HUAWEI

HUAWEI CLOUD

Product and Solution

V201908

HUAWEI Cloud

+ Grow With Intelligence

HUAWEI CLOUD is the cloud services brand of Huawei. To serve customers, we leverage over 30 years of technical experience and product solutions in the ICT infrastructure field, and are committed to making cloud services stable, secure, trustworthy, and sustainable. HUAWEI CLOUD ardently promotes inclusive artificial intelligence (AI), making it affordable, reliable, and easy to use, and is trusted by governments and enterprises worldwide to implement digital transformation.

Utilizing the comprehensive computing capabilities of Kunpeng, x86, and Ascend, we provide a wide range of cloud services, enabling diverse applications to run with the most suitable computing resources. This versatility meets diverse service requirements in the era of cloud, AI, and 5G, achieving high performance and increasing customer satisfaction.

HUAWEI CLOUD adheres to its business boundaries and respects data sovereignty. Meanwhile, we openly collaborate with partners to build a "Cloud+X" ecosystem, empowering their content and applications to grow on the ecosystem. We strive with our partners to better serve customers, accelerating enterprise digital transformation and intelligent upgrade.

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Differentiated Advantages of HUAWEI CLOUD

◎ **Leading full-stack, all-scenario AI**

Leading full-stack, all-scenario AI, HUAWEI CLOUD delivers the best performance in the industry.

◎ **Optimal performance with diverse architectures**

Using the comprehensive computing capabilities of Kunpeng, x86, and Ascend, Huawei provides a wide range of cloud services, enabling diverse applications to run with the most appropriate computing resources. This versatility meets diverse service requirements in the era of cloud, AI, and 5G, and achieving high performance and increasing customer satisfaction.

◎ **Best hybrid cloud**

Based on our rich B2B experience, digital practices of large enterprises, and cutting-edge solutions, Huawei provides government and enterprise customers with full-stack, smooth evolution to the cloud, and has become their best partner in digital transformation.

◎ **Ecosystem collaborating cores, devices, pipes, and clouds**

With the Kunpeng platform, IoT, security, AI, and industry application partners worldwide, HUAWEI CLOUD provides rich consultation, technology, solution, and service capabilities for governments and enterprises.

◎ **Neutral, secure, and trustworthy**

HUAWEI CLOUD complies with all laws, regulations, standards, and certifications in all countries and regions. We provide secure, reliable cloud services through full-stack security innovation and responsibility sharing.

◎ **Loacl support across the world**

The high-speed, stable global cloud improves availability zone (AZ) coverage and local services.

Customers' Choice

33 TIMES
Huawei cloud size customers

60%
The Internet
TOP50

60%
Live Broadcast
TOP10

50%
social information
TOP10

80%
Video Surveillance
TOP10

5.5 TIMES
Year-on-year growth in revenue

85%
Gene field
TOP15

100%
Top ten car manufacturers in China
TOP10

NO.1
Number of cloud customers on SAP
150+

◎ **Fastest growing cloud**

In the year preceding June 2019, Huawei's monthly revenue from cloud services and software grew 5.5-fold and its number of customers increased 33-fold.

◎ **Choice of top companies across industries**

In China, 30 of the top 50 Internet companies, such as Sina and NetEase, have chosen HUAWEI CLOUD. 6 of the top 10 live video companies, including Miaopai, have deployed services on HUAWEI CLOUD. 85% of the top 15 companies in the gene field, such as Beijing Genomics Institute, KingMed Diagnostics, Nextomics Biosciences, and Novogene, use HUAWEI CLOUD. HUAWEI CLOUD also supports the SAP of more than 150 companies, ranking the first among cloud service vendors in China. In addition, all of China's top 10 automobile manufacturers are using HUAWEI CLOUD.

◎ **350 million Huawei device users use HUAWEI CLOUD every day**

All the cloud services of Huawei devices, such as cloud storage and cloud hosting, are powered by HUAWEI CLOUD. Developers can also use HUAWEI CLOUD capabilities, which are all available in the Huawei AppGallery.

◎ **Greater, wider technical influence**

The core competitiveness of HUAWEI CLOUD is its ability to build industry-leading cloud services using full-stack technologies. HUAWEI CLOUD features full-stack all-scenario AI, ultimate performance, security, reliability, openness, and innovation. As China's only cloud service provider offering full-stack, all-scenario AI capabilities, HUAWEI CLOUD has invested heavily in making AI affordable, reliable, and easy to use.

- **HUAWEI CLOUD ranks top among China's public cloud service providers**
  <IDC Tracker: China Public Cloud Market Report, Q1 2019>
- **HUAWEI CLOUD enters the Strong Performers quadrant, ranking top among global container products**
  <The Forrester New Wave: Public Cloud Enterprise Container Platforms, Q3 2019>
- **HUAWEI CLOUD, with its full-stack technology capabilities, was listed among Hyperscale cloud IaaS providers**
  <Gartner: Market Guide for Cloud Infrastructure as a Service, China>
- **HUAWEI CLOUD enters the Leaders quadrant among full-stack public cloud development platforms in China**
  <The Forrester Wave: Full-Stack Public Cloud Development Platforms In China, Q3 2018>
- **HUAWEI CLOUD ranks No. 1 in the Leaders quadrant of China's e-Government cloud market**
  <IDC MarketScape: Evaluation of Chinese e-Government Cloud Market Vendors, 2017>

Ecosystem

By the end of June 2019, HUAWEI CLOUD had launched 180+ cloud services and 180+ solutions. News agencies, social media platforms, law enforcement, automobile manufacturers, gene sequencing organizations, financial institutions, and a long list of other industry customers are all benefiting in significant ways from HUAWEI CLOUD. 3500 applications were added to the HUAWEI CLOUD marketplace with offerings from more than 6000 partners.

Cloud services
180+

Business and developer
1,700,000+

New apps on the marketplace
3500+

Partners
6000+

Global Security Certifications
50

Countries and regions
170+

HUAWEI CLOUD Security System

HUAWEI CLOUD's cloud services comply with international security laws, and its cloud platforms comply with all relevant laws and standards.

Infrastructure Security

- ◎ Physical device & environment security
- ◎ Cloud platform security
- ◎ Network security
- ◎ Data security

Tenant Security

- ◎ Permission management mechanism
- ◎ Anti-DDoS protection
- ◎ Network isolation
- ◎ Data security

O&M Security

- ◎ O&M account management
- ◎ O&M account authentication
- ◎ O&M permission management
- ◎ Vulnerability management
- ◎ Centralized log management
- ◎ O&M access security

HUAWEI CLOUD Projects Around the World

The global connectivity and worldwide local services of HUAWEI CLOUD help local enterprises globalize and international enterprises establish locally.

◎ HUAWEI CLOUD continues to expand its presence throughout the world, with over 36 availability zones located across 20 geographical regions, ranging from Hong Kong and Russia to Thailand, South Africa, and Singapore.

◎ In Europe, HUAWEI CLOUD provides products and technical support for Open Telecom Cloud of Deutsche Telecom (DT), Orange Flexible Engine of Orange, and Telefonica Open Cloud of Telefonica (TLF).

23 Regions

44 AZS

1800+ CDN

CONTENTS

PRODUCTS

SOLUTION

Products and Solutions

By the end of 2018, HUAWEI CLOUD had launched 180+ cloud services and 180+ solutions, including HCS, SAP, and HPC. News agencies,social media platforms, law enforcement, automobile manufacturers, gene sequencing organizations, financial institutions, and a long list of other industry customers are all benefiting in significant ways from HUAWEI CLOUD.

Industry-Specific Solutions

meteorology | intelligent meter reading | Manufacturing Digital Transformation | smart campus | scientific computing | Telemedicine | others | E-commerce | Gaming | Education

energy | Manufacturing | finance | healthcare | Government | Logistics | Media & Entertainment | Smart Retail | Render | Automotive

General-Purpose Solutions

SAP on cloud | HPC | Web&Mobile | IoT cloudinfrastructure | Video cloud Infrastructure | Cloud Office | Full-stack Dec. | Cloud Migration | OracleCloud Migration | Enterprise Cloud Box

Backup and Archive | X-Connect | Intelligent EdgeFabric | Hybrid Cloud Disaster Recovery and Backup | Enterprise Intelligence | ROMA | IPV6 | Security | DevOps | Log Analysis

Cloud Service

Video: MobileAI | VOD | Live | IVSCS | MPC | IMV | CVCS

Cloud Communications: IM | Meeting | CloudIPCC | VoiceCall | MSGSMS | private number

Domain Name & Websites: domains | DNS | Web server

DevCloud: ProjectMan | CodeHub | CloudPipeline | CodeCheck | CodeCI | CloudDeploy | TestMan | CloudRelease | MobileTest | CloudIDE | classroom

Edge Cloud Services: IEF

Application: ServiceStage | AOS | SWR | CSE | SMN | DMS | kafka | APM | APIG | CPTS | BCS | AOM

Dedicated Cloud: DCC | BMS | DSS | DESS | FusionCloud Stack

Management & Deployment: CES | LTS | IAM | CTS | TMS | RTS

Eterprise Intelligence: ModelArts | MLS | DLS | GES | Batch | OCR | Face | Image | Moderation | Image Search | VCM | VCT | Smart Retail | Smart Campus | Smart Traffic | DLF | DIS | CS | MRS | DLI | CloudTable | DWS | USearch | RES | Logistics | iWater | iManufacturing | iTransport | iPower | iFinance | iRetail | TTS | VCM | ASR | NLP | CBS

Internet of Things: IoT Platform | IEF

Enterprise Network: CMN | SD-WAN

Migration: CMC | sms | OMS | CDM | DRS

Database: mysql | PostgreSQL | SQL Sever | DDS | Redis | Memcached | DDM | DRS | DAS

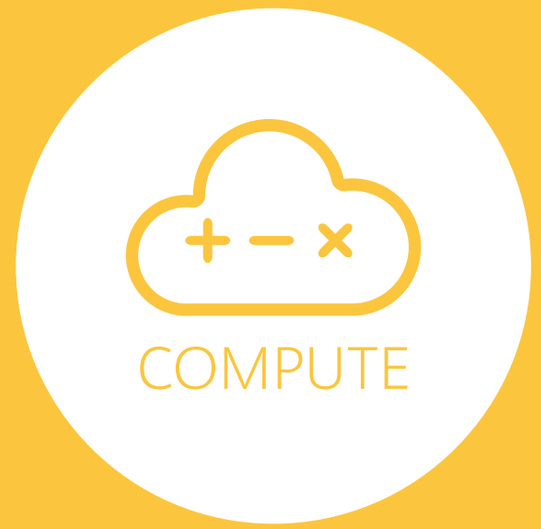
Security: Anti-DDoS | AAD | WAF | Web Scan | HSS | DEW | DBSS | SES | SA | SCM | CBH

Computing: ECS | GACS | FACS | BMS | CPH | DeH | AS | IMS | CCE | CCI | FGS

Storage: OBS | EVS | VBS | CSBS | CDN | SDRS | SFS | DES | LSA

Network: VPC | ELB | NAT Gateway | Elastic IP | DirectConnect | VPN | CC

PRO
DUCTS



Elastic Cloud Server

Elastic Cloud Server (ECS) is a cloud server that provides scalable, on-demand computing resources for secure, flexible, and efficient applications.

Stability and Reliability

ECSs are automatically migrated to functional hosts after a fault, ensuring 99.95% service availability. Multiple copies of your data are kept,ensuring 99.99999999% data persistence.

Security

Security group rules protect the network from viruses and Trojans. Security services such as anti-DDoS, WAF, and VSS are included to further enhance ECS security.

Competitive Advantage

Huawei leverages years of hardware development and customization experience to ensure optimal user experiences based on Huawei's proprietary virtualization technology.

Auto Scaling

ECS specifications and bandwidths can be adjusted to meet service and cost requirements at any time. Excellent computing performance is ensured through ECS+BMS networking.

Application Scenarios

Internet

- Examples: Official websites | Website R&D and testing | Small-scale databases
- Recommended Solution: Use general-computing ECSs, which provide a balance of computing, memory, and network resources. This ECS type is appropriate for medium-load applications and meets the cloud service needs of enterprises and individuals.

E-Commerce

- Examples: Precision marketing | E-Commerce | Mobile Apps
- Recommended Solution: Use memory-optimized ECSs, which have a large amount of memory and provide ultra-high I/O EVS disks and appropriate bandwidths. This ECS type is suitable for applications that process large volumes of data.

Data Analysis

- Examples: MapReduce | Hadoop
- Recommended Solution

Use disk-intensive ECSs, which are designed for applications requiring sequential read/write on ultra-large datasets in local storage (such as distributed Hadoop computing) as well as large-scale parallel data processing and log processing. Disk-intensive ECSs are based on HDD and a default network bandwidth of 10GE, providing high PPS and low network latency. They also support up to 24 local disks, 48 vCPUs, and 384 GB of memory.

High-Performance Computing

- Examples: Scientific computing | Genetic engineering | Games and animation | Biopharmaceuticals and storage
- Recommended Solution: Use high-performance computing ECSs to meet the computing, storage, and rendering needs of high-performance infrastructure services and applications that require a large number of parallel computing resources.

Bare Metal Server

Bare Metal Server (BMS) provides dedicated physical servers in single-tenant environments. It provides excellent computing performance and data security for core databases, key application systems, and high performance computing. It also offers the high scalability of a cloud-based service. You can buy BMSs directly or in a DeC as you need.

Shared Disks

Shared EVS disks can be attached to BMSs automatically, so that you can easily obtain the storage space needed to deploy core system clusters.

Quick Provisioning

With Huawei-developed SDI technology, you can obtain your BMS within five minutes after selecting a flavor that supports this technology on the management console.

