response and comprehensive defense against 100+ types of attacks. The AntiDDoS1600 can be deployed on a user network in in-line mode to defend against volumetric and application attacks in real time.
When attack traffic exceeds the bandwidth or defense capability of a local scrubbing device, the AntiDDoS1600 associates with the AntiDDoS device of the upstream carrier or ISP to defend against flood attacks and guarantee service continuity.

Model	AntiDDoS1650	AntiDDoS1680
Protection performWance	Up to 5Gbps, 3Mpps	Up to 8Gbps, 7Mpps
Deploy mode	In-line; Out-of-path(static defense); Out-of-patch(Dynamic defense)	
Function	Options for detecting or cleaning	
Dimensions (H×W×D)	442×421×44.4 (1U)	442×470×130.5 (3U)
Standard interface	8×GE(RJ45)+4×GE(SFP)	16×GE(RJ45)+8×GE(SFP)+4×10GE(SFP)
Expansion slot	2×WSIC	5×WSIC
Expansion interface subcard type	• 8×GE(RJ45) • 8×GE(RJ45)+2×10GE(SFP+) • 8×GE(SFP) • 4×GE(RJ45) Bypass card	• 8×GE(RJ45) • 8×GE(RJ45)+2×10GE(SFP+) • 8×GE(SFP) • 4×GE(RJ45) Bypass card
Power supply	Single AC power supply. Options for 2×AC redundant, hot swap power supplies.	2 × AC redundant, hot swap power supplies 2 × DC redundant, hot swap power supplies
Power Consumption	170W	350W
External Bypass	• Multi mode or single mode GE link • Multi mode or single mode 10GE link	

AntiDDoS8000 Series DDoS Protection System

Terabit-Level Capacity, Second-Level Response, Precise Protection, Valueadded Operation

AntiDDoS8030 AntiDDoS8080 AntiDDoS8160

Solution Overview

- As the Internet and IoT thrive, DDoS attacks are developing new characteristics:
- Attacks increase in frequency and traffic volume, and the peak attack traffic is up to 1.35Tbps in 2018.
- Reflection amplification attacks spread across the world, congesting links.
- The SSL methods with which the attackers infiltrate into an organization's network remain undetected.
- Low-rate application-layer attacks target precisely at service systems like e-finance or gaming.Reflection amplification, low-rate application-layer, and SSL-based DDoS attacks are gaining momentum, and layered defense becomes the first choice in anti-DDoS. are gaining momentum, and layered defense becomes the first choice in anti-DDoS. Huawei AntiDDoS8000 employs big data analysis to conduct modeling for 60+ types of traffic, offering Terabit-level protection, second-level response, and comprehensive defense against 100+ types of attacks. It works with Huawei cloud cleaning center to deliver layered cleaning, providing full-fledged protection that covers network link bandwidths and online services.

Interface and Hardware Parameters

Model	AntiDDoS8030	AntiDDoS8080	AntiDDoS8160
Protection performance	Up to 120 Gbps	Up to 960 Gbps	Up to 1920 Gbps
Protection performance of each slot	Up to 120 Gbps，30 Mpps	Up to 240 Gbps，60 Mpps	Up to 240 Gbps，60 Mpps
Expansion slot	3	8	16
Dimensions (H x W x D)	175 mm x 442 mm × 650 mm (DC, 4 U) 220 mm x 442 mm x 650 mm (AC, 5 U)	620 mm x 442 mm x 650 mm (14 U)	1420 mm x 442 mm x 650 mm (32 U)
Expansion LPU type	LPUF-120, 2 sub-slots LPUF-240, 2 sub-slots		
Expansion interface subcard type	24 x GE (SFP or RJ45); 5 x 10GE (SFP+); 6 x 10GE (SFP+); 12 x 10GE (SFP+); 1 x 40GE (CFP); 1 x 100GE (CFP)		
Power supply	DC: –48 V AC: 175 V to 264 V; 50/60 Hz		
Availability	Dual-MPU; 99.999% carrier-class high availability		

eLog Security Event Management Center

Product Overview

Security devices are deployed in an enterprise due to varying security device log formats, poor intelligibility, and difficulties in storing massive logs, major security risks cannot be promptly detected from logs.
Government agencies and industrial organizations provide guidance and use internal control laws and standards to impose higher requirements on the completeness, accuracy, and effectiveness of run logs and user logs.
eLog:

- Provides a platform for collecting, storing, and auditing multiple types of large-scale logs in a unified manner.
- Supports log management of Huawei .
- Provides industry-leading NAT tracing function and security event analysis.

Product Specifications

Performance			
Maximum log recording speed (standalone mode)	250,000 EPS		
Maximum number of NEs supported by the eLog	2000		
Recommended Server Mode	**eLog All-In-One**	**eLog Analyzer**	**eLog Collector**
Height	2 U		
Dimensions (H x W x D) mm	86.1 mm (2 U) x 447 mm x 748 mm		
Weight (full configuration)	30 kg	27 kg	30 kg
Fixed ports	4 x USB, 1 x VGA, 1 x Console, 1 x MGT, 4 x GE		
Memory	32 GB		
Storage space	2*300GB SAS,12*2TB SATA 2*300GB SAS,12*6TB SATA	2*300 GB SAS, 6 x 2-TB SATA	2*300GB SAS,12*6TB SATA
RAID	RAID 1 & RAID 6		
Redundant power modules	Standard		
AC power supply	100 V to 240 V; 50/60 Hz; 9 A to 4.5 A		
DC power supply	–48 V to –60 V; 26 A		
Maximum power	750 W AC/800 W DC		
Operating environment	Operating temperature: 5°C to 45°C (41°F to 113°F) Operating humidity: 8% RH to 90% RH non-condensing		
Non-operating environment (storage environment)	Storage temperature: –40°C to +65°C (–40°F to 149°F) Storage humidity: 5% RH to 95% RH non-condensing		
Authentication	CCC, RCM, CE, VCCI, FCC, IC, UL, BIS		

Award and Certification

Terabit-Level Capacity, Second-Level Response, Precise Protection, Valueadded Operation

CCN

CERTIFICATE

The IT product identified in this certificate has been evaluated at an accredited and licensed/approved evaluation facility using the common methodology for IT Security Evaluation, version 3.1.R4 and CC Supporting Documents as listed in the Certification Report, for conformance to the Common Criteria for IT Security Evaluation, version 3.1.R4. This certificate applees only to the specific version and release of the product in its evaluated configuration and in conjun ction with the complete Certification Report. The evaluation has been conducted in accordance with the provisions of the Spanish IT Security Evaluation and evaluation facility in the evaluation technical report are consistent with the evidence adduced. This certificate is not an endorsement of the IT product by the Spanish Scheme or by any other organisation that recognises or gives effect to this certificate, and on warranty of the IT product by the Spanish Scheme or by any other organisation that recognises or gives effect to this certificate, is either expressed or implied.

eSight Network

eSight Network

Product Overview

With the development of enterprise network applications and the expansion of network scale, a large number of routers, gateways, and wireless local area network (WLAN) devices are used on enterprise campus and branch networks. Enterprises must provide multiple mobile offices, rather than a fixed location, for their employees, and support diversified services, complicating network management. They urgently need a unified network management system to improve efficiency and ensure normal operation of enterprise services.
Huawei eSight Network is based on the following concepts: topology-centric, simplified management, and improved operation and maintenance (O&M) efficiency. eSight Network provides an all-round, open, and unified management platform, and various service components, to implement unified management of devices, services, and applications.

Product Features

1. Protecting enterprise investments

- eSight Network uniformly manages devices of various types from multiple vendors, bringing high-level ease of use for network administrators.
- eSight Network is composed of a unified platform and optional components that can be selected based on enterprise characteristics, facilitating fast expansion.

2. Improving O&M efficiency

- Fast network deployment
  - -Network administrators do not need to memorize commands but use the smart configuration tool instead to complete device configurations in batches. The configuration efficiency is improved.
  - -The group-based performance monitoring solution classifies devices with the same characteristics into the one group to monitor the same performance indicators. After a device is added to a group, eSight Network automatically applies matching monitoring policies to the device.
  - -eSight Network provides unified configuration templates and pages for wired and wireless users to improve configuration efficiency.
- Visualized routine maintenance
  - -Topology-centric all-round monitoring clearly displays key fault and performance information.
  - -Visualized service, traffic, and security trend allow users to obtain network status and quality.
- Efficient troubleshooting
  - -eSight Network quickly diagnoses users' network faults and provides troubleshooting suggestions based on Huawei best practices to help network administrators efficiently rectify the faults.
  - -eSight Network supports drill-down fault analysis to locate the root causes step by step.
  - -eSight Network uses the Packet Conservation Algorithm for Internet (iPCA) technology to timely measure network quality and accurately locate faults.

3. Improving network security

- Visualized network security
  - -eSight Network provides redundancy policy analysis, matching analysis, risk analysis, and comprehensive analysis to refine security policies, improving network security and firewall efficiency.
- System security hardening
  - -eSight Network improves system security by guaranteeing the access side, server side, and device communication security.
  - -eSight Network supports dual-node hot standby to ensure high availability.

4. Full lifecycle WLAN management

- -Supports full lifecycle WLAN management including visible planning, three-step service provisioning, 360-degree WLAN monitoring, and search-centric one-click fault diagnosis, helping administrators effectively deploy and manage WLANs.
- -eSight Mobile uses the universal mobile information platform to manage and control WLANs anytime, anywhere. It can also interconnect with a third-party system to build a win-win ecosystem.
- -eSight Network provides terminal location and passenger traffic analysis functions and displays terminal positions in the heat map. It also supports the Bluetooth location software development kit (SDK) to provide an open precise location interface, helping shopping malls, supermarkets, and the educational industry to provide value-added services.

SDN Controller

Agile Controller-Campus

Product Overview

The Agile Controller-Campus is Huawei's next-generation controller for campus and branch networks to reduce operating expense (OPEX) and operations and maintenance (O&M) costs of enterprises, accelerates service cloudification and digital transformation, and makes network management more agile and network O&M more intelligent.
The Agile Controller-Campus supports 3 application scenarios including CloudCampus, SD-WAN, and user access management

CloudCampus	• Provides network service automation including planning, deployment, O&M, and PMI. • Supports multi-tenant management to help MSPs provide managed campus network services. • Provides open APIs to association with third-party applications and flexibly expand enterprise campus network services.
SD-WAN	• Helps enterprises build an application-aware, cost-effective, easy-to-maintain, and on-demand ienterprise interconnection solution, facilitating fast innovations of enterprise service. • Supports zero touch provisioning, intelligent traffic steering, and visualized O&M.
User Access Management	• Provides unified user access management for employees, guests, and network administrators. • Supports multiple authentication protocols, such as 802.1x, Portal, MAC address, and TACACS. • Provides unified policy management to ensure user experiences, including rights, QoS, bandwidth, application and security.

Agile Controller-DCN

Product Overview

The Agile Controller-DCN is Huawei's next-generation controller for data centers, and the core component of the Huawei CloudFabric cloud data center network solution. It implements unified control and dynamic scheduling of network resources to rapidly deploy cloud services.

Product Description

The Agile Controller-DCN is an open system and provides various standard interfaces. It interconnects with Layer 2 to Layer 7 mainstream OpenStack platforms through northbound interfaces and connects to physical switches, virtual switches, and firewalls through southbound interfaces. The Agile Controller-DCN receives user-centric service requests through the northbound interfaces and converts them into network configurations, which then are distributed to the devices through southbound interfaces to achieve network automation.
If no cloud platform is used, the Agile Controller-DCN provides independent service distribution GUIs and supports connections to computing resource management systems such as VMware vCenter and Microsoft System Center in the east and west directions for network and computing collaboration.
The Agile Controller-DCN is a clustered controller, which provides high reliable capability. It supports the deployment of the main and backup cluster in different places to achieve the geographic redundancy.
The main features of the Agile Controller-DCN include the following
- Provides a multitude of Fabric networking capabilities.
- Distributes services in different scenarios.
- Manages multiple tenants.
- Flexibly orchestrates services from Layer 4 to Layer 7.
- Automatically distributes network resources based on demands.
- Provides the virtual perception solution and visualizes network resources.
- Provides mapping of physical, logical, and application topologies to visualize network services.
- Provides service quality checks to visualize network paths.
- Supports northbound RESTful interface to connect to mainstream cloud platforms and third-party applications.
- Supports NetConf, OpenFlow, OVSDB, and SNMP southbound interfaces to manage physical and virtual network devices.

Agile Controller-WAN

Product Overview

The Agile Controller-WAN is Huawei's IP WAN network controller, mainly servicing carrier customers as well as OTT and IXP enterprise customers, enabling the IP network optimization and SDN IPRAN/SPTN enterprise leased line solutions.

The Agile Controller-WAN, a core component of the Huawei IP WAN solution, enables cloud-based WAN solutions to maximize the value of networks. The Agile Controller-WAN has strong and flexible management capabilities that allow the rapid deployment and provisioning of VPN services on WANs. It can automate the monitoring, planning, and adjustment of network traffic based on set constraints, which improves network resource utilization. In addition, it provides differentiated SLA guarantees, makes network resources manageable and visualized, and greatly increases the efficiency of O&M. The Agile Controller-WAN uses an open architecture to support basic network services and northbound standardization, enables network northbound openness, this reduces the difficulty of interconnection. It also gives customers a ROADS experience.

Agile Controller-Transport

Product Overview

Agile Controller-Transport is a key part of the TSDN solution. This key part is applicable to backbone, metro, and enterprise access networking scenarios.
It provides a variety of functions and features, such as service agility, real-time resource visualization, and automatic network O&M, meeting new requirements on innovative service experience and flexible and efficient networks, which are proposed by enterprise private lines and Data Center Interconnect (DCI).

Product Description

Huawei Agile Controller-Transport uses component-based and loosely-coupled architecture, uses Lego-type service modules to provide the on-demand deployment capability, abstracts the device, network, and service models, and shields network technology details, simplifying the network model. It can also provide users with an intuitive and visualized view, communicate with WDM equipment in real time to obtain networking information, and provide functions such as centralized route computation and bandwidth on demand (BoD). The Agile Controller-Transport uses advanced algorithms to automatically map all service types to L2/L1/L0 and therefore can quickly provision all types of L2/L1/L0 services. It uses standard application programming interfaces (APIs) in the northbound direction to support automatic invocation by upper-layer services and build a fast end-to-end service provisioning system.

FabricInsight

FabricInsight

Product Overview

With continuous development and commercial use of technologies such as cloud computing, big data, and artificial intelligence, enterprise are deepening their digital transformation, covering various business forms including office, production, and testing. Traditional data centers can no longer catch up with development, and cloud-based transformation has become an inevitable trend. However, the current data center cloudification solutions in the industry focus on "Resource virtualization and resource utilization improvement" and "Automatic deployment and cloud-based strategies", and on the other hand overlook network management difficulties and challenges brought by the data center scale and traffic surge.
Traditional manual O&M cannot effectively deal with complex application migration policies, unstable service experience quality, difficult fault locating, and large-scale security policy management.
Huawei data center network analyzer FabricInsight abandons the resource status-based traditional monitoring mode. It detects fabric and application status in real time, streamlines networks and applications, monitors networks from the perspective of applications, helps customers detect network and application problems in a timely manner, and ensures continuous and stable application running.

Product Features

DashBoard: multi-dimensional data analysis and graphical display

The FabricInsight provides multi-dimensional Top N statistical views for hosts to help users detect network quality through multi-dimensional analysis.

Management of mutual access relationship between applications (ADM) and visualization of network policies

The FabricInsight provides an application view, which can intuitively display the actual interaction relationships between services based on the network-wide real service flows.

Mutual visibility between applications and networks for quick fault analysis and demarcation

The FabricInsight provides the intra-application visibility function. In the application details view, you can view the nodes with abnormal interaction to locate performance problems and analyze specific bottlenecks through the association with networks. In addition, the FabricInsight provides the function of collecting statistics on and filtering abnormal events for users to quickly focus on abnormal events and quickly identify the service network health in the application based on the interaction diagram and heatmap of clusters in the application.

Live network quality evaluation and proactive detection of abnormal network flows

The FabricInsight provides the network view, performs intelligent analysis of TCP flow status and detects abnormal flows based on big data, displays network quality in real time through indicators such as delay and traffic, and quickly identifies and analyzes abnormal flows on the network.

Network behavior playback and ten billion data record search in seconds

The FabricInsight provides the Event view to displays ERSPAN mirroring packets after packet merging and request direction identification, filters data from multiple dimensions such as the source IP address, source port, destination IP address, and destination port, and allows users to view details about flow events and topology paths of specific flow events for historical network behavior playback.

CloudAPP Platform - mobile intelligent O&M

Users can log in to the FabricInsight on a PC or through the iPAD client application CloudAPP Platform. Application and network analysis can be performed on mobile terminals to quickly locate faults.

Access

Smart NG OLT---EA5800

The EA5800 multi-service access module is the industry's first smart NG-OLT. As a next-generation OLT that employs a distributed architecture, EA5800 provides GPON, 10G GPON, GE and 10GE access and supports POL,FTTH,FTTB and FTTC network applications.

- Switch Capacity: 3.6T/3.6T/3.6T/480G bps
- MAC Address: 256K
- ARP/Router Table: 64K
- Service Slots: 17/15/7/2 slots
- Services Ports: Up to 272/240/112/32*GPON ports or 136/120/56/16*10G GPON ports or 816/720/336/96*GE/FE ports or 408/360/168/16*10GE ports
- SDN-based smart service support
- Dual-stack IPv4 and IPv6, IPv6 Layer2 and Layer 3 forwarding, DHCPv6 relay

EA5800-X17

EA5800-X15

EA5800-X7

EA5800-X2

Smart NG OLT---EA5801

The EA5801 is a compact and low-density box-shaped OLT. It provides GPON or XG-PON&GPON combo access, and supports passive optical LAN (POL) and fiber to the home (FTTH) solutions. . It carries all services over one fiber network, simplifying network architecture and reducing OPEX.

- Upstream Ports: 2*10GE/GE+2*GE
- MAC Address: 32768
- ARP/Router Table: 16384
- Services Ports: 8GPON (EA5801-GP08) or 4 XG-PON&GPON combo (EA5801-CG04)

EA5801-GP08

EA5801-CG04

MA5626

The MA5626 supports fiber to the building (FTTB) and fiber to the curb (FTTC) network applications for providing voice, data, and video services for community users. The MA5626 can be used for video monitoring.

- Network-side port: 1*GPON
- User-side port: 8/16/24*FE, 4*GE+4*FE
- Support obverse PoE and reverse PoE
- Operating temperature: -40°C to 55°C; startup at -25°C
- Power supply: AC power (110V or 220 V)

DOCSIS 3.0 CMC: MA5633-XB10

- Network-side port: 2*GPON/2*GE(optical)
- Channel capacity: D3.0 10US*32DS
- Maximum throughput:

DOCSIS 3.0 European standard Downstream: 1600 Mbit/s @ 256 QAM Upstream: 300 Mbit/s @ 64 QAM
DOCSIS 3.0 North American standard Downstream: 1280 Mbit/s @ 256 QAM Upstream: 300 Mbit/s @ 64 QAM

- CM number: 256 DOCSIS 3.0-compliant
- Power supply: AC power (110V or 220V local power)/AC power (60V or 90V remote power)

MA5633-XB10

DOCSIS 3.1 CMC:
MA5633 (cable outlets on a single side)、MA5633-XD20/DD20 (cable outlets on both sides):
Network-side port: 2*GPON/2*GE(optical)

- Channel capacity: D3.0 10US*32DS+D3.1 2US*2DS
- Maximum throughput:

DOCSIS 3.1: Downstream: 3.6 Gbit/s @ 4096 QAM Upstream: 1.5 Gbit/s @ 2048 QAM
DOCSIS 3.0 European standard: Downstream: 1600 Mbit/s @ 256 QAM Upstream: 300 Mbit/s @ 64 QAM
DOCSIS 3.0 North American standard: Downstream: 1280 Mbit/s @ 256 QAM Upstream: 300 Mbit/s @ 64 QAM BC+VoD: 64*50 Mbit/s

- CM number: 1023 DOCSIS 3.0-compliant
- Power supply: AC power (110V or 220V local power)/AC power (60V or 90V remote power)

MA5633

MA5633-DD20/XD20

MA5671

The MA5671 Multi-service Access Module is an indoor optical network unit (ONU) developed for small office and home office (SOHO), small- and medium-sized enterprise (SME) users.

- Network-side port: 1*GPON
- User-side port: 4*GE PoE
- Support Type B protection
- Operating temperature: 0°C to 40°C
- Power supply: 12V DC power

EA5821

The EA5821 multi-service access module is an GPON/10G GPON optical network unit (ONU) which mainly applies to the fiber to the building (FTTB scenarios. It can provide broadband services and IP voice services for family users and small to medium enterprises.

- Network-side port: 1*GPON / 10G GPON
- User-side port: 8/24*GE, 24*GE PoE
- Operating temperature: -40°C to 55°C; startup at -25°C
- Power supply: AC power (110V or 220 V)

MA5694S

The MA5694S is one of integrated optical network unit (ONU) that designed specifically for enterprise leased line and mobile backhaul (MBH).

- Network-side port: 1*GPON/1*GE(optical)
- User-side port: -3*GE electorical+1*GE optical (PON uplink)
- Metallic shell and passive cooling, Anti-condensation design, 6KV lighting proof capability. Support IP65 protection.
- Electrical GE ports support PoE: Max 210W output totally, Max 150W single GE port

MA5811S-AE08

The MA5811S-AE08 is one of the most compact mediumcapacity small form factor-sealed unit (SFF-SU) outdoor multi-service access products launched by Huawei to support integrated broadband access.

- Network-side port: 1*GPON/1*10G GPON/1*GE
- User-side port: 8 * G.fast ports
- Carrier-Class Hardware Design
- Is temperature-hardened and waterproof.
- Is plug and play and supports service pre-deployment.
- High-Speed G.fast
- Remote Power Supply
- Support IPv6 stack

MA5818

The SmartAX MA5818 is a new-generation large-capacity multi-service gigabit access device that provides ultra-high bandwidth access capability and flexible capacity expansion capability.The MA5818 can be used in FTTB, FTTC,and FTTD scenarios that demand high bandwidth access.

- Network-side port: GPON/10G GPON/GE/10GE
- User-side port : 4 service slots, Maximum support 96 x G.fast
- Support G.fast and compatible with VDSL2
- Support 20 Gbit/s upstream transmission and 1 Gbit/s access.
- Easy Maintenance and Management
- Provides separate VP slots to support smooth capacity expansion.

SYNLOCK BITS V3

The SYNLOCK V3 is a building integrated timing supply (BITS) system provide a synchronization method for catering to the IP network while at the same time retaining the legacy synchronization method on the live network.

- Dimensions (H x W x D):
  -575mm *436mm*253mm
- Satellite input :
  -2*GPS/GLONASS/Beidou
- Frequency input :
  -Max 20 ports of 2048kbit/s, 2048kHz, 1MHz, 5MHz, 10MHz
- Frequency output :
  -Max 400 ports of 2048kbit/s, 2048kHz, 1MHz, 5MHz, 10MHz , Composite Clock 64kbit/s;
  -160 GE/FE SYNC-E ports. Support 1588ACR (ITU-T G.8265.1)
- Time input :
  -2*1588v2, 4*1PPS+TOD, NTP
- Time output :
  -Max 160*1PPS+TOD, 80*NTP ; 160 GE/FE 1588v2 (ITU-T G.8275.1)
- Optional configuration of Quartz or Rubidium oscillator, redundancy design.

EG8010H

The EG8010H is an indoor optical network terminal (ONT) in Huawei FTTH solution. By using the GPON technology, ultra-broadband access is provided for home and SOHO users.

- Network-side port: 1*GPON
- User-side port: 1*GE
- Plug-and-play: Services can be deployed by one click on the NMS, and on-site configuration is not required.
- Link monitoring: E2E link detection is achieved using 802.1ag Ethernet OAM.
- High speed forwarding: GE line rate forwarding.

EG8040H

The EG8040H is an indoor optical network terminal (ONT) in Huawei FTTH solution. By using the GPON technology, ultra-broadband access is provided for home and SOHO users.

- Network-side port: 1*GPON
- User-side port: 4*GE
- Plug-and-play: services can be deployed by one click on the NMS, and on-site configuration is not required.
- Link monitoring: E2E link detection is achieved using 802.1ag Ethernet OAM.
- High speed forwarding: GE line rate forwarding.

EG8040H

The EG8040H is an indoor optical network terminal (ONT) in Huawei FTTH solution. By using the GPON technology, ultra-broadband access is provided for home and SOHO users.

- Network-side port: 1*GPON
- User-side port: 4*GE
- Plug-and-play: services can be deployed by one click on the NMS, and on-site configuration is not required.
- Link monitoring: E2E link detection is achieved using 802.1ag Ethernet OAM.
- High speed forwarding: GE line rate forwarding.

EG8240H

The EG8240H is an intelligent bridging-type ONT in Huawei FTTH solution. By using the GPON technology, ultra-broadband access is provided for home and SOHO users. The EG8240H provide excellent experience with Voice and Internet.

- Network-side port: 1*GPON
- User-side port: 4*GE+2*POTS
- SIP/H.248 auto-negotiation
- MAC address filtering
- IGMP v2/v3 snooping
- Dual-system software backup and rollback

EG8040P

The EG8040P Multi-service Access Module is an indoor optical network unit (ONU) developed for small office and home office (SOHO), small- and medium-sized enterprise (SME) users. The EG8040P supports high-performance forwarding capabilities to ensure excellent experience with Internet and HD video services.

- Network-side port: 1*GPON
- User-side port: 4*GE PoE, Gross power 60W, each port support up to 30W.
- Support Type B protection
- Operating temperature: -40°C to 55°C
- Plug-and-play: Services can be deployed by one click on the NMS, and on-site configuration is not required.

EG8240P

The EG8240P Multi-service Access Module is an indoor optical network unit (ONU) developed for small office and home office (SOHO), small- and medium-sized enterprise (SME) users. The EG8240P supports high-performance forwarding capabilities to ensure excellent experience with Voice, Internet and HD video services.

- Network-side port: 1*GPON
- User-side port: 2 POTS+4*GE PoE, Gross power 60W, each port support up to 30W.
- Support Type B protection
- Operating temperature: -40°C to 55°C
- SIP/H.248 auto-negotiation
- IGMP v2/v3 snooping

EG8080P

The EG8080P multi-service access module is an GPON/10G GPON optical network unit (ONU) It can provide broadband services and IP voice services for family users and small to medium enterprises. The EG8080P supports high-performance forwarding capabilities to ensure excellent experience with Internet and HD video services.
The Multi-service Access Module is an indoor optical network unit (ONU) developed for small office and home office (SOHO), medium-sized enterprise users.