Security

Virtualization does not reduce BMS performance. BMS provides disk backup capabilities and enterprise-class security.

Flexible Deployment

BMSs use VPC to communicate with cloud resources, support hybrid deployment with ECSs, and can have EIPs bound to fully satisfy various networking requirements.

Application Scenarios

Core Database

Multiple BMS flavors are available, and shared EVS disks can be attached automatically to provide the performance and security required by core databases.

High-Performance Computing

BMSs with the latest Intel CPUs coupled with a 100 Gbit/s IB network provide low latency and high performance for high throughput HPC scenarios.

Big Data

BMSs can be equipped with 128 GB of memory and 32 TB local disks in addition to EVS disks for scenarios involving large data volumes, fast data exchange, and elastic scaling.

Auto Scaling

Auto Scaling (AS) automatically adjusts computing resources based on service requirements and configured policies to ensure stability and optimize costs.

Auto Instance Adjustment

Dynamic adjustments based on scheduled, periodic, or alarm-triggered AS policies automatically create and bind new instances to load balancing listeners.

High Availability

Automatic instance status checks in AS groups with immediate replacement of faulty instances ensure service availability.

Visual Management

Visual management intuitively displays dashboard graphs of monitoring each AS group for easier O&M and service change prediction.

Low Cost

Pay-per-use model for ECS resources offers cost effectiveness and flexibility.

Application Scenarios

Data Processing & Computing

AS uses ECSs to process content, automatically scales in or scales out resources, and uses OBS to transmit data online.

Image Management Service

Image Management Service (IMS) allows you to easily create and manage images. You can create a system disk image or data disk image from a disk or an external image file. You can also create a full-ECS image from an ECS with data disks or a backup of an ECS.

Convenient

IMS allows you to create a private image from a server or external image file, and use an image to create servers.

Secure

Images are stored in OBS buckets, ensuring strong data durability.

Flexible

Managing images is easy through the management console or APIs.

Uniform

Images can be used to uniformly deploy or upgrade applications, ensuring consistency in your application environments.

Application Scenarios

Enterprise Applications

Applies to enterprises that want to import image files to the cloud platform for service migration and batch deployment.

Cloud Container Engine

Cloud Container Engine (CCE) is a high-performance, high-reliability service through which enterprises can manage containerized applications. CCE supports native Kubernetes applications and tools, allowing you to easily set up a container runtime environment on the cloud.

Ease of Use

You can create container clusters in just a few clicks, and deploy and manage containerized applications on the console all in one place. Out-of-the-box support for Docker and Kubernetes eliminates the need to set up Docker or Kubernetes environments.

High Performance

CCE is built on top of high-performance HUAWEI CLOUD infrastructure (computing, network, and storage). The container network draws on Huawei's extensive field experience. Containers can be deployed and managed at scale without increased complexity.

Enterprise-Ready Reliability and Security

Each cluster has three master nodes, avoiding a single point of failure on the cluster control plane. Nodes and applications in a cluster can be deployed across AZs so that faults in an AZ do not interrupt the whole cluster. Clusters are private and subject to role-based access control.

Open Compatibility

Huawei is a founder and premium member of CNCF, one of the nine CNCF TOC representatives, one of the first CNCF-certified Kubernetes service providers, and a top contributor to Kubernetes and Docker communities. CCE is fully compatible with Kubernetes- and Docker-native versions.

Application Scenarios

Auto Scaling

- Auto Cluster Scaling

Computing resources can be adjusted based on service requirements and preset strategies. The number of cloud servers or containers increases or decreases with service traffic changes, ensuring service stability.

DevOps Delivery

- One-Stop Container Delivery

CCE can work with existing continuous integration and continuous delivery (CI/CD) pipelines to automatically complete code compilation, image building, dark launching, and containerization based on source code.

Hybrid Cloud

Applications and data can be seamlessly migrated between your on-premises network and the cloud, facilitating resource scheduling and disaster recovery (DR). This is made possible through environment-independent containers, network connectivity between private and public clouds, and the ability to collectively manage containers on CCE and your private cloud.

FunctionGraph

FunctionGraph hosts event-driven functions in a serverless context while ensuring high availability, high scalability, and zero maintenance. All you need to do is write your code and set the execution conditions. You pay only for what you use and you are not charged when your code is not running.

No Servers to Manage

Function code is run automatically without the need for provisioning and managing servers, allowing you to focus on business innovation.

Auto-scaling

Functions automatically scale to suit fluctuations in resource demands, ensuring that the services remain accessible even during peaks and spikes.

Event-based Triggering

FunctionGraph works with multiple cloud services (such as SMN, OBS, DIS, and DMS) in an event-based triggering mechanism to meet diverse service requirements and improve development efficiency.

Pay per Use

You will be billed based on the number of requests, execution duration, and number of state transitions (precise down to the 100 ms range).

Application Scenarios

Real-time File Processing

Uploading files from a client to OBS triggers functions that create image thumbnails in real time, convert video formats, aggregate and filter data files, or implement other file operations.

Real-time Stream Processing

FunctionGraph works with DIS to process real-time streaming data for such purposes as application activity tracking, transaction order processing, click stream analysis, data cleansing, log filtering, metrics generation, social media analysis, and IoT device data telemetry and metering.

Web & Mobile Backends

Uploading files from a client to OBS triggers functions that create image thumbnails in real time, convert video formats, aggregate and filter data files, or implement other file operations.

Artificial Intelligence

FunctionGraph combines with HUAWEI CLOUD EI services for fast text recognition and illicit image identification.

Object Storage Service

Object Storage Service (OBS) is a stable, secure, efficient, and easy-to-use cloud storage service. With Representational State Transfer Application Programming Interfaces (REST APIs), OBS is able to store unstructured data of any amount.

Stable

With reliability built into multiple levels of the architecture, OBS achieves up to 99.999999999% (11 nines) in data durability, and maintains an impressive 99.99% service continuity rate.

Efficient

By leveraging technologies of intelligent scheduling, accelerated data transfer, and big data analytics, OBS provides users with the best possible data access experience: 10-million level TPS, 2.4 Gbit/s single-stream upload, and shorter than 10 ms latency.

Secure

OBS has passed the Trusted Cloud Service certification. It secures your data with server-side encryption, client-side encryption, WORM, URL validation, VPC-based network isolation, log auditing, and fine-grained permission control.

Easy to Use

OBS uses storage policies, bucket tags, object tags to optimize storage management efficiency. OBS supports REST APIs, provides multi-language software development kits (SDKs), and

Application Scenarios

Enterprise Backup and Archive

OBS provides cost-effective and highly reliable storage. Different storage classes are available, reducing total cost of ownership while catering to various backup needs. Recommended backup software: AnyBackup Cloud

Static Website Hosting

OBS offers an affordable, always-on website hosting solution, with auto scaling based on traffic. Recommended data management tool: OBS Browser

Cloud Native Applications

OBS provides high-performance and highly available storage services, which can be expanded quickly to develop cloud applications at low costs

Big Data Analysis

OBS provides an elastic storage system that is scalable in real time. It can dramatically reduce your cost when used in combination with big data services on HUAWEI CLOUD, while accelerating innovation and facilitating data management.

Enterprise Cloud Box

OBS is a reliable, cost-effective storage system that automatically expands as the amount of stored data increases. Recommended enterprise web disks: Eisoo, AnyBackup Cloud, and Chinasoft International JFun Box

Elastic Volume Service

Elastic Volume Service (EVS) offers scalable block storage for servers. With high reliability, high performance, and rich specifications, EVS disks can be used for distributed file systems, development and testing environments, data warehouse applications, and HPC scenarios to meet diverse service requirements.

High Reliability

Three copies of data ensure 99.9999999% availability and durability, and security.

High Performance

A disk can sustain up to 33,000 IOPS, and have a max. throughput of 350 MB/s and min. latency of 1 ms.

Flexibility

Ultra-large block storage (max. 32 TB per disk), dynamic online capacity expansion, and pay-per-use option.

Rich Features

Features include disk sharing, disk encryption, disk and server backups, and snapshots.

Application Scenarios

High-Performance Computing

Great for distributed file systems like Lustre and GPFS, which require high-performance storage. Ultra-high I/O EVS disks meet extremely high throughput and read/write speed requirements.

Data Warehouses

Great for read-intensive applications like RAC and SAP HANA. Ultra-high I/O EVS disks meet low latency and extremely high throughput and read/write speed requirements.

NoSQL/Relational Databases

Great for read/write intensive databases such as MongoDB, SQL Server, MySQL, and PostgreSQL. Ultra-high I/O EVS disks meet low latency and extremely high read/write speed requirements.

Enterprise Office Applications

Great for enterprise office applications such as SAP, Microsoft Exchange, and Microsoft SharePoint. High I/O EVS disks meet diverse enterprise office requirements.

Dev & Test Environments

Great for development and test environments. Common I/O EVS disks meet development and test environment requirements.

Dedicated Distributed Storage Service

Fees vary depending on dedicated storage types and are charged on a yearly basis.

Dedicated Storage

DSS provides exclusive storage resources to ensure high disk read/write speed, data security, and compliance.

Abundant Features

DSS supports disk sharing, disk encryption, disk backup, and snapshot, perfect for enterprises in a wide range of industries.

Various Scenarios

By flexibly interconnecting with various computing services, such as ECS, BMS, and DCC, DSS can easily accommodate HPC, OLAP, and mixed-load scenarios.

High Performance

With a distributed storage architecture and smooth expansion capabilities, DSS provides high-throughput and high-concurrency storage, all with improved performance

Application Scenarios

Interconnection with DeC

DSS can interconnect with the ECS and BMS services in a DeC, satisfying high performance, stability, data security, and regulatory compliance requirements.

Interconnection with Non-DeC

DSS can interconnect with computing services such as ECS and BMS in a non-DeC to meet requirements of deploying applications on non-dedicated servers.

Mixed Loads

DSS is designed for scenarios with high concurrency and high throughput and supports hybrid deployment of HPC, databases, email, OA office, and web applications.

High-Performance Computing

DSS provides you with ultra-high I/O storage to meet the requirements of large-scale concurrent computing, perfect for scenarios such as automobile simulation, DNA sequencing, and machine learning.

OLAP Applications

DSS supports applications deployed in cluster mode, such as RAC, DB2, and SAP HANA. You can use different types of dedicated storage to meet different application requirements.

Volume Backup Service

Volume Backup Service (VBS) allows you to back up Elastic Volume Service (EVS) disks and restore EVS disks from backups, keeping your data on EVS disks accurate and secure.

Easy to Use

Backup can be configured in three easy steps and does not require elaborate planning. In addition, the storage space on backup servers can be easily expanded when required.

Flexible

Backup policies can be automatically applied to cover various backup scenarios. Permanent incremental backup and restoration reduces backup time and cuts down the recovery time objective (RTO) to minutes.

Cost-effective

A full initial backup is followed by permanent incremental backups, significantly reducing the space occupied by backup files. Backup storage, which is charged based on usage, can be expanded or reduced when required.

Reliable

Backups of encrypted disks are also encrypted, ensuring multiple levels of security. Backup data is stored in multiple data centers, ensuring 99.999999999% data durability

Application Scenarios

Disk Backup and Restoration

Online, uninterrupted backups can be performed on EVS disks, and backup files can be used to seamlessly restore EVS disks.

Service Provisioning

The system disk image and data disk backup of an ECS can be used to quickly create identical ECSs, facilitating rapid batch-deployment of services across availability zones (AZs).

Cloud Server Backup Service

Cloud Server Backup Service (CSBS) allows you to back up Elastic Cloud Servers (ECSs) and restore server data from backups, keeping your data accurate and secure.

Reliable

Backup can be configured in three easy steps and does not require elaborate planning. In addition, the storage space on backup servers can be easily expanded when required.

Efficient

Backup policies can be automatically applied to cover various backup scenarios. Permanent incremental backup and restoration reduces backup time and cuts down the recovery time objective (RTO) to minutes.

Easy to Use

A full initial backup is followed by permanent incremental backups, significantly reducing the space occupied by backup files. Backup storage, which is charged based on usage, can be expanded or reduced when required.

Secure

Backups of encrypted disks are also encrypted, ensuring multiple levels of security. Backup data is stored in multiple data centers, ensuring 99.999999999% data durability

Application Scenarios

Data Backup and Restoration

Consistent backup is performed on all EVS disks on an ECS so backups can be used to quickly restore data, ensuring service security and reliability, while saving time and effort.

Service Provisioning

You can use the image of an ECS's backup to create an ECS with the same configurations as the original ECS to realize fast service deployment.

Content Delivery Network

CDN(Content Delivery Network)delivers content from origin sources to edge nodes, accelerating content delivery with nearest-node access. CDN speeds up website response, ensures content availability, and prevents network traffic bottlenecks.

Multiple Nodes

More than 1,500 CDN nodes in over 130 countries and regions, supported by more than 1,600 carrier networks.

Full Protection

The anti-DDoS and web application security protection capabilities protect origin servers against traffic attacks and ensure normal system running.

Simple Operation

Provides quick access and self service domain name management. Custom configuration items are supported.

Stability & Reliability

Full-service acceleration, including website, download, and video acceleration, enables users to quickly and reliably access their data.

Application Scenarios

Website Acceleration

CDN accelerates portals, e-commerce platforms, news apps, and user-generated content (UGC), and provides nationwide acceleration services for static content available in predefined domain names.

Download Acceleration

CDN significantly shortens the time required to update software and apps, making it the perfect choice for scenarios in which HTTP/HTTPS protocols are used for downloading (for example, websites, download tools, game clients, and App stores).

Video Acceleration

CDN accelerates on-demand media services such as e-learning, video sharing, TV programs, and music apps.