- Network-side port: 1*GPON/XG-PON/XGS-PON
- User-side port: 8*GE PoE, Gross power 120W, each port support up to 30W.
- Support Type B protection
- Operating temperature: -40°C to 55°C
- Plug-and-play: Services can be deployed by one click on the NMS, and on-site configuration is not required.

EG8280P

The EG8280P Multi-service Access Module is an indoor optical network unit (ONU) developed for small office and home office (SOHO), medium-sized enterprise users. The EG8280P supports high-performance forwarding capabilities to ensure excellent experience with Voice, Internet and HD video services.

- Network-side port: 1*GPON/XG-PON/XGS-PON
- User-side port: 2*POTS+8*GE PoE, Gross power 120W, each port support up to 30W.
- Support Type B protection
- Operating temperature: -40°C to 55°C
- SIP/H.248 auto-negotiation
- IGMP v2/v3 snooping

EG8084P

The EG8084P Multi-service Access Module is an outdoor optical network unit (ONU) developed for safe city and Transport Video backhaul, medium-sized enterprise users. The EG8084P supports high-performance forwarding capabilities to ensure excellent experience with Internet and video backhaul.

- Network-side port: 1*GPON/XG-PON/XGS-PON
- User-side port: 8*GE PoE, Gross power 210W, port 1,port 2 support up to 60W, another 6 ports support up to 30W.
- Support Type B protection
- Operating temperature: -40°C to 70°C
- Surge protection specifications: GE port common mode 6kv, differential mode 1.5kv; AC power supply common mode 6kv, differential mode 6kv, different mode 3kA of surge current.

EG8245H5

The EG8245H5 is a routing-type optical network terminal (ONT) in Huawei FTTH solution. By using the GPON technology, ultra-broadband access is provided for home and SOHO users. The EG8245H5 supports 802.11 b/g/n frequency Bands and ensure the excellent experience with Voice, Internet and HD video services.

- Network-side port: 1*GPON
- User-side port: 4*GE + 2*POTS +2.4G 2*2 Wi-Fi + USB
- Support both SIP and H.248 in one software version
- IPv4/IPv6 dual stack, Ds-Lite
- L2/L3 forwarding capability up to 1Gbps in upstream direction, and 2Gbps in downstream direction
- Any Port Any Service
- Smart pipe, smart hotspot

EG8247H5

The EG8247H5 is a routing-type optical network terminal (ONT) in Huawei FTTH solution. By using the GPON technology, ultra-broadband access is provided for home and SOHO users. The EG8247H features high-performance forwarding capabilities to ensure excellent experience with Voice, Internet and HD video services.

- Network-side port: 1*GPON
- User-side port: 4*GE+2*POTS+1*USB+2.4G 2*2 WiFi+CATV
- Support both SIP and H.248 in one software version
- IPv4/IPv6 dual stack, Ds-Lite
- L2/L3 forwarding capability up to 1Gbps in upstream direction, and 2Gbps in downstream direction
- Any Port Any Service
- Smart pipe, smart hotspot

EG8145V5

The EG8145V5 is an intelligent routing-type optical network terminal (ONT) in Huawei FTTH solution. By using the GPON technology, ultra-broadband access is provided for home and SOHO users. The EG8145V5 supports 11ac Dual-frequency Bands and ensure the excellent experience with Voice, Internet and HD video services.

- Network-side port: 1*GPON
- User-side port: 4*GE+1*POTS+1*USB+2.4G 2*2 &5G 2*2 Wi-Fi
- Support both SIP and H.248 in one software version
- IPv4/IPv6 dual stack, Ds-Lite
- ••L2/L3 forwarding capability up to 1Gbps in upstream direction, and 2Gbps in downstream direction
- Any Port Any Service
- Smart pipe, smart hotspot

EG8245Q

The EG8245Q is an intelligent routing-type optical network terminal (ONT) in Huawei FTTH solution. By using the GPON technology, ultra-broadband access is provided for home and SOHO users. The EG8245Q supports 11ac Dual-frequency Bands and ensure the excellent experience with Voice, Internet and HD video services.

- Network-side port: 1*GPON
- User-side port: 4*GE+2*POTS+1*USB+2.4G 3*3 &5G 3*3 Wi-Fi
- Support both SIP and H.248 in one software version
- IPv4/IPv6 dual stack, Ds-Lite
- L2/L3 forwarding capability up to 1Gbps in upstream direction, and 2Gbps in downstream direction
- Any Port Any Service
- Smart pipe, smart hotspot

EG8247Q

The EG8247Q is an intelligent routing-type optical network terminal (ONT) in Huawei FTTH solution. By using the GPON technology, ultra-broadband access is provided for home and SOHO users. The EG8247Q supports 11ac Dual-frequency Bands and ensure the excellent experience with Voice, Internet and HD video services.

- Network-side port: 1*GPON
- User-side port: 4*GE+2*POTS+CATV+2*USB+2.4G 3*3 &5G 3*3 Wi-Fi
- Support both SIP and H.248 in one software version
- IPv4/IPv6 dual stack, Ds-Lite
- L2/L3 forwarding capability up to 1Gbps in upstream direction, and 2Gbps in downstream direction
- •Any Port Any Service
- Smart pipe, smart hotspot

EG8247W5

The EG8247W5 is an intelligent routing-type optical network terminal (ONT) in Huawei FTTH solution. The EG8247W5 supports 11ac Dual-frequency Bands and ensures the excellent experience with Voice, Internet and HD video services.

- Network-side port: 1*GPON
- User-side port: 4*GE+2*POTS+CATV+1*USB+2.4G 3*3 &5G 4*4 Wi-Fi
- Support both SIP and H.248 in one software version
- IPv4/IPv6 dual stack, Ds-Lite
- L2/L3 forwarding capability up to 1Gbps in upstream direction, and 2Gbps in downstream direction
- Any Port Any Service
- Smart pipe, smart hotspot

HN8255Ws

The HN8255Ws is an intelligent XG-PON routing-type optical network terminal (ONT) in Huawei FTTH solution. The HN8255Ws supports 11ac Dual-frequency Bands and XG-PON uplink, which ensures the excellent experience with Voice, Internet and HD video services.

- Network-side port: 1*XG-PON(SFP+ Optical Module)
- User-side port: 4*GE+1*10GE+2*POTS+1*USB+2.5G&5G WiFi
- Support both SIP and H.248 in one software version
- IPv4/IPv6 dual stack, Ds-Lite
- Any Port Any Service
- Smart pipe, smart hotspot

EG8040H

The EG8040H is an indoor optical network terminal (ONT) in Huawei FTTH solution. By using the GPON technology, ultrabroadband access is provided for home and SOHO users.

- Network-side port: 1*GPON
- User-side port: 4*GE
- Plug-and-play: services can be deployed by one click on the NMS, and on-site configuration is not required.
- Link monitoring: E2E link detection is achieved using 802.1ag Ethernet OAM.
- High speed forwarding: GE line rate forwarding.

EG8240H

The EG8240H is an intelligent bridging-type ONT in Huawei FTTH solution. By using the GPON technology, ultrabroadband access is provided for home and SOHO users.
The EG8240H provide excellent experience with Voice and Internet.

- Network-side port: 1*GPON
- User-side port: 4*GE+2*POTS
- SIP/H.248 auto-negotiation
- MAC address filtering
- IGMP v2/v3 snooping
- Dual-system software backup and rollback

EG8242H

The EG8242H is an intelligent bridging-type ONT in Huawei FTTH solution. By using the GPON technology, ultrabroadband access is provided for home and SOHO users. The HG8240H provide excellent experience with Voice, CATV and Internet.

- Network-side port: 1*GPON
- User-side port: 4*GE+2*POTS + 1*CATV
- SIP/H.248 auto-negotiation
- MAC address filtering
- IGMP v2/v3 snooping
- Dual-system software backup and rollback

EG8245H

The EG8245H is an intelligent routing-type optical network terminal (ONT) in Huawei FTTH solution. The EG8245H supports 802.11 b/g/n frequency Bands and ensure the excellent experience with Voice, Internet and HD video services.

- Network-side port: 1*GPON
- User-side port: 4*GE + 2*POTS + Wi-Fi + USB
- Support both SIP and H.248 in one software version
- IPv4/IPv6 dual stack, Ds-Lite
- L2/L3 forwarding capability up to 1Gbps in upstream direction, and 2Gbps in downstream direction
- Any Port Any Service
- Smart pipe, smart hotspot

EG8045H

The EG8045H is an intelligent routing-type optical network terminal (ONT) in Huawei FTTH solution. The EG8045H supports 802.11 b/g/n frequency Bands and ensure the excellent experience with Internet and HD video services.

- Network-side port: 1*GPON
- User-side port: 4*GE + Wi-Fi + USB
- IPv4/IPv6 dual stack, Ds-Lite
- L2/L3 forwarding capability up to 1Gbps in upstream direction, and 2Gbps in downstream direction
- Any Port Any Service
- Smart pipe, smart hotspot

EG8247H

The EG8247H is an routing-type optical network terminal (ONT) in Huawei FTTH solution. By using the GPON technology, ultra-broadband access is provided for home and SOHO users. The EG8247H features high-performance forwarding capabilities to ensure excellent experience with Voice, Internet and HD video services.

- Network-side port: 1*GPON
- User-side port: 4*GE+2*POTS+1*USB+WiFi+CATV
- Support both SIP and H.248 in one software version
- IPv4/IPv6 dual stack, Ds-Lite
- L2/L3 forwarding capability up to 1Gbps in upstream direction, and 2Gbps in downstream direction
- Any Port Any Service

HG8010H

The HG8010H is an indoor optical network terminal (ONT) in Huawei FTTH solution. By using the GPON technology, ultrabroadband access is provided for home and SOHO users.

- Network-side port: 1*GPON
- User-side port: 1*GE
- Plug-and-play: services can be deployed by one click on the NMS, and on-site configuration is not required.
- Link monitoring: E2E link detection is achieved using 802.1ag Ethernet OAM.
- High speed forwarding: GE line rate forwarding.

HG8040H

The HG8040H is an indoor optical network terminal (ONT) in Huawei FTTH solution. By using the GPON technology, ultrabroadband access is provided for home and SOHO users.

- Network-side port: 1*GPON
- User-side port: 4*GE
- Plug-and-play: services can be deployed by one click on the NMS, and on-site configuration is not required.
- Link monitoring: E2E link detection is achieved using 802.1ag Ethernet OAM.
- High speed forwarding: GE line rate forwarding.

iODF3101

The GPX147-iODF3101- iReady can be used on the FTTx-ODN or traditional optical transmission network. The cabinet (or frame) is designed to house the 19-inch standard modules which can provide the function of splicing, termination, or splitting.

Fine-grained Fiber Management
- Separates fiber routes to avoid fiber crossing.

Rich Application
- Supports the combination of multiple iODFs so that massive fiber patch cords can be deployed and managed together.
- Supports various optical cables, including bundle, ribbon, airblown, and flat drop optical cables.

Efficient OAM
- The device supports smooth in-service upgrade to intelligent devices.
- Adapters can be replaced independently.

Environment-Friendly Design
- Complies with restriction of the use of certain hazardous substances (RoHS) specifications.

iFDT3105D

FDT3105D series is applied in the optical transmission network to connect the feeder cable and distribution cable.
The device can be used to fixed and protect cable, terminate fiber, splice fiber, distribute and dispatch fiber route, protect other space part.

- Evolution smoothly :
  -It support to upgrade to intelligent FDT by increasing intelligent components so as to deploy the iODN smoothly in the future.
- Proper Cabling:
  -Proper cabling design meets the requirements for leading in or out cables upward or downward. ensuring an optical fiber radius greater than or equal to 30 mm inside the cabinet.
- Modular design :
  -The sub-rack and boards can be take out alone, modular design lead s to flexible configuration and convenient expansion
- High Protection:
  -The case made of galvanized steel plates, providing excellent corrosion protection.

iFAT3106

The iFAT3106TI indoor Intelligent Fiber Access terminal used to splice, termination and split optical cables. In cooperation with the iField and U2000-ODN, it enables intelligent optical fiber management and sit engineering guidance of the iODN.

- Sliding and rotating design:
  -Enables users to slide and route termination service processing boards, creating more space for fiber patching operations.
- • Loosely coupled design
  -Has intelligent parts and structural parts loosely coupled. Intelligent parts support independent replacement, maintenance, and in-service upgrades.
- • Compact size and light weight design
  -Has a compact size and light weight design so that it is applicable in various installation scenarios, such as outdoor and indoor wall-mounted and pole-mounted installation.

ATB3101

ATB3101 is an indoor terminal applied in the FTTX network to connect the drop cable and ONU devices through fiber port.
ATB3101 covers the capacity of 1core,2cores and 4 cores and supports splicing, mechanical connection and FMC, wall mounted installation.

- Excellent ergonomics design, graceful appearance and convenience operation
  -Plug fiber without having to open the shell, easily accessible fiber operation, port vertically downward to avoid causing personal injury.
  -White color, graceful style and good adaptability to environment.
  -Fiber cable inlets in every direction, supports the cable inlets for different scenarios.
- Friendly operation interface, high reliability
  -Introductions clear, effectively prevent the miss-operation.
  -Remarkable laser warning identification.
- Low construction cost
  -Easy operation, saving installation working hours, lower costs.

FMC210X

FMC2101 and FMC2102 Connector is a field-Installable connector. It is a key innovation comparing with conventional SC GT type connector. The connector doesn't require special assembly tool. It greatly simplifies the process of ending the fibers, provides fast and efficient solution for the construction of FTTX network, fibers distribution, ATB, ONU and so on.

- Easy application
  - -Assembly passing rate ≥ 97.5%
  - -Assembly Time ≥ 2min.
- Special design
  - -Push-pull design, better protection of bare fiber
  - -Unique buckle clamping covered fiber cable, to improve connection reliability
  - -Full compatible with standard SC adapter and optical connector • High reliability
  - -Reusable
  - -Environment features stable

SSC210x-FM/FH

SSC2101-FM/SSC2102-FM/SSC2103-FM Series dome closure are outdoor closures that can be installed in the manhole or hand hole, it mainly applied at the access point of the FTTx ODN network and implement the connection ,distribution of optical cables and connect the drop fibers to the user devices

- Strong universality:
  - -Support flat drop cable (2mmx3mm) , round drop cable (Φ5mm、Φ7mm) and common optical cable (Φ8mm-Φ20mm);
  - -To be used in Pole-mounting, wall-mounting, manhole/hand hole universally to reduce storage variety.
  - -Support the cable air-blown solution with the special airblown seal component.
- Excellent adaptability:
  - -Adopt composite material with longer service life, and IP68;
  - -Multi-entry for to realize connection, branching, splitting(optional) and distribution..
- Modular design:
  - -The product can meet various requirement for capacity by flexible configuration of modular splice
  - -Two splicing tray can choose and the two tray can configure together. The thin tray achieve 12cores splicing; the thick tray achieve 24cores splicing.

WDM1r1201

The WDM1r1201 module is designed for Next Generation Access (NGA) system that co-exists with GPON on the same ODN. The WDM1r1201 module can be used only indoors under temperature/humidity-controlled environments.

- Physical Characteristics:
  - -WDM1r1201 module can be installed in subrack easily.
  - -WDM1r Subrack has a height of 3U and can accommodate up to 16 modules.
  - -WDM1r Subrack can be installed on a 19“ or 21” cabinets such as ODF2101, iODF3101 and N63E cabinets.
- Product Configurations:
  - -WDM1r1201 support 2 channels NGA signal and 2 channels GPON signal access towards to clients.
- High Quality:
  - -Low insertion loss and high isolation
  - -Thin film filter technology
  - -Robust, ultra stable and highly reliable
  - -GR1209 & GR 1221 compliant

WDM1r2202

The WDM1r2202 module is designed for CATV system that coexists with GPON on the same ODN. The WDM1r2202 module can be used only indoors under temperature/humiditycontrolled environments.

- Physical Characteristics:
  - -WDM1r2202 module can be installed in subrack easily.
  - -Subrack has a height of 3U and can accommodate up to 16 modules.
  - -Subrack can be installed on a 19“ or 21” cabinets such as ODF2101, iODF3101 and N63E cabinets.
- Product Configurations:
  - -WDM1r2202 support 1 channels GPON signal and 2 channels CATV signal access towards to clients.
- High Quality:
  - -Low insertion loss and high isolation
  - -Thin film filter technology
  - -Robust, ultra stable and highly reliable
  - -GR1209 & GR 1221 compliant

WDM1r3101

The WDM1r3101 is applied in the FTTH netwok for combining the GPON, NGA, Video and OTDR signals into one common output port. The product is designed for Next Generation Access (NGA) system that co-exists with GPON on the same ODN. The WDM1r3101 module can be used only indoors undertemperature/humidity-controlled environments.

- Physical Characteristics:
  - -WDM1r3101 module can be installed in subrack easily.
  - -Subrack has a height of 3U and can accommodate up to 16 modules.
  - -Subrack can be installed on a 19“ or 21” cabinets such as iODF3101,ODF2101, and N63E cabinets.
- Product Configurations:
  - -WDM1r3101 support GPON,NGA ,Video and OTDR signal access towards to clients.
- High Quality:
  - -Low insertion loss and high isolation
  - -Thin film filter technology
  - -Robust, ultra stable and highly reliable
  - -GR1209 & GR 1221 compliant

EDFA3220-D/D2

The EDFA3220 is designed for multiple system operators (MSOs). It is an amplifying and multiplexing product that supports both the cable TV (CATV) and broadband services. Specifically, it amplifies a channel of CATV signals, divides the signals into 32 channels, multiplexes the 32 channels of CATV signals with 32 channels of PON signals, and transmits the multiplexed signals over the optical distribution network (ODN) to users' homes.

EDFA3220-D: Supports GPON signal input
EDFA3220-D2: Supports GPON/ XGPON/ 10KM GE/10KM 10GE signal input

High reliability
- With a carrier-class EDFA module, supporting a high operating temperature of 65°C.
- Good heat dissipation with air ventilated from the left to the right side of the device.

High integration: EDFA3220-D/D2 houses 1:2 optical switch, 1:32 splitter, and EDFA and WDM1r inside.
CATV protection: EDFA3220-D/D2 automatically selects the better signals from dual inputs by the optical switch.
High density: EDFA3220-D/D2 amplifies CATV signals and then multiplexes the signals with 32-channel PON signals

Transmission

OSN-WDM

OSN 9800

Huawei's next-generation OTN platform for 100G and beyond, ideal for building high-performance backbone and metro networks for DCI, ISP, grid, finance, government, traffic, etc.

- Number of Slots: 14/32/(12/24)
- Cross-Connect Capacity:
U16: 5.6 Tbit/s ODUk, 2.8 Tbit/s PKT, 1.12 Tbit/s VC4
U32E: 32Tbit/s ODUk, 6.4 Tbit/s PKT, 2.56 Tbit/s VC4
M24: 4.8Tbit/s ODUk, 2.4 Tbit/s PKT, 0,96 Tbit/s VC4
- Channel Spacing: 50/100 GHz (fixed), 37.5 GHz to 400 GHz (flex-grid)
- Service Types: SDH, SONET, Ethernet, SAN, OTN, video
- Rate per Channel (max.): 100G, 200G, 400G, 1T, 2T
- T-SDN: IP + Optical, BOD, OVPN, Automation

OSN 9800 U16/M24/U32E

OSN 9800 UPS

OSN 9800/8800 universal platform subrack is widely used to deploy optical platforms and 100G/200G WDM transponders/ muxponders.

- Number of Slots: 16
- Optical Switching: 1 to 20-degree ROADM
- Service Types: SDH, SONET, Ethernet, SAN, OTN, video
- Rate per Channel (max.): 200G
- Enhanced Features: Optical Doctor and Fiber Doctor

OSN 1800

A series of MS-OTN transmission equipment that supports TDM, packet, and OTN services over a metro or campus optical network, providing cost-effective transport solutions for power, medical, Storage Area Networks (SANs), and data centers.

- Number of Slots: 6/15(DC), NA/12(AC)
- Switching Capacity:
I: OTN: 40G ODUk (k=0/1/2/2e/flex) Packet: 120G SDH: 30G (high-order), 5G (loworder)
II: OTN: 200G ODUk (k=0/1/2/2e/flex) Packet: 160G SDH: 50G (high-order), 20G (low-order)
V: OTN: 700G ODUk (k=0/1/2/2e/flex Packet: 700G SDH: 280G (high-order), 40G (low-order)
- Number of Wavelengths (max.): 80λDWDM, 8λCWDM
- Service Types: Full service access rate from 2M to 100G, including E1, STM-1/4/16/64, FE, GE, 10GE,40GE,100GE, FC, FICON, ESCON, INFINIBAND, DVB-ASI, HDTV, 3G-SDI, SDI, and CPRI1-CPRI7
- Power Supply: 1+1 AC/DC power supply

OSN 1800 I/II/V

OSN902

An optical transmission solution for Data Center Interconnect (DCI) with large transmission capacity, high integration, low consumption, adaptation to DC roof, SDN architecture and open interfaces, providing optimal user experience on DCI carrier networks.

- Number of Slots: 6
- Maximum Capacity: 400G/Slot, 2.4T/Subrack
- Service Types: 10 GE/40 GE/100 GE Client Optical Module: QSFP+/QSFP28
- Installation Mode: 19-inch
- Power Supply: 90V to 264V AC or 192V HVDC to 288V HVDC

Hybrid MSTP

OSN 7500

OSN 7500 is a next-generation hybrid MSTP product based on a unified platform that can support SDH/PDH, Ethernet, Packet, built-in PCM, ATM/IMA, built-in WDM, SAN, and Microwave services.

- Switching Capacity: Packet: 160 Gbit/s and TDM: 360 Gbit/s (higher order), 80 Gbit/s (lower order)
- Service Slots: 22 slots for processing boards and 8 slots for interface boards
- Packet Transport Interfaces: E1, ch STM-1, ATM STM-1, FE/ GE/10 GE
- MSTP Interfaces: STM-1/4/16/64, E1/E3/E4/T1/T3, FE/GE/10 GE, DDN, ATM/IMA, FEC/EFEC interface, E1 optical interface, SAN, video
- PCM interface: FXS/FXO, 2/4 wire audio and E&M X.21/V.35/V.11/V.24/V.28, RS232/RS422, RS449/RS423A/RS422A, RS530/RS530A, RS485, G.703 64 kbit/s codirectional
- OTN Interface: OTU-3(40G, compliant with OTL3.4 standard)
- Networking Modes: Supporting pure packet, hybrid (packet+SDH), and pure SDH networking

OSN 3500

OSN 3500 is a next-generation hybrid MSTP product based bon a unified platform that can support SDH/PDH, Ethernet, Packet, ATM/IMA, built-in PCM, built-in WDM, SAN, and Microwave services.

- Switching Capacity: Packet: 160 Gbit/s and TDM: 200 Gbit/s (higher order), 20 Gbit/s (lower order)
- Service Slots: 15 slots for processing boards and 16 slots for interface boards
- Packet Transport Interfaces: E1, ch STM-1, ATM STM-1, FE/ GE/10 GE
- MSTP interfaces: STM-1/4/16/64, E1/E3/E4/T1/T3, FE/GE/10 GE, DDN, IMA/ATM, FEC/ EFEC interface, E1 optical interface, PCM, SAN, video
- PCM interface: FXS/FXO, 2/4 wire audio and E&M X.21/V.35/ V.11/V.24/V.28, RS232/ RS422, RS449/RS423A/RS422A, RS530/RS530A, RS485, G.703 64 kbit/s codirectional; IEEE C37.94
- OTN Interface: OTU-3(40G, compliant with OTL3.4 standard)
- Networking Modes: Supporting pure packet, hybrid (packet+ SDH), and pure SDH networking

OSN 580

OSN 580 is a mini-hybrid MSTP product based on a unified platform that can support SDH/PDH, Ethernet, Packet, builtin PCM, ATM/ IMA and built-in WDM services.

- Service Slots: 15 service interface slots
- Switching Capacity: Packet: 560 Gbit/s and TDM: 280Gbit/s (higher order), 20 Gbit/s (lower order)
- Packet Transport Interfaces: E1, ch STM-1, ATM STM-1, FE/GE/10 GE/40GE
- MSTP Interfaces: STM-1/4/16/64, E1/T1/E3/T3, FE/GE
- PCM interfaces: FXS/FXO, 2/4 wire audio and E&M, G.703 64K co-directional interface, V.35/V.24 (sync/async RS232)/X.21, and RS449 (RS423A/RS422A)/RS530/RS530A/ RS485, IEEE C37.94, and dry contact
- OTN Interface: OTU-2, OTU-3
- 40G Smart Line Card: Packet and TDM multi-services universal transport in one port
- Networking Modes: Supporting pure packet, hybrid (packet+SDH), and SDH networking

OSN 550

OSN 550 is a mini-hybrid MSTP product based on a unified platform that can support SDH/PDH, Ethernet, Packet, builtin PCM, ATM/IMA, and built-in WDM services.

- Service Slots: 6 service interface slots
- Switching Capacity: Packet: 64 Gbit/s and TDM: 20 Gbit/s (higher order), 5 Gbit/s (lower order)
- Packet Transport Interfaces: E1, ch STM-1, ATM STM-1, FE/GE/10 GE
- MSTP Interfaces: STM-1/4/16, E1/E3/T1/T3, FE/GE
- PCM interfaces: FXS/FXO, 2/4 wire audio and E&M, G.703 64K co-directional interface, V.35/V.24 (sync/async RS232)/X.21, and RS449 (RS423A/RS422A)/RS530/RS530A/ RS485, IEEE C37.94, and dry contact
- Networking Modes: Supporting pure packet, hybrid (packet+SDH), and SDH networking

OSN 500

OSN 500 is a mini-hybrid MSTP product based on a unified platform that can support SDH/PDH, Ethernet, and Packet services.

- Switching Capacity: Packet: 7.2 Gbit/s or TDM: 20 Gbit/s (higher order), 5 Gbit/s (lower order)
- Packet Transport Interfaces: E1, ch STM-1, ATM STM-1, FE/GE
- MSTP Interfaces: STM-1/4, E1/E3/T1/T3, FE/GE
- Networking Mode: Supporting pure packet and pure SDH networking

Microwave

RTN 980L

RTN 980L is a long haul IP radio transmission system developed by Huawei. It provides a large capacity and supports long haul radio transmission. It mainly applies to long haul trunk and metropolitan backbone networks.

- RF Direction: 5U height, maximum of 14 RF directions
- Frequency Bands: 5/L6/U6/7/8/11 GHz
- Modulations: QPSK, 16 QAM, 32 QAM, 64 QAM, 128 QAM, 256 QAM, 512 QAM, 1, 024 QAM
- Switching Capacity: 120 Gbit/s
- Interfaces: E1, STM-1(o/e), STM-4(o), FE(o/e), 2.5 GE(o), GE(o/e), 10GE(o)

RTN 950A

RTN 950A is a unified hub microwave platform providing TDM/Packet/Hybrid services for the customer. It is used to aggregate multiple links, or for large capacity service backhaul.

- RF Direction: 2U height, maximum of 10 RF directions
- Frequency Bands: 6/7/8/10/10.5/11/13/15/18/23/26/ 28/32/38/42 GHz
- Modulation: QPSK, 16 QAM, 32 QAM, 64 QAM, 128 QAM, 256 QAM, 512 QAM, 1, 024 QAM, 2, 048 QAM, 4, 096 QAM
- Switching Capacity: 10 Gbit/s
- Air Interface Capacity: 1018 ~ 1283 Mbps per carrier
- Interfaces: E1, T1, STM-1 (e/o), FE (e/o), GE (e/o), 2.5GE(o), 10GE(o)

RTN 950

RTN 950 is a unified hub microwave platform providing TDM/Packet/Hybrid services for the customer. It is used to aggregate multiple links, or for large capacity service backhaul.

- RF Direction: 2U height, maximum of 8 RF directions
- Frequency Bands: 6/7/8/10/10.5/11/13/15/18/23/26/28/32/38/42 GHz
- Modulation: QPSK, 16 QAM, 32 QAM, 64 QAM, 128 QAM, 256 QAM, 512 QAM, 1, 024 QAM, 2, 048 QAM, 4, 096 QAM
- Switching Capacity: 10 Gbit/s
- Air Interface Capacity: 1018 ~ 1283 Mbps per carrier
- Interfaces: E1, STM-1 (e/o), FE (e/o), GE (e/o), 2.5GE(o), 10GE(o)

RTN 905 2E

RTN 905 2E is a unified tail microwave platform providing TDM/Packet/Hybrid services for the customer. The IDU of RTN 905 2E is 1U high integrated box equipment.

- RF Direction: 1U height, 2 RF directions
- Frequency Bands: 6/7/8/10/11/13/15/18/23/26/ 28/32/38 GHz
- Modulation: QPSK, 16 QAM, 32 QAM, 64 QAM, 128 QAM, 256 QAM, 512 QAM, 1, 024 QAM, 2, 048 QAM
- Switching Capacity: 8 Gbit/s
- Interfaces: E1, STM-1 (e/o), FE(e/o), GE (e/o), 2.5GE (o)

RTN 380H

RTN 380H is the 2nd-generation E-band full-outdoor radio equipment, and integrate all functions in a chassis and does not need an extra installation site. The RTN 380H can provide ultra high-capacity backhaul microwave links on a mobile communications network or a private network.

- Up to 10 Gbit/s throughput
- Frequency: 71-76, 81-86 GHz
- Modulation: BPSK, QPSK, 8PSK, 16QAM, 32QAM, 64QAM, 128QAM, 256QAM, 512QAM, 1024QAM
- Switching Capacity: 42 Gbit/s
- Channel Spacing: 62.5/125/250/500/750/1000/1500/2000 MHz
- Interface: 2*10GE(o), 1*GE (e) , 1*P&E, 1* COMBO, 1* USB, 1* RSSI/NMS, 1* antenna

RTN 380A

RTN 380A is Huawei latest E-band full-outdoor radio equipment, and integrate all functions in a chassis and does not need an extra installation site. The RTN 380A can provide large-capacity backhaul microwave links or aggregation links on a mobile communications network or a private network.

- Up to 7.6 Gbit/s throughput
- Frequency: 71-76, 81-86 GHz
- Modulation: BPSK, QPSK, 8PSK, 16QAM, 32QAM, 64QAM, 128QAM, 256QAM, 512QAM
- Switching Capacity: 30 Gbit/s
- Channel Spacing: 62.5/125/250/500/750/1000 MHz
- Interface: 2*10GE(o), 1*GE (e) , 1*P&E, 1* USB, 1* RSSI/NMS, 1* antenna

RTN 320

RTN 320 is a highly integrated full-outdoor radio transmission product. All its modules are integrated into an outdoor unit that supports zero-footprint installation, providing enterprise with cost-effective full-outdoor radio solutions.

- Up to 2.4 Gbit/s throughput
- Frequency Bands: 7/8/11/13/15/18/23/26/28/32/38 GHz
- Modulation: QPSK Strong/QPSK/16QAM Strong/16QAM/32QAM/64QAM/128QAM/256QAM/512QAM/512QAM Light/1024QAM/1024QAM Light/2048QAM/4096QAM
- Switching Capacity: 8 Gbit/s
- Channel Spacing: 7/14/28/40/56/112 MHz
- Interface:2*GE(e), 1*GE (o) , 1* COMBO, 1*P&E, 1*IF, 1* NMS, 1* USB, 1* RSSI, 1* antenna

Unlicensed PMP Microwave

Huawei unlicensed PMP (Point to Multi-point) microwave RTN510 is a point to multi-point access and backhaul network product. All its modules are integrated into an outdoor unit that supports zero-footprint installation, free frequency band and LOS/NLOS transmission. In addition, it could be used in PMP and PTP scenarios.

- Frequency Bands: 4.91~5.97 GHz
- Modulation: Up to 256 QAM
- Channel Spacing: 10 | 20 | 40 | 80 MHz
- Throughput: AP 750Mpbs, RT 250Mbps
- Ports: AP 1 * GE (o), 1 * GE (e), 1 * GE (PoE), RT 1* GE (PoE)

RTN510 AP RTN510 RT

RTN510 Antennas

XMC-3

XMC-3 is microwave outdoor unit (ODU) with smaller size and lower consumption, it could work with any RTN 900 series IDU to be formed of split IP microwave system.

- Frequency Bands: 7/8/11/13/15/18/23/26/28/32/38 GHz
- Modulation: QPSK, 16 QAM, 64 QAM, 128 QAM, 256 QAM, 512 QAM, 1024 QAM, 2048 QAM, 4096 QAM
- Channel Spacing: 3.5/7/14/28/40/56/112 MHz
  -Rated Maximum Transit Power: 30 dBm (QPSK)
  -Rated Maximum Receive Power: -20 dBm (QPSK)

XMC-3W

XMC-3W is innovative wide-band microwave outdoor unit (ODU), the TR space and sub band are software tunable to simplify the deployment and planning. It could work with any RTN 900 series IDU to be formed of split IP microwave system.

- Frequency Bands: 7/8/13/15/18/23 GHz
- Modulation: QPSK, 16 QAM, 64 QAM, 128 QAM, 256 QAM, 512 QAM, 1024 QAM, 2048 QAM, 4096 QAM
- Channel Spacing: 3.5/7/14/28/40/56 MHz
  -Rated Maximum Transit Power: 29 dBm (QPSK)
  -Rated Maximum Receive Power: -20 dBm (QPSK)

XMC-3H

XMC-3H is microwave outdoor unit (ODU) with higher power, it could work with any RTN 900 series IDU to be formed of split IP microwave system.

- Frequency Bands: 23/28/38 GHz
- Modulation: QPSK, 16 QAM, 64 QAM, 128 QAM, 256 QAM, 512 QAM, 1024 QAM, 2048 QAM, 4096 QAM, 8192 QAM
- Channel Spacing: 3.5/7/14/28/40/56/112 MHz
  -Rated Maximum Transit Power: 28 dBm (QPSK)
  -Rated Maximum Receive Power: -20 dBm (QPSK)

XMC-2H

XMC-2H is microwave outdoor unit (ODU) with higher power, it could work with any RTN 900 series IDU to be formed of split IP microwave system.

- Frequency Bands: L6/U6/7/8/11 GHz
- Modulation: QPSK, 16 QAM, 64 QAM, 128 QAM, 256 QAM, 512 QAM, 1024 QAM
- Channel Spacing: 7/14/28/40/56 MHz
  -Rated Maximum Transit Power: 30.5 dBm (QPSK)
  -Rated Maximum Receive Power: -20 dBm (QPSK)

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03

Enterprise Cloud Communication

Cloud Enterprise Communication

Applications

EC3000

The EC3000 is a compact converged communication solution with two servers, which provides IP telephony, unified communications, and video conferencing. It is ideal for enterprises looking for more efficient communication and collaboration anywhere, anytime, on any device.

- High integration: 2 servers to provide IPT, united communications and video conference services
- Rich functions: IM, voice, video and other multimedia communication capabilities to meet the needs of enterprise communication and collaboration
- Simple and efficient: half-day installation and deployment, web configuration management, to realize quick business rollout

vMCU Suite

Huawei's virtual MCU (vMCU) brings all the video communications functions by integrating conference management, media processing, address book and firewall traversal functions in a single box. By connecting to endpoints and soft clients of any standard protocols, the system enables communication within and outside the organization.

- High integration: conference management, registration and traversal, MCU, and address book are deployed in a unified way
- Seamless collaboration: hardware terminal, soft client and browser access for various scenarios, converged with presentation and data
- Ease of use: SiteCall, one button to join a conference and URI call

SMC2.0

A next-generation videoconferencing service management system. It is designed to assist medium or large organizations with the management of their videoconferencing and telepresence assets.

- Hierarchical and role-based management of multiple users
- Efficient conference initiation, powerful conference control and monitoring functions
- Embedded gatekeeper and SIP server
- Provides firewall traversal function
- Third-party API integration

CloudECS

CloudECS (Cloud Enhanced Communications Suite) provides messaging and presence services for the Cloud Enterprise Communications (CloudEC) solution. It provides secure and diverse communication means in and outside enterprises, allowing users to enjoy efficient and borderless collaborative communication.

- Supports a maximum of 400,000 UC users
- Supports a maximum of 120,000 concurrent online mobile users
- Supports two-node deployment and remote disaster recovery

UMS

UMS (Unified Messaging System) allows users to access the UMS from a particular easy-to-access mailbox at any time, in any place, using any device to manage different messages (such as voice and fax messages). This simplifies the communications process.

- Supports voice and fax message sending and receiving through web
- Supports a maximum of 400 concurrent voice messages or 200 concurrent fax messages
- Supports two-node deployment and remote disaster recovery
- Supports TLS / SRTP, encrypted message data storage

RSE6500

Huawei RSE6500 is the world's most powerful recording server, which provides concurrent recordings, on-demand video streams and simultaneous live streams, up to 1080P60 HD video.

- Up to 30 simultaneous 1080P60 HD recordings, and 3-screen Telepresence recording
- Up to 5 live streams of 1080p 60fps/1080p 30fps HD dual stream
- Up to 2000 on-demand HD viewers, easy access with mobile WEB play based on HTML5
- High flexibility with local recording, network recording and third-party integration functionalities

eSight

Huawei eSight is a next-generation unified network management system (NMS) targeted at enterprises. The eSight can centrally monitor, configure, and manage multiple types of devices and terminals. Additionally, eSight can monitor and analyze the network and service quality in real time. This helps to centrally manage all EC resources, services, and users in enterprises.

- Supports a wide array of devices and NEs such as IP PBXs, IADs, IP phones, HD terminals and software NEs
- Supports local or remote and centralized or distributed management and maintenance
- Supports centralized configuration and automatic upgrade of IP phones
- Supports Simple Network Management Protocol (SNMP) northbound interfaces

Session Control

CloudUSM

CloudUSM (Cloud Unified Session Manager) is the core switching device of the Huawei Cloud Enterprise Communications (CloudEC) solution, functioning as a unified call control and media processing platform for voice, video, mobile application, and multimedia conferencing services.

- Supports a maximum of 400,000 IPT users
- User registration, call control, call routing and voice media resources
- Rich IP telephony services, such as automatic switchboard, attendant console and advanced secretary service
- Remote disaster recovery, highly reliable

SC

SC (SwitchCenter) is a firewall traversal server for seamless video communication and collaboration. It enables users within the Intranet, from the remote branches, and across the organization, or mobile users, to communicate seamlessly over the public network.

- Supports H.323/SIP dual stack protocols, Gatekeeper/SIP Server/SIP Proxy functions
- Powerful firewall traversal functions to meet customers'requirements across different networks
- Unified management, easy to maintain and use

Media Resources

Universal Transcoding MCU

VP9660

Cutting-edge, highest-capacity MCU features flexible port utilization and high scalability. Designed for CSP and large enterprises.

- Industry-leading MCU supporting 4K(3840×2160) universal transcoding provides an ultimate videoconferencing experience for paticipants.
- Scalable up to 512 HD ports with universal transcoding
- Standard-based and open: Supports H.323,SIP and convergence conference of Telepresence, HD/SD endpoints, mobile devices and audio endpoints
- H.264 SVC and SEC 3.0 ensure smooth videoconferences even if the packet loss is up to 20%

VP9650

High-capacity, cost-effective MCU with flexible port utilization and high scalability. Designed for large enterprises.

- Industry-leading MCU supporting 4K(3840×2160) universal transcoding provides an ultimate videoconferencing experience for paticipants.
- Scalable up to 192 ports with universal transcoding
- Standard-based and open: Supports H.323,SIP and convergence conference of Telepresence, HD/SD endpoints, mobile devices and audio endpoints
- H.264 SVC and SEC 3.0 ensure smooth videoconferences even if the packet loss is up to 20%

VP9630

Cost-effective, cutting-edge MCU with flexible port utilization. Designed for smalland medium-sized enterprises.

- Industry-leading MCU supporting 4K(3840×2160) universal transcoding provides an ultimate videoconferencing experience for paticipants.
- Scalable up to 64 ports with universal transcoding
- Standard-based and open: Supports H.323,SIP and convergence conference of Telepresence, HD/SD endpoints, mobile devices and audio endpoints
- H.264 SVC and SEC 3.0 ensure smooth videoconferences even if the packet loss is up to 20%

Virtualized MCU

CloudMCU

Huawei Virtualized MCU CloudMCU provides a powerful media-convergence platform for enterprise cloud communications.
The platform connects multiple endpoints within a room, as well as PCs and mobile phones. By integrating a variety of media streams, including video, audio and data, the Huawei CloudMCU achieves seamlessly unified communications and collaboration. The Huawei CloudMCU supports VMware and Huawei Fusion Sphere-based cloud deployment to implement conference resources with centralized management and flexible deployment. This scalable platform thus meets the cloud-enabled needs of all types of enterprises and service providers.

- Cloud-based deployment, easy to operate and maintain
- Full media access, easy interoperability
- Intelligent resource management
- Convenient and abundant service experience

Gateways

Unified Gateway U1900 Series

U1981

Huawei unified gateway U1981 is a core voice gateway with high capacity in the Huawei Cloud Enterprise Communications Solution. It works with Huawei IP terminals and UC applications to provide professional IP telephony (IPT) and UC services. U1981 supports up to 20,000 users, and it can be quickly deployed and easily maintained with the assistance of deployment and maintenance tools.

- Supports a maximum of 20,000 users and 24 E1 or T1 ports
- Provides a built-in voice mailbox, an audio conference bridge, and a web configuration tool that is easy to use
- Supports main control board and power module backup, dual-host redundancy, and local regeneration
- Supports multiple signaling and protocols such as SIP, PRI, SS7 (ISUP/TUP), R2, QSIG and BRI
- Supports local management and remote centralized management

U1960

Huawei unified gateway U1960 is a core voice gateway with medium-capacity in the Huawei Cloud Enterprise Communications Solution. It works with Huawei IP terminals and UC applications to provide professional IP telephony (IPT) and UC services. U1960 supports up to 1,000 users, and it can be quickly deployed and easily maintained with the assistance of deployment and maintenance tools.

- Supports a maximum of 1,000 users and 28 E1 or T1 ports
- Provides a built-in voice mailbox, an audio conference bridge, and a web configuration tool that is easy to use
- Deploys two AC or DC power modules in 1+1 redundancy mode
- Supports multiple signaling and protocols such as SIP, PRI, SS7 (ISUP/TUP), R2, QSIG and BRI
- Supports local management and remote centralized management

U1960

Huawei unified gateway U1911 is a core voice gateway with small-capacity in the Huawei Cloud Enterprise Communications Solution. It works with Huawei IP terminals and UC applications to provide professional IP telephony (IPT) and UC services. U1911 supports up to 100 users, and it can be quickly deployed and easily maintained with the assistance of deployment and maintenance tools.

- Supports a maximum of 100 users and 12 E1 or T1 ports
- Provides a built-in voice mailbox, an audio conference bridge, and a web configuration tool that is easy to use
- Supports multiple signaling and protocols such as SIP, PRI, SS7 (ISUP/TUP), R2, QSIG and BRI
- Supports local management and remote centralized management

IAD

Integrated Access Device (IAD) allows users in small and medium-sized branches of enterprises or SOHO users to remotely access IP PBXs to implement VoIP, fax over IP (FoIP), and data access services.

IAD104H

IAD196

IAD132E(T)

IAD1224

- Provides a series of products and diversified choices
  - IAD104H provides 4 FXS ports
  - IAD132E(T) provides two formats:16FXS and 32FXS
  - IAD196 can use multiple analog user interface boards that can provide 32 to 96 FXS ports
  - IAD1224 can use multiple analog user interface boards that can provide 32 to 224 FXS ports
- Allows an IAD to register with a next generation network (NGN), IP multimedia subsystem (IMS), or IP PBX, providing supplementary services
- Supports triple homing, local switch, and QoS policies, ensuring high reliability and excellent user experience
- Supports flexible deployment, simple maintenance, and centralized management through the eSight

SBC

Huawei SE1000-E600 is a new-generation SBC for enterprise communication. Using the Huawei RH1288 / RH2288 server platform, Huawei SE1000-E600 offers convenient, secure, and high-quality audio and video service experience. SE1000-E600 addresses the issues that are encountered, such as mobile office, branch interconnection, and security threats, during evolution to all IP. SE1000-E600 can also serve as Lync Gateway, which enables Huawei Video Conferencing system to interoperate with Microsoft's Lync / S4B / Office365.

SE1000-E600

WebRTC Gateway

WebRTC Gateway is a Huawei-developed gateway product that supports x86 architecture and virtualized deployment. With WebRTC Gateway, users can use a browser to access a video conference anonymously anytime and anywhere, making video conferencing more convenient.

Immersive Telepresence

MAX PRESENCE

Huawei launched the world's first HUAWEI MAX PRESENCE, which is designed for large- and medium-sized conference rooms. It delivers cinema-level conferencing experience with its ultra-wide panoramic display, and is integrated with videoconferencing, surveillance, and data information system, which provides a full view of the conference and assists decision-making.

- Broad field of view: 48:9 panoramic display, cinema-level conferencing experience
- Full integration: integration of conferencing, surveillance and data, multi-pane display to deliver a panoramic view and assist decision-making
- Powerful capability: the world's first 3x 1080p60 panoramic camera, the industry-leading three-in-one codec
- Ultra-HD resolution: The 10×70-inch screens to provide ultra-HD display
- Extensive display modes: reporting mode, panoramic mode, full-HD mode and integration mode

TP3206-55/TP3206-70

Huawei TP3206-55/70 are the new generation panoramic Telepresence with a brand new codec, panoramic camera and 55/70-inch display with ultra narrow bezel. It provides a panoramic view of the conference, which is an ideal option for the dedicated conference rooms.

- The new generation immersive Telepresence with Huawei patented panoramic camera
- The industry-leading Telepresence engine: three-in-one integrated codec, powerful encoding and decoding capability, ultra-low bandwidth, and resilience to packet loss
- 3×55/70-inch displays provide panoramic and ultra-HD experience
- 3×22-inch tabletop displays support 1080p 60fps HD content
- Supports up to six people for a video conference and ten people for a local conference
- Easy-to-use 10-inch PAD with GUI

TP3206-65

Huawei TP3206-65 is the new generation immersive Telepresence with a brand new codec, panoramic camera and 65-inch display system. It provides true-to-life dimensions of six participants, which is an ideal option for the dedicated conference rooms.

- The new generation immersive Telepresence with Huawei patented panoramic camera
- The industry-leading Telepresence engine: three-in-one integrated codec, powerful encoding and decoding capability, ultra-low bandwidth, and resilience to packet loss
- 3×65-inch displays provide life-size and ultra-HD experience
- 3×22-inch tabletop displays support 1080p 60fps HD content
- Supports up to six people for a video conference and ten people for a local conference
- Easy-to-use 10-inch PAD with GUI

Room Telepresence

RP100/RP200 Series

Flexible Telepresence systems save costs for different conference room setups.

- Flexible choice: 55/65-inch dual screens
- Flexible deployment: pedestal stand, pedestal stand with wheels
- 1080p HD video creates face-to-face video communication
- CD-quality audio with AAC-LD
- High quality with up to 20% of packet loss and low bandwidth requirement (1080p @ 512 k)
- Remote control or easy-to-use 10-inch PAD with GUI
- Automatically detects and tracks speakers (RP-T), and automatically switches between speaker close-ups and the full view of the conference room

Endpoints

HD Endpoints

HUAWEI CloudLink Board

Huawei CloudLink Board is a powerful intelligent collaborative conferencing system. Integrated with AI intelligent engine, it enables users to focus more on meeting content and enhances user conference experience through intelligent voice assistant, speaker automatic tracking and other new capabilities.

- 65 inch touchable screen
- Built-in 5K ultra HD camera
- H.265 transcoding capability
- Intelligent voice assistant
- Speaker automatic tracking
- Convenient wireless sharing

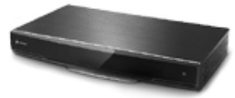
TE60

Flagship HD video conferencing endpoint with dual stream 1080p60, offering the largest array of audio/video interfaces and Wi-Fi connection with fully featured multi-view image sending, it brings lifelike experience to large integrated video conferences.

- p to H.264 1080p 50/60fps and dual stream 1080p 60fps
- VME2.0 + H.264 HP: 1080P@512Kbps, bandwidth 50%↓
- SEC 3.0 + H.264 SVC: Resilience to packet loss reaches 20%
- Voice dialing, triple view, VGA bypass, Air content sharing, USB auto configuration
- SiteCall, Integrated with Microsoft Lync 2013™/Skype for business, IMS convergence
- IPv6/IPv4, Wi-Fi access, up to 8Mbps, video interface: 7 in, 6 out
- AAC-LD, H.239 and BFCP, H.235 and AES encryption, H.460, WEB configuration
- Embedded MCU, support up to 9 videoconferencing sites and 3 audio sites

TE50

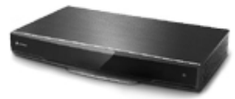
Professional full HD videoconferencing endpoint with dual stream 1080p60 for large- and medium-sized conferences.



- Up to H.264 1080p 50/60fps and dual stream 1080p 60fps
- VME2.0 + H.264 HP: 1080P@512Kbps, bandwidth 50%↓
- SEC 3.0 + H.264 SVC: Resilience to packet loss reaches 20%
- Voice dialing, triple view, VGA bypass, Air content sharing, USB auto configuration
- SiteCall, Integrated with Microsoft Lync 2013™/Skype for business, IMS convergence
- IPv6/IPv4, Wi-Fi access, up to 8Mbps, video interface: 5 in, 5 out
- AAC-LD, H.239 and BFCP, H.235 and AES encryption, H.460, WEB configuration
- Embedded MCU, support up to 6 videoconferencing sites and 3 audio sites

TE40

Commercial full HD videoconferencing endpoint with dual stream 1080p60 for small- and medium-sized conferences.



- Up to H.264 1080p 50/60fps and dual stream 1080p 60fps
- VME2.0 + H.264 HP: 1080P@512Kbps, bandwidth 50%↓
- SEC 3.0 + H.264 SVC: Resilience to packet loss reaches 20%
- Voice dialing, Dual view, VGA bypass, Air content sharing, USB auto configuration
- SiteCall, Integrated with Microsoft Lync 2013™/Skype for business, IMS convergence
- IPv6/IPv4, Wi-Fi access, up to 8Mbps, video interface: 3 in, 3 out
- AAC-LD, H.239 and BFCP, H.235 and AES encryption, H.460, WEB configuration
- Embedded MCU, support up to 6 videoconferencing sites and 3 audio sites

TE30

Cost-effective 3-in-1 HD videoconferencing endpoint; Easy to deploy and install in small-sized conference rooms.

- 3-in-1 design: codec, camera, microphone
- Up to 1080P30@512Kbps, 1080p dual stream
- Voice dialing, air content sharing, 20% of packet loss tolerated
- IPV6/IPV4, LAN/Wi-Fi access, Up to 4Mbps
- SiteCall, Integrated with Microsoft Lync 2013™/Skype for business, IMS convergence
- Embedded MCU, support up to 4 videoconferencing sites and 3 audio sites

TE20

This all-in-one HD videoconferencing endpoint combines innovative features and cost-effective design. It is an ideal choice for small- and medium-sized conference rooms.

- All-in-one: Built-in HD camera, codec, and microphone, iF Design Award 2016
- 5x/12x optical zoom camera with a maximum 80°wide-angle, 1080p HD video
- 6-meter voice pickup, AAC-LD wideband audio
- 720p 30fps dual HD stream,20% packet loss resiliency,1080P@512Kbps
- AirPresence Key/AirPresence for mobile presentation sharing, built-in 2.4G/5G dual-frequency Wi-Fi module
- Integrates with the mainstream VC platform, converge with IMS, and open API interfaces

Cloud Enterprise Communications

TE10

Huawei TE10 is an innovative cloud-based videoconferencing endpoint, which can connect to a wide range of cloud platforms. The TE10's compact design integrates the camera, codec, microphone, speaker, Bluetooth and Wi-Fi, and bracket. It adopts professional audio and video communications technologies and has impressive network adaptation capabilities. The TE10 is an optimal communications choice for huddle rooms and staff on business trips.

- Six-in-one design integrates a built-in camera, codec, microphone, speaker, Bluetooth and Wi-Fi, and bracket
- Interconnection with various third-party cloud platforms, such as BlueJeans, Zoom, Videxio, StarLeaf, Cloudtp and EICG
- AirPresence Key/AirPresence for mobile presentation sharing, built-in 2.4G/5G dual-frequency Wi-Fi module
- 720P video and 1080P presentation, 20% packet loss resiliency, 720P@384Kbps
- Abundant API interfaces, implementing flexible integration with third-party service platforms

Peripherals

Cameras

VPT300

Huawei VPT300 is an intelligent tracking appliance. Using professional voice positioning and image analysis technologies, Huawei VPT300 enables automatic tracking shooting of speakers and intelligent image adjustment without manual intervention. With Huawei VPT300, users can engage in more efficient meetings and have better video communication experience.