Storage Disaster Recovery Service

Storage Disaster Recovery Service (SDRS) provides disaster recovery (DR) services for many public cloud services, such as Elastic Cloud Server (ECS), Dedicated Distributed Storage Service (DSS), and Elastic Volume Service (EVS). SDRS uses multiple technologies, such as storage replication, data redundancy, and cache acceleration, to provide high data reliability and service continuity for users.

Enterprise-Level DR

The synchronous replication technology enables services to be restored in the target AZ with just a few clicks if the source AZ goes down for any reason; RPO = 0.

Low Costs

It achieves improved green credentials while saving your organization time, money, and headaches from having to build or rent equipment rooms, purchase and maintain hardware, and pay for other incidentals like electricity. Adopting an on-cloud DR profile reduces TCO by 60%.

Flexible Deployments

You can configure protected instances based on service policies. Servers used for providing the same service can be added to the same protection group. This service can be used with Dedicated Cloud (DeC).

Ease of Use

You do not need to restore servers one by one as in traditional DR solutions. SDRS allows you to switch services and perform DR drills in just a few clicks on the console.

Application Scenarios

Cross-AZ DR

The synchronous replication technology used at the storage layer provides DR protection between AZs to ensure data consistency. If the source AZ becomes faulty, services can be quickly restored in the target AZ.

Non-disruptive DR Drills

Drills are performed in the sandbox, leaving services in the source AZ remain completely unaffected.

Scalable File Service

Scalable File Service (SFS) is a network attached storage (NAS) service that provides scalable high-performance file storage. With SFS, shared access can be achieved among multiple Elastic Cloud Servers (ECSs), Bare Metal Servers (BMSs), and containers created on Cloud Container Engine (CCE).

Durable

The multi-level reliable architecture ensures a data durability of 99.99999999% (10 nines) and a service availability of 99.95%.

Efficient

Various file storage services are available, meeting different performance requirements, such as high IOPS, low latency, and high bandwidth.

Easy to Use

Fully-hosted file storage extricates users from complex hardware deployment and maintenance, eliminating their worries about hardware infrastructures.

Secure

HUAWEI CLOUD security technologies comprehensively secure user data. VPC-based user authentication isolates a user's data from others.

Application Scenarios

HPC

- File Sharing

High-IOPS and low-latency SFS Turbo is recommended. For companies with a large number of departments and employees, documents and data can be shared and accessed using the file systems.

Media Processing

High-bandwidth and large-capacity SFS is recommended. Shared file storage facilitates multi-layer HD and 4K video editing, transcoding, composition, and video on demand (VoD).

File Sharing

High-IOPS and low-latency SFS Turbo is recommended. For companies with a large number of departments and employees, documents and data can be shared and accessed using the file systems.

Data Express Service

Data Express Service (DES) is a massive data transmission solution. It allows transmitting a large amount of data using Teleport or hard disks (with external USB interfaces, SATA interfaces, or SAS interfaces). DES helps to address issues facing massive data transmission, such as high network costs and long transmission time.

Fast and Convenient

Mailing Teleport or your disks to a Huawei data center can speed up data transmission to 10 times faster than the 1000 Mbit/s high-speed Internet.

Cost-effective

With pay-per-use billing mode, data transmission costs using DES are much lower than using the high-speed Internet.

Secure

Teleport is dust- and water-proof and resistant to vibration and crush. With functions such as the safety lock, Teleport secures your data during delivery.

Reliable

Your data is migrated to OBS, where the multi-redundancy policy ensures a data durability of 99.999999999% (11 nines) and continuity of 99.99%.

Application Scenarios

Massive Data Migration

DES allows transferring raw data for genetics engineering, oil exploration, meteorological research, and Internet of Things (IoT) to OBS of HUAWEI CLOUD.

Data Exchange

DES enables effortless exchanging of large volumes of data by importing data from business partners' physical media to OBS in a fast, economical, and secure manner.

Website Migration

DES provides a cost-effective and easy data migration method for transferring static resources including text, pictures, scripts, and videos from static websites to OBS.OBS in a fast, economical, and secure manner.

Offline Backup

DES allows uploading full or incremental backups to OBS of HUAWEI CLOUD for secure offsite storage. You can also use DES in combination with hybrid cloud backup solutions.

Disaster Recovery

DES provides fast transfer for large-scale data, facilitating recovery of large amounts of data during initial data synchronization.

Network

Virtual Private Cloud

Virtual Private Cloud (VPC) enables you to create private, isolated virtual networks. You can configure IP address ranges, subnets, and security groups, assign Elastic IP (EIP) addresses, and allocate bandwidth in a VPC.

Secure and Reliable

Private networks on the cloud are completely isolated. You can create Elastic Cloud Servers (ECSs) that are in different availability zones, in the same VPC.

Flexible Configuration

Self-service network management frees you from routine network configurations and allows flexible network deployment.

High-Speed Access

Dynamic BGP network connections enable seamless high-speed access to services on the cloud.

Interconnection

VPC peering enables interconnection between VPCs.

Application Scenarios

Dedicated Networks

Leverage the VPC service to build private networks, assign EIPs for network access, and configure and deploy services.

Web Services

Leverage the VPC service to build private networks and use Elastic Load Balance (ELB) to provide web services that can be concurrently accessed by a large number of users.

Hybrid Cloud Deployment

With Direct Connect and VPN, you can build a hybrid cloud by connecting VPCs to your local data center and migrating data to HUAWEI CLOUD.

Elastic Load Balance

Elastic Load Balance (ELB) automatically distributes incoming traffic across multiple servers to balance their workload, increasing the service capabilities and fault tolerance of your applications.

Robust Performance

ELB is able to process hundred millions of concurrent connections.

High Availability

ELB is deployed in cluster mode and can route traffic to healthy servers in different availability zones for smooth disaster recovery.

High Scalability

Incoming traffic is intelligently distributed to servers. Deep integration with Auto Scaling flexibly expands service capabilities.

Easy to Use

A diverse set of protocols and algorithms enable you to configure traffic routing policies to suit your needs while keeping.

Application Scenarios

Disaster Recovery

ELB can distribute incoming traffic across availability zones, offering high service availability to enterprises like banks.

Flash Sales

ELB works with Auto Scaling to balance the number of servers during promotion periods that feature sudden spikes.

NAT Gateway

NAT Gateway provides Source Network Address Translation (SNAT) and Destination Network Address Translation (DNAT) functions for Elastic Cloud Servers (ECSs) in a Virtual Private Cloud (VPC), making it easier for you to configure the ingress and egress for a VPC.

High Performance

NAT Gateway provides various instance types. It is designed for scenarios with a large quantity of requests and connections.

Flexible Deployment

NAT Gateway enables ECSs in a VPC to connect to the Internet. This service can be deployed flexibly across subnets and AZs.

Easy to Use

NAT Gateway simplifies O&M operations and supports quick provisioning. It runs stably and reliably.

Cost Efficiency

Multiple ECSs share an EIP. You do not need to purchase additional EIPs or bandwidth resources.

Application Scenarios

Public Network Egress

NAT Gateway constructs a public network egress for a VPC. ECSs in the environment can use shared EIPs to access the Internet. Multiple types of NAT gateways are available.

Public Network Ingress

Leverage the VPC service to build private networks and use Elastic Load Balance (ELB) to provide web services that can be concurrently accessed by a large number of users.

Hybrid Cloud Deployment

NAT Gateway supports port forwarding with DNAT, allowing your ECSs to provide services for external networks with a shared EIP.

Elastic IP

The Elastic IP (EIP) service provides independent public IP addresses and bandwidth to the Internet. An EIP can be flexibly associated with or disassociated from an ECS, BMS, virtual IP address, load balancer, or NAT gateway. Various billing modes are provided to meet diversified service requirements.

Flexibility

An EIP can be flexibly associated with or disassociated from an ECS, BMS, NAT gateway, load balancer, or virtual IP address. The bandwidth can be adjusted according to service changes.

Flexible Billing

Pay-per-use (based on bandwidth usage or amount of traffic) and yearly/monthly billing modes are available.

Shared Bandwidth

An EIP can share bandwidth with others, reducing costs.

Immediate Use

EIP associations, disassociations, and bandwidth adjustments take effect immediately.

Application Scenarios

Internet Egress

EIPs serve as egress filters for cloud resources to access the Internet and can be flexibly associated with or disassociated from various resources to meet service requirements.

Direct Connect

Direct Connect is a high-speed, stable, and secure dedicated network connection. It connects your local data center to a Virtual Private Cloud (VPC) on HUAWEI CLOUD. With its low-latency design, Direct Connect maximizes HUAWEI CLOUD services and existing IT facilities to build a flexible, scalable hybrid cloud computing environment.

Impenetrable Security

Utilizing dedicated private connections and isolated networks, Direct Connect guarantees safe access to VPCs on HUAWEI CLOUD.

Seamless Expansion

Your local data center can communicate with HUAWEI CLOUD resources on demand through Direct Connect for flexible and scalable hybrid deployment.

High Bandwidth

A single direct connection supports a maximum bandwidth of 10 Gbit/s, meeting the typical requirements of most customers.

Low Latency

Data is transmitted through the dedicated network, which features high performance and low latency, making for an improved user experience.

Application Scenarios

Hybrid Deployment

Use Direct Connect to access HUAWEI CLOUD VPCs. Leverage the fast and flexible scaling capabilities of the cloud to improve computing capacity at the application layer.

Geographic Redundancy

Use Direct Connect to access VPCs on HUAWEI CLOUD. In addition, deploy VPCs across different AZs to back up user data and services, which in turn allows for geographic redundancy.

Virtual Private Network

Virtual Private Network (VPN) establishes a secure, encrypted communication tunnel between your local data center and your VPC on HUAWEI CLOUD. With VPN, you can build a flexible and scalable hybrid cloud environment.

High Data Security

Huawei-proprietary hardware encrypts data based on IKE and IPsec with carrier-class reliability and ensures VPN connection stability.

Seamless Resource Extension

With VPN, you can connect your local data center to your VPC and quickly extend services from the data center to the cloud, forming a hybrid cloud.

Low-Cost Connection

Encrypted IPsec connections over the Internet provide a cost-effective alternative to Direct Connect connections.

Easy to Use

You can create an easy-to-use VPN connection by specifying parameters on the console and configuring it in your data center

Application Scenarios

Hybrid Cloud Deployment

You can use the VPN service to connect your VPC on the cloud to your local data center and add more computing capacity to your network by leveraging the scalability and elasticity of the cloud.

Domain Name Service

Domain Name Service (DNS) provides highly available and scalable authoritative DNS resolution services along with domain name management. It translates domain names into IP addresses required for network connection to route visitors to desired resources.
This free service is enabled by default for all HUAWEI CLOUD users.

Private DNS for VPCs

Provides secure private DNS. You can have your own authoritative DNS servers in VPCs to improve resolution efficiency, lower network latency, and prevent DNS spoofing.

High-Performance

Offers a new generation of efficient and stable resolution services, enabling tens of millions of concurrent queries on a single node.

Reverse Resolution

Maps IP addresses to domain names, ensuring credibility of emails sent from your email servers.

Security Protection

Defends services against various DDoS attacks with Huawei's powerful anti-DDoS devices and extensive experience in security protections.

Application Scenarios

General DNS Resolution

The DNS service enables visitors to access your service resources, such as ECS, OBS, and ELB using domain names.

Service Management

Create public and private zones for the same domain names to deploy your website both online and offline with the same code, facilitating service maintenance.

Application Deployment

Map private domain names to ECS IP addresses in specified VPCs, allowing these ECSs to communicate with each other using domain names.

Database

RDS for MySQL

MySQL is one of the world's most popular open-source relational databases. It works with Linux, Apache, and PHP to establish a LAMP stack, thereby providing efficient web solutions. RDS for MySQL is reliable, scalable, easy to manage, and ready to use, letting you focus on developing your services.

High Performance

Our enhanced MySQL kernel (HWSQL) provides enhanced connection pooling and remains stable with high concurrency and QPS even when the number of concurrent requests reaches 5,000 and QPS exceeds 170,000.

High Reliability

Enhanced semi-synchronous replication prevents data loss and automatic failover takes only a few seconds to ensure low recovery time objective (RTO).

High Security

RDS for MySQL has been certified by Trusted Cloud Service (TRUCS) and uses security groups and VPCs to control access.

High Efficiency

A web-based management console provides an easy way to manage, monitor, and operate DB instances.

Application Scenarios

IoT

RDS for MySQL is an excellent choice for IoT applications. It supports high concurrency and throughput, allowing you to efficiently process massive connections.

E-Commerce

RDS for MySQL provides reliable and efficient data storage for your e-commerce and mobile commerce applications, enabling your applications to run stably on the network.

E-Government

RDS for MySQL is designed for e-government platforms to process queries from hundreds of millions of users.

Mobile Gaming

RDS for MySQL provides the high performance and reliability you need to create online mobile games.

RDS for PostgreSQL

PostgreSQL is an open-source object-relational database management system with an emphasis on extensibility and standards compliance. It is known as the most advanced open-source database.

Multi-Plugin Support

RDS for PostgreSQL supports multiple plugins and data types for fast, flexible data processing.

High Reliability

Primary and standby DB instances with automatic failover can be deployed in different AZs for high reliability.

High Security

RDS for PostgreSQL has been certified by TRUCS, CSA STAR, and ISO 27001, with Class 3 certification in Information Security Protection by China's Ministry of Public Security.

Comprehensive Monitoring

Comprehensive monitoring allows you to monitor DB instance status and set alarm rules.

Application Scenarios

Location Applications

RDS for PostgreSQL supports PostGIS and is the preferred choice for location-based applications. It provides spatial features including space objects, indexes, operation functions, and operators.

Research Projects

RDS for PostgreSQL supports different forms of complex data and custom data types. It stores infrequently used data to OBS to save storage costs and space.

Financial Insurance

RDS for PostgreSQL uses Multi-Version Concurrency Control (MVCC) to ensure data consistency and synchronizes data between primary and standby DB instances to ensure data integrity.

E-Commerce

RDS for PostgreSQL is an excellent choice for its stability in SQL programming for Internet applications in high-concurrency scenarios.

RDS for SQL Server

RDS for SQL Server provides the HA architecture, data security assurance, and backup mechanism for fault recovery within seconds.

High Reliability

Primary and standby DB instances with automatic failover can be deployed in different AZs for high reliability.

High Security

RDS for SQL Server has been certified by TRUCS, CSA STAR, and ISO 27001, with Class 3 certification in Information Security Protection by China's Ministry of Public Security.

Comprehensive Monitoring

Comprehensive monitoring allows you to monitor DB instance status and set custom alarm rules.

Cost-Effectiveness

RDS for SQL Server supports various editions of Microsoft SQL Server. You can choose an edition that best suits your needs at a low cost.

Application Scenarios

Finance

RDS for SQL Server supports primary/standby high availability and enables automated switchover within seconds. It uses VPCs and subnets to isolate networks and uses security groups to control access.

Internet

RDS for SQL Server is excellent in processing concurrent transactions and supports elastic scaling to flexibly and efficiently meet service requirements.

Software Development

RDS for SQL Server uses native Microsoft visualized tools to simplify O&M operations and reduce costs.

Document Database Service

Document Database Service (DDS) is compatible with MongoDB and is secure, highly available, reliable, scalable, and easy to use. It provides DB instance creation, scaling, redundancy, backup, restoration, monitoring, and alarm reporting functions with just a few clicks on the DDS console.

Secure

Provides multiple layers of security protection (including VPC, subnet, security group, DDoS protection) and SSL secure access for complete protection against network attacks.

Scalable

Provides smooth scaling without interrupting your services or need to modify code. Distributed architecture scales up storage with easy addition of more nodes to meet your in-the-moment requirements.

Reliable

Provides two HA architectures: replica set and cluster. Automatically creates multiple copies of your data for fast and assured recovery. Restores data with just a few clicks to avoid data loss caused by operator error.

Effective O&M

Allows you to restart, back up, and restore DB instances with just a few clicks on the DDS management console and monitor CPU utilization and IOPS in real time.

Application Scenarios

Gaming Applications

With DDS, you can store game data for millions of players and use distributed DDS clusters to cope with high loads during peak gaming hours.

Mobile Apps

Mobile apps, including those for shared ride services, live TV, and social media platforms, need to collect user location information and store, query, and analyze various types of complex data. DDS is compatible with MongoDB, which supports unstructured data models and provides powerful query capabilities.

IoT Industry

Intelligent IoT terminals need to collect various types of data, store device logs, and analyze information in multiple dimensions. In recent years, IoT services have grown rapidly, with huge volumes of data and increasing access traffic that require horizontal expansion capabilities for data storage.

Big Data

Many organizations need to process and store data into the TB range, requiring data to be written to databases in real time and dynamic analysis capabilities in big data computing.

Data Replication Service

Data Replication Service (DRS) is a stable, efficient, and easy-to-use cloud service for database online migration and synchronization.It simplifies data migration processes and reduces migration costs.

Easy to Use

You can use this service for database migration and synchronization without professional technical knowledge.

Fast Set-up

Migration tasks can be set up within minutes, in stark contrast to conventional database migration methods which can take days or months.

Low Costs

DRS saves your manpower and hardware costs. You only pay for the resources used during the migration process.

Low Risks

DRS is resilient and self-healing. It improves migration success rates through a variety of functions.

Application Scenarios

Migration to the Cloud

DRS online migration uses incremental migration technology. Source databases remain operational during migration, minimizing downtime and impact.

Cloud Data Redundancy

DRS supports the local Internet Data Center (IDC) as a service center and HUAWEI CLOUD as a data redundancy center for recovery without too much investment on infrastructure.

Data Admin Service

Data Admin Service (DAS) enables you to manage DB instances on a web-based console, simplifying database management and improving working efficiency.

Simple Management

Simplifies cloud database management using a graphical user interface (GUI).

Security Protection

Provides secure access to protect your data.

Ease of Use

Enables you to access databases with a few clicks.

High Efficiency

Improves the R&D efficiency through cloud development and testing.

Application Scenarios

Data Access

- Convenient Operations

You can add, delete, modify, and query database data as easily as you would if you were using Excel, even if you are not familiar with SQL statements. Commonly-used SQL statements can be saved for reference at any time.

Structure Management

- High R&D Efficiency

Streamlined database structure and user-friendly interface make it easy to change data structure.

Anti-DDoS

Anti-DDoS is a traffic scrubbing service that protects resources such as Elastic Cloud Server (ECS) and Elastic Load Balance (ELB) instances from network and application layer distributed denial-of-service (DDoS) attacks. It notifies users of detected attacks instantly, ensures bandwidth availability as well as the stable and reliable running of services.

Highly Reliable

Bolstered by over 17 years of professional expertise and certified by NSS Labs, Huawei's Anti-DDoS systems guarantee reliability.

Fully Accurate

A database that is constantly updated with the latest feature library (carrying millions of blacklisted IP addresses) coupled with a 7-layer, smart scrubbing mechanism ensures accurate results.

Instantaneous Response

With industry-vetted technology and powerful equipment, Anti-DDoS checks each packet and responds to any attack immediately without causing service delays.

Completely Free

Anti-DDoS is free of charge and instantly available upon application. It provides professional defense templates and capability of self-learning to auto-adjust threshold.

Application Scenarios

Website Browsing

Websites are prone to DDoS attacks that can ultimately cause them to crash. The Anti-DDoS service can withstand multi-layered (layers 4 to 7) attacks, therefore improving the browsing experience.

Gaming

Online gaming poses a considerable risk due to malware. Anti-DDoS protects against every form of DDoS attack to ensure stable Internet connections.

Advanced Anti-DDoS

Advanced Anti-DDoS (AAD) is a value-added service that protects gaming, finance, and e-commerce customers against large volumetric DDoS attacks. It diverts attack traffic to high-defense IP addresses with high defense capabilities for scrubbing, thereby keeping your businesses stable and reliable.

Great Capability

AAD has 16+ scrubbing centers globally with Tbit/s-level defense capabilities. Services are always protected while meeting geo-specific requirements.

Instantaneous Response

Real-time monitoring of network conditions and immediate diversion of attack traffic keep a tight lid on security risks so you can run your business without worry.

Highly Reliable

Automatic attack detection and defense policy matching provide real-time protection yielding up to 99.9% of service availability.

24/7 Support

Award-winning teams provide around-the-clock support to keep your services up and running.

Application Scenarios

Website Browsing

• Customer Requirements

Website access is slow or blocked due to DDoS and CC attacks, resulting in the loss of users and low sales volumes.

Gaming

• Customer Requirements

DDoS attacks affect the gaming experience, causing loss of revenue and disinterest in the game from unforgiving gamers who expect top performance because milliseconds often decide victory and defeat.

Web Application Firewall

Web Application Firewall (WAF) is expertly designed to keep your website safe and secure. It examines website service traffic from multiple dimensions to accurately identify malicious requests and filter attacks, ensuring top-class system security and stability for your data.

Stable & Intelligent

Enables remote disaster recovery with intelligent scheduling and prioritized access; supports DNS resolution on the cloud; deploys within seconds.

Application-oriented

Defines your own application-specific protection rules to accurately block attacks and reduce misreports.

360-degree Protection

Professional security teams provide 24/7 monitoring. With its proven comprehensive protections, WAF can defend against the latest 0-day vulnerabilities.

Synergistic

Supports automatic upgrade on the cloud; detects potential threats and sets up multi-dimensional defense systems in collaboration with other security services.

Application Scenarios

Data Leakage

Malicious visitors use such methods as SQL injection and webshells to intrude on website databases and steal service data or other sensitive information.

0-Day Vulnerabilities

WAF provides 360-degree protection using virtual patches against attacks that may exploit 0-day vulnerabilities in third-party frameworks or plug-ins.

CC Attacks

If a large number of malicious CC attacks are initiated, core resources are occupied for an extended period of time, causing slow website response or service interruption.

Web Page Tampering

Attackers leave backdoors on website servers or tamper with web page content, leaving your site defaced and potentially causing you losses.

Vulnerability Scan Service

Vulnerability Scan Service (VSS) is a security diagnosis service that uses weakness detection and intelligent correlation analysis technologies to help discover security risks in your websites or servers.

Full Scan Capabilities

Scans for website, host, and middleware vulnerabilities, as well as weak passwords.

Automatic Monitoring

Monitors the latest network vulnerabilities in real time, updates detection rules immediately, and detects asset risks promptly.

Intelligent Scanning

Harmless scan dynamically adjusts scanning frequency and analyzes how detection results are correlated.

Compliance Checks

In compliance with Huawei and the Center for Internet Security (CIS) benchmarks, checks for configuration weaknesses to expose vulnerabilities.

Application Scenarios

Website Vulnerability Scan

Website vulnerabilities can lead to a crippling impact on business and cause financial loss if not found and addressed at the earliest possible time.

Host Vulnerability Scan

Hosts bearing critical services may be exposed to vulnerabilities and non-compliant configurations.

Weak Password Scan

Passwords are usually used for remote login to assets such as hosts or middleware. Attackers often use scanning technologies to hack usernames and weak passwords.

Middleware Scan

Middleware helps develop and integrate complex application software flexibly and efficiently. If a hacker discovers and exploits vulnerabilities in the middleware, the security of the upper layer and lower layer is compromised.

Host Security Service

Host Security Service (HSS) is designed to improve the overall security for hosts. It reduces intrusion risks with asset management, vulnerability management, intrusion detection, and baseline inspection functions.

Simple Management

Detection and protection functions are provided on the same page to simplify management.

Comprehensive Protection

HSS provides complete protection for your businesses, including pre-event prevention, during-event defense, and post-event detection.

Precise Defense

Advanced detection technologies and an extensive sample library contribute to the defense accuracy.

Lightweight Agent

HSS agents occupy few resources and do not affect the running performance of your hosts.

Application Scenarios

Graded Protection

The Cybersecurity Law of China requires network operators to have intrusion detection capabilities. HSS provides the intrusion detection capabilities to help you meet regulatory requirements.

Host Security Management

Centrally manages the security configurations and events of all your hosts on one console, reducing ECS management costs and hardening security.

Security Risk Assessment

Detects risks (such as weak passwords and malicious programs) and prompts users to harden their systems accordingly.

Account Security Protection

HSS supports two-factor authentication (2FA) and offers 24/7 account protection before, during, and after attacks, preventing brute force attacks and keeping ECSs secure.

Data Encryption Workshop

Data Encryption Workshop Data Encryption Workshop (DEW) is a full-stack data encryption service. It covers Key Management Service (KMS), Key Pair Service (KPS), and Dedicated HSM. With DEW, you can develop customized encryption applications, and integrate it with other HUAWEI CLOUD services to meet even the most demanding encryption scenarios.

Service Integration

DEW provides KMS, integrated with many of the HUAWEI CLOUD extensive services including Object Storage Service (OBS), Elastic Volume Service (EVS), Image Management Service (IMS), and more.

Login Security

DEW provides KPS that enables you to create or import key pairs on the management console when logging in to your purchased Elastic Cloud Server (ECS).

Compliance

With DEW, keys and random numbers are generated by the third-party validated HSMs. It is compliant with local and international laws and regulations.

Dedicated HSM

DEW provides CSCA certified or FIPS 140-2 validated level-3 HSM protection, guaranteeing high-performance encryption to meet your strict security requirements.

Application Scenarios

Dedicated HSM

For encryption scenarios requiring strict compliance, you can use the FIPS 140-2 validated level-3 HSM to implement dedicated encryption.

Key Management Service

KMS uses validated HSMs to protect your keys, so you can effortlessly create and manage keys for data encryption. It can be integrated with other HUAWEI CLOUD services such as OBS, EVS, and IMS.

Key Pair Service

KPS is designed for login scenarios that have stringent security requirements. When purchasing an ECS, you can set the login mode to key-pair login. The key pair can be reset or replaced as necessary.

Database Security Service

Database Security Service (DBSS) is a smart database protection service. With the reverse proxy and machine learning technologies, the service is able to provide such functions as sensitive data discovery, data masking, database auditing, and injection prevention.

Easy to Use

DBSS can be purchased with one click, and its software nodes are automatically deployed. In addition, it is easy to operate and does not require changes to your database configurations.

Smart

DBSS supports fine-grained rights control and configurations. It uses a mechanism based on feature identification and scoring to prevent mis-reporting.

Regulation-Compliant

DBSS complies with the HIPAA, SOX, and PCI DSS. To meet auditing requirements, it supports sensitive data discovery, dynamic data masking, and remote audit log storage.

Reliable

DBSS supports active-passive disaster recovery to ensure service continuity and availability.

Application Scenarios

Attack Prevention

Various policies are provided to prevent database attacks.

Data Masking

DBSS can discover and dynamically mask sensitive data in your database.

Auditing

DBSS provides database auditing capabilities.

Application

Service Stage

ServiceStage is a cloud-native application management service that facilitates application development, build, release, monitoring, and O&M. It supports Docker, Tomcat, ServiceComb, and Spring Cloud.

Fully Managed

Deploys your applications using containers, VMs, or serverless, and easily implements auto scaling, performance analysis, and fault diagnosis.