- Automatic voice tracking, intelligent facial detection
- Automatic speaker tracking, AutoFrame, P2P(Person-to-Person) conversation presence
- Simple installation, local and batch upgrades

VPC800

Coupled with Huawei video conferencing systems, VPC800 provides Ultra-HD video up to 4K resolution.

- Higher quality with 1/1.7-inch 12.4M effective pixels, 4K*2K 60fps Ultra-HD CMOS
- Environmental adaptability with enhanced AAA processing
- 12x optical plus 12x digital zoom, 80° viewing angle
- Inverse installation, setting button, OLED display
- One cable for power and signal with control and media
- 3G-SDI for extra-long video transmission

VPC620 / VPC600

Full-HD video camera works with Huawei HD Series endpoints to provide 1080p 60fps high-definition video.

- Higher quality with 1/2.8-inch 2.38M effective pixels, 1080p 60fps HD CMOS
- Environmental adaptability with enhanced AAA processing
- 12x optical plus 12x digital zoom, 72° viewing angle
- Inverse installation, setting button, OLED display
- One cable for power and signal with control and media
- 3G-SDI for extra-long video transmission (only for VPC620)

Microphones

VPM220W / VPM220

Microphone array works with Huawei TE series HD video endpoints to bring a brand-new audiovisual experience.

- Compact, elegant, low power consumption
- Plug-and-play
- Dual-channel audio, 6-meter pickup distance, 360o pickup angle
- Higher-quality audio with enhanced AAA technologies
- Built-in lithium battery lasts up to 8 hours on a single charge (only for VPM220W)
- Wireless connection (only for VPM220W)

AirPresence Key

Huawei AirPresence Key is an intelligent wireless sharing appliance that can be used with Huawei TEX0 video endpoints. When inserted into the computer's USB interface, the AirPresence Key enables wireless content sharing without any connection.

Personal Endpoints

Personal Video Systems

DP300

High-definition desktop videoconferencing endpoint with an elegant design for executive desktop communication.

- Dual 1080P60, 27-inch touch screen, can be used as VC endpoint /PC display
- Built-in camera with 80° viewing angle, Microphones and stereo loudspeakers
- Voice dialing,20% of packet loss tolerated,1080P30@512Kbps
- Embedded universal transcoding MCU, 4V(720P) +3A
- WIFI access, Bluetooth and document camera supported

IP Phones

Video Phone 8950

Huawei Video Phone 8950 is a smart, sleek video phone that integrates voice, video, and Unified Communications applications. It delivers more engaging communication and collaboration, with unmatched security, High Definition (HD) audio and video, simplicity, and smooth operation.

- 8-inch, IPS touch screen with 1,280 x 800-pixel high-resolution display
- two high-fidelity audio speakerphones, full-band voice codec with a sampling rate of 48 kHz
- 2-megapixel HD camera
- Android OS, supports Wi-Fi, Bluetooth, HDMI port

Cloud Enterprise Communications

IP Phone 7900 Series

IP Phone 7900 Series are full-featured multi-line phones that provide excellent user experience. They provide user-friendly interfaces (UIs) on a color LCD screen and support multiple lines of high-quality call services. This makes the IP Phone 7900 Series a good choice for enterprise employees.

- High-fidelity voice quality with the help of a high-quality handle, speaker, and headset
- Supports Opus audio codec, 20% packet loss resilience
- Dual GE network ports available for Power over Ethernet (PoE)
- Association with the eSpace Desktop
- The IP Phone 7960 supports Bluetooth

IP Phone 7920

IP Phone 7960

IP Phone 7960KEM

Clients

eSpace Desktop / eSpace Mobile

eSpace Desktop (desktop client) and eSpace Mobile (mobile client) are are two clients of Cloud Enterprise Communications Solution, delivering comprehensive and unified communications and collaboration experiences, anytime, anywhere.

- Instant messaging, group, presence, and corporate directory
- High-quality audio and video communication
- Effective audio and video, and web conferencing
- Progressive communications

eSpace Desktop

eSpace Mobile (iOS)

eSpace Mobile (Android)

SoftConsole

Secretaries or receptionists at front desks in enterprises usually receive a massive amount of incoming calls. The SoftConsole provides intuitive and simple operation and information query interfaces, which helps these personnel efficiently distribute calls.

- Incoming call query, automatic call distribution (ACD), and night service
- Multi-Call holding and call transfer (blind or consult transfer)
- Contact query in the corporate directory

Industry Communication

IPCC

Solutions

IPCC

- Supports access from multiple media channels, including voice, fax, email, and web. The Contacts Routing Server (CRS) routes requests from multiple media channels in a unified manner and allocates the requests to the most appropriate agent or Interactive Voice Response (IVR) flow.
- Provides a wide array of management components in Browser/Server (B/S) structure, including outbound calling system, realtime monitoring system, inspection system, and report system so that management personnel can monitor the running status of a contact center in real time.
- Provides an open platform that supports secondary development and service integration to deliver custom solutions through various interfaces.

Omni-Channel Banking

Huawei Omni-channel finance solution enables banks achieve Omni-channel banking and establish a unified customer service center， supporting multiple communication channels such as mobile phones, tablets, and PCs. It makes bank services closer and ubiquitous to customers and strengthens the relationship between banks and its customers.

Intelligent Contact Center

Huawei intelligent contact center solution is a "smarter" contact center solution, which seamlessly integrates AI technology to usage scenarios, enhancing customer experience, optimizing operational efficiency.

Government Public Service Hotline

- Government hotline is the portal for smart government
- Government hotline provides centralized public service platform. Along with the emergency platform, it is an important component of the effective city service system. The government hotline also plays an essential role in creating a future-oriented smart city to building an intelligent city management service platform
- Government hotline allows all government sectors to deal with the public's requirements in a centralized manner
- The hotline provides multiple means to serve the public through voice, video, Web, WAP, SMS/MMS, fax and emails. This is a transition to e-services, and creates good service experience for users, and improves public images of government sectors

Automatic Call Distribution

U2980

Huawei U2980 is an all-in-one ACD platform specifically designed for high-end large enterprise contact centers.Highly compact with PSTN /PLMN/ NGN/IMS oriented architecture, and integrated narrowband & broadband access platform facilitates the contact center integration, reduces time-to-market and cost per port. It adopts advanced carrier-grade hardware and software platform to ensure high availability and reliability of contact center solution.

USM

USM (Unified Session Manager) is a voice access platform for Huawei's Contact Center (IPCC) solution. With software-based design, it provides call access, agent phones and media resources for contact center with its strong and flexible networking capabilities.

- Support user registration, session control, service routing and voice media
- Global resource management and distribution
- IVR playback, recording, fax, TTS, ASR, outbound call detection enabled

Gateway

U1981

Huawei unified gateway U1981 is a core voice gateway with high capacity in the Huawei Cloud Enterprise Communications Solution. It works with Huawei IP terminals and UC applications to provide professional IP telephony (IPT) and UC services. U1981 supports up to 20,000 users, and it can be quickly deployed and easily maintained with the assistance of deployment and maintenance tools.

- Supports a maximum of 20,000 users and 24 E1 or T1 ports
- Provides a built-in voice mailbox, an audio conference bridge, and a web configuration tool that is easy to use
- Supports main control board and power module backup, dual-host redundancy, and local regeneration
- Supports multiple signaling and protocols such as SIP, PRI, SS7 (ISUP/TUP), R2, QSIG and BRI
- Supports local management and remote centralized management

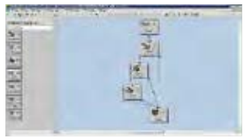
Platform

Contacts Routing Server

Intelligent routing platform is the core component in Huawei contact center solution. It supports unified routing for multimedia channels. The platform provides rich secondary development interface, and users can connect to contact center with multimedia as video call, email, website, fax, and social media. Enterprise can integrate contact center with their DB, CRM, or other applications.

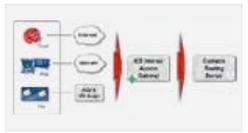
Automated Experience Portal

Automated experience portal is an Interactive Voice Portal. It can provide 7x24 hours service without agent. Through integration with application system, many incoming calls can be handled by IVR. This can reduce agent workload and agent amount.



Internet Customer Service

Internet has become an important role in daily life. To better meet the needs, Huawei contact center solution incorporates email, web and social media access through open interfaces, building a unified audio and multimedia contact center with consistent experience.



Proactive Outbound Platform

Traditional contact center is only in charge of inbound calls and used for service consultation and complaints. As the bridge between customers and enterprises, Huawei contact center provides more outbound capabilities including telephone marketing, service quality survey, etc.

Performance Optimization Management

- For contact center operation and management, how to let supervisor knows contact center real time situation quickly and rapidly is very important.
- This can let supervisor making rapid response for sudden situation. Huawei provides full series management suits, including voice call record, video call record, agent screen record, record retrieval, quality control, etc. All these products adopt B/S architecture, so it is very easy to use.

Endpoints

IP Phone 7900 Series

IP Phone 7900 Series are full-featured multi-line phones with excellent user experience. It provides a user-friendly user interface (UI) on a color LCD screen and supports multiple lines of high-quality call services, making it a good choice for enterprise employees.

IP Phone 7910

IP Phone 7950

QuickAgent

It is a built-in voice agent software that provides basic agent functions, including built-in telephone, announcements, and notes. It helps the solution deliver quickly, and also reduce the total cost of ownership.

Solutions

Converged Command & Control Center

Huawei converged command & control center solution is a professional system designed for addressing public security requirements. Focusing on public security command and dispatch, this solution provides an Integrated Communication Platform (ICP) for interconnecting with the industry's mainstream Computer Aided Dispatch (CAD) systems. By utilizing advanced technologies such as computer, communications, information network, and data management technologies, the ICP delivers enhanced security and administration for functions of the converged command & control center solution, including incident reception and handling, emergency command, communication across systems, converged consultation, and remote decision-making.

Emergency Command

This solution provides an Integrated Communication Platform (ICP) for interconnecting with the industry's mainstream Computer Aided Dispatch (CAD) systems.

The converged communications function enables resource dispatching between departments and across communications systems with just one click. No matter the network on which they are located, emergency response units collaborate with each other by voice or video call and make decisions jointly.

Applications

CAD

The system consists of six service systems, namely, CAD, multimedia dispatching, incident information analysis, contingency plan, mobile command, and GIS-based command platform systems. External systems are integrated into the ECS system through Huawei ICP. The external systems work with the GIS platform, wired communication system, video application platform, and the emergency resource integration and sharing platform to provide professional service support for service applications.

GIS

Provides unified acquisition, storage, management, calculation and analysis of the map data, and various resources are displayed at operators' disposal.

Recording Management

- For large-capacity recording, the system provides unified configuration and management of recording.
- Employs the encrypted documents using standard algorithm.
- Servers offer active/standby redundancy, and load balancing mechanism, which employs multi-level backup and storage of recording documents to ensure the integrity of recorded data.

Platform

Multi-channel Incident Reception

The incident reception module in the converged command system allows users to report alarms through multiple channels, such as voice or video call, email, SMS message, and mobile application. This module can also receive alarms triggered by the one-click fire alarm system, the video surveillance system, or the intelligent sensor, building up a comprehensive security system.

Integrated Voice Dispatch

Dispatchers often need to communicate with policemen on various kinds of networks, such as narrowband wireless trunking, broadband wireless trunking, PSTN, intranet, and dedicated conferencing networks. These networks support specific terminals, so dispatchers are forced to use a number of different terminals. However, with the converged communications function provided by the Huawei converged command & control center solution, dispatchers can use the same terminal to communicate with any person on any given network, greatly improving communication efficiency.

Unified Video Dispatch

Through the ICP, Huawei converged command & control center solution converges video offered by the CAD, video surveillance, Long Term Evolution (LTE), trunking dispatch, and consultation systems. Such a hyper converged video solution is unique in the industry. After this solution is deployed, operators at the command center can dispatch resources, view police status, observe onsite conditions, and push key video to onsite policemen, remote experts, and decision-makers. A panoramic view of the incident scene and visualized decision-making dramatically improve the command and execution efficiency.

MAX VDM

Centralized video push to the video wall

- Select video sources, including the surveillance, trunking, and videoconferencing systems.
- Then select a video wall and push the selected video sources to the video wall with just one click.

Video push to the video wall via CAD or GIS

- Dispatchers can select video sources and push them to a video wall with just one click in the GIS or CAD system.

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- Supports local management and remote centralized management

USM

USM (Unified Session Manager) is a voice access platform for Huawei's Integrated Communication Platform (ICP) solution. With software-based design, it provides call access, session control and media resources for converged command with its strong and flexible networking capabilities.

USM provides Interfaces for standard signaling and voice sites, and supports hybrid networking of narrowband and broadband cluster, including Tetra/eLTE for unified scheduling, command, and communication across networks and terminals.

Endpoints

ICP Console

ICP integrates voice, SMS, and video on an integrated console. The main functions include scheduling and monitoring modules.
Scheduling: voice, SMS, and video scheduling and scheduling history;
Monitoring: Wireless group monitoring, agent monitoring, and other supporting functions while monitoring.

Mobile Apps SDK for Video Alarm

Application Scenarios

- Video alarm App is especially designed for deaf or mute people so that the field video can be recorded and transmitted to the policemen.

Key Features

- Support for 720p
- Open APIs, Android and iOS compatible
- Voice and video recording and playback
- Incident allocation to specific call takers

Video Surveillance

Software-Defined Camera

"Software-defined Camera" is a new artificial intelligent camera launched by HUAWEI in 2018, with a brand new architecture, a new AI chip and a new NPU neural network engine, giving the camera a brand new vitality.

Face Checkpoint Cameras

Model	X1221-F 2MP Face Capture Box Camera	X1281-F 4K 4K Face Capture Box Camera	X1221-C 2MP Face Recognition Box Camera	X2221-FL 2MP Face Capture Softlight Bullet Camera	X2221-FLG 2MP Face Capture Softlight Bullet Camera
Apperance					
Image Sensor	1/1.8" 2.0 megapixel progressive scan CMOS	1/1.8" 8.0 megapixel progressive scan CMOS	1/1.8" 2.0 megapixel progressive scan CMOS	1/1.8" 2.0 megapixel progressive scan CMOS	1/1.8" 2.0 megapixel progressive scan CMOS
Maximum Image Resolution	1920x1080	3840×2160	1920x1080	1920x1080	1920x1080
Min. Illumination (lux)	Color: 0.002 B/W: 0.0002	Color: 0.01 B/W: 0.001	Color: 0.002 B/W: 0.0002	Color: 0.002 B/W: 0.0002	Color: 0.002 B/W: 0.0002
Focal length	3.8-16mm/12-50mm (Optional)	3.8-16mm/16-70mm(Optional)	3.8-16mm/12-50mm(Optional)	12-55mm	12-55mm
Illumination Range	Not Supported	Not Supported	Not Supported	Softlight 15m	Softlight 15m
Image Enhancement	3D DNR, AWB, HLC, BLC, EIS,120 dB WDR, Defog	3D DNR, AWB, HLC, BLC, EIS,120 dB WDR, Defog	3D DNR, AWB, HLC, BLC, EIS,120 dB WDR, Defog	3D DNR, AWB, HLC, BLC, EIS,120 dB WDR, Defog	3D DNR, AWB, HLC, BLC, EIS,120 dB WDR, Defog
Video Compression	H.265+/H.265/ H.264+/H.264	H.265+/H.265/ H.264+/H.264	H.265+/H.265/ H.264+/H.264	H.265+/H.265/ H.264+/H.264	H.265+/H.265/ H.264+/H.264
Face Detection	Supported	Supported	Supported	Supported	Supported
Face Attributes	Supported	Supported	Supported	Supported	Supported
Face Recognition & Comparing	Not Supported	Not Supported	Supported	Not Supported	Not Supported
Body Detection	Supported	Supported	Supported	Supported	Supported
Body Attributes	Supported	Supported	Supported	Supported	Supported
Satellite Positioning	Not Supported	Not Supported	Not Supported	Not Supported	GPS
Power Requirements	DC12V/AC24V PoE (802.3at)	DC12V/AC24V PoE (802.3at)	DC12V/AC24V PoE (802.3at)	AC24V, PoE (802.3bt)	AC24V, PoE (802.3bt)
Long Reach PoE	Not Supported	Not Supported	Not Supported	Supported	Supported
Fiber optic	Supported	Supported	Supported	Not Supported	Not Supported
Rating	6kV surge protection	6kV surge protection	6kV surge protection	IP67, IK10(except the lens window) 6kV surge protection	IP67, IK10(except the lens window) 6kV surge protection
Operating Temperature Range	-30°C ~ +60°C	-30°C ~ +60°C	-30°C ~ +60°C	-40°C ~ +60°C	-40°C ~ +60°C

Face Checkpoint Cameras

Model	X2261-FL 6MP Face Capture Softlight Bullet Camera	X2221-CL 2MP Face Recognition Softlight Bullet Camera	X3221-C 2MP Face Recognition IR Fixed Dome Camera	M1221-F 2MP Face Capture Box Camera	M2221-FL(8-32mm) 2MP Face Capture Softlight Bullet Camera
Apperance					
Image Sensor	1/1.8" 6.0 megapixel progressive scan CMOS	1/1.8" 2.0 megapixel progressive scan CMOS	1/1.8" 2.0 megapixel progressive scan CMOS	1/1.8" 2.0 megapixel progressive scan CMOS	1/1.8" 2.0 megapixel progressive scan CMOS
Maximum Image Resolution	3096x1760	1920x1080	1920x1080	1920x1080	1920x1080
Min. Illumination (lux)	Color: 0.009 B/W: 0.001	Color: 0.002 B/W: 0.0002	Color: 0.002 B/W: 0.0002	Color: 0.002 B/W: 0.0002	Color: 0.002 B/W: 0.0002
Focal length	12-55mm	12-55mm	8-32mm	3.8-16mm/12-50mm(Optional)	8-32mm
Illumination Range	Softlight 15m	Softlight 15m	IR, 15m	Not Supported	Softlight 15m
Image Enhancement	3D DNR, AWB, HLC, BLC, EIS,120 dB WDR, Defog	3D DNR, AWB, HLC, BLC, EIS,120 dB WDR, Defog	3D DNR, AWB, HLC, BLC, EIS,120 dB WDR, Defog	3D DNR, AWB, HLC, BLC, EIS,120 dB WDR, Defog	3D DNR, AWB, HLC, BLC, EIS,120 dB WDR, Defog
Video Compression	H.265+/H.265/ H.264+/H.264	H.265+/H.265/ H.264+/H.264	H.265+/H.265/ H.264+/H.264	H.265+/H.265/ H.264+/H.264	H.265+/H.265/ H.264+/H.264
Face Detection	Supported	Supported	Supported	Supported	Supported
Face Attributes	Supported	Supported	Not Supported	Not Supported	Not Supported
Face Recognition & Comparing	Not Supported	Supported	Not Supported	Not Supported	Not Supported
Body Detection	Supported	Supported	Not Supported	Not Supported	Not Supported
Body Attributes	Supported	Supported	Not Supported	Not Supported	Not Supported
Satellite Positioning	Not Supported	Not Supported	Not Supported	Not Supported	Not Supported
Power Requirements	AC24V, PoE (802.3bt)	AC24V, PoE (802.3bt)	DC12V/AC24V PoE (802.3at)	DC12V PoE (802.3at)	AC24V, PoE (802.3at)
Long Reach PoE	Supported	Supported	Supported	Not Supported	Supported
Fiber optic	Not Supported	Not Supported	Not Supported	Supported	Not Supported
Rating	IP67, IK10(except the lens window) 6kV surge protection	IP67, IK10(except the lens window) 6kV surge protection	IP67, IK10 6kV surge protection	6kV surge protection	IP67, IK10(except the lens window) 6kV surge protection
Operating Temperature Range	-40°C ~ +60°C	-40°C ~ +60°C	-40°C~50°C	-30°C ~ +60°C	-40°C ~ +60°C

Cloud Enterprise Communications

Vehicle Checkpoint Cameras

Model	X1221-V 2MP Vehicle Recognition Box Camera	X1281-V 4K 4K Vehicle Recognition Box Camera	X2221-VL 2MP Vehicle Recognition Bullet Camera
Apperance			
Image Sensor	1/1.8" 2.0 megapixel progressive scan CMOS	1/1.8" 8.0 megapixel progressive scan CMOS	1/1.8" 2.0 megapixel progressive scan CMOS
Maximum Image Resolution	1920x1080	3840×2160	1920x1080
Min. Illumination (lux)	Color: 0.002 B/W: 0.0002	Color: 0.01 B/W: 0.001	Color: 0.002 B/W: 0.0002
Focal length	3.8-16/12-50mm (Optional)	16-70mm (Optional)	12-55mm
Illumination Range	Not Supported	Not Supported	White light, 30m
Image Enhancement	3D DNR, AWB, HLC, BLC, EIS, 120 dB WDR, Defog	3D DNR, AWB, HLC, BLC, EIS, 120 dB WDR, Defog	3D DNR, AWB, HLC, BLC, EIS, 120 dB WDR, Defog
Video Compression	H.265+/H.265/ H.264+/H.264	H.265+/H.265/ H.264+/H.264	H.265+/H.265/ H.264+/H.264
Auto Number Plate Recognition (ANPR)	Supported(optional)	Supported(optional)	Supported(optional)
Long Reach PoE	Not Supported	Not Supported	Supported
Fiber optic	Supported	Supported	Not Supported
Power Requirements	DC12V/AC24V PoE (802.3at)	DC12V/AC24V PoE (802.3at)	AC24V, PoE (802.3bt)
Rating	6kV surge protection	6kV surge protection	IP67, IK10(except the lens window) 6kV surge protection
Operating Temperature Range	-30°C ~ +60°C	-30°C ~ +60°C	-40°C +60°C

Vehicle Checkpoint Cameras

Model	X2321-VG 2MP Vehicle Recognition Full spectrum Bullet Camera	X2381-VG 4K Vehicle Recognition Full spectrum Bullet Camera	X2331-CPI 3MP Vehicle Checkpoint All-in-one Camera
Apperance			
Image Sensor	1/1.8" 2.0 megapixel progressive scan CMOS	4/3" 10.0 megapixel progressive scan CMOS	1/1.8" 3.0 megapixel GS CMOS
Maximum Image Resolution	1920x1080	3648×2736	2048×1536
Min. Illumination (lux)	Color: 0.002 B/W: 0.0002	Color: 0.002 B/W: 0.0002	Color: 0.002
Focal length	12-55mm	12-84mm	11-40mm @F/1.6 max
Illumination Range	IR/White light, 30m	IR/White light, 30m	IR 30m
Image Enhancement	3D DNR, AWB, HLC, BLC, EIS, 120 dB WDR, Defog	3D DNR, AWB, HLC, BLC, EIS, 120 dB WDR, Defog	3D DNR, AWB, HLC, BLC, EIS, 120 dB WDR, Defog
Video Compression	H.265+/H.265/ H.264+/H.264	H.265+/H.265/ H.264+/H.264	H.265+/H.265/ H.264+/H.264
Auto Number Plate Recognition (ANPR)	Supported(optional)	Supported(optional)	Supported(optional)
Satellite Positioning	GPS	GPS	GPS
Fiber optic	Supported	Supported	Supported
Power Requirements	AC24V, PoE (802.3bt)	AC24V, PoE (802.3bt)	AC220V/AC110V
Rating	IP66, IK10(except the lens window) 6kV surge protection	IP66, IK10(except the lens window) 6kV surge protection	IP66, IK10(except the lens window) 6kV surge protection
Operating Temperature Range	-40°C+60°C	-40°C+60°C	-40°C ~ +60°C

Cloud Enterprise Communications

Situational Awareness Cameras

Model	X1221-Fb 2MP Ultra-Low Light Box Camera	X2221-I 2MP Ultra-Low Light IR Bullet Camera	X3221-I 2MP Ultra-Low Light IR Fixed Dome Camera	M2220-I 2MP Ultra-Low Light IR Bullet Camera
Apperance				
Image Sensor	1/1.8" 2.0 megapixel progressive scan CMOS	1/1.8" 2.0 megapixel progressive scan CMOS	1/1.8" 2.0 megapixel progressive scan CMOS	1/1.8" 2.0 megapixel progressive scan CMOS
Maximum Image Resolution	1920x1080	1920x1080	1920x1080	1920x1080
Min. Illumination (lux)	Color: 0.002 B/W: 0.0002	Color: 0.002 B/W: 0.0002	Color: 0.002 B/W: 0.0002	Color: 0.002 B/W: 0.0002
Focal length	3.8-16/12-50mm (Optional)	2.8-12mm	2.8-12mm	2.8-12mm
Illumination Range	Not Supported	IR, 50m	IR, 50m	IR, 50m
Image Enhancement	3D DNR, AWB, HLC, BLC, EIS, 120 dB WDR, Defog	3D DNR, AWB, HLC, BLC, EIS, 120 dB WDR, Defog	3D DNR, AWB, HLC, BLC, EIS, 120 dB WDR, Defog	3D DNR, AWB, HLC, BLC, EIS, 120 dB WDR, Defog
Video Compression	H.265+/H.265/ H.264+/H.264	H.265+/H.265/ H.264+/H.264	H.265+/H.265/ H.264+/H.264	H.265+/H.265/ H.264+/H.264
Behavioral Analysis kit	Supported	Supported	Supported	Supported
Length of queue detection	Supported	Supported	Supported	Not Supported
Crowd density detection	Supported	Supported	Supported	Not Supported
Long Reach PoE	Not Supported	Supported	Supported	Supported
Fiber optic	Supported	Not Supported	Not Supported	Not Supported
Power Requirements	DC12V/AC24V PoE (802.3at)	AC24V, PoE (802.3bt)	DC12V/AC24V PoE (802.3at)	DC12V PoE (802.3at)
Rating	6kV surge protection	IP67, IK10(except the lens window) 6kV surge protection	IP67, IK10 6kV surge protection	IP67, IK10(except the lens window) 6kV surge protection
Operating Temperature Range	-30°C ~ +60°C	-40°C ~ +60°C	-40°C ~ +60°C	-40°C ~ +60°C