Open Technology

Supports multiple languages, such as Java, Go, PHP, Node.js, .Net, and Python. You can also introduce your own language, development framework, and runtime environment.

Agile

Integrates multiple tool ecosystems, such as Eclipse, IDEA, Jenkins, and Maven, and supports seamless integration of off-cloud and on-cloud development.

Enterprise Grade

Supports transformation of Huawei core service Cloud Native, meeting strict performance, usability, and security compliance

Application Scenarios

Microservice Application Solution

Provides ServiceComb, Spring Cloud, and Service Mesh, helping customers build enterprise-grade microservice platforms.

Web Application Solution

One-stop O&M platform greatly improves the efficiency of enterprise-grade web application development and O&M.

Mobile Application Solution

Provides general mobile application backend services to accelerate the development efficiency of enterprises' mobile applications.

Continuous Delivery Solution

Implements "self-service" development, integration, verification, and rollout based on the ServiceStage pipeline.

Cloud Service Engine

Cloud Service Engine (CSE) provides a high-performance microservice framework, one-stop service registry, governance, dynamic configuration, and a distributed transaction console, facilitating rapid application development and efficient O&M.It also supports Spring Cloud, Service Mesh, and ServiceComb.

Multiple Programming Languages

Supports multiple programming languages, such as Java, Go, .NET, Node.js, and PHP.

High Reliability

Based on Huawei's CloudNative, which serves hundred millions of Huawei Device users.

Open-Source Base

Open-sourced in Apache, the core framework ServiceComb provides the commercial editions of Service Mesh and Spring Cloud.

Industry Expertise

Developed in collaboration with 100+ industry partners with experience in providing microservice consulting services.

Application Scenarios

HA Microservice

CSE provides high availability assurance for distributed systems, making it ideal for e-commerce, gaming, e-learning, media, energy, and finance application scenarios featuring traffic spikes and lulls.

Multi-language Microservice

One-stop O&M platform greatly improves the efficiency of enterprise-grade web application development and O&M.

Mobile Application Solution

- Access and Interconnection of Multi-language Microservices

CSE provides multiple programming languages that enterprises can choose for microservice transformation.

Open-Source Framework

- Access and Management of Microservices Using an Open-Source Framework

CSE enables open collaboration and integration for existing enterprise applications using open-source frameworks such as Spring Cloud and Dubbo.

Application Orchestration Service

Application Orchestration Service (AOS) provides a graphical designer, enabling you to provision cloud service resources and deploy applications intuitively and easily. By compiling templates, you can provision and copy cloud service resources and applications with just a few clicks. AOS also provides a large number of free sample templates, covering common cloud service and application scenarios. You can directly use these templates or customize your own templates.

Lifecycle Management

Application lifecycle management, covering design, deployment, and O&M; one-stop E2E Ops.

Flexibility

Orchestration of various cloud services; quick setup of infrastructure environment based on application demands; preservation of infrastructure code for reuse.

Openness

TOSCA-based; compatible with common orchestration tools to facilitate service migration to the cloud.

Ease of Use

Application design through diagram drag-and-drop and parameter setting; easy orchestration and deployment of cloud resources with just a few clicks.

Application Scenarios

Application Design

You can quickly create or modify stack templates through diagram drag-and-drop and code compilation, simplifying the cloud migration process.

Application Rollout

You can integrate resources and software for applications by creating stacks, and release applications with just a few clicks.

Lifecycle Management

Application lifecycle management functions such as deployment, upgrade, monitoring, scaling, and dark launch simplify routine O&M.

Software Repository for Container

Software Repository for Container (SWR) provides easy, secure, and reliable management over container images throughout their lifecycles, facilitating the deployment of containerized services.

Ease of Use

Provides a simple and intuitive console to support full lifecycle management of container images.

Security Assurance

Supports HTTPS to ensure secure image transmission, and provides security isolation mechanisms between tenants or users under a tenant.

High Reliability

Ensures 99.95% service continuity and 99.999999999% container image storage durability.

High Compatibility

Supports Docker Registry V2 protocol, and Docker CLI- and native API-based image management.

Application Scenarios

Image Deployment

SWR can be used to quickly set up service systems and deploy containerized applications.

Permission Management

SWR supports permission isolation based on organizations for tenants or users under a tenant.

Image Build

- Interconnection with Third-Party Libraries

SWR can be connected to GitHub or GitLab to download codes and build images with just a few clicks. It can also be connected to CCE to deploy images.

Simple Message Notification

Simple Message Notification (SMN) enables you to broadcast messages to email addresses, phone numbers, and HTTP/HTTPS servers and connect cloud services through notifications, reducing system complexity.

Convenient

Efficiently sends messages with three easy-to-use APIs for topic creation, subscription, and message publishing.

Stable and Reliable

Saves messages in multiple data centers to achieve high availability. If a message delivery fails, the failed message will be cached and delivered again.

Multi-Protocol

Enables you to deliver messages to subscribers using various protocols with only one messaging request.

Secure

Isolates data by topic. Unauthorized users cannot access your message queues, ensuring service security.

Application Scenarios

Integration with Cloud Services

Use messages to connect other cloud services, achieving system decoupling and ensuring reliability. If one service becomes faulty, messages sent to other services will not be adversely affected.

Off-Peak Traffic Control

If there is a discrepancy between processing capabilities of the upstream and downstream systems, SMN can cache data to reduce downstream pressure.

Distributed Cache Service for Redis

Distributed Cache Service (DCS) for Redis is the industry's first ARM-based Redis service. It supports the single-node, master/standby, Proxy Cluster, and Redis Cluster instance types. DCS for Redis uses an HA architecture to deliver strong read/write performance and on-demand scalability.

Redis

DCS for Redis is a standard, persistent in-memory database service. Based on an HA cluster architecture, it ensures high read/write performance.

Usable Off the Shelf

You can configure and launch cache servers within minutes with just a few clicks, buy on-demand resources, and migrate services to the cloud without any modifications.

Easy to Use

DCS for Redis supports service migration without any modifications and monitors over 30 metrics for your services based on custom alarm thresholds and policies.

Secure and Reliable

Username/Password-specific access and audit logs keep your data secure and traceable. The HA architecture provides data persistence and backup

Application Scenarios

Gaming

The Redis sorted set data structure simplifies leaderboard creation and enables fast access to leaderboards.

E-Commerce

DCS for Redis provides fast concurrent access to frequently requested data, such as best sellers and daily deals, and is scaled easily as loads increase.

Internet

DCS for Redis is ideal for social networking and web apps. The Redis Set data structure can maintain friend connection data, while the Redis String data structure can maintain static cache files.

Finance

DCS for Redis delivers high concurrency, security, and data reliability for financial apps.

Distributed Message Service

Distributed Message Service (DMS) is a fully managed, high-performance message queuing service that enables reliable, flexible, and asynchronous communication between distributed applications. It provides standard, FIFO and Kafka, and supports HTTP APIs, TCP SDK, and Kafka SDK.

Kafka

Fully compatible with the native Kafka SDK and provides off-the-shelf, secure Kafka queues that support high throughput and high reliability.

Multiple Queue Modes

Provides normal and FIFO queue modes with ease of use, cost effectiveness, and high security.

Rich Features

Supports message broadcasting, intentional delivery delay, redelivery, query, tracing, and dead letter messages, enabling customized queue processing capabilities.

Application Scenarios

Asynchronous Communication

DMS transmits messages asynchronously between decoupled monolithic application subsystems, significantly improving response time.

IoT

DMS provides high-speed transmission channels between IoT devices and data analytics systems.

Data Synchronization

DMS allows the frontend and backend to exchange data even if both ends are not always available. DMS works with FunctionGraph and SMN.

Elastic App Networking

DMS enables communication between apps without service interruption, even if they are added or removed.

Distributed Message Service for Kafka

Distributed Message Service (DMS) for Kafka features high throughput, concurrency, and scalability. It suits scenarios such as real-time data transmission, stream data processing, system decoupling, and traffic balancing.

Usability Out of the Box

Fully compatible with open-source Kafka, allowing you to migrate your applications to the cloud without having to edit their code.

Fully Managed Kafka Queues

Frees you from deployment and maintenance so you can focus on your business.

High Performance

Provides high-throughput, low-latency, and high-performance queues.

Data Security

Records management operations and supports SASL_SSL encryption in identity authentication and data transmission to prevent theft or tampering.

Application Scenarios

Enterprise

Kafka decouples enterprise service systems, accelerating service processing and preventing faults in one system from affecting others.

IoT

Kafka acts as a messaging tool that gathers massive volumes of data generated from various types of IoT devices. The data is then retrieved from Kafka for analysis and query.

Application Performance Management

Application Performance Management (APM) monitors and manages the performance of cloud applications in real time. APM provides performance analysis of distributed applications, helping O&M personnel quickly locate and resolve faults and performance bottlenecks.

Ease of Use

Connects to applications without having to modify code, and collects performance data in a non-intrusive way.

High Performance

Delivers high throughputs, ensuring premium experience.

Intelligent Analysis

Analyzes root causes using AI-powered threshold detection and machine learning based on historical data.

Open Ecosystem

Opens O&M data query APIs and collection standards, and supports independent development.

Application Scenarios

Device-Cloud Full-Link APM

APM provides device-cloud application performance tracing and comprehensive topology views, letting you monitor applications in real time and diagnose faults quickly.

RCA (Transaction Insights)

APM uses intelligent algorithms to learn historical data and differentiate success and error patterns, facilitating RCA.

Fault Locating in Minutes

APM enables you to locate faults through application topologies and drill-downs.

User Experience Analysis

APM analyzes application transactions in real time and provides Apdex scores, enabling you to monitor user experience comprehensively.

Blockchain Service

Blockchain Service (BCS) is a highly available and secure blockchain platform allowing enterprises and developers to conveniently create, deploy, and manage applications with the superb performance and cost-effectiveness of HUAWEI CLOUD.

Open and Easy to Use

Built in compliance with Hyperledger Fabric 1.1 and Kubernetes, featuring simple configuration, deployment in minutes, and automatic multi-angle E2E O&M

Flexible and Efficient

Multiple efficient consensus algorithms (5,000+ TPS) and flexible switching, dynamic join-in or quitting of multi-role nodes and members, and container-based management

Cost-Effective

Lower development and deployment costs, pay-per-use convenience, reduced O&M expenditures with unified management, and auto scaling and upgrade/rollback on demand

Robust Security

Complete management and isolation of users, keys, and permissions; multi-layer encryption and privacy assurance; and fully demonstrated cyber security infrastructure

Application Scenarios

Supply Chain Finance

Uses decentralized, tamper-proof, shared ledgers to ensure transparency and fairness, helping SMEs improve their credit ratings while cutting risk management costs.

Supply Chain Tracing

Each party can maintain ledgers, ensuring real-time and authentic data updates, and use product-unique tracing codes, ensuring authenticity of commodities and the distribution processes.

Digital Assets

Automated transaction capabilities such as asset ownership confirmation and accounting reconciliation support efficient exchange of digital assets and prevent in-chain falsification.

Notarization for Crowdfunding

Funding is traceable and information is open, transparent, and shared across the entire network, resolving trust issues between organizations.

Application Operations Management

Application Operations Management (AOM) provides a one-stop multi-dimensional O&M platform for enterprise applications. It monitors hundreds of metrics of mobile apps, networks, services, middleware, and cloud resources in real time, and detects and diagnoses exceptions through the O&M knowledge base and AIOps engine.

Multi-Dimensional O&M

Provides one-stop multi-dimensional O&M platform for mobile apps, networks, services, middleware, and cloud resources.

Health Check

Monitors service health in real time, and detects exceptions or performance bottlenecks within minutes.

Intelligent Analysis

Analyzes root causes using AI-powered threshold detection and machine learning based on historical data.

Ease of Use

Connects to applications without having to modify code, and collects data in a non-intrusive way.

Application Scenarios

Device-Cloud Full-Link APM

AOM provides device-cloud application performance tracing and comprehensive topology views, letting you monitor applications in real time and diagnose faults quickly.

Intelligent Analysis

AOM supports AI-powered intelligent analysis of O&M metrics and alerts you to exceptions, like abrupt increases in metrics.

Problem Inspection and Demarcation

AOM monitors and collects O&M data of infrastructures, middleware, and application instances. It supports functions such as log analysis and event reporting, facilitating problem detection and demarcation.

Multi-Dimensional O&M

AOM provides multi-dimensional O&M from cloud platforms to resources, and from application monitoring to microservice tracing.comprehensively.

API Gateway

API Gateway is a high-performance, high-availability, and high-security hosting service that helps enterprises build, manage, and deploy Application Programming Interfaces (APIs) at any scale. With just a few clicks, you can implement system integration, offer your partners open capabilities, and monetize well-developed services. API Gateway also helps you minimize costs and risks.

Easy to Use

Allows you to create an API with just a few clicks, debug it using an inline debugging tool, and publish it in different environments for iteration checking and testing.

Flexible and Secure

Protects your APIs through identity authentication and permission control, and protects your backend services by offering quota management and throttling user requests.

Refined Monitoring

Provides a visualized API monitoring panel for identifying potential risks that can affect services.

Pay-per-Use

Allows you to create and manage APIs for free, while paying only for API calls and data transfer services. Requires no minimum charges or upfront commitments, and quickly monetizes your APIs.

Application Scenarios

Service Integration

Use standard APIs to decouple internal systems, separate frontend applications from backend service systems, and reuse existing capabilities to avoid wasting resources.

Open Enterprise Capabilities

Provide open capabilities for partners. Sharing services and data with partners deepens cooperation and helps build a new ecosystem.

API Economy

Package service capabilities into standard APIs and monetize APIs on the marketplace, reducing R&D investment and improving operation efficiency.

Serverless Architecture

Define RESTful APIs and bind them to backend FunctionGraph.

Cloud Performance Test Service

Cloud Performance Test Service (CPTS) is a cloud service that provides API and E2E performance tests of applications, which are built based on HTTP, HTTPS, TCP, UDP, WebSocket, RTMP or HLS. The rich capability of test model definition can be used to restore scenarios of large-scale concurrent service access, helping users identify application performance problems in advance.

High Concurrency

A single executor supports tens of thousands of concurrent users. A private cluster supports millions of concurrent users.

Flexible Configuration

CPTS enables you to flexibly process data packets, define a transaction or its pressure test curve, and combine multiple transactions.

On-Demand Use

You can create a pressure test cluster based on your performance test demand, thereby reducing your costs.

Professional Report

CPTS offers you professional performance test reports that record concurrent transactions, transactions per second (TPS).

Application Scenarios

Application Performance Optimization

CPTS allows you to build performance test models, transmit simulated traffic to applications with CPTS executors, and monitor the concurrent processing capabilities, resources and call chains of applications.

Support for Complex Scenarios

CPTS simulates all the complexities of real traffic. For example, each user visit may involve multiple HTTP requests, and user access fluctuates with transactions.

E-Commerce Shopping Test

E-Commerce shopping is characterized by large-scale user concurrency, multiple burst requests, and repeated access attempts. Guaranteeing the availability of websites under the heavy load is the key.

Game Service Test

Game services feature auto scaling in peak and off-peak scenarios. You can verify if auto scaling of games is normal, and if KPIs meet requirements in burst traffic scenarios.

Middleware Performance Test

You can verify the burst smoothing function of the cloud middleware, and the stability and reliability of the middleware in highly concurrent scenarios.

Streaming Test

The popularity of live broadcasts and short videos poses great challenges to the system's performance. It is common to see massive concurrent access of video applications. For example, Internet celebrities can attract millions of users to their live broadcasts. In a scenario where users frequently interact, such as live commenting, rewarding, or other online interactions, a large number of external APIs are needed, requiring high system performance.

ModelArts

ModelArts is a one-stop development platform for AI developers. With data preprocessing, semi-automated data labeling, distributed training, automated model building, and model deployment on the device, edge, and cloud, ModelArts helps AI developers build models quickly and manage the lifecycle of AI development.

One-Stop Platform

The out-of-the-box and full-lifecycle AI development platform provides one-stop data processing, model development, training, management, and deployment.

Easy to Use

Various built-in open source models and automatic hyperparameter tuning help you start model training from scratch. Models can be deployed on the device, edge, and cloud with just one click.

Excellent Performance

The Huawei-developed MoXing framework delivers high-performance algorithm development and training. GPU utilization is optimized for online inference. Huawei Ascend chips significantly accelerate inference.

High Flexibility

ModelArts supports multiple mainstream open source frameworks, such as TensorFlow and Apache Spark MLlib, mainstream GPUs, and the Huawei-developed Ascend AI chips. Exclusive use of resources and custom images ensure flexible development experience.

Modeling Patterns

Modeling from Scratch

• Intended For

Developers with AI application requirements but no AI development capabilities. They are unfamiliar with AI development frameworks and cannot develop models themselves.

• Highlights

ModelArts provides ExeML to automate model design, parameter tuning and training, and model compression and deployment with the labeled data. The process is code-free and does not require experience with model development, allowing developers to start from scratch.

Application Scenarios

You can use ExeML to quickly create image classification, object detection, and predictive analytics models. New models are coming soon.

Quick Modeling

• Intended For

AI beginners with basic knowledge but limited AI development capabilities. They are able to use common AI development frameworks and open source tools to create simple models.

• Highlights

ModelArts offers built-in pre-trained algorithms. Without any coding, you can upload your own service data, select a desired built-in algorithm, retrain the algorithm to create a model, and deploy the model as a service.

• Application Scenarios

ModelArts provides three types of algorithms: image classification, object detection, and image segmentation. You can create a training job based on the actual application requirements to obtain a desired model. More built-in models are being added.

Standard Modeling

• Intended For

AI engineers and experts with deep AI development capabilities, years of AI development experience, and extensive model development and optimization experience.

•Highlights

ModelArts integrates Jupyter Notebook. You can create a development environment, compile and debug the model training code, and use the compiled code to create a training job to train and deploy a model. ModelArts supports version management of datasets, training jobs, and models. It also provides traceback diagrams of datasets, training jobs, models, and services to visualize AI development workflows. This helps you easily manage AI development and improve AI development efficiency.

• Application Scenarios

ModelArts allows you to customize and deploy deep learning and conventional machine learning models.

Graph Engine Service

Graph Engine Service (GES) is the first commercial self-built distributed native graph engine with independent intellectual property rights in China. It facilitates querying and analysis of graph structure data based on relationships. It is specifically suited for scenarios involving social applications, enterprise relationship analysis, risk control, recommendations, public opinions, and anti-fraud.

Efficient Organization

Efficient data organization facilitates analysis and querying of graphs with tens of billions of vertices and hundreds of billions of edges.

High Performance

Optimized distributed graph processing engine supports high-concurrency, multi-hop, real-time queries in seconds.

Integrated Querying and Analysis

Integrated querying and analysis and graph analytics algorithms empower analysis for scenarios such as relationship analysis, route planning, and precision marketing.

Ease of Use

Wizard-based GUI and compatibility with Gremlin facilitate easy graph analysis.

Application Scenarios

Internet

Suitable for mining valuable information from large and complex social networks.

Knowledge Graph

GES-based knowledge graphs integrate various kinds of heterogeneous data, enabling larger graph scales and higher performance.

Financial Risk Control

GES graph queries help detect fraudulent user behavior, minimizing potential financial risks.

Urban Industry

Helps customers adjust the pressure and balance loads of urban roads or pipelines (such as water, gas, power, and oil pipelines) to facilitate refined control over traffic networks and pipelines.

Enterprise IT

Provides intelligent device monitoring and management for your entire network and IT infrastructure.

Data Lake Insight

Data Lake Insight (DLI) is a fully-managed big data processing and analysis service based on Apache Spark. Without data migration, DLI provides you with insights from heterogeneous data of various cloud services by using SQL and Spark programs.

Compatible & Open

Seamlessly migrates offline Spark applications to the cloud based on the open-source Apache Spark ecosystem and APIs, reducing your migration workload.

Powerful Computing Power

Adopts the high-scalability big data architecture to process data at the TB-EB scale, allowing you to handle data analysis requests in various scenarios at ease.

Excellent Performance

Uses the in-memory computing model, DAG scheduling framework, and efficient optimizer to deliver the comprehensive performance 100 times over that of the traditional MapReduce model.

Low Costs

Bills you based on the usage time. The pricing unit of DLI is compute unit (CU). A CU contains four cores and 16 GB memory. DLI bills you $0.228 USD per CU per hour.

Application Scenarios

Large-scale Log Analysis

• Game Operation Data Analysis

Different departments of a game company analyze daily new logs via the game data analysis platform to obtain required metrics and make decisions according to the obtained metric data. For example, the operation department obtains required metric data, such as new players, active players, retention rate, churn rate, and payment rate, through the platform to learn the current game status and determine follow-up actions. The placement department obtains the channel sources of new players and active players through the platform to determine the platforms for placement in the next cycle.

Federated Analysis of Heterogeneous Data Sources

• Digital Service Transformation for Car Company

In the face of new competition pressures and changes in travel services, car companies build the IoV cloud platform and IVI OS to streamline Internet applications and vehicle use scenarios, completing digital service transformation for car companies. This delivers better travel experience for vehicle owners, increases the competitiveness of car companies, and promotes sales growth. For example, collect and analyze daily vehicle metric data (such as batteries, engines, tire pressure, and airbags), and give feedback on maintenance suggestions to vehicle owners in time.

Big Data ETL

• Geographic Big Data Analysis

Geographic big data has big data characteristics. It features large data volume (for example, PB-scale global satellite remote sensing image data is generated) and numerous data varieties (for example, structured remote sensing image raster data, vector data, unstructured spatial location data, and 3D modeling data). Users focus on how to use efficient mining tools or mining methods to get insights from the large volume of geographic big data.

Video Ingestion Service

Video Ingestion Service (VIS) ingests massive volumes of video data in real time. With its superb data collection, real-time transmission, and powerful video retention capabilities, you can easily integrate with VAS for intelligent video analysis.

Easy to Use

VIS enables visualized management of video streams and supports access and connection of both PCs and mobile applications through RESTful APIs and SDKs, simplifying and accelerating application development.

AI

With AI and video computing technologies, VIS integrates with various video AI services, such as Face Recognition, Image Recognition, and Content Moderation, to quickly respond to customer's changing application scenarios.

Application Scenarios

Smart Campus Monitoring

VIS delivers enhanced video stream management and video AI services, helping simplify development of your smart campus applications and reducing your O&M burden.

• Related Services OBS

Smart City Security Assurance

VIS efficiently collects and transmits massive volumes of video data generated by security and protection systems administered by the municipality. The service ensures top durability of stored data and is able to quickly analyze and process data by integrating with powerful AI services.

Live Video Monitoring

VIS supports video streaming, AI utilities for video, and on-demand scaling so you can quickly deploy live playback platforms.

Data Warehouse Service

Data Warehouse Service (DWS) is a fast, easy-to-use, and reliable enterprise-class converged data warehouse service that can extend queries and analysis to your data lake with the help of DWS Express. It is the cloud form of Huawei GaussDB 200 solution and is compatible with the standard ANSI SQL 99/2003 and PostgreSQL/Oracle ecosystems, providing state of the art PB-level big data analysis across a variety of industries.

Secure and Reliable

Integrates with Database Security Service (DBSS) to better protect user privacy and data security with network isolation and security group rule setting options. Adopts HA design and transparent data encryption to ensure high data and system reliability.

Easy to Use

A unified console helps you easily manage data warehouses and focus on data and service. DWS is compatible with Oracle, PostgreSQL, and Teradata so you have the freedom to choose. Simple-to-use database migration tool allows you to smoothly move heterogeneous databases over with complete confidence.

Efficient

Supports real-time data import to databases, T+0 agile service analysis and decision-making, and correlation analysis on at-scale data within seconds. Provides enterprise-class capabilities such as OLAP analysis, statistics analysis, and self-service analysis.

Various Import Modes

Batch import of data from OBS and MRS adds speed and efficiency. Working with DIS, CS, and DLI, DWS helps you quickly and conveniently import streaming data. The service also uses third-party ETL and CDM for data migration and supports real-time data writing using Copy interfaces driven by JDBC.

Application Scenarios

Data Warehouse Migration

The data warehouse is an important data analysis system for enterprises. As the service volume grows, performance of self-built data warehouses cannot meet the actual service requirements due to their poor scalability and high costs. As an enterprise-class data warehouse on the cloud, DWS features high performance, low cost, and easy scalability, satisfying requirements in the big data era.

Enhanced ETL + Real-Time BI Analysis

The data warehouse is the pillar of the BI system for collecting, storing, and analyzing massive volumes of data. It powers business decision analysis for the IoT, finance, education, mobile Internet, and O2O industries.

Real-Time Data Analysis

In the mobile Internet and IoT domains, huge volumes of data must be processed and analyzed in real time to extract the full value from data. The quick data import and query capabilities of DWS accelerate data analysis capabilities to enable real-time ingestion, processing, and value generation.

Cloud Stream Service

Cloud Stream Service (CS) provides full-stack capabilities for processing streaming data in real time. Compatible with Apache Flink and Spark APIs, CS fully hosts computing clusters, so you can run StreamSQL or user-defined jobs without learning any programming skills.

Easy to Use

CS allows you to implement business logic by using StreamSQL statements. You only need to perform streaming data analysis without the need to manage clusters and learn programming skills.

Support of Exclusive Clusters

You can run your jobs in a shared cluster or exclusive cluster. Exclusive clusters are physically isolated from shared clusters and other tenants' clusters. You can also manage the quota of exclusive clusters.

Pay per Use

The service is priced based on the used SPU resources and the service duration (by second). An SPU contains one core and 4 GB memory.

High Throughput, Low Latency

CS uses the Dataflow model of Apache Flink, a real-time computing framework. High-performance computing resources are used to consume data from your created Kafka, DMS Kafka, and MRS Kafka clusters. A single SPU processes 1,000 to 50,000 messages per second.

Application Scenarios

Real-time Stream Analysis

Real-time stream analysis features ease of use, low latency, and high throughput. It can be achieved based on StreamSQL and user-defined jobs.

IoT

IoT or edge devices upload data to DIS. CS reads data from DIS, analyzes data (including fault detection and counter warning), and makes the analysis result persistent or reports alarms in real time.

MapReduce Service

MapReduce Service (MRS) provides enterprise-level big data clusters on the cloud. Tenants can fully control clusters and easily run big data components such as Hadoop, Spark, HBase, Kafka, and Storm.

Enterprise Level

MRS is based on the Huawei FusionInsight platform. It provides enterprise-level scheduling to isolate resources, and ensures Service Level Agreements (SLAs) for multi-level users. MRS has been deployed on tens of thousands of nodes.

Easy O&M

MRS leverages a dedicated enterprise-level cluster management system so you can easily manage big data platforms. Platform exceptions are reported by SMS or email. O&M has never been easier.

High Security

With Kerberos authentication, Huawei's security expertise, and Germany PSA security certification, MRS provides role-based access control (RBAC) and sound audit functions to ensure 360-degree protection.

Low Cost

Equipped with a diversified cloud infrastructure, MRS offers extensive computing and storage choices for those on a budget, meaning on-demand operations for MRS clusters and cluster capacities.