Situational Awareness Cameras

Model	M1220 2MP Ultra-Low Light Box Camera	M2220-I 2MP Ultra-Low Light IR Bullet Camera	M2220-In 2MP Ultra-Low Light Invisible IR Bullet Camera
Apperance			
Image Sensor	1/1.8" 2.0 megapixel progressive scan CMOS	1/1.8" 2.0 megapixel progressive scan CMOS	1/1.8" 2.0 megapixel progressive scan CMOS
Maximum Image Resolution	1920x1080	1920x1080	1920x1080
Min. Illumination (lux)	Color: 0.002 B/W: 0.0002	Color: 0.002 B/W: 0.0002	Color: 0.002 B/W: 0.0002
Focal length	3.8-16/12-50mm (Optional)	2.8-12mm	8-32mm
Illumination Range	Not Supported	IR, 50m	Invisible IR, 100m
Image Enhancement	3D DNR, AWB, HLC, BLC, EIS, 120 dB WDR, Defog	3D DNR, AWB, HLC, BLC, EIS, 120 dB WDR, Defog	3D DNR, AWB, HLC, BLC, EIS, 120 dB WDR, Defog
Video Compression	H.265+/H.265/ H.264+/H.264	H.265+/H.265/ H.264+/H.264	H.265+/H.265/ H.264+/H.264
Behavioral Analysis kit	Supported	Supported	Supported
Length of queue detection	Not Supported	Not Supported	Not Supported
Crowd density detection	Not Supported	Not Supported	Not Supported
Long Reach PoE	Not Supported	Supported	Supported
Fiber optic	Not Supported	Not Supported	Not Supported
Power Requirements	DC12V/AC24V PoE (802.3af)	DC12V/AC24V PoE (802.3at)	DC12V/AC24V PoE (802.3at)
Rating	6kV surge protection	IP67,IK10(except the lens window) 6kV surge protection	IP67,IK10(except the lens window) 6kV surge protection
Operating Temperature Range	-30°C ~ +60°C	-40°C ~ +60°C	-40°C ~ +60°C

Cloud Enterprise Communications

Situational Awareness Cameras

Model	M2220-I(8-32mm) 2MP Ultra-Low Light IR Bullet Camera	M2260-I 6MP Low Light IR Bullet Camera	M2280-I 4K 4K Low Light IR Bullet Camera
Apperance			
Image Sensor	1/1.8" 2.0 megapixel progressive scan CMOS	1/1.8" 6.0 megapixel progressive scan CMOS	1/1.8" 8.0 megapixel progressive scan CMOS
Maximum Image Resolution	1920x1080	3096x1760	3840×2160
Min. Illumination (lux)	Color: 0.002 B/W: 0.0002	Color: 0.009 B/W: 0.001	Color: 0.01 B/W: 0.001
Focal length	8-32mm	2.8-12mm	2.8-12mm
Illumination Range	IR, 100m	IR, 50m	IR, 50m
Image Enhancement	3D DNR, AWB, HLC, BLC, EIS, 120 dB WDR, Defog	3D DNR, AWB, HLC, BLC, EIS, 120 dB WDR, Defog	3D DNR, AWB, HLC, BLC, EIS, 120 dB WDR, Defog
Video Compression	H.265+/H.265/ H.264+/H.264	H.265+/H.265/ H.264+/H.264	H.265+/H.265/ H.264+/H.264
Behavioral Analysis kit	Supported	Supported	Supported
Length of queue detection	Not Supported	Not Supported	Not Supported
Crowd density detection	Not Supported	Not Supported	Not Supported
Long Reach PoE	Supported	Supported	Supported
Power Requirements	DC12V/AC24V PoE (802.3at)	DC12V/AC24V PoE (802.3at)	DC12V/AC24V PoE (802.3at)
Rating	IP67, IK10(except the lens window) 6kV surge protection	IP67, IK10(except the lens window) 6kV surge protection	IP67, IK10(except the lens window) 6kV surge protection
Operating Temperature Range	-40°C ~ +60°C	-40°C ~ +60°C	-40°C ~ +60°C

Situational Awareness Cameras

Model	X6981-Z20 4K 4K 20x Ultra-Low Light IR PTZ Dome Camera	X6921-Z48 2MP 48x Low Light Laser PTZ Dome Camera	X6721-Z37 2MP 37x Ultra-Low Light IR PTZ Dome Camera	X6721-GZ37 4K 2MP 37x Ultra-Low Light IR PTZ Dome Camera
Apperance				
Image Sensor	4/3" 10.0 megapixel progressive scan CMOS	1/1.8" 2.0 megapixel progressive scan CMOS	1/1.8" 2.0 megapixel progressive scan CMOS	1/1.8" 2.0 megapixel progressive scan CMOS
Maximum Image Resolution	3648×2736	1920x1080	1920x1080	1920x1080
Min. Illumination (lux)	Color: 0.003 B/W: 0.0003	Color: 0.002 B/W: 0.0002	Color: 0.002 B/W: 0.0002	Color: 0.002 B/W: 0.0002
Optical Zoom	20x	48x	37x	37x
Focal length	14~280mm @F/1.8~5.0	6.25-300mm @F/1.4~4.6	5.6-208mm @F/1.5~4.8	5.6-208mm @F/1.5~4.8
Pan Range	0°~ 360°	0°~ 360°	0°~ 360°	0°~ 360°
Tilt Range	–20°~ +90°	–20°~ +90°	–20°~ +90°	–20°~ +90°
IR Range	IR 200m	Laser 500m	IR 200m	IR 200m
Image Enhancement	3D DNR, AWB, HLC, BLC, EIS, 120 dB WDR, Optical Defog	3D DNR, AWB, HLC, BLC, EIS, 120 dB WDR, Defog	3D DNR, AWB, HLC, BLC, EIS, 120 dB WDR, Optical Defog	3D DNR, AWB, HLC, BLC, EIS, 120 dB WDR, Optical Defog
Video Compression	H.265+/H.265/ H.264+/H.264	H.265+/H.265/ H.264+/H.265	H.265+/H.265/ H.264+/H.266	H.265+/H.265/ H.264+/H.267
Behavioral Analysis kit	Supported	Supported	Supported	Supported
3D Positioning/ Smart Tracking	Supported/Supported	Supported/Supported	Supported/Supported	Supported/Supported
Length of queue detection	Supported	Supported	Supported	Supported
Crowd density detection	Supported	Supported	Supported	Supported
Satellite Positioning	Not Supported	Not Supported	Not Supported	Supported
E-compass	Supported	Supported	Supported	Supported
Power Requirements	AC24V, PoE (802.3bt)	AC24V, PoE (802.3bt)	AC24V	AC24V, PoE (802.3bt)
Rating	IP66, IK10(except the lens window) 6kV surge protection	IP66, IK10(except the lens window) 6kV surge protection	IP66, IK10(except the lens window) 6kV surge protection	IP66, IK10(except the lens window) 6kV surge protection
Operating Temperature Range	-40°C ~ +60°C	-40°C ~ +60°C	-40°C ~ +60°C	-40°C ~ +60°C

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Situational Awareness Cameras

Model	X6781-Z37 4K 37x Low Light IR PTZ Dome Camera	X6621-Z30 2MP 30x Low Light PTZ Dome Camera	M6721-Z31 2MP 31x Ultra-Low Light IR PTZ Dome Camera	M6721-InFbZ23 2MP 23x Ultra-Low Light Invisible IR PTZ Dome Camera
Apperance	coming soon	coming soon		
Image Sensor	1/1.8" 2.0 megapixel progressive scan CMOS	1/2.8" 2.0 megapixel progressive scan CMOS	1/1.8" 2.0 megapixel progressive scan CMOS	1/1.8" 2.0 megapixel progressive scan CMOS
Maximum Image Resolution	3840×2160	1920x1080	1920x1080	1920x1080
Min. Illumination (lux)	Color: 0.01 B/W: 0.001	Color: 0.001 B/W: 0.0005	Color: 0.002 B/W: 0.0002	Color: 0.002 B/W: 0.0002
Optical Zoom	37x	30x	31x	23x
Focal length	5.6-208mm @F/1.5~4.8	5-150mm @F/1.3~4.6	6-186mm @F/1.5~4.8	5.9~135.7mm @F/1.5~3.4
Pan Range	0°~ 360°	0°~ 360°	0°~ 360°	0°~ 360°
Tilt Range	–20°~ +90°	–20°~ +90°	–20°~ +90°	–20°~ +90°
IR Range	IR 200m	Not Supported	IR 200m	Invisible IR 150m
Image Enhancement	3D DNR, AWB, HLC, BLC, EIS, 120 dB WDR, Optical Defog	3D DNR, AWB, HLC, BLC, EIS, 120 dB WDR, Defog	3D DNR, AWB, HLC, BLC, EIS, 120 dB WDR, Optical Defog	3D DNR, AWB, HLC, BLC, EIS, 120 dB WDR, Defog
Video Compression	H.265+/H.265/ H.264+/H.266	H.265+/H.265/ H.264+/H.264	H.265+/H.265/ H.264+/H.266	H.265+/H.265/ H.264+/H.266
Behavioral Analysis kit	Supported	Supported	Supported	Supported
3D Positioning/ Smart Tracking	Supported/Supported	Supported/Supported	Supported/Supported	Supported/Supported
Length of queue detection	Supported	Supported	Not Supported	Not Supported
Crowd density detection	Supported	Supported	Not Supported	Not Supported
Satellite Positioning	Not Supported	Not Supported	Not Supported	Not Supported
E-compass	Supported	Not Supported	Supported	Supported
Power Requirements	AC24V	AC24V, PoE (802.3bt)	AC24V	AC24V
Rating	IP66, IK10(except the lens window) 6kV surge protection	IP66, IK10(except the lens window) 6kV surge protection	IP66, IK10(except the lens window) 6kV surge protection	IP66, IK10(except the lens window) 6kV surge protection
Operating Temperature Range	-40°C ~ +60°C	-40°C ~ +55°C	-40°C ~ +60°C	-40°C ~ +60°C

Situational Awareness Cameras

Model	IPC6125-WDL-D 2 MP Starlight Box Network Cameras	IPC6125-WDL-P 2 MP Starlight Box Network Cameras	IPC6125-WDL-FA 2 MP Starlight Box Network Cameras	IPC6126-WDL 2 MP Ultra-starlight Box Network Camera	IPC6126-WDL-F 2 MP Ultra-starlight Box Network Cameras for Face Snapshot
Apperance					
Image sensor	1/2.8" 2.0-megapixel progressive scan CMOS	1/2.8" 2.0-megapixel progressive scan CMOS	1/2.8" 2.0-megapixel progressive scan CMOS	1/1.8" 2.0-megapixel progressive scan CMOS	1/1.8" 2.0-megapixel progressive scan CMOS
Maximum resolution	1920(H) x 1080(V)	1920(H) x 1080(V)	1920(H) x 1080(V)	1920(H) x 1080(V)	1920(H) x 1080(V)
Minimum illumination (color or B/W)	Color: 0.005 lux B/W: 0.002 lu	Color: 0.005 lux B/W: 0.002 lux	Color: 0.002 lux B/W: 0.001 lux	Color: 0.005 lux B/W: 0.0025 lux	Color: 0.005 lux BB/W: 0.0025 lux
Wide dynamic range (WDR)	120 dB	120 dB	120 dB	120 dB	120 dB
Intelligent analysis	Cross line detection, loitering detection, intrusion detection, abandoned object detection, removed object detection, object color identification, pedestrian and vehicle classification, motion detection, and tampering detection	Cross line detection, loitering detection, intrusion detection, abandoned object detection, removed object detection, object color identification, pedestrian and vehicle classification, motion detection,and tampering detection	Cross line detection, loitering detection, intrusion detection, abandoned object detection, removed object detection, object color identification, pedestrian and vehicle classification, motion detection, and tampering detection	Face detection, fast-moving object detection, abandoned object detection, removed object detection, cross line detection, intrusion detection, area enter/exit detection, loitering detection, pedestrian/vehicle/ article separation, color identification, audio existence detection, abrupt audio increase or decrease detection, motion detection, tampering detection, scene change detection, and defocus detection	Professional face detection, intelligent facial image snapshot, motion detection, tampering detection scene change detection, defocus detection, abrupt audio increase or decrease detection, and audio existence detection
Power	12 VDC (+/- 25%), 24 VAC (+/- 25%)	12 VDC (+/- 25%), PoE	12 VDC (+/- 25%), 24 VAC (+/- 25%), PoE	12 VDC (+/- 25%), 24 VAC (+/- 25%), PoE	12 VDC (+/- 25%), 24 VAC (+/- 25%), PoE
Surge protection	6 kV surge protection	6 kV surge protection	6 kV surge protection	6 kV surge protection	6 kV surge protection
Operating temperature	`-20°C ~ +60°C	`-20°C ~ +60°C	`-20°C ~ +60°C	`-20°C ~ +60°C	`-20°C ~ +60°C

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Situational Awareness Cameras

Model	IPC6285-VRZ 4K Ultra-HD Starlight Integrated Cameras	IPC6284-VRZ 4K Ultra-HD Infrared Bullet Cameras	IPC6256-VRZ 5MP Network IR Bullet Camera	IPC6225-VRZ 2 MP Starlight Infrared Bullet Cameras	IPC6225-VRZ-SP 2 MP Starlight Infrared Bullet Cameras
Apperance					
Image sensor	4/3" 10.0-megapixel progressive scan CMOS	1/2.5" 8.0-megapixel progressive scan CMOS	1/2.7" 5.0 megapixel progressive scan CMOS	1/2.8" 2.0-megapixel progressive scan CMOS	1/2.8" 2.0-megapixel progressive scan CMOS
Maximum resolution	3648(H) x 2736(V), 3840(H) x 2160(V)	3840(H) x 2160(V)	2560(H)×1920(V)	1920(H) x 1080(V)	1920(H) x 1080(V)
Minimum illumination (color or B/W)	Color: 0.008 lux B/W: 0.008 lux	Color: 0.08 lux B/W: 0.08 lux	Color: 0.005lux B/W : 0.001lux	Color: 0.008 lux B/W: 0.002 lux	Color: 0.008 lux B/W: 0.002 lux
Focal length	12 to 84 mm	4.1 to 12.8 mm	2.8-12mm	2.8 to 12 mm	2.8 to 12 mm
Intelligent analysis	An infrared radiation distance of 120 meters	An infrared radiation distance of 30 meters	An infrared radiation distance of 50 meters	An infrared radiation distance of 50 meters	Invisible infrared radiation distance of 30 meters
Wide dynamic range (WDR)	120 dB	120 dB	120 dB	120 dB	120 dB
Intelligent analysis	Face detection, fast-moving object detection, abandoned object detection, removed object detection, cross line detection, intrusion detection, area enter/ exit detection, loitering detection, pedestrian/ vehicle/ article separation, color identification, audio existence detection, abrupt audio increase or decrease detection, motion detection, tampering detection, scene change detection, and defocus detection	Face detection, fast-moving object detection, abandoned object detection, removed object detection, cross line detection, intrusion detection, area enter/exit detection, loitering detection, pedestrian/vehicle/ article separation, color identification, audio existence detection, abrupt audio increase or decrease detection, motion detection, tampering detection, scene change detection, and defocus detection	Fast-moving object detection, abandoned object detection, removed object detection, cross line detection, intrusion detection, area enter/ exit detection, loitering detection	Cross line detection, loitering detection, intrusion detection, abandoned object detection, removed object detection, object color identification, pedestrian and vehicle classification, motion detection, and tampering detection	Cross line detection, loitering detection, intrusion detection, abandoned object detection, removed object detection, object color identification, pedestrian and vehicle classification, motion detection, and tampering detection
Power	24 VAC (+/- 25%), oE++	12 VDC (+/- 25%), PoE	DC12V ± 25%, PoE(IEEE 802.3at)	12 VDC (+/- 25%), 24 VAC (+/- 25%), PoE	12 VDC (+/- 25%), 24 VAC (+/- 25%), PoE
IP rating/vandal proof protection/ surge protection	IP66 rating IK10 vandal proof protection (except the lens window) 10 kV surge protection	IP67 rating IK10 vandal proof protection (except the lens window) 6 kV surge protection	IP67 rating IK10 vandal proof protection (except the lens window) 6 kV surge protection	IP66 rating IK10 vandal proof protection (except the lens window) 6 kV surge protection	IP66 rating IK10 vandal proof protection (except the lens window) 6 kV surge protection
Operating temperature	-40°C ~ +60°C	-40°C ~ +60°C	-40°C ~ +60°C	-40°C ~ +60°C	-40°C ~ +60°C

Situational Awareness Cameras

Model	IPC6225-VRZ-ES 2 MP Starlight Infrared Bullet Cameras	IPC6225-VRZ(7-22 mm) 2 MP Starlight Infrared Bullet Cameras	IPC6224-IR 2 MP Infrared Bullet Cameras	IPC6224-VRZ 2 MP Infrared Bullet Cameras
Apperance				
Image sensor	1/2.8" 2.0-megapixel progressive scan CMOS	1/2.8" 2.0-megapixel progressive scan CMOS	1/2.7" 2.1-megapixel progressive scan CMOS	1/2.7" 2.1-megapixel progressive scan CMOS
Maximum resolution	1920(H) x 1080(V)	1920(H) x 1080(V)	1920(H) x 1080(V)	1920(H) x 1080(V)
Minimum illumination (color or B/W)	Color: 0.036 lux B/W: 0.024 lux	Color: 0.036 lux B/W: 0.024 lux	Color: 0.005 lux B/W: 0.003 lux	Color: 0.005 lux B/W: 0.003 lux
Focal length	7 to 22 mm	7 to 22 mm	3.6 mm, 6.0 mm, or 12 mm prime lens	2.8 to 12 mm
Intelligent analysis	An infrared radiation distance of 80 meters	An infrared radiation distance of 80 meters	An infrared radiation distance: 3.6 mm focal length:10 m 6.0 mm focal length:15 m 12 mm focal length:20 m	An infrared radiation distance of 30 meters
Wide dynamic range (WDR)	120 dB	120 dB	120 dB	120 dB
Intelligent analysis	Cross line detection, loitering detection, intrusion detection, abandoned object detection, removed object detection, object color identification, pedestrian and vehicle classification, motion detection, and tampering detection	Cross line detection, loitering detection, intrusion detection, abandoned object detection, removed object detection, object color identification, pedestrian and vehicle classification, motion detection, and tampering detection	Motion detection and tampering detection	Motion detection and tampering detection
Power	12 VDC (+/- 25%), 24 VAC (+/- 25%), PoE	12 VDC (+/- 25%), 24 VAC (+/- 25%), PoE	12 VDC (+/- 25%), PoE	12 VDC (+/- 25%), PoE
IP rating/vandal proof protection/ surge protection	IP66 rating IK10 vandal proof protection (except the lens window) 6 kV surge protection	IP66 rating IK10 vandal proof protection (except the lens window) 6 kV surge protection	IP66 rating 6 kV surge protection	IP66 rating 6 kV surge protection
Operating temperature	-40°C ~ +60°C	-40°C ~ +60°C	-30°C ~ +60°C	-30°C ~ +60°C

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Situational Awareness Cameras

Model	IPC6385-VRZ 4K Ultra-HD Infrared Fixed Dome Cameras	IPC6355-VRZ 5MP Network IR Dome Camera	IPC6325-WD-VRZ 2 MP Starlight Infrared Fixed Dome Cameras	IPC6325-WD-VFZ 2 MP Starlight Fixed Dome Cameras
Apperance				
Image sensor	1/2.5" 8.0-megapixel progressive scan CMOS	1/2.7" 5.0 megapixel progressive scan CMOS	1/2.8" 2.0-megapixel progressive scan CMOS	1/2.8" 2.0-megapixel progressive scan CMOS
Maximum resolution	3840(H) x 2160(V)	2560(H)×1920(V)	1920(H) x 1080(V)	1920(H) x 1080(V)
Minimum illumination (color or B/W)	Color: 0.08 lux B/W: 0.08 lux	Color: 0.005 Lux B/W: 0.001 Lux	Color: 0.02 lux B/W: 0.012 lux	Color: 0.02 lux B/W: 0.012 lux
Focal length	4.1 to 12.8 mm	2.8-12mm	2.8 to 12 mm	2.8 to 12 mm
Intelligent analysis	An infrared radiation distance of 30 meters	An infrared radiation distance of 50 meters	An infrared radiation distance of 30 meters	Not Supported
Wide dynamic range (WDR)	120 dB	120 dB	120 dB	120 dB
Intelligent analysis	Face detection, fast-moving object detection, abandoned object detection, removed object detection, cross line detection, intrusion detection, area enter/ exit detection, loitering detection, pedestrian/ vehicle/ article separation, color identification, audio existence detection, abrupt audio increase or decrease detection, motion detection, tampering detection, scene change detection, and defocus detection	Fast-moving object detection, abandoned object detection, removed object detection, cross line detection, intrusion detection, area enter/exit detection, loitering detection.	Cross line detection, loitering detection, intrusion detection, abandoned object detection, removed object detection, object color identification, pedestrian and vehicle classification, motion detection, and tampering detection	Cross line detection, loitering detection, intrusion detection, abandoned object detection, removed object detection, object color identification, pedestrian and vehicle classification, motion detection, and tampering detection
Power	12 VDC (+/- 25%), 24 VAC (+/- 25%), PoE	DC12V±25%, PoE(IEEE 802.3at)	12 VDC (+/- 25%), 24 VAC (+/- 25%), PoE	12 VDC (+/- 25%), 24 VAC (+/- 25%), PoE
IP rating/vandal proof protection/ surge protection	IP67 rating IK10 vandal proof protection 6 kV surge protection	IP67 rating IK10 vandal proof protection 4 kV surge protection	IP66 rating IK10 vandal proof protection 4 kV surge protection	IP66 rating IK10 vandal proof protection 4 kV surge protection
Operating temperature	-40°C ~ +60°C	-30°C ~ +60°C	-30°C ~ +60°C	-30°C ~ +60°C

Situational Awareness Cameras

Model	IPC6325-WD-VR 2 MP Infrared Fixed Dome Cameras	IPC6325-WD-VF 2 MP Fixed Dome Cameras	IPC6324-MIR 2 MP Infrared Mini Fixed Dome Cameras	IPC6324-MIF 2 MP Mini Fixed Dome Cameras
Apperance				
Image sensor	1/2.7" 2.1-megapixel progressive scan CMOS	1/2.7" 2.1-megapixel progressive scan CMOS	1/2.7" 2.1-megapixel progressive scan CMOS	1/2.7" 2.1-megapixel progressive scan CMOS
Maximum resolution	1920(H) x 1080(V)	1920(H) x 1080(V)	1920(H) x 1080(V)	1920(H) x 1080(V)
Minimum illumination (color or B/W)	Color: 0.01 lux B/W: 0.004 lux	Color: 0.01 lux B/W: 0.004 lux	Color: 0.01 lux B/W: 0.005 lux	Color: 0.01 lux B/W: 0.005 lux
Focal length	2.8 to 12 mm	2.8 to 12 mm	2.8 mm, 3.6 mm, or 6.0 mm prime lens	2.8 mm, 3.6 mm, or 6.0 mm prime lens
Intelligent analysis	An infrared radiation distance of 30 meters	Not Supported	An infrared radiation distance: 2.8 mm focal length: 6 m 3.6 mm focal length: 8 m 6 mm focal length: 10 m	Not Supported
Wide dynamic range (WDR)	120 dB	120 dB	120 dB	120 dB
Intelligent analysis	Cross line detection, loitering detection, intrusion detection, abandoned object detection, removed object detection, object color identification, pedestrian and vehicle classification, motion detection, and tampering detection	Cross line detection, loitering detection, intrusion detection, abandoned object detection, removed object detection, object color identification, pedestrian and vehicle classification, motion detection, and tampering detection	Motion detection and tampering detection	Motion detection and tampering detection
Power	12 VDC (+/- 25%), 24 VAC (+/- 25%),PoE	12 VDC (+/- 25%), 24 VAC (+/- 25%), PoE	12 VDC (+/- 25%), PoE	12 VDC (+/- 25%), PoE
IP rating/vandal proof protection/ surge protection	IP66 rating IK10 vandal proof protection 4 kV surge protection	IP66 rating IK10 vandal proof protection 4 kV surge protection	IP20 rating IK10 vandal proof protection 4 kV surge protection	IP20 rating IK10 vandal proof protection 4 kV surge protection
Operating temperature	-30°C ~ +60°C	-30°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C

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Situational Awareness Cameras

Model	IPC6681-Z20 4K 4K 4K Ultra-HD Starlight IR PTZ Cameras	IPC6525-Z30 2 MP Starlight PTZ Cameras	IPC6525-Z30-S 2 MP Starlight PTZ Cameras
Apperance			
Image sensor	4/3" 10.0-megapixel progressive scan CMOS	1/2.8" 2.0-megapixel progressive scan CMOS	1/2.8" 2.0-megapixel progressive scan CMOS
Maximum resolution	3648(H) x 2736(V), 3840(H) x 2160(V)	1920(H) x 1080(V)	1920(H) x 1080(V)
Minimum illumination (color or B/W)	Color: 0.012 lux B/W: 0.012 lux	Color: 0.01 lux B/W: 0.001 lux	Color: 0.031 lux B/W: 0.0019 lux
Focal length	14 to 280 mm	4.5 to 135 mm	4.5 to 135 mm
Intelligent analysis	An infrared radiation distance of 200 meters	An infrared radiation distance of 150 meters	N/A
Wide dynamic range (WDR)	120 dB	120 dB	120 dB
Intelligent analysis	Face detection, fast-moving object detection, abandoned object detection, removed object detection, cross line detection, intrusion detection, area enter/exit detection, loitering detection, pedestrian/vehicle/ article separation, color identification, audio existence detection, abrupt audio increase or decrease detection, motion detection, tampering detection, scene change detection, and defocus detection	Cross line detection, loitering detection, intrusion detection, abandoned object detection, removed object detection, object color identification, pedestrian and vehicle classification, motion detection, and tampering detection	Motion detection and tampering detection
Power	24 VAC (+/- 25%), 36 VDC (+/- 30%), 48 VDC (+/- 25%), PoE++	24 VAC (+/- 25%), PoE	24 VAC (+/- 25%), PoE
IP rating/vandal proof protection/ surge protection	IP66 rating IK10 vandal proof protection (except the lens window) 10 kV surge protection	IP66 rating IK10 vandal proof protection (except the lens window) 6 kV surge protection	IP66 rating IK10 vandal proof protection (except the lens window) 6 kV surge protection
Operating temperature	-40°C ~ +60°C	-40°C ~ +60°C	-40°C ~ +60°C

Situational Awareness Cameras

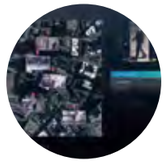
Model	IPC6625-Z30 2 MP Starlight Infrared PTZ Cameras	IPC6625-Z30-P 2 MP Starlight infrared PTZ Cameras	IPC6625-Z30-S 2 MP Starlight infrared PTZ Cameras
Apperance			
Image sensor	1/2.8" 2.0-megapixel progressive scan CMOS	1/2.8" 2.0-megapixel progressive scan CMOS	1/2.8" 2.0-megapixel progressive scan CMOS
Maximum resolution	1920(H) x 1080(V)	1920(H) x 1080(V)	1920(H) x 1080(V)
Minimum illumination (color or B/W)	Color: 0.002 lux B/W: 0.001 lux	Color: 0.024 lux B/W: 0.0019 lux	Color: 0.024 lux B/W: 0.0019 lux
Focal length	4.5 to 135 mm	4.5 to 135 mm	4.5 to 135 mm
Intelligent analysis	N/A	An infrared radiation distance of 150 meters	An infrared radiation distance of 150 meters
Wide dynamic range (WDR)	120 dB	120 dB	120 dB
Intelligent analysis	Cross line detection, loitering detection, intrusion detection, abandoned object detection, removed object detection, object color identification, pedestrian and vehicle classification, motion detection, and tampering detection	Cross line detection, loitering detection, intrusion detection, abandoned object detection, removed object detection, object color identification, pedestrian and vehicle classification, motion detection, and ampering detection	Motion detection and tampering detection
Power	24 VAC (+/- 25%)	PoE++	24 VAC (+/- 25%)
IP rating/vandal proof protection/ surge protection	IP66 rating IK10 vandal proof protection (except the lens window) 6 kV surge protection	IP66 rating IK10 vandal proof protection (except the lens window) 6 kV surge protection	IP66 rating IK10 vandal proof protection (except the lens window) 6 kV surge protection
Operating temperature	-40°C ~ +60°C	-40°C ~ +60°C	-40°C ~ +60°C

Cloud Enterprise Communications

Cloud Video Surveillance Solution

Huawei CloudIVS video surveillance solution builds a unified, open video surveillance cloud platform using the core technologies such as cloud computing, cloud storage and Big Data, which is applicable to large- and medium-scale Safe City application scenarios. It provides users with large-capacity, high concurrent video access, storage, forwarding, analysis, and retrieval. It builds an algorithm and application ecosystem by decoupling software from hardware and algorithms from applications. It provides a unified API interface for the development of upper-layer applications and conveys the intelligent value for the user.

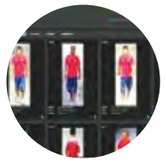
Facial feature recognition



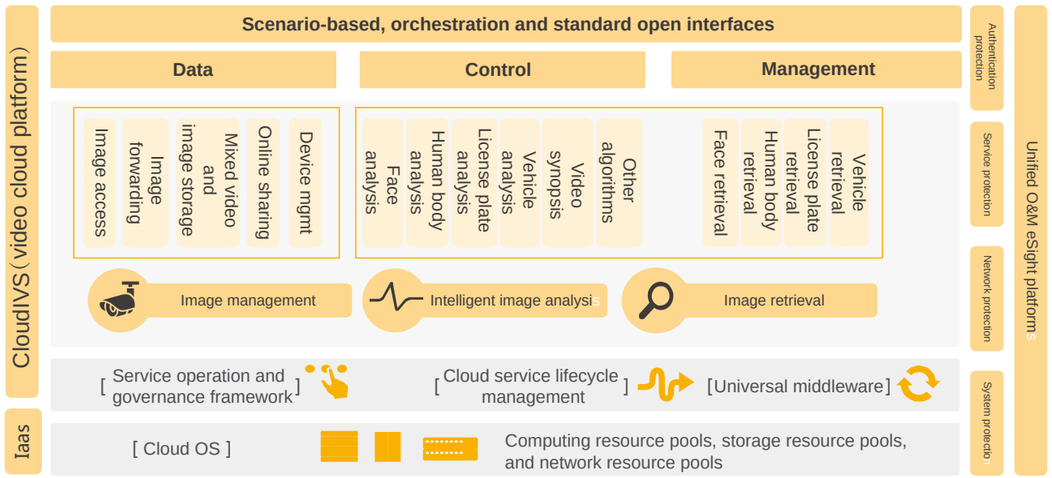
Human body feature recognition

Vehicle recognition

License plate recognition



Reverse image search



Platform service component

Multiple-algorithm framework
Face, human body, and vehicle algorithms can be reused in the same hardware resource pool, maximizing the resource utilization rate.

Ultra-speed retrieval and surveillance deployment
Uses a distributed cluster that supports 100B-level data search in seconds.

Open ecosystems
Algorithms and applications are decoupled.
Algorithms can be flexibly replaced for rapid evolution.
Applications remain unchanged to conform to users' habits.
Unified APIs use the RESTful interface for easy integration.

Cloud-based system architecture

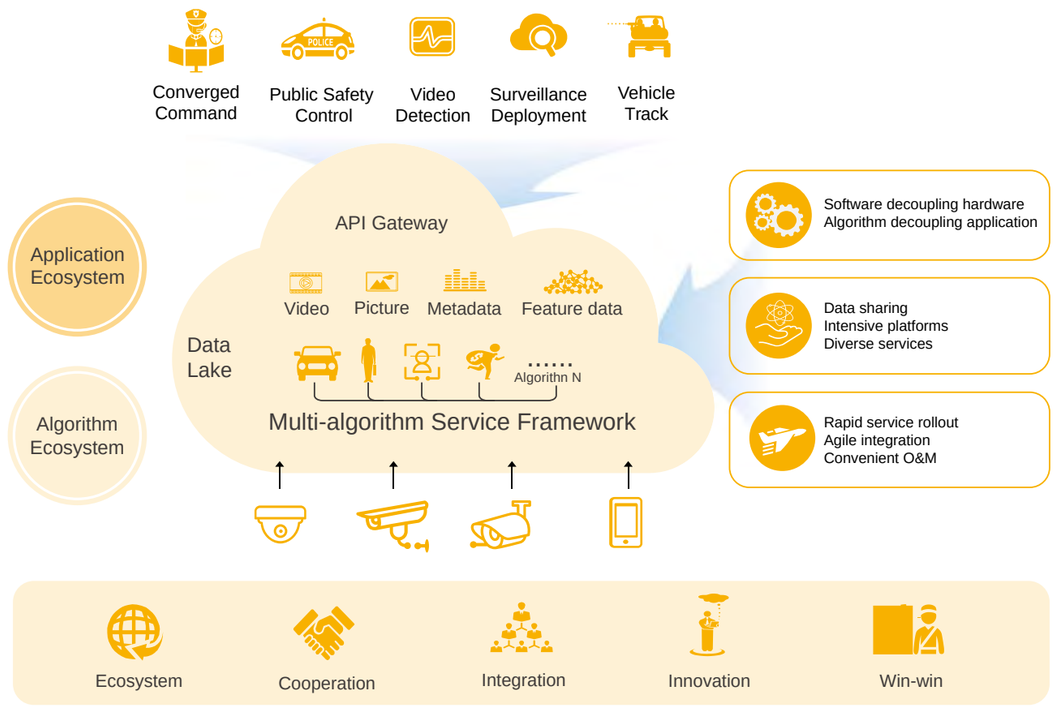
Hardware resource pooling
On-demand resource scheduling, maximizing the resource utilization rate.
Hardware has been standardized, reducing types of spare parts and costs.Ultra-speed retrieval and surveillance deployment Uses a distributed cluster that supports 100B-level data search in seconds.

Distributed software
Distributed software, supporting a large number of systems.
Distributed database, supporting quick search.

Automatic deployment
Automated network planning and design, reducing the deployment time and labor cost, and ensuring rapid service rollout.

Unified O&M
Centralized O&M at the front-end IPC, network layer, hardware resource layer and service layer.
Visualized video fault demarcation and locating, saving O&M costs.

Security & Reliability
Internal and external network planes are isolated to prevent network attacks.
Supports full service migration upon a node fault, ensuring service continuity.



Video Cloud Node

Based on industrial needs for video surveillance, the VCN integrates Huawei' s intelligent video surveillance platforms and purpose-built storage products. It is widely applied in Safe Cities, traffic surveillance, campus security and etc. It provides intelligent video surveillance services such as real-time surveillance, video forwarding, live video backup, video playback, PTZ control and action with alarm.

Video Cloud Node

Model	VCN510-8	VCN510-8P	VCN510-16	VCN510-16P	VCN510-16PD
Apperance					
Video access	A maximum of 8 PU access channels and 128 Mbit/s access bandwidth	A maximum of 8 PU access channels and 128 Mbit/s access bandwidth	A maximum of 16 PU access channels and 256 Mbit/s access bandwidth	A maximum of 16 PU access channels and 256 Mbit/s access bandwidth	A maximum of 16 PU access channels and 256 Mbit/s access bandwidth
Decoding performance	Supports video decoding at 1-channel 4K, 8-channel 1080p or 16-channel 720p	Supportsvideo decoding at 1-channel 4K, 8-channel 1080p or 16-channel 720p	Supportsvideo decoding at 2-channel 4K, 8-channel 1080p or 16-channel 720p	Supports video decoding at 2-channel 4K, 8-channel 1080p or 16-channel 720p	Supports video decoding at 2-channel 4K, 8-channel 1080p or 16-channel 720p
Number of hard disks	2	2	2	2	2
RAID level	Metadata: RAID1; Video data: RAID1, SafeVideo+	Metadata: RAID1; Video data: RAID1, SafeVideo+	Metadata: RAID1; Video data: RAID1, SafeVideo+	Metadata: RAID1; Video data: RAID1, SafeVideo+	Metadata: RAID1; Video data: RAID1, SafeVideo+
Network port	Two 10/100/1000 Mbit/s Ethernet ports	One 10/100/1000 Mbit/s Ethernet port + eight 10/100 Mbit/s Ethernet ports (4*POE+, 4*POE++)	Two 10/100/1000 Mbit/s Ethernet ports	One 10/100/1000 Mbit/s Ethernet port +eight 10/100 Mbit/s Ethernet ports (4*POE+,4*POE++)	One 10/100/1000 Mbit/s Ethernet port +eight 10/100 Mbit/s Ethernet ports (4*POE+,4*POE++)
HDMI/VGA port	One HDMI 2.0 output port, one VGA output port	One HDMI 2.0 output port, one VGA output port	One HDMI 2.0 output port, one VGA output port	One HDMI 2.0 output port, one VGA output port	One HDMI 2.0 output port, one VGA output port
Power	100-240 VAC, 50/60 HZ, single power supply	100-240 VAC, 50/60 HZ, single power supply	100-240 VAC, 50/60 HZ, single power supply	100-240 VAC, 50/60 HZ, single power supply	`-50~ -56 VDC, single power supply
Power consumption (including disks)	<60 W	<60 W (excluding PoE)	<60 W	<60 W (excluding PoE)	<60 W (excluding PoE)
Dimensions (W x D x H) Unit:mm (excluding mounting ears)	442 x 310 x 43.6	442 x 310 x 43.6	442 x 310 x 43.6	442 x 310 x 43.6	442 x 310 x 43.6

Video Cloud Node

Model	VCN520-32	VCN540-64	VCN3010	VCN3020
Apperance				
Video access	A maximum of 32 PU access channels and 320 Mbit/s access bandwidth	A maximum of 64 PU access channels and 320 Mbit/s access bandwidth	A maximum of 256 PU access channels and 512 Mbit/s access bandwidth	A maximum of 512 PU access channels and 1024 Mbit/s access bandwidth
Decoding performance	Supportsvideo decoding at 2-channel 4K,8-channel 1080p or 16-channel 720p	Supports video decoding at 2-channel 4K, 8-channel 1080p or 16-channel 720p	/	/
Number of hard disks	4	8	40 (including 2 independent metadata disks)	40 (including 2 independent metadata disks)
RAID level	Metadata: RAID1; Video data: RAID5, SafeVideo+	Metadata: RAID1; Video data: RAID5, SafeVideo+	Metadata: RAID1; Video data: RAID5, SafeVideo+	Metadata: RAID1; Video data: RAID5, SafeVideo+
Network port	Two 10/100/1000 Mbit/s Ethernet ports	Two 10/100/1000 Mbit/s Ethernet ports	Four 10/100/1000 Mbit/s service ports, one 10/100/1000 Mbit/s management port	Four 10/100/1000 Mbit/s service ports, one 10/100/1000 Mbit/s management port, two 10GE service ports (optional network adapters)
HDMI/VGA port	One HDMI 2.0 output port, one VGA output port	One HDMI 2.0 output port, one HDMI 1.4 output port, and one VGA output port	One VGA	One VGA
Power	100-240 VAC, 50/60 HZ, single power supply	100-240 VAC, 50/60 HZ, single power supply	100-240 VAC, platinum PSUs in 1+1 redundancy mode and hot-swappable.	100-240 VAC, platinum PSUs in 1+1 redundancy mode and hot-swappable.
Power consumption (including disks)	<100 W	<150 W	<700 W	<700 W
Dimensions (W x D x H) Unit:mm (excluding mounting ears)	442 x 420 x 86.1	442 x 420 x 86.1	447 x 748 x 175	447 x 748 x 175

Video Content Management Platform

Based on Huawei' s industry-leading technologies of intelligent image processing and Big Data analytics, the VCM platform is
a video Big Data analytics platform that provides diversified structured algorithms and high-performance hardware. It improves the efficiency of video investigation, enhances the capability of service collaboration, and helps the police to crack cases.

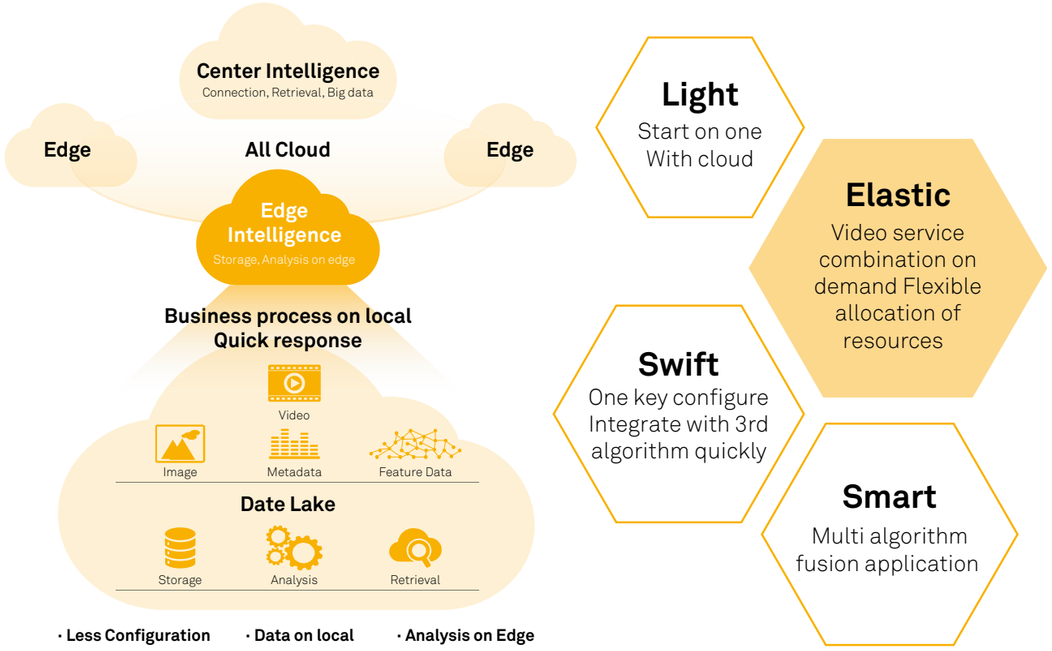
VCM5010 video content management platform (3U)

- 4 service boards, 2 switch boards
- Dimensions (H x W x D): 130.5 mm x 442 mm x 675 mm
- Weight in fu ll co nfiguration ≤ 4 9.8 kg , ra ted power 2000 W
- Certification: FCC, RCM, MET, CE, IC, VCCI, SONCAP, SASO, and type inspection of Ministry of Public Security of China

VCM5020 video content management platform (14U)

- 20 service boards, 2 switch boards
- Dimensions (H x W x D): 618.5 mm x 442 mm x 675 mm
- Weight in full configuration ≤ 227 kg, rated power 10500 W
- Certification: FCC, RCM, MET, CE, IC, VCCI, SONCAP, SASO, and type inspection of Ministry of Public Security of China

CloudIVS Lite



CloudIVS Lite Product Family

Model	CloudIVS 3000S	CloudIVS 3000SC	CloudIVS 3000SCR	CloudIVS 3000C	CloudIVS 3000R
Appearance					
Video access	A maximum of 512access channels and 2048Mbps access bandwidth	A maximum of 512access channels and 2048Mbps access bandwidth	A maximum of 512access channels and 2048Mbps access bandwidth	/	/
Hard Disks	40*10T SATA	36*10T SATA	36*10T SATA2*1.8T SAS	12*4T SATA	6*1.6T NVME6*1.8T SAS
Raid	Metadata: RAID1 Video data:RAID5, SafeVideo+	Metadata: RAID1 Video data:RAID5, SafeVideo+	Metadata: RAID1 Video data:RAID5, SafeVideo+	Metadata: RAID1 Video data:RAID5, SafeVideo+	Metadata: RAID1
Analysis	/	64 channels video face recognitionor 400 image face recognitionor 64 channels video body recognition	64 channels video face recognitionor 400 image face recognitionor 64 channels video body recognition	21 channels video plate recognitionor 42 channels video video synopsisor 42 channels video video searchor 42 channels video behaviors analysis	/
P4 Card	/	4	4	4	/
Retrieval	Find target in 3s among 50million structured data	/	Find target in 3s among 40million face picsFind target in 3s among 5million body picsFind target in 3s among 80million structured data	Find target in 3s among 80million structured data	Find target in 3s among 270million face picsFind target in 3s among 33million body picsFind target in 3s among 270million structured data
Network port	2*GE + 2*10GE	2*GE + 2*10GE	2*GE + 2*10GE	2*GE + 2*10GE	2*GE + 2*10GE
Power	AC 100-240V, platinumPSUs in 1+1 redundancymode and hot-swappable	AC 100-240V, platinumPSUs in 1+1 redundancymode and hot-swappable	AC 100-240V, platinumPSUs in 1+1 redundancymode and hot-swappable	AC 100-240V, platinumPSUs in 1+1 redundancymode and hot-swappable	AC 100-240V, platinumPSUs in 1+1 redundancymode and hot-swappable
Dimensions (W *D*H) Unit: mm	447*748*175	447*748*175	447*748*175	447*748*86.1	447*708*86.1

166 eLTE Broadband Trunking
172 eLTE Industry Wireless Network
176 GSM-R

04

Enterprise Wireless

eLTE Broadband Trunking

Application

eCNS280

The eLTE core network adopts a standard Huawei NFV architecture, eCNS280 integrates several LTE standard network elements, such as the MME, HSS, S-GW, P-GW, PCRF into one box. The space-saving, easy-to-deploy OSTA5.0 is used as the infrastructure, meeting reliability requirements for large-capacity customer services.

- Maximum subscribers: 200,000
- Maximum eNodeBs: 2,500
- Maximum throughput: 15 Gbit/s
- Maximum groups: 20,000
- Dimension (H x W x D): 130.5 mm x 442.0 mm x 675.0 mm

eSE620X vESS

The eLTE core network adopts a standard Huawei NFV architecture, eSE620X vESS integrates BMSC and MCE into one box to support eMBMS and MCPTT (together with eCore9300). The space-saving, easy-to-deploy OSTA5.0 is used as the infrastructure, meeting reliability requirements for large-capacity customer services.

- Maximum eNodeBs: 3,000
- Maximum groups: 1,000
- Dimension (H x W x D): 130.5 mm x 442.0 mm x 675.0 mm

eSCN230

The core network integrate is a professional LTE core network with only 2U height. It integrates function of MME, S-GW/ P-GW, HSS and professional Trunking.

- Maximum subscribers: 8,000
- Maximum eNodeBs: 100
- Maximum throughput: 2 Gbit/s
- Maximum groups: 512
- Dimension (H x W x D): 86mm x 442mm x 310mm

eCore9300

The eLTE core network adopts a standard Huawei NFV architecture, eCore9300 integrates LTE standard network elements, such as the MME, HSS, S-GW, P-GW, PCRF into one boxe. The space-saving, easy-to-deploy OSTA5.0 is used as the infrastructure, meeting reliability requirements for large-capacity customer services.

- Maximum subscribers: 200,000
- Maximum eNodeBs: 3,000
- Maximum throughput: 48 Gbit/s
- Maximum groups: 4,000
- Dimension (H x W x D): 130.5 mm x 442.0 mm x 675.0 mm

DBS3900

The DBS3900 is an eLTE distributed base station. It compose of two basic modules: BBU and RRU, which can be flexibly deployed to meet with diversified deployment requirements in different scenario.

- Frequency:
- TDD 400M/1.4G/1.8G/2.3G/2.6G/3.5GHz
- FDD 450M/700M/800MHz/850M
- Bandwidth: 3M/5M/10M/20MHz
- Dimensions: BBU 86*442*310mm, RRU 480*270*140mm(Typical)
- Weight: BBU<12KG, RRU<21KG(Typical)
- One BBU supports 12 RRUs(FDD)/18RRUs(TDD)
- Installation method: mounted on tower/on pole/against wall/
- on rooftop

eLTE Rapid

The Rapid System integrates the functions provided by a base station, core network, and dispatching system and features a compact structure, applicable to a fast and temporary deployment scenarios.

- Frequency: TDD 400M/1.8GHz, FDD 700M/450MHz
- Maximum users: 500
- Dimensions: Main box 559mm*568mm*286mm Radio unit box 559mm*568mm*286mm

EP820

The EP820 broadband-trunking handset meets today's requirements with a 4.5-inch large touch screen and use of the Android operating system. Along with a rich array of Android-based applications, the EP820 supports voice, video, and data in one network and switches flexibly between private and public networks.

- Frequency:TDD 400M/1.4G/1.8G/2.3G/2.6G/3.5GHz FDD 800MHz
- Dimensions : (H)161mm*(W)80mm*(D)28.2mm(Without antenna)
- Weight: 450g(including the battery)
- Screen size: 2.0 inch
- Camera: EP680 Rear camera: 13 megapixels Front camera: 5 megapixels
- Protection level: IP67
- Shock proof: MIL-STD-810G
- Working temperature: -20~60°C
- WLAN: Wi-Fi 802.11 b/g/n
- DMO

EP821

The EP821 broadband-trunking handset meets today's requirements with a 5-inch large touch screen and use of the Android operating system. Along with a rich array of Android-based applications, the EP820 supports voice, video, and data in one network and switches flexibly between private and public networks.

- Frequency: TDD1.4G/1/8G Others: Band 20/26/28/68
- Dimensions : (H)161mm*(W)*75mm*(D)21mm(Withoutantenna)
- Weight: 350g(including the battery)
- Screen size: 5 inch
- Camera: Rear camera: 12 megapixels Front camera: 8 megapixels
- Ingress protection rating: IP68
- Working temperature: -10~55°C
- WLAN: Wi-Fi 802.11 b/g/n
- DMO

EP720

The EP720 is the first lightweight large-screen terminal developed by Huawei. It targets police personnel in headquarters, and can function as a public network terminal as well as an enterprise network terminal.Developed on the Android 6.0, the lightweight EP720 features a water-, dust-, and shock-resistant large screen. Wearing a 5.2-inch HD touchscreen

- Frequency: 1.4G: TDD 1.4G/1.8GHz Others: Band20/26/28
- Dimensions: 159.2(H)*76.4mm(W)*14(D)mm
- Weight: 230g(including the battery)
- Screen size: 5.2 inch
- Camera: Rear camera: 12 megapixels
- Front camera: 8 megapixels
- Protection level: IP67
- Working temperature: -20~60°C
- WLAN: Wi-Fi 802.11 b/g/n
- DMO, Location based service with embedded GPS

EP681

The EP681 is a portable high-end broadband trunking terminal that provides powerful functions, including private calls, group calls, SMS and MMS, broadband data access, video dispatching, and concurrent transmission of multiple services.
It can be widely used in industries of public security, energy, and transport industry, providing professional trunking dispatching, multimedia dispatching, and broadband data transmission functions.

- Frequency: TDD 400M/1.4G/1.8G/2.3G/3.5GHz
- FDD 700M/800MHz
- Dimensions : (H)137.5mm*(W)58mm*(D)35mm(Without antenna)
- Weight: 400g(including the battery)
- Screen size: 2.0 inch
- Camera: Rear camera: 13 megapixels
- Front camera: 5 megapixels
- Protection level: IP67
- Shock proof: MIL-STD-810F
- Working temperature: -20~55°C
- WLAN: Wi-Fi 802.11 b/g/n
- DMO, Location based service with embedded GPS

EP682

The EP682 is now a flagship product for the eLTE broadband trunking solutions. Being an upgrade version of the EP681 and EP63X, the EP682 is targeted for frontline trunking voices. The EP682 is more portable and is easier to carry than the EP681. It supports full-band access and public network functions. Compared with the EP631S, the EP682 has extra front and rear cameras, a digital keyboard, and three-fold resistance.

- Frequency: TDD 400M/1.4G/1.8G Others: Band 20/26/28
- Dimensions: 139mm(H)*59mm(W)*30mm(D)(Without antenna)
- Weight: 305g(including the battery)
- Screen size: 2.0 inch
- Camera: Rear 12 megapixels
- Front camera: 8 megapixels
- Protection level: IP68
- Working temperature: -20~60°C
- WLAN: Wi-Fi 802.11 b/g/n
- DMO, Location based service with embedded GPS

EP631S

EP631S is a portable low-and-medium end broadband trunking terminal that provides professional voice trunking services and plays a significant role in the professional communications field.
It can be widely used in industries of public security, energy, and transport industries in daily life or in case of unexpected events. The EP631S provides quick access of calls, highquality voice, and strong noise-proof performance, and supports private calls, group calls and emergency calls, etc.

- Frequency: EP631S GSM/UMTS/LTE TDD/LTE FDD
- Dimensions : 139x58x29mm
- Weight: <292g(including the battery)
- Screen size: 2.0 inch
- Ingress protection rating: IP65
- Shock proof: MIL-STD-810F
- WLAN: Wi-Fi 802.11 b/g/n
- DMO, Location based service with embedded GPS

EV751

EV751 is an integrated vehicle-mounted station for broadband trunking services on enterprise networks. It supports P2P calls, group calls, DMO, SMS, MMS, broadband data access, smart apps, interconnection with vehicle-mounted cameras, and multi-service concurrency.