Application Scenarios

Cloud Migration

• Migrating an On-premises Big Data Platform to the Cloud

On-premises Hadoop big data platforms (CDH/HDP/...) can be quickly migrated to the cloud, and customers' services and data can be migrated to MRS all at one time. An off-cloud system can be quickly built based on the cloud environment, making it possible to perform rapid service expansion in the future.

Internet of Vehicles (IoV)

MRS leverages the open-source ecosystem to provide a fast and efficient data processing computing engine that helps automobile enterprises quickly migrate services to the cloud. It also flexibly builds an open, unified, and full-stack big data platform for data analysis.

Finance and Insurance

MRS leverages the advantages of the big data platform on DeC to meet the strict requirements of the insurance industry with regards to compliance, security, and reliability. It reconstructs the IT architecture of traditional insurance enterprises, and quickly builds and deploys insurance service systems. This helps insurance enterprises achieve fast digital transformation, easy service innovation, and agile service evolution.

Public Opinion Analysis

Centering on the MRS one-stop big data platform, components such as Kafka, Storm, and HBase are used to collect, analyze, and process massive amounts of data to provide governments and enterprises with services such as public opinion monitoring, analysis, and message push.

Smart Logistics

MRS big data analysis platform is used to implement intelligent management of logistics activities, improving service operation efficiency and greatly reducing costs.

Internet of Elevators (IoE)

To adapt to the rapid business innovation and flexible service modes involved in IoE, MRS functions as an open one-stop big data processing platform to implement intelligent elevator management.

Smart Water Management

MRS Hadoop provides high-performance, reliable, unified big data storage and analysis functions for water management scenarios.

Gaming

Game log data is accessed through Kafka and Flume in real time. Spark Streaming processes and analyzes the data in real time and stores the analysis results to HBase or Hive for quick game advertisement analysis, data query and analysis, and revenue analysis.

Energy

MRS provides enterprise-level big data cloud services that enable PV plant operators to easily run Hadoop, Spark, HBase, Storm, and other big data components for the purpose of predictive device maintenance.

Image Recognition

Image Recognition supports two billing modes: pay-per-use billing and discount packages. Users can change the billing mode according to actual needs.

Accuracy

Identifies tens of thousands of objects, scenes, and concepts, making recognition and understanding of image content more accurate and wider in scope.

Stability

Provides stable cloud services with a low failure rate and quick response to technical support requests.

Customizability

Supports customizable scenario recognition, making recognition results more refined.

Simplicity and Efficiency

Provides standard RESTful APIs and various SDKs to facilitate service use and integration, reducing human resource and business costs.

Application Scenarios

Scenario Analysis

Accurately identifies image content to make personalized recommendations and efficiently execute content retrieval and distribution processes.

• Related Services OBS

Smart Albums

Identifies tens of thousands of tags; enables tag-based album management.

• Related Services OBS

Object Detection

Ideal for monitoring activities and compliance, thus reducing security risks and liability.

• Related Services OBS

Image Search

Leverages tag-based image search technology by matching keywords or images inputted.

• Related Services OBS

Content Moderation

Accurate Detection

Quickly and accurately detects non-compliant content using deep learning technologies and various sample libraries.

Extensive Features

Detects inappropriate image and video content.

Stability and Reliability

Tested and used over the years across complex enterprise scenarios.

Simplicity and Efficiency

Provides standard RESTful APIs and various SDKs to facilitate service use and integration, reducing human resource and business costs.

Application Scenarios

Content Review

Detects and flags non-compliant content for quick management, lowering legal exposure.

• Related Services OBS

Live Video

Monitors, identifies, and flags live video channels with offensive content in real time.

• Related Services OBS

Cloud Search Service

Easy to Use

Returns the insights from terabyte-scale data within milliseconds and provides a visualized platform for data display and further analysis.

Easy O&M

Offers a fully-managed, out-of-the-box service and allows you to start using it with several clicks, instead of managing clusters.

Flexible & Scalable

Supports on-demand requests and online capacity expansion without service interruptions.

Custom Word Dictionary

Supports custom word dictionaries pertained to domains and allows you to modify them without restarting clusters.

Application Scenarios

Log Analysis

O&M analysis and fault location for IT devices, operation analysis based on service metrics

• Related Services OBS MRS

Site Search

Website content search by keyword, search for commodities on e-commerce sites with recommendations obtained

• Related Services OBS MYSQL

Optical Character Recognition

Cloud Stream Service (CS) provides full-stack capabilities for processing streaming data in real time. Compatible with Apache Flink and Spark APIs, CS fully hosts computing clusters, so you can run StreamSQL or user-defined jobs without learning any programming skills.

High Accuracy

Adopts advanced deep learning algorithms to optimize various service scenarios, achieving high character recognition accuracy.

Reliability

Tested and used over the years across complex enterprise scenarios.

Superior Performance

Recognizes characters and digits in twisted or tilted certificates with complex backgrounds, as well as those in sealed and interlaced forms.

Convenience

Provides standard RESTful APIs, offers high compatibility, and achieves ease of use.

Application Scenarios

User Authentication

Enables accurate and convenient name authentication.

Face Recognition

Face Recognition is an intelligent service that uses computers to process, analyze, and understand facial images based on human facial features. It provides services through open Application Programming Interfaces (APIs). You can obtain the face recognition results by accessing and calling APIs in real time. It recognizes and compares faces automatically and provides you with the similarity degrees, thereby improving service efficiency.

Accurate Recognition

Accurately detects faces to recognize people with different ages, genders, and clothing styles in face verification and VIP identification scenarios. The face verification accuracy in Labeled Faces in the Wild (LFW) exceeds 99.6%.

Abundant Services

Includes the Face Detection, Verification, and Retrieval sub-services and will open Dynamic Portrait, Age Recognition, and Feature Point Positioning in the future.

High Reliability

Supports face retrieval, detection, and verification among numerous images in image libraries. The functions are stable with controllable latency after years of practices.

High Efficiency

Provides easy-to-use APIs with specific functions and related documents with detailed descriptions.

Application Scenarios

Identity Verification

The Face Detection and Verification functions can be used for identity verification in scenarios such as airports and customs where consistency between a certificate and a person must be checked.

• Related ServicesOBS

e-Attendance

The Face Detection and Verification functions allow enterprise customers to implement e-attendance of employees and assist them in security surveillance.

• Related Services OBS

Track Analysis

Face Retrieval helps you search for N facial images that are most similar to the input one and displays the similarity degrees. You can perform track analysis based on the information about the returned images.

• Related Services OBS

Customer Attribute Analysis

With face detection, verification, and retrieval technologies, shopping malls can accurately analyze a customer's age and gender and distinguish old and new customers, achieving precise marketing.

• Related Services OBS

ImageSearch

High Precision

Adopts advanced deep learning algorithms and image recognition technologies for high precision in search jobs.

Rapid Response

Provides a large-scale search engine that supports image search from hundreds of millions of images in seconds.

Customizable Search

Supports customizable image search for more accurate results.

High Efficiency

Adopts standard APIs and provides in-screen helps and access to documents to simplify use.

Application Scenarios

Merchandise Image Search

mageSearch provides users with pairing and bundling recommendations, helping increase sales while improving UX.

Copyrighted Image Search

ImageSearch can quickly locate images being used in large-scale galleries that infringe on copyrights, helping protect your rights and interests.

- Related Services OBS

Management & Deployment

Cloud Eye

Cloud Eye is a multi-dimensional resource monitoring platform. You can use Cloud Eye to monitor the utilization of service resources, track the running status of cloud services, configure alarm rules and notifications, and quickly respond to resource changes.

Real-Time Monitoring

Cloud Eye collects monitoring data in real time and immediately sends notifications when alarms are generated.

Easy of Use

The monitoring graphs display data aggregated over different time periods for up to six months.

Multiple Notification Types

Cloud Eye sends alarm emails or text messages to users.

Fine-Grained Monitoring

Cloud Eye sends alarm emails or text messages to users.

Application Scenarios

Enterprise Offices

Applies to enterprise offices requiring high availability, information confidentiality, large data storage capacity, and multiple modes for remote access.

E-Commerce Websites

Applies to e-commerce websites, which feature an exponential increase in traffic within extremely short time periods and require high data and network security.

Identity and Access Management

IAM provides basic functions such as identity authentication and permission management.

Permissions Management

Restrict and grant different levels of access to HUAWEI CLOUD resources based on user roles and responsibilities.

Security Control

Configure flexible login verification and password policies and access control list (ACL) to ensure secure access.

Cross-Account Access Delegation

Create an agency to grant other accounts convenient and secure access to your HUAWEI CLOUD resources.

Federated Identity Authentication

Partner with your existing identity systems to grant enterprise users access to your HUAWEI CLOUD resources.

Application Scenarios

User Management

- Enterprise Security Governance

Create user groups and grant permissions based on user responsibilities, and add users to groups to inherit granted permissions.

Federated Identity Authentication

- Single Sign-On

Access HUAWEI CLOUD through your existing enterprise management system, without having to create HUAWEI CLOUD accounts.

Permissions Sharing

- Mutual Collaboration

Create an agency to securely share resources and permissions with other accounts, without having to provide your passwords or access keys.

Cloud Trace Service

Cloud Trace Service (CTS) records operations on cloud resources in your account. You can use these records to perform security analyses, track resource changes, audit compliance, and locate faults. You can view the records for the last 7 days on the console and also transfer them to OBS buckets for long-term storage.

Full Recording

CTS records operations on cloud resources in real time. It covers most HUAWEI CLOUD services and all operations performed by calling APIs, recording complete information.

Access Security

System administrators allocate trace access permissions. Therefore, traces are managed in a centralized and strict way, minimizing unauthorized operations.

Data Security

Traces are stored and transmitted using SSL encryption, and no function or interface for modifying or deleting traces is available. All these ensure data accuracy.

Efficient Governance

Traces enable highly available and low-cost IT governance based on centralized management, automatic collection, and

Application Scenarios

Compliance Auditing

CTS provides a history of operation records, making it easy to comply with internal policies and regulatory standards. It also allows you to meet the requirements for IT compliance certification.

Resource Tracking

CTS records and allows querying all operations on cloud resources throughout their lifecycle.

Fault Locating

When cloud resources become faulty, you can use filters to search for suspicious operations. This significantly shortens the time for locating faults and reduces labor costs.

Security Analysis

CTS traces record the operator, time, and IP address of each operation, helping you better perform security analysis. Email or SMS text notifications can also be enabled to alert users to any key operations.

Enterprise Applications

Workspace

Workspace is a cloud computing-based desktop service that outperforms personal computers (PCs) and the conventional Virtual Desktop Infrastructure (VDI) solution.

On-Demand Creation

Virtual desktops can be created on demand and are easy to manage. After desktops are created, the system sends notification emails to you.

Ubiquitous Access

Desktops can be accessed anytime, anywhere, and on any device. Workspace is compatible with all popular types of software and peripherals.

Simplified O&M

Huawei experts are responsible for infrastructure O&M, freeing you from complex maintenance operations required by conventional PCs and VDIs.

Enhanced Security

Data is stored with multiple copies in data centers instead of user terminals, delivering better security than conventional PCs.

Application Scenarios

Mobile Office

Delivers consistent desktop office experience no matter where you are, at home or outside the office, perfect for those on frequent business trips.

Government/Enterprise Office

Ensures consistent office experience for enterprise headquarters, branches, or mobile offices, and even for those who go on business trips.

Development and Testing

Enables quick build of unified development and testing desktop environment using custom templates and ensures the security of R&D data.

Temporary Office

Rapidly provisions desktops for temporary employees and releases the desktops when they leave. You only need to pay for what you lease for the time the resources are used.

Dedicated Computing Cluster

Dedicated Computing Cluster (DCC) provides dedicated, physically isolated computing resource pools on HUAWEI CLOUD, allowing you to use physical computing devices and resources exclusively.

Dedicated Resources

DCC enables you to use physical computing resources exclusively, allocate resources flexibly, and monitor resources in real time.

Security Compliance

Your computing resources are isolated from those of other tenants. Locking of resource cabinets is also available in the DCC service.

Flexible Networking

DCC supports hybrid networking with ECS, BMS, DSS, and DESS. DCCs can also communicate with cloud servers.

Cost Effectiveness

DCC frees you from investing time and money in physical server O&M, reducing costs by 30-50% and allowing you to focus more on your core services.

Application Scenarios

Web Interconnection

Maintains data security and isolates your systems and data from those of other users on the public cloud; scales up resources whenever you need.

Data Warehouses

High-performance enterprise databases deployed only on physical servers; high I/O and low latency data access for key services; high data security and availability

Scientific Computing

High data security through physical isolation of data sources and computing results; High-speed data exchange and flexible matching between computing resources and services for large-scale concurrent computing

Dedicated Distributed Storage Service

Dedicated Distributed Storage Service (DSS) provides you with dedicated, physical storage resources. By flexibly interconnecting with various computing services, such as ECS, BMS, and DCC, DSS offers first-class performance in a wide-range of scenarios, including, HPC, OLAP, or a mix of loads.

Dedicated Storage

DSS provides exclusive storage resources to ensure high disk read/write speed, data security, and compliance.

Abundant Features

DSS supports disk sharing, disk encryption, disk backup, and snapshot, perfect for enterprises in a wide range of industries.

Various Scenarios

By flexibly interconnecting with various computing services, such as ECS, BMS, and DCC, DSS can easily accommodate HPC, OLAP, and mixed-load scenarios.

High Performance

With a distributed storage architecture and smooth expansion capabilities, DSS provides high-throughput and high-concurrency storage, all with improved performance.

Application Scenarios

Interconnection with DeC

DSS can interconnect with the ECS and BMS services in a DeC, satisfying high performance, stability, data security, and regulatory compliance requirements.