- Frequency: TDD 400M/1.4G/1.8GHz Others: Band 20/26/28/31
- Screen: 5 inch
- Shock proof: ETSI 300 019-1-5 class 5M3
- Protection level: IP54
- WLAN: Wi-Fi 802.11 b/g/n
- Support attached camera
- DMO, Location based service with embedded GPS

EG860

EG860 is an outdoor CPE for broadband access to eLTE networks, transmits various data acquired from sensors and video to eLTE broadband trunking network by network ports and WIFI access.

- Frequency: TDD 400M/1.4G/1.8GHz FDD 800MHz
- Dimensions : (H)240mm*(W)200mm*(D)60mm
- Weight: <2000g(with out power adapter)
- Ingress protection rating: IP65
- Working temperature: -40~60°C
- Power: POE or DC 24V
- WLAN: Wi-Fi 802.11b/g/n

eOMC910

The eOMC910 is an integrated network management system for managing NEs (including broadband access terminals) and devices on enterprise wireless networks.

- Topology Management
- Configuration Management
- Performance Management
- Fault Management, etc.

U2000

The iManager U2000 centrally manages Huawei mobile network elements (NEs), including LTE/EPC NEs, IP Clock Server. The U2000 adopts a modular design that allows the modules to communicate with one another through the CORBA bus. In addition, the U2000 provides mediation for connecting various types of NEs.

- Topology Management
- Configuration Management
- Performance Management
- Fault Management, etc.

eAPP610

Features and highlights:
Dispatches multimedia services, including voice, data, and video.
Interconnects with the customers' legacy systems or external public networks (through gateways).
Connects with third-party operation systems (through open interfaces).
Manages users and devices.
Ensures high reliability through geographical redundancy.
Achieves smooth, high scalability through different sizes, types, and amounts of hardware.

- Maximum Number of registered (online) users: 100,000
- Maximum number of concurrent services: 4,000
- Dimensions (H x W x D): 86.1 mm × 447 mm × 708 mm

eLTE Industry Wireless Network

eSE620X vESS

The eSE620X vESS (Enterprise Service System) is a major part of Huawei's eLTE industry communication system. The eSE620X vESS is used in two networking, trunking networking and video multicast networking.
The eSE620X vESS serves as BMSC (Broadcast Multicast Service Center) and MCE (Multi-cell/multicast Coordination Entity) to provide multicast services.

eSE6203 vESS as BMSC:
- Maximum number of sessions for trunking: 1,000
- Maximum number of sessions for video multicast: 200

eSE6203 vESS as MCE:
- Maximum number of sessions: 1,000
- Maximum number of the eNodeB access: 3,000

eCore

By using a virtualization platform, Huawei eCore solution can support a series of hardware and integrate multiple core network NEs. Flexible configurations are offered to meet different service requirements in different scenarios.

eCore9300:
Supported subscriber quantity: 200,000
Throughput: 48Gbps
eNodeB quantity: 3,000
eMBMS group quantity: 4,000
eCore9100:
Supported subscriber quantity: 10,000
Throughput: 5Gbps
eNodeB quantity: 100

U2000

The iManager U2000 centrally manages Huawei mobile network elements (NEs), including LTE/EPC NEs, IP Clock Server. The U2000 adopts a modular design that allows the modules to communicate with one another through the CORBA bus. In addition, the U2000 provides mediation for connecting various types of NEs.

- Topology Management
- Configuration Management
- Performance Management
- Fault Management, etc.

eSE6201 veLTE-IoT

As the core aggregation node of the eLTE-IoT solution for Internet of Things (IoT) networks, the eSE6201 eLTE-IoT provides the following functions to enable enterprises to develop secure IoT networks using unlicensed frequencies

Number of Subscribers: 200,000
Number of AirNodes: 2,000
Dimensions: 130.5 x 442.0 x 675.0 mm

DBS3900

The DBS3900 is an eLTE distributed base station. It compose of two basic modules: BBU and RRU, which can be flexibly deployed to meet with diversified deployment requirements in different scenario.

- Frequency: TDD 1.8G/2.3G/2.6GHz FDD 450M/700M/800M/1.9GHz/AWS
- Bandwidth: 3M/5M/10M/20MHz
- Dimensions: BBU 86*42*310mm, RRU 480*270*140mm
- Weight: BBU<12KG, RRU<21KG
- One BBU supports 12 RRUs(FDD)/18RRUs(TDD)
- Installation method: mounted on tower/on pole/against wall/on rooftop

eAN3710A

eAN3710A are the enterprise wireless IoT (eLTE-IoT).
eAN3710A is outdoor Airnode. They can be flexibly deployed to meet with diversified deployment requirements in different scenario.

- Frequency: ISM spectrum
- Power: POE
- Dimensions: 290mm*210mm*60mm
- Protection lever: IP65

eAN3810A

eAN3810A is an AirNode, LTE access base station, at 2.4/5.8G unlicensed frequency.
eAN3810A is outdoor Airnode. They can be flexibly deployed to meet with diversified deployment requirements in different scenario.

- 5.4/5.8GHz unlicensed spectrum
- Power: POE
- Dimensions: 290mm*210mm*60mm
- Protection lever: IP65
- Supports 2-carrier for Multi-link to ensure stable connections

eAN9810A

eAN9810A is an AirEdge, LTE access base station, at 5.4/5.8G unlicensed frequency.
eAN9810A is outdoor Airnode. They can be flexibly deployed to meet with diversified deployment requirements in different scenario.

- 5.4/5.8GHz unlicensed spectrum
- Power: POE
- Dimensions:290mm*210mm*60mm
- Protection lever: IP65
- Supports 2-carrier for Multi-link to ensure stable connections

eAN3820A

eAN3820A is an AirNode, LTE access base station, at 4.9-5.8G unlicensed frequency. eAN3810A is outdoor Airnode. They can be flexibly deployed to meet with diversified deployment requirements in different scenario.

- 4.9-5.8GHz unlicensed spectrum
- Power: POE
- Dimensions: 230mm(height) * 165mm (diameter)
- Protection lever: IP65
- Supports 4-carrier for Multi-link to ensure stable connections

eAN9820A

eAN9820A is an AirEdge, LTE access base station, at 4.9-5.8G unlicensed frequency. eAN9810A is outdoor Airnode. They can be flexibly deployed to meet with diversified deployment requirements in different scenario.

- 4.9-5.8GHz unlicensed spectrum
- Power: POE
- Dimensions: 230mm(height) * 165mm (diameter)
- Protection lever: IP65
- Supports 4-carrier for Multi-link to ensure stable connections

eA280

eA280 indoor CPEs are the Long Term Evolution (LTE) customer premises equipments (CPEs). As a wireless gateway, it can be deployed indoors to provide services such as data collection and video surveillance.

- Frequency: TDD 2.3G/2.5G/3.5G/3.7GHz FDD 2.5GHz
- DL:4*4MIMO
- Power: POE
- UL 64QAM
- DL/UL 2CC CA
- DL Category12,UL Category 13
- WLAN: 802.11b/g/n/ac 2.4G\5G Dual WiFi

eA380

eA380 outdoor CPEs are the Long Term Evolution (LTE) customer premises equipments (CPEs). As a wireless gateway, it can be deployed outdoors to provide services such as data collection and video surveillance.

- Frequency: TDD 2.3G/2.5G/3.5G/3.7GHz
- FDD 2.5GHz
- DL Category12,UL Category 13
- DL:4*4MIMO
- Power: POE
- WLAN: 802.11b/g/n/ac
- Supports 2CC & eMBMS
- Protection level:IP65
- UL 64QAM
- DL/UL 2CC CA

eA660

eA660 industrial outdoor CPEs are the Long Term Evolution (LTE) customer premises equipments (CPEs). As a wireless gateway, it can be deployed outdoors to provide services such as data collection and video surveillance.

- Frequency: 1.8G/1.9G/3.5G/3.7GHz
- Cat 4
- Power: POE
- Dimensions:258mm*220mm*66mm
- Weight: 3kg (power adapter excluded)
- DL: 2*2MIMO
- Protection level:IP67
- IEC61373 & MIL-STD-810F

eA680

The eA680-950 is a outdoor Data Access Unit (DAU). It provides connectivity to an LTE network as part of Huawei's eLTE industry wireless network.

- Frequency Bands: LTE TDD/ Wi-Fi
- Power Consumption: < 25W with heater on < 12W with heater off
- Dimensions: 285 mm x 250 mm x 85 mm
- Protection Level: IP67

eM120

eM120 series module is a Mini PCIe data module. It is based on LTE technology. The eM100 can be connected to terminal as a LTE modem via the Mini PCIe Interface and support the data transportation.

- Frequency: TDD/FDD
- Dimensions : 50.95mm*30mm*4.75mm
- Weight: <15g
- Working Temperature: -40°C~85°C
- UL 64QAM
- DL/UL 2CC CA

eM300

eM300 is the eLTE-IoT terminal module. It uses dormancy technology to reduce power consumption and prolong service life to 10 years.

- Frequency: ISM bands
- Dimensions: 23.6mm * 19.9mm * 2.4mm
- Power: 3.1V to 4.2

B2368-66

The HUAWEI LTE CPE B2368-66 is a LTE wireless gateway for multiple users mainly use in household scenarios. You can access the Internet through the wired or wireless network.

- Outdoor Unit: 125mm(D) X 275 mm (H)
- Indoor Unit: 166 mm X 124 mm X 50mm
- Outdoor Unit: <1.5 kg
- Indoor Unit: < 290g
- 3GPP Release 12 Compliant
- LTE UL Cat 13, DL Cat 12
- TDD 4x4MIMO;
- FDD 4x4MIMO(B3/7),FDD 2x2MIMO(B1/8/20)
- DL 2CC CA, UL 2CC CA
- Wi-Fi 2.4G&5G,MIMO 2x2, 802.11a/ac/b/g/n v

GSM-R

R662

ITEM R		662
Frequency band		GSM900: Uplink: 876–915 MHz Downlink: 921–960 MHz GSM1800: Uplink: 1710-1785MHz Downlink: 1805-1880MHz DATA: GPRS/EDGE CLASS1 2
Form factorB		ar type
Platform		HUAWEI Kirin 620
SIM		Support 2FF SIMC ard
Antenna		Built-in
Battery	2000 mAh Lithium-poly-mer battery	Standby time:m ore than 400 hours(net-work dependent) Talk time:m ore than 10 hours(network dependent)
Display	Resolution	240 x 320 pixels
	LCDs ize2	.4 inches
Port	Charger port	Micro-USB port
	USBp ort	Micro-USB port
	SD port	Micro SD port, can expand to max 32GB
	Headset jack	Standard3 .5mm jack
The side keys		PTT button, emergency button, volum(+/-)button
GPS		Support
WiFi		Support
Bluetooth		Bluetooth 4.0
SensorG		-Sensor
Camera		13M Pixels
Workingt emperature		-25℃t o +55℃
Storage temperature-		40℃t o +70℃
Physical Characteristics		
Dimensions (H xWxD)		130.8mm* 60mm *2 1m m

R662
Huawei GSM-R GPH Handheld

R952

ITEM R		952
Frequency band		GSM900: Uplink: 876–915 MHz Downlink: 921–960 MHz GSM1800: Uplink: 1710-1785MHz Downlink: 1805-1880MHz DATA: GPRS/EDGE CLASS1 2
Form factorB		ar type
Platform		HUAWEI Kirin 620
SIM		Support 2FF SIMC ard
Antenna		Built-in
Battery	3000 mAh Lithium-poly-mer battery	Standbyt ime: more than 600 hours(net-work dependent) Talk time:m ore than 15 hours(network dependent)
Display	Resolution	240 x 320 pixels
	LCDs ize2	.4 inches
Port	Charger port	Micro-USB port
	USBp ort	Micro-USB port
	SD port	Micro SD port, can expand to max 32GB
	Headset jack	Standard3 .5mm j ack
The side keys		PTT button, emergency button, volum(+/-)button
GPS		Support
WiFi		Support
Bluetooth		Bluetooth 4.0
SensorG		-Sensor
Camera		13M Pixels
IP Class		IP65
Workingt emperature		-25℃t o +55℃
Storage temperature-		40℃t o +70℃
Physical Characteristics		
Dimensions (H xWxD)		141.4mm* 62.8mm* 25.9m m

R952
Huawei GSM-R OPH Handheld

BTS3900 / BTS3900A

BTS3900 is a indoor macro BTS and BTS3900A is for outdoor.
This base station features greater transmit power, higher reliability and LTE Evolution.

- Frequency band:
  -E-GSM: 880-915 (35MHz)
  -ER-GSM: 873-880 (7 MHz)
- Transmitting Diversity, 4-way Receiving Diversity
- Top power:
  -ER frequency band: 60W
  -E frequency band: 80w
- Static receiving sensitivity: -112.5 dBm
- Outdoor BTS3900A is of stronger acclimatization: -40°C ~ +50°C, IP55 protection level

DBS3900

The DBS3900 GSM features a distributed architecture and consists of two basic function modules: BBU and RRU.
These basic modules can be flexibly configured to meet requirements for different capacities and in different application scenarios for GSM network.

RRU
- Frequency 900M EGSM/ 900M RGSM
- Sensitivity: -113dBm/ 1-Way Receiver & -116 dBm/ 2-Way

Receiver
- Weight: 23 KG (with the housing)
- TOC: 30 W per TRX
- Protection level: IP65
- Temperature: -40°C ~ +50°C (without solar radiation)

BBU
- Weight: 7 to 12 KG
- Capacity: 36 TRXs
- Power consumption: 50 W
- Protection level: IP20
- Temperature: -20°C to +50°C

BSC6000

BSC6000 is responsible for radio resource management, base station management and power control.

- Max equivalent BHCA: 5,900 k
- Traffic volume: 24,000
- Number of TRXs: 2,048
- Number of configured PDCHs: 30,720
- Gb interface throughput: 1,536 Mbit/s
- Power consumption: ≤ 3200W

GTSOFXT3000

The GTSOFTX3000 is GSM-R MSC Server on unified ATCA platform. GTSOFTX3000 is based on R4 architecture and widely deployed in GSM-R projects.

- Maximum subscribers:300,000
- System Reliability: ≥ 99.999%
- Weight: ≤ 200KG
- Power Consumption: ≥ 2200W

USN9810

Huawei USN9810 is a unified service node that can be deployed in Evolved Packet Core (EPC) systems.

- ATCA platform
- Maximum subscribers:12,000,000
- Maximum bearers: 24,000,000
- Number of eNodeBs: 50000
- Number of S-GWs and P-GWs: 4096
- Weight: < 400 KG (with full configuration)

UGW9811

The Huawei-proprietary UGW9811 (UGW9811) is a unified packet gateway that can be deployed in Evolved Packet Core (EPC) systems, it provides the functionalities of serving gateway (S-GW), PDN gateway (P-GW).

- Maximum bearers: 5,000,000 (SPUs in active/standby mode)
- Maximum data throughput: 120 Gbit/s (SPUs in active/standby mode)
- Maximum APNs: 3,000
- Maximum GRE tunnels: 4,000
- Maximum eNodeBs: 100,000
- Weight: < 380 KG (with full configuration)
- Dimensions: (H)2200 mm x (W)600 mm x (D)800 mm

iManager U2000

The iManager U2000 centrally manages Huawei mobile network elements (NEs), including BSS and NSS. The U2000 provides basic functions, such as configuration management, performance management, fault management, security management, log management, topology management, software management, and system management. It also provides various optional functions.

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05

Enterprise Network Energy

Data Center Facility

Prefabricated Data Center

Product Positioning

Huawei FusionModule1000 prefabricated data center solution is a prefabricated and fully enclosed outdoor structure to house data center infrastructure. The solution takes modular design and is equipped with power, cooling, fire protection and DCIM+ system to provide reliable and green operating environment for IT and CT equipment.

Prefabricated All-in-One Data Center

FusionModule1000A

- 40 ft enclosure with 7 to 8 IT racks
- 12192x2438x2896mm (DxWxH)
- Total IT power: ≤ 54 kW
- Power Density: ≤ 9 kW/Rack
- Air-cooled PAC
- N+X or 2N configuration
- 2N configuration comply with Tier III

Prefabricated Modular Data Center

FusionModule1000B

- Multiple enclosure size available
- 12192mm x 2438mm x 3600mm(DxWxH)
- 12192mm x 3495mm x 3600mm(DxWxH)
- 12192mm x 2438mm x 4150mm(DxWxH)
- 12192mm x 3495mm x 4150mm(DxWxH)
- Typical Power Density: 3 kW to 20 kW/Rack
- Air-cooled/ Chilled water cooling
- Comply with Tier II to IV Tropology

Features and Value

Simple
- 50%+ quicker TTM with prefabricated delivery and modular design (FusionModule100B)
- On-site installation done in one day(FusionModule1000A)
- Easy scale-up with stacking deployment (maximum 4 floors)
- Centralized and easy O&M with Huawei DCIM+ and mobile App

Efficient
- 2-year quicker ROI than the traditonal DC (700 racks, Middle East)
- PUE drop from 1.65 to 1.51 with iCooling (Middle East)
- 4% higher resource utilization rate

Reliable
- UL1,440-hour salt spray test and maximum 40-year lifespan
- Wide operating temperature range: -40°C to 55°C
- High protection level: IP55, IP65 (optional)
- Withstand scale-9 earthquake (Mercalli intensity scale)
- 120-minute fire- resistance

Application Scenarios

Small Outdoor DC

Regular Appearance & Space

Small DC, IDC ,DR and power supply facility of airport/railway station/port

ICT Room

Regular Appearance & Space

Core network ICT room, regular EDC and IDC

Colo & Hosting

Customized Facade and Large Space

Cloud DC ,Colo &Hosting DC , high-end IDC and EDC

Smart Modular Data Center

FusionModule2000

Product Positioning and Application Scenarios

FusionModule2000 is a new generation smart modular data center solution. It's a modular-designed, highly integrated solution which comprises power supply system, cooling system, rack & structure system, cabling system, management system within a module. The structure of the module can be single-row or dual-row, and support both cold/hot aisle containment.
Huawei FusionModule2000 is awarded World's First "Uptime Tier IV Ready" Certification.

The smart modular DC is designed for:
- Small-to-medium sized data centers
- Suitable for enterprise HQ or large regional branch, operator, bank secondary branch, government, education, healthcare, etc.

Single-Row Smart MDC

UPS inside scenario
No independent
power room

UPS outside scenario
Need independent
power room

Dual-Row Smart MDC

UPS inside scenario
No independent
power room

UPS outside scenario
Need independent
power room

Features and Value

- Module design for fast deployment & flexible expansion
- Intelligent i3, more reliable operation, more simple maintenance

i³ Smart Management System

iPower
- Whole power supply system visualized inspection, fault auto-locating
- IT Circuit breaker terminal temp detection*, avoiding bad contract
- iBattery* can provide battery real time inspection, proactive auto-shutdown battery group, eliminating fire risk
- Smart PDU supports socket-level power inspection and remote control, protecting IT devices

iCoolig
- Cooling system real time inspection & A/C key component status detection
- 3D Visualized temp control system* eliminate existing hot spot, while IT load & A/C interaction prevents the generation of hot spot
- AI optimized cooling system, saving 8% energy by optimum operating status of A/C
- Pioneering refrigerant volume detecting system, avoids decline of cooling capacity
- Wet film humidifier, saving 95% humidifying power

iManager
- 3D data center visualized management, significantly increase O&M efficiency
- U-space level asset manager*, optimize DC facility usage automatically, "0" manual asset managing needed
- SPC (Space/Power/Cooling) management, optimizing resource utilization of data center

*: Optional Configuration

Smart Small Data Center

FusionModule800 Smart Small Data Center
Product Positioning and Application Scenarios

FusionModule800 small data center is a new-generation data center infrastructure solution. It integrates the PDU, UPS, air conditioner, and the monitoring system in a single cabinet and allows flexible expansion of IT cabinets. A single module supports a maximum of eight cabinets, including zero to six IT cabinets. The IT load must be 15 kW or less, and the maximum power density is 7 kW/R. Cold or hot aisle can be chosen where the depth is only 250 mm.

Application Scenarios and parameter
- Tier I or Tier II construction
- Recommend 10m2 DC room or bigger when cold aisle
- Recommend 30m2 DC room or smaller when hot aisle
- Bank branches, schools, hospitals, government and all outlets and branches.

Features and Value

Simple
- PDU, UPS, monitoring and air conditioner are integrated in a cabinet which are all preassembled in the factory. Customers only need cabinet combination. 4 hours to deploy.
- Mobile phone App, SMS alarm, remote web platform control, centralized network monitoring, all provide for unattended operation

Efficient
- In-rack air conditioner, saving at least one cabinet of installation space
- Frequency conversion refrigeration, aisle containment, and superior PUE at 1.37

Reliable
- Dehumidifying at low load rate down to 10%, ensuring the safe operation of IT equipment
- Battery overheating intelligent shutdown to prevent fires

Enterprise Network Energy

Smart Mini Data Center

FusionModule500 Smart Mini Data Center

Product Positioning and Application Scenarios

FusionModule500 smart mini data center solution integrates UPS, PDU, monitoring, battery pack in a cabinet. All parts are prefabricated, pre-installed, pre-tested. On-site installation is simple to achieve rapid deployment. The remote monitoring function with web interface can realize remote operation. At the same time, FusionModule500 can be equipped with Huawei NetEco management system, achieving centralized monitoring and unified management.

Application Scenarios
No need special data center room Bank sites, schools, enterprise branches and retail merchandising, etc.

Features and Value

Simple
- All-in-one design, preassembled in the factory; 24U or 42U cabinet to be chosen, 2 hours to deploy
- Remote discharge of battery, mobile phone APP, SMS alarm, remote web platform control, network centralized

Efficient
- All components are in one cabinet, rack data center saves at least 50% space.

Reliable
- Automatic startup of comfortable air conditioner when mains restart to prevent equipment from overheating
- Battery overheating intelligent shutdown to prevent fires

DCIM

NetEco6000 Data Center Infrastructure Management System

iManager NetEco6000 is a Data Center Infrastructure Management suite for data center monitoring, maintenance, and operation. NetEco6000 manages the real-time status of data center facility and responses to any problem that may cause data center service interruption. DCIM+, which is an AI enabled platform, collectively manages power, cooling, environment, security, and IT infrastructure; by facilitating the build-up of SOP for data center maintenance and providing professional operation guidance, NetEco6000 improves O&M efficiency; for data center owners, NetEco6000 is also a tool to optimize business performance.

Features and Value

Monitoring:
- Dedicated for data center: IT, facility, environment, security, and auxiliaries in one platform;
- Global view: multiple data centers in one platform.

Maintenance:
- Proactive and preventive: proactively predict possible failures, and prevent risk develops into failure; (iBattery, paperless inspections, risk management, and etc.)
- Facilitate on problem solving: provide problem recovery guide to ensure system recovery easily and safely.

Operation:
- Assets and capacity management: traceable record of every asset in data centers; balanced and maximized capacity utilization;
- Tenant management: identify high value tenants for better business decision making.

Enterprise Network Energy

UPS

UPS5000 Series

Product Positioning and Application Scenarios

UPS ensures uninterrupted power supply for business continuity. Huawei's 25 kVA to 1200 kVA modular UPS is reliable, efficient and simple to meet the different requirements of customers across multiple industries.

- ISP: New builds, reconstruction, and expansion of data centers
- Telecom: Core office reconstruction New builds, reconstruction, and expansion of data centers
- Medium and Large-scale enterprise: New builds and reconstruction of data centers
- Light industry & Rail transit scenarios &Semiconductor industry

25 kVA to 125kVA

40 kVA to 200 kVA

50 kVA to 800 kVA

55 kVA to 1200 kVA

Features and Value

Reliable

- Redundant design for modules, elimination of the single point of failure
- iPower pre-warnings for key components in case of power supply interruption

Efficient

- High module efficiency up to 97.5% and system efficiency up to 96.5%-97% at most frequently-used load rate

Simple

- Hot swappable power module, bypass module and control module, simple maintenance and expansion in 5 minutes
- iPower real time monitoring system for UPS, PDU and batteries, elimination of manual routing inspection

UPS2000 series

Product Positioning and Application Scenarios

The UPS2000 series adopts the online double-conversion technology, which is reliable, stable, and highly efficient to easily eliminate various power grid issues. The high power density design is space-saving, making the UPS2000 series an optimal power solution for integrated scenarios.

Application Scenarios

- Small and medium-sized enterprises, large enterprise branch offices, bank branches and other small data centers
- Networks, communications systems, automatic control systems and other precision equipment

Features and Value

Reliable

- Warnings are generated for failure of key components. Wide input voltage range to minimize battery use.

Efficient

- High efficiency at low load. The efficiency of UPS2000-G is up to 95%. The UPS2000-A achieves an efficiency up to 96%.

Simple

- The UPS2000-G can be mounted to a rack or tower, suitable for different installation scenarios. The UPS2000-A supports built-in batteries and is easy to use.

UPS2000-G-Tower & Rack
(1-20kVA)

UPS2000-A-Tower
(1-10kVA)

Smart String Inverter

The SUN2000 is a three-phase grid-tied PV string inverter. It converts DC power generated by PV strings into AC power and then feeds the AC power into the power grid.

Utility scenario

Features and Value

- 6 MPPTs for versatile adaptions to different layouts
- 8~12 strings intelligent monitoring and fast trouble-shooting
- Power Line Communication (PLC) supported
- Smart I-V Curve Diagnosis supported
- 1100V/1500V systems supported
- Best match with bifacial module PV plants (SUN2000-75/105KTL)
- DC disconnect integrated, safe and convenient for maintenance
- Type II surge arresters for both DC and AC
- Residual Current Monitoring Unit (RCMU) integrated inside
- Fuse free design
- Protection rating of IP65

SUN2000-
60/65/70/75/90/95/100/105KTL

Accessories

SmartACU2000B (Smart Array Controller Unit) is a powerful integration of PV array communication and other smart functions. What's more, it supports 1000V / 1100V / 1500V DC system perfectly.

SACU 2000B

The SmartLogger2000 is a highly integrated device dedicated for monitoring and managing the PV power system. It converges ports, converts protocols, collects and stores data, and centrally monitors and maintains devices in the PV power system.

SmartLogger 2000

Commercial power plant scenario

SUN2000-50/60KTL

SUN2000
8/10/12/15/17/20/28KTL

Features and Value

- 2~6 MPPTs for versatile adaptions to different layouts
- 4~12 strings intelligent monitoring and fast trouble-shooting
- Power Line Communication (PLC) supported
- Smart String I-V Diagnosis supported
- DC disconnect integrated, safe and convenient for maintenance
- Type II surge arresters for both DC and AC
- Residual Current Monitoring Unit (RCMU) integrated inside
- Without N Line and save more AC cable
- No need for external fans with natural cooling technology
- Protection rating of IP65

Accessories

The SmartLogger1000 is dedicated for monitoring and managing the PV power generating system. It converges all ports, converts protocols, collects and stores data, and centrally monitors and maintains the PV power generating system.

SmartLogger 1000

Residential power plant scenario

The SUN2000L is a single-phase grid-tied PV string inverter. It converts DC power generated by PV strings into AC power and then feeds the AC power into the power grid.

Features and Value

- Huawei high efficiency inverter topology, Max. efficiency 98.6%
- Integrated Plug & Play energy storage interface
- 10.6kg, allows one person simple installation
- Optimized AC connector for quick wiring
- Supports one-click inverter configuration
- Build-in DC and AC surge arresters
- IP65, natural cooling

SUN2000L-
2/3/3.68/4/4.6/5KTL

Accessories

SUN2000P is a DC/DC solar module optimizer which maximize power yields of each module, it also significantly increase solar system safety by capable of shutdown module voltage.

- Max. efficiency 99.6%, weighted efficiency 99.0%
- Module-level MPP tracking, increase power yield by 5%-30%
- Allows more panels on each roof to achieve higher system yields
- Supports installation in shade prone areas and in different directions
- Supports remote module-level monitoring
- Module-level shutdown capability to secure people and assets safety
- Communication through DC Power Line Communication
- Quick frame mount at warehouse, less rooftop installation time
- IP68, support outdoor application

SUN2000P-375W

- Communicate with optimizers through Power Line Communication
- Support module-level real time monitoring & management
- Module-level shutdown capability to secure people and assets safety
- IP65, support outdoor application

Smart PV Safety Box

Management System

NetEco 1000S is equipment-level monitoring software developed for Smart PV Solution of the Network Energy Product Line.

Features and Value

- One-click installation on PC and mobile
- String-level Management on the remote end
- Smart I-V Curve Diagnosis
- Auto fault alarms via SMS and E-mail

NetEco 1000S

Small Site

Integrated Video Site

PowerCube 500

PowerCube 500 is a highly integrated power and service transmission solution, which is widely used in Safe City & Smart City infrastructures.
It configures high performance power module, Huawei special-design lithium battery, multi-function service module and intelligent OSS, provides continuous power and flexible transmission approaches for video surveillance applications, one-stop deployment greatly improve the system reliability and enhance the ease of maintenance.

Power Module
PC500-300G1/H1

Battery Module
CBM20E

Application Scenarios

Video site
Network transmission site
Other low power consumption site

Integrated Video Site

Features and Value

Simple Deployment
- Multi network services: Ethernet, GPON, microwave
- Multi output: 12 Vdc, 24 Vac, PoE, PoE+, PoE++
- Pre-integrated, one-stop installation

Reliable Power Supply
- Protection rating: IP65
- Lithium battery with long lifespan
- Wide temperature adaptability: -40 ºC to +55 ºC

Intelligent Management
- Remote unified network management
- On-site mobile APP, free from on-pole inspection

Distributed Power System

DPS

Distributed Power System (DPS) is a new-generation power solution specialized for compact sites. It can be installed on poles or walls. DPS can be used for Easy Macros, small cell base stations, and remote RRUs. It consists of DC, AC, and battery modules.
DPU40D: it is a distributed DC power that converts AC/HVDC to -48V DC; it supplies three DC outputs for load and one branch for distributed battery unit.
DPU30A: it is a distributed AC power that supplies a single-phase AC output and an DC output for distributed battery unit or DC load.
DBU25B/DBU40B: Distributed battery units that provide reliable backup energy for load.

Application Scenarios

RRU/AAU remote sites
Easy Macro sites
Lamp sites
Atomcell (hot-spot/blind-spot coverage)

DPU30A
AC Module

DPU40D
DC Module

DBU25B
Battery Module

DBU40B
Battery Module

DOU-DCD01
Distribution Module

Features and Value

Simple
- Fast deployment (1 hour by 1 person), flexible evolution
- Multiple inputs: AC/HVDC
- Support mobile App (based on Bluetooth) and smart OSS

Efficient
- Industry-leading efficiency distributed power system (maximum efficiency ≥97%)

Reliable
- IP65, -40°C to +55°C working temperature
- 4 to 6 years routine maintenance-free

Hybrid Power

Solar Hybrid Power

PowerCube 1000 S1/S2/S3

Huawei Solar Hybrid Power System provides excellent performance for sites in off-grid and poor-grid areas. Based on industry leading SolarMax technology, the system converts solar power into DC output to supply stable electrical power for site equipment. It also offers customers the flexibility to switch to or integrate diesel or grid by means of a unified controlling platform. Its maximum utilization of solar energy provides simple, efficient, and reliable on-site power supply.

PowerCube 1000 S1:
Pure Solar Solution

PowerCube 1000 S2:
Solar & Diesel Solution

PowerCube 1000 S3:
Solar & Grid (Diesel) Solution

Features and Value

Simple:
- Green energy, zero fuel consumption, zero carbon emissions, easy operation

Efficient:
- Industry-leading SolarMax technology utilizes solar power to reduce electricity consumption
- Integrated scheduling for solar, diesel, and grid energy balances CAPEX & OPEX

Reliable:
- Anti-theft designs protect energy storage equipment and PV panels
- Solar supply unit and energy storage system adapt easily to high temperatures

Grid Hybrid Power

PowerCube 1000 G2/G3/G4

Grid Hybrid Power System is used in poor grid areas. With integrated design of unified platform, industry-leading GridMax technology and high environment adaptability, it maximizes the efficiency of electric power, optimizes power supply cost performance, to provides a simple, efficient and reliable on-site power supply.

PowerCube
1000 G2

PowerCube
1000 G3

Features and Value

Simple:
- Integrated system design ensures fast site deployment. Smooth evolution with addition of solar energy

Efficient:
- Huawei GridMax technology utilizes grid power to “fast charge” hybrid system in just two hours

Reliable:
- Rectifier with 500V high voltage resistance and derating at low voltage
- Ultra-wide operating temperature range (-40°C to +70°C) enables system to adapt easily to any environment

PowerCube
1000 G4

PowerCube
1000 G4 Mini

Diesel Hybrid Power

PowerCube 1000 D1

Diesel Hybrid Power System is an excellent performer in off-grid and poor grid sites with good traffic conditions.
Industry-leading DieselMax technology enables the system to maximize fuel efficiency — decreasing the 25% electricity consumption cost per unit available with similar industry solutions.
Customers also may add solar or grid solutions in order to integrate scheduling of multiple energy sources. The result is simple, efficient, and reliable power supply for communications sites.

PowerCube 1000 D1-Standard

Features and Value

Simple:
- Integrated system design reduces site footprint. Adding solar energy ensures smooth evolution

Efficient:
- Industry-leading DieselMax technology, decreasing electricity consumption

Reliable:
- Multiple anti-theft designs for fuel and battery ensure equipment safety
- Adapts to high and low temperatures
- Communication-grade devices ensure reliable power supply

PowerCube 1000 D1-Advanced

Advanced Diesel Hybrid Power

PowerCube 1000 D5

PowerCube 1000 D5 is a smart D.G. optimized solution, which is mainly used in off-grid areas area where diesel generator is the main source. High performance Li-ion battery will be used in D5, D.G. and Li-ion battery will work intermittently. Through higher charging rate, D5 increases the D.G. load rate but decreases running time, which highly reduces the fuel consumption and D.G. maintenance, leads to ROI < 1.5 years.

PowerCube 1000 D5
– power cabinet

PowerCube 1000 D5
– expansion cabinet

PowerCube 1000 D5
– basic cabinet

Features and Value

1 hour charge:
- Smart management ensures 6000 cycles @ continuous 1C charge, realizes more frequent cycling, less configuration but similar saving

1 day deployment:
- Self adaption enables legacy power & battery to be fully reused, 50%+ man-hours saved

1.5 years ROI:
- Artificial intelligence keeps D.G. running at the optimized load rate & SOH, $20,000+ saved in 5 years

Telecom Power

MTS9000A Outdoor Power System

MTS9000A Outdoor Power

Based on the fundamentals of system deployment and maintenance, MTS9000A provides a stable, reliable power supply for wireless coverage and transmission node sites. MTS9000A covers outdoor scenarios, helps customers deploy sites quickly and save their investment. The solution, with its simple, efficient and reliable performance, offers efficient O&M and smooth site evolution.

MTS9000A

MTS9000A

MTS9000A

Features

Simple:
- Modular design, pre-assembled cabinet, minimal ground space required for its compact casing
- Multiple Energy Input & Multiple Mode Output (MIMO)

Efficient
- Rectifier-, site-, and network-level efficiency management

Reliable
- Overall energy system and environment monitoring with support for convenient mobile App
- Intelligent video surveillance, access control management, and SOH management make the site more reliable

TPA Series Outdoor Power

Huawei has developed serial outdoor power solutions in different sizes to satisfy various outdoor scenarios, including integrated and stackable types. The output range of the outdoor power solution varies from 60A to 400A, with various cooling types, such as Heat Exchange (HEX), Direct Ventilation (DV), and TEC. The power systems have excellent performance with high power efficiency, intelligent battery management, and remote monitoring.

TP48200A Integrated Type

TP48200A Stackable Type

TBC300A Stackable Type

Features

Simple:
- Easy to install in a variety of locations
- Remote, centralized management
- Easy to operate and maintain

Efficient
- 1U high power density rectifier module (42.7W/inch3)
- Rectifier leads industry with 98% efficiency and maintains full outputup to 55°C

Reliable
- IP55 high protection
- Multiple security designs

PowerCube 5000 M Series 5G Ready Outdoor Power

Huawei PowerCube 5000 M series 5G ready outdoor power systems provide power for not only 2G/3G/4G but also 5G sites. By adopting these systems, customers can access 5G main equipment to existing 2G/3G/4G site directly in future without modernization. The power series with 200A/300A capacity can be equipped with high efficiency rectifier modules, with various cooling types, such as Heat Exchange (HEX), Direct Ventilation (DV), and DC air conditioner.

MTS9302A Integrated Type

*Achieving power & DC distribution expansion in future

MTS9302A Stackable Type

MTS9300A Stackable Type

Application Scenarios

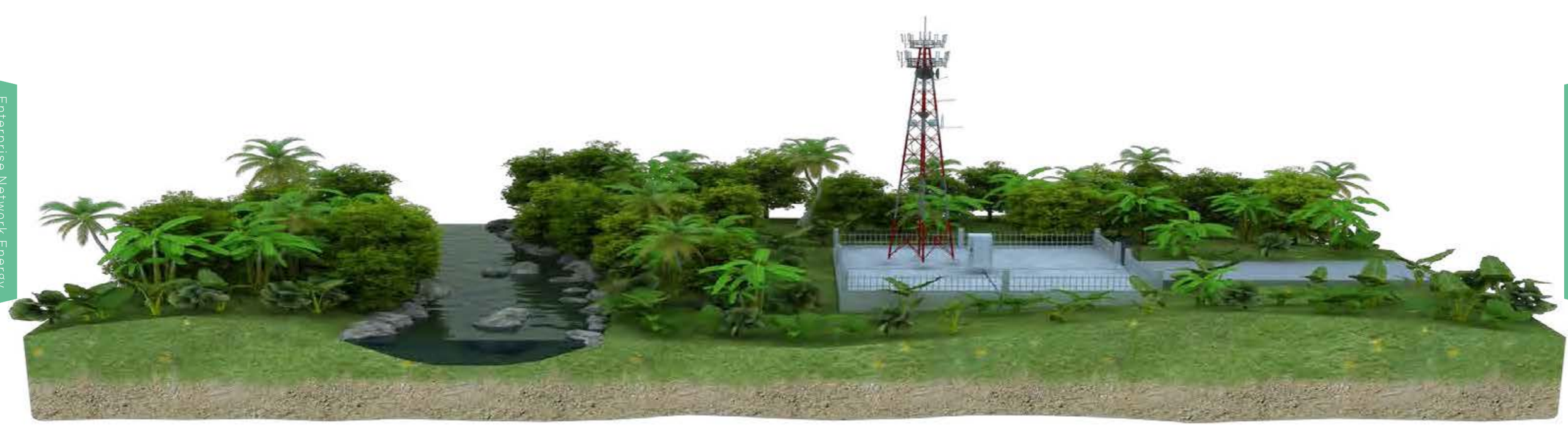
Outdoor 2/3/4/5G access layer sites
Outdoor aggregation layer sites
Enterprise communication network

Features

Simple:
- Easy to install in a variety of locations
- Remote, centralized management
- Easy to operate and maintain

Efficient
- 1U high power density rectifier module (56.9W/inch3)
- Rectifier leads industry with 97% efficiency and maintains full output up to 55°C

Reliable
- IP55 high protection
- Multiple security designs



Indoor Power System

TPB Series Indoor Power

Huawei's indoor power systems include standalone and integrated types. The output range varies from 100A to 600A. The series can accommodate high-efficiency rectifier modules, have outstanding management functions, and can be flexibly applied in all kinds of indoor scenarios for -48V DC power supply.

TP48300B\
600B

Mini
TP48300B

Standalone Type

TP48200B

TP48400B

Integrated Type

Features

Simple
- Integrated design, flexible adjustment between battery and user space

Efficient
- Rectifier leads industry with 98% efficiency and maintains full output up to 55°C
- Seamless evolution for solar power, reducing grid cost

Reliable
- Wide working voltage for grids from 85V to 300V AC; withstands high voltage up to 500V AC

PowerCube 5000 M Series 5G Ready Indoor Power

Huawei PowerCube 5000 M series 5G ready indoor power systems provide power for not only 2G/3G/4G but also 5G sites. By adopting these systems, customers can access 5G main equipment to existing 2G/3G/4G site directly in future without modernization.

The power series with 400A capacity can be equipped with high-efficiency rectifier modules, provide outstanding management functions, and output -48Vdc or -57 to -72Vdc for load.

5G Blade* →

MTS9604B-N20B1 With Lithium Battery

*Achieving power & DC distribution expansion in future

Features

Simple
- Flexible design, power interface reserve, on-demand capacity expansion in future

Efficient
- Rectifier leads industry with 97% efficiency and maintains full output up to 55°C
- Seamless evolution for solar power, reducing grid cost

Reliable
- Wide working voltage for grids from 85V to 300V AC; withstands high voltage up to 500V AC

5G Blade* →

MTS9604B-N20B2 With VRLA Battery

*Achieving power & DC distribution expansion in future

Enterprise Network Energy

ETP Series Embedded Power

Embedded Power is the core of indoor/outdoor power systems. Huawei can also provide individual embedded power systems, if necessary. The capacity ranges from 30A to 400A, and the series includes the ETP4830, ETP4890, ETP48120, ETP48150, ETP48200, and ETP48400 models.
Adopting a standardized structure design, these embedded power systems can be installed flexibly.

Application Scenarios

Telecom access layer, aggregation layer, core layer sites
Enterprise communication networks
Legacy power modernization with reuse of cabinet

Features

Simple
- Provides easy standard rack, easy cabinet installation with compact design
- Multiple interfaces such as AI, DI, RS485/232, and FE

Efficient
- Rectifier leads industry with 98% efficiency and maintains full output up to 55°C
- Supports solar access, which helps to decrease the electricity consumption and cut down the carbon emission

Reliable
- eLabel function enables easy asset management and problem tracing

ETP4830

ETP4890

ETP48150
Compact Type

ETP48200

ETP48400
Expandable Type

PowerCube 5000 E Series 5G Blade

5G Blade is an embedded power supply system, which could convert AC or DC input power into DC output (-57V to -72 V). It consists of monitoring unit(SMU) and rectifiers & convertor. The maximum output power rate is 6kW. It is especially suitable for 5G NR expansion.

Application Scenarios

Existing access network 5G expansion

Features

Simple
- Provides easy standard rack, easy cabinet installation with compact design
- Remote administrable with dry contact or RS485 serial port communication

Efficient
- Rectifier efficiency 96%, convertor efficiency 97.5%

Reliable
- eLabel function enables easy asset management and problem tracing

5G Blade AC/DC Version

5G Blade DC Version

Smart Energy Storage System

BoostLi

The ESM is an energy storage unit composed of lithium-ion batteries which provide backup power for the power system. The ESM can be used as an independent 48 V unit, also supports the mix use of old and new batteries as well as lead-acid batteries to back up power.
It features better charge and discharge performance, longer service life, and less selfdischarge loss than ordinary batteries

ESM-4850A2& ESM-48100A1
- Intelligent software anti-theft design
- Long cycle life with 4500 cycles @ 0.5C, 85% DOD, 35°C
- Easy maintenance with SOC (state of charge) and SOH (state of health) detection

ESM-4850A1
- Intelligent software anti-theft design
- Long cycle life with 6000 cycles @ 0.5C, 85% DOD, 35°C
- Easy maintenance with SOC (state of charge) and SOH (state of health) detection

ESM-4875A1&ESM-48150A1
- Intelligent software anti-theft design
- Long cycle life with 3000 cycles @ 0.5C, 85% DOD, 35°C
- Easy maintenance with SOC (state of charge) and SOH (state of health) detection

ESM-4850A & ESM-4875A1

ESM-48100A1& ESM-48150A1

Smart Site Management System

Smart Site Management Unit - SCC800

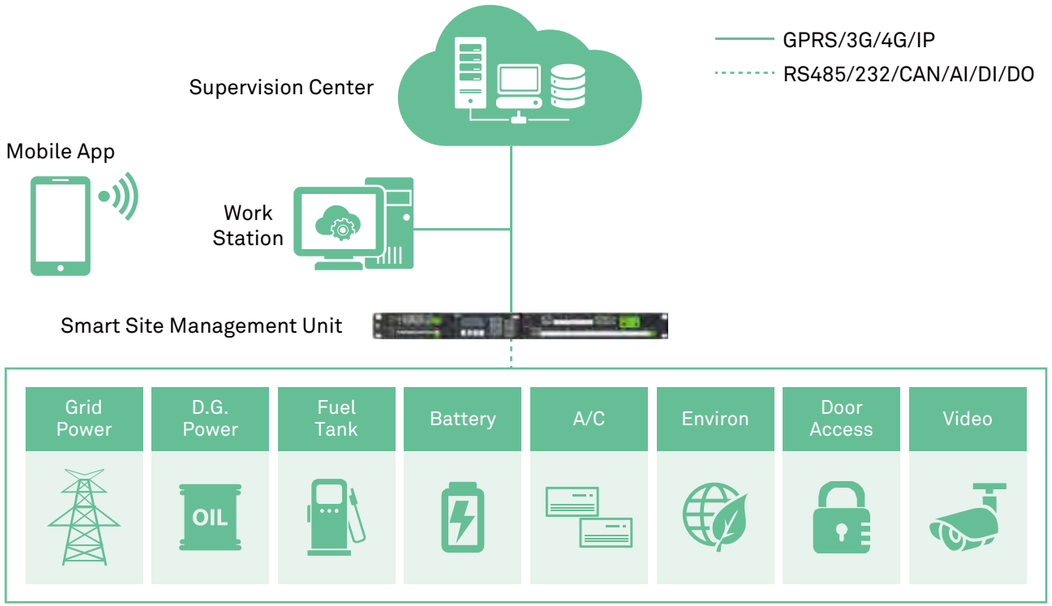
Smart Site Management Unit (SCC800) is a field supervision unit for site and power. It adopts advanced ICT technology to realize site digitization, making energy network to be visible and manageable, which ensures high power reliability and easy site maintenance.
SCC800 is modular designed. It can achieve data acquisition, analysis processing, intelligent dispatch and so on for intelligent equipment, no-intelligent equipment and environment.

- Support APP to debug and test site
- HTTPS encryption for network security prevents hacker attacks
- Records important log and makes sure important issues are traceable.

Features

- Easy deployment (TTM increases 75% at 1,000 sites): wireless site deployment, sensors magnetic installation, no limitation of physical ports, free of site survey, suitable for all site scenarios
- Low power consumption (five years maintenance-free): reliable built-in battery, chip operation at milliwatt level, data collection at millisecond level, smart dormancy, and power consumption is 1/20 of industry level.
- Reliable connection (signal protection patent technology): senior accumulation of telecom experience, multi-technology of wireless signal protection, industry leading design of signal anti-interference.

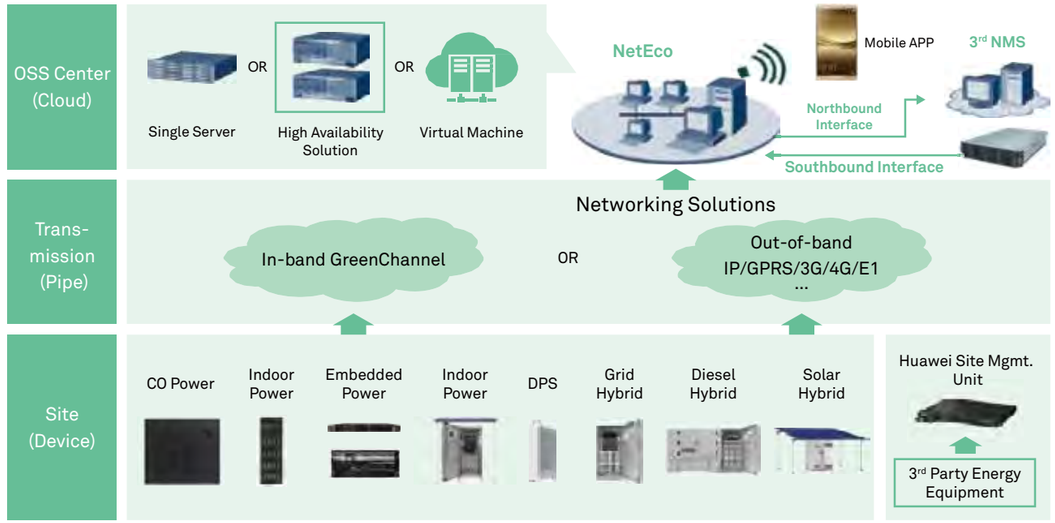
Smart Site Management Unit



iManager NetEco

iManager NetEco (Site) OSS

iManager NetEco is a professional network energy management platform. By means of digitization, networking and intelligentization technologies, it focuses on the lean management of power availability, energy consumption and energy efficiency, and O&M business. It ensures efficient and reliable power supply, smooth communication and business, and realizes simple and efficient O&M at the least OPEX.



System Architecture Diagram of NetEco

Features

Reliable Power Supply

- Power availability safeguard: baseline setting, change trend and TOP N management.
- Proactive O&M: health management for DG and battery, maintenance reminder and refueling reminder
- Grid quality analysis and scientific optimization of backup battery and commanding of movable DG
- Analysis of the rationality of rectifier/battery configurations and their optimization guide
- Security management: smart anti-theft

Efficient Energy Usage

- Optimal network energy efficiency (NEE) and site energy efficiency (SEE) safeguard: baseline setting, change trend and TOP N management
- Active energy saving: avoid high electricity bill; staggering electricity usage; optimal utilization of solar energy in Solar-DG system
- Fuel anti-theft and anti-fraud: fuel audit; precise management of fuel consumption (baseline, TOP N) and refueling business

Simple O&M

- Site shutdown cause analysis and risky site forecast
- Closed loop expert maintenance experience database
- Remote batch battery test; Battery regroup and reuse
- Remote upgrade task management
- Accurate refueling business management
- Precise multi-tenant management

Telecom Energy Smart Site Solution

Smart Site Solution

Integrated with advanced information technology and power electronic technology, Huawei Telecom Energy Smart Site Solution (MTS) helps to realize telecom sites of digitization, networking and intellectualization, which makes the site deployment simpler, site maintenance more efficient and site operation more reliable.

Site Level High Efficiency

MTS focuses more on site-level efficiency improvement than component efficiency. The system uses Huawei's industry-leading high efficiency rectifier (up to 98%), and provides Site Infrastructure Energy Efficiency (SIEE) to show how the system is performing, based on data collection and system analysis, then provides constructive advice on optimal efficiency improvement solutions.

Modular Design

MTS uses a modular design for components so the power system is more flexible and can be smoothly upgraded. This modular design allows for 2 people to assemble the cabinet in 15 minutes, change power distribution, adjust the internal structure, apply cooling, and more.

Intelligent DC Distribution

Compared with traditional power distribution systems, MTS's intelligent DC Distribution Box (iDCDB) makes power distribution management more convenient and efficient with its innovative functions, such as adjustable capacity for each route, remote route on/off control, and hot- plugging. iDCDB can also measure power consumption for each route and use the rectifier to provide a mix of plugged-in power.

Multiple Energy Input & Multiple Mode Output (MIMO)

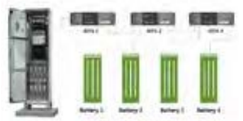
MTS supports multiple energy inputs and outputs, such as solar, grid, and generator, ensuring the most available and appropriate energy supplies are available.

SOH Management

MTS provides Status Of Health (SOH) management based on SOH and Status Of Charge (SOC) monitoring of the battery block in real time, to prolong battery service life and avoid interruptions to the site network.

Intelligent DC Transfer Switch (iDTS)

The intelligent DC Transfer Switch (iDTS) system performs the automatic voltage-switching function for power supplies between the main-battery and back-battery, to ensure reliable system power. MTS supports 3 sets of iDTS which, in turn, support 4 groups of different batteries.



Access Control Management

The MTS's intelligent access control management system makes O&M easier and safer. The electronic lock on the cabinet is designed to be opened by:
- Authorized card within valid time period
- Mobile APP with authorized username and password
- NetEco remotely

Intelligent Video Surveillance

To reduce carrier investment loss as a result of illegal entry, MTS provides an intelligent video surveillance function against illegal activities. The camera installed on the site will automatically take photographs when the invasion is happening and immediately send them to the OSS center (NetEco).

Mobile APP Management

Site status can be viewed, configuration and control can be handled through the Huawei mobile App, anywhere and anytime.

Central Office Power System

Central Office Power

Huawei Central Office (CO) power system is the first series of full-digital CO power systems in industry with state-of-the-art design. The system adopts industry-leading rectifier module, which efficiency can be up to 98%. A single cabinet can output 3,000A/180 kW and expand its power output up to 24,000A/1,440 kW.

TP481200B

TP482000B

Standalone Type

TP483000D
Distributed Type

Application Scenarios

Central office
Aggregation office
Data center
Enterprise communication network

Features

Simple
- Up to 3,000A output for an industry-leading single cabinet that provides front maintenance
- Supports rectifier modernization solution
- NetEco mobile App enables easy maintenance management

Efficient
- Saves energy with industry-leading 98% efficiency

Reliable
- Verified by 1,000+ strict tests
- Exclusive Intelligent Battery Cell SOH Management
- Unique branch load pre-warning