Interconnection with Non-DeC

DSS can interconnect with computing services such as ECS and BMS in a non-DeC to meet requirements of deploying applications on non-dedicated servers.

Mixed Loads

DSS is designed for scenarios with high concurrency and high throughput and supports hybrid deployment of HPC, databases, email, OA office, and web applications.

High-Performance Computing

DSS provides you with ultra-high I/O storage to meet the requirements of large-scale concurrent computing, perfect for scenarios such as automobile simulation, DNA sequencing, and machine learning.

OLAP Applications

DSS supports applications deployed in cluster mode, such as RAC, DB2, and SAP HANA. You can use different types of dedicated storage to meet different application requirements.

Video

Convergent Video Cloud Service

Cost Effective

On-demand subscription to cloud services reduces initial investment by more than 60%, significantly lowering the threshold for building video services.

Fast TTM

E2E video cloud services with over 100 pre-integrated partners enable lightweight product launches within 30 days.

Quick Monetization

Multi-dimensional intelligent dashboards display operational data in real time. Flexible billing and templated marketing campaigns accelerate subscriber acquisition.

Excellent Experience

Zero waiting, zero artifact, and the most authentic images. Five-minute fault demarcation guarantees E2E experience.

Application Scenarios

IPTV

Carriers' managed networks are used to provide interactive services such as digital TV, VOD, and linear TV viewed through an STB on the household TV.

Mobile Video

Mobile networks and mobile devices are used to provide video content so that users can experience high-quality audio and video services anytime, anywhere.

Internet TV

Users can use PCs, tablets, and OTT STBs to access the Internet and consume linear TV and VOD services as well as Internet applications.

Cloud Communications

Message & SMS

International

Users in more than 200 countries and regions can enjoy this service in multiple languages.

Reliable

Our carrier-class platform provides you with batch messaging that is reliable at any scale.

Easy to Use

Simple APIs free you from laborious development and maintenance. The Group SMS Assistant makes batch messaging simple.

Easy to Manage

DCC frees you from investing time and money in physical server O&M, reducing costs by 30-50% and allowing you to focus more on your core services.

Application Scenarios

Verification Codes

Provide verification codes when users register with apps or websites, when they need to recover login details, or to bind a phone number for online payments.

- Features

◎ Dynamic: Verification codes are generated dynamically so they cannot be faked or stolen.

◎ Flexible: Numbers, letters, and special characters are flexibly combined to prevent hackers from predicting or modifying verification codes.

System/Service Notifications

Send SMS notifications to users. SMS notifications include shipment arrivals, payment confirmations, and system maintenance and upgrade notices.

- Features

◎ Batch operations: Batch SMS delivery is fast and easy.

◎ Instant delivery: Consumers are promptly notified of their payment details.

Internet of Things

IoT Device Management

With IoT Device Management, you can easily connect a diverse fleet of IoT devices to the IoT cloud platform to implement two-way communication for data collection and command delivery. Then you can manage the devices in an efficient and visualized manner, integrate and analyze data, and invoke powerful open capabilities of the platform to quickly build innovative IoT services.

Agile and Easy to Use

The IoT Agent series and OSGi-based CIG support fast device access to the cloud platform by using wired and wireless network access modes. Mainstream chipsets and modules are pre-integrated.

Comprehensive and Efficient

The user-friendly device management portal provides comprehensive device management capabilities, such as device status visualization, remote configuration, fault locating, and firmware/software upgrade.

Flexible and Open

Rich APIs and open device management capabilities are provided to quickly foster NAs. Functional components and data analysis for smart cities, connected vehicles, and smart campuses drive industry intelligence.

Reliable and Concurrent

Hundreds of millions of connections are supported, with 99.9% reliability. E2E security mechanisms, device-level authentication and authorization, and application-level access control are also supported.

Application Scenarios

Smart Community

• Challenges

There are various types of community devices, which require manual operations, thereby resulting in high maintenance and management costs. Subsystems such as surveillance, firefighting, and building automation are isolated from each other, which makes it difficult to implement linkage control.

• Customer Benefits

Unified management can be achieved with IoT devices in the community connected through multiple networks and protocols.

Cross-system linkage can be implemented through the interworking between the IoT platform and the subsystems based on simple and flexible rule configuration. In this way, community services can be more proactive than reactive with the prediction, warning, and determination.

Dock Management

• Challenges

Currently for most factories, the dock and vehicle status in the campus cannot be obtained in real time. As a result, vehicle queuing and congestion may occur, while there are still idle docks on site. In this case, unloading cannot be flexibly scheduled, resulting in a low delivery efficiency.

• Customer Benefits

Flexible scheduling of docks improves the parking turnover rate.

The on-time delivery rate of suppliers is improved, ensuring efficient production in factories.

All docks are visually monitored in real time for intelligent dock scheduling and labor cost reduction.

Intelligent Device Management

• Challenges

It is difficult to detect minor abnormalities of medium- and large-size equipment during routine maintenance. If the equipment becomes faulty suddenly, the production line is forced to stop, and the factory suffers great losses.

• Customer Benefits

Device health can be evaluated in real time and quantitatively.

The subhealth status of devices can be predicted in advance, enabling maintenance planning for devices and reducing the losses caused by unplanned shutdown.

The maintenance cost of the next year, the residual value of second-hand machines, and the performance decrease of main components can be estimated to provide basis for the equipment investment in the coming year.

SOLU
TION

Scenario

Hybrid Cloud Disaster Recovery and Backup

The Hybrid Cloud Disaster Recovery and Backup solution provides customers with multi-cloud and cross-cloud DR and backup capabilities with support for comprehensive data protection policies. It guarantees service continuity and keeps critical data secure with solution-level high reliability.

Solution Advantages

Low Cost

No need to build a DR equipment room, purchase physical devices and software, or assign dedicated maintenance and testing personnel.

Rapid Drill

Easily perform a DR drill at any time; complete drilling in as little as a few hours.

Full Platform Support

The solution supports common Linux and Windows editions, mainstream virtualization platforms such as KVM, Xen, and VMware; and such popular databases as Oracle and MySQL.

Coverage for All DR Requirements

10 years of accumulated expertise in providing standardized DR services for government and enterprise customers alike. Working with partners, further adaptability capabilities are made possible for your specific use case.

Business Challenges

High Costs in DR Center Builds and O&M

To build a traditional DR center, enterprises need to build or rent equipment rooms and invest lots of manpower in maintenance and testing. Accomplishing a full DR mode incurs high CAPEX and OPEX as the arms of both or multiple centers must reach the same scale and achieve near real-time transmission.

Many Restrictions on DR Drills

If a DR drill is performed in a traditional DR center, equipment rooms and cables need to be scheduled, and some cold standby devices need to be powered on, which causes a high fault rate. Switchovers may delay or even fail at the critical moment in spite of the drills, leaving the enterprise vulnerable with weak service recovery capabilities.

Complicated Data Synchronization Policies

The synchronization policies for hosts, databases, and storage devices are complicated and restricted by the transmission distance and data volume. In addition, the data encryption/decryption mechanism complicates deployments and maintenance.

As a result, some data becomes invalid, or the system cannot meet the designed RPO.

Architecture Difficult to Implement

Core services require multi-center architectures to ensure service continuity, requiring large amounts of investment and extensive consideration in design as to how all the parts of the architecture will collaborate. Implementing this architecture with a traditional DR model equates to high costs and the benefits are limited.

Typical Scenarios

Cross-Cloud Backup

• Cost-Effective and Secure Enterprise Backup Solution

◎ Economical and Efficient Backup: Storage resources are billed by usage. Upfront investments are reduced by 20% to 80%. Data is transmitted after deduplication and compression, saving you big on storage costs while shortening the backup window often by as much as 75%.

◎ Secure and Reliable Data Transmission and Backup: Data is encrypted throughout the entire process: at the source end, during transmission, and in OBS. Data durability reaches 99.99999%.

• Related Services Object Storage Service Direct Connect Data Encryption Wo

Cross-Cloud DR

• HA Public Cloud DR Center

◎ New IoT Connection Processing Module: Selects the optimal replication technology for the layers and other particulars in your profile:

• Related Services Elastic Cloud Server Virtual Private Cloud Direct Connect Bare Metal Server Dedicated Computing Cluster Dedicated Distributed Storage Service

On-Cloud DR

• Intra-City DR Capability with RPO = 0

Enterprise-level DR-as-a-Service

◎ High reliability: Provides VM-level DR protection across AZs (RPO = 0) and hour-level RTO to meet tier-5 DR standards. Quickly recover services if the production site goes down, minimizing service interruptions and helping eliminate data loss.

◎ Low cost: Reduces the enterprise DR TCO and simplifies the DR process.

• Related Services Elastic Cloud Server Virtual Private Cloud Bare Metal Server Dedicated Computing Cluster Dedicated Distributed Storage Service Elastic Volume Service

Solution Panorama

Cross-Cloud Disaster Recovery

This solution is designed for customers' local IT systems providing applications on the cloud. The solution provides DR solution consulting and DR services for applications, virtualization platforms, and databases, as well as on-demand drills. The provided cloud services effectively help customers resolve the challenges of high DR costs, difficult DR, and inconvenient drills.

On-Cloud Disaster Recovery

The On-Cloud Disaster Recovery solution covers three scenarios: cross-AZ DR, cross-region DR, and on-cloud 2 site 3 DC DR. It is the first to provide Storage Disaster Recovery Service (SDRS) which uses synchronous replication at the storage layer to implement cross-AZ DR with RPO = 0. Cross-region DR and on-cloud 2 site 3 DC DR effectively help enterprises encounter accidents caused by natural disasters such as earthquakes, typhoons, and tsunamis.

Backup and Archive

Backup and Archive provides a secure, economical and easy-to-manage data protection solution for backing up and archiving local data to the cloud, reducing costs and mechanism complexity with as-a-service convenience.

Business Application

HUAWEI CLOUD provides a high-performance, reliable, and secure platform for running key enterprise applications on the cloud, helping customers reduce IT construction costs and achieve cloud-based informatization.

Solution Advantages

Data Security

The entire platform, all nodes and services of HUAWEI CLOUD are certified by Payment Card Industry Data Security Standard (PCI DSS).

Dedicated Resources

HUAWEI CLOUD provides tenants with exclusive access to their own resource pools and physically isolates them from each other, meeting requirements for specific performance, business applications, and security compliance.

Fast Deployment

Customers can use pre-integrated templates to deploy resources in minutes instead of time-consuming hardware installation. The one-stop application and test environment is provided to help enterprises build ERP, quickly launch services and seize market opportunities.

Stability and Reliability

HUAWEI CLOUD provides failover to ensure 99.95% availability, supports multiple copies to reach 99.9999999% data durability, and supports backup and recovery of cloud servers and disks.

Business Challenges

IT Infrastructure Optimization

Continuous ERP development continually increases the requirements placed on infrastructure. It is necessary to use new technologies such as cloud computing and big data to optimize and upgrade infrastructure in response to these requirements.

Data Management and Business Analysis

A large amount of data is generated with the construction of enterprise informatization, especially if the ERP system in an enterprise has been running for many years. In addition, accumulated data cannot effectively support enterprise decision-making due to the lack of analysis of information and services.

Business Process Optimization and Service Innovation

Changes in working space and time greatly change the way employees work. Rapid market growth also speeds up the transformation of business processes, so enterprises have an urgent need to optimize information sharing and business process development in traditional ERP.

Data Security Threats to Enterprise Operations

Due to the lack of talent and equipment rooms, most enterprises cannot implement large-scale and remote backups in real time. As a result, if the hardware on which the ERP system is running is faulty, data loss could cause severe harm to an enterprise.

Solution Architectures

Public Cloud

Deployment on Public Cloud

Highlights

Stability and reliability Security assurance Combined software and hardware Elastic scalability

Related Services Elastic Cloud Server Elastic Volume Service Object Storage Service Host Security Service Web Application Firewall Bare Metal Server

Dedicated Cloud

Deployment on Public Cloud

Highlights

Dedicated resources Security compliance Flexible combination Easy O&M Lower cost

Related Services Elastic Cloud Server Dedicated Computing Cluster Object Storage Service Host Security Service Web Application Firewall Dedicated Distributed Storage Service

Cloud Office

HUAWEI CLOUD provides the flexibility, convenience, and cost-effectiveness you need in a cloud office solution, significantly reducing IT investments while helping you accelerate your move to cloud-based information management.

Solution Advantages

Auto Scaling

Automatically adjusts computing resources, providing first-class services tailored to your environments at a low cost.

High Availability

Supports automatic failover and achieves up to 99.95% service availability. Provides backup and recovery capabilities for ECSs and EVS disks.

Flexible Expansion

Automatically allocates resources to suit your application environment demands, and ramps up service capabilities externally when your site traffic increases.

Security Assurance

Sets up professional security teams for security health check, O&M, and emergency response, to safeguard customers' cloud systems.

Business Challenges

High Deployment Costs

Enterprises must purchase large amounts of hardware and software for application deployment, resulting in high expenditures.

Application Access Difficulties

In many traditional schemes, service applications must be accessed over the intranet with dedicated on-site equipment rooms, restricting the mobility needed for today's work environment.

Weak Data Protection

Self-built applications are often not equipped with adequate levels of protection, leaving systems vulnerable to attacks and data susceptible to loss.

High Security Risks

Internet-based solutions may introduce security risks to enterprise operations.

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Typical Scenarios

Cloud Office Application

- Provides a one-stop cloud solution for enterprise customers and helps SMEs quickly and efficiently deploy service applications, such as OA and email, at low costs.

◎ Load Balancing: Redistributes loads across resources to manage in-the-moment loads at your organization, ensuring that no single resource is overloaded. Supports hundreds of millions of concurrent connections in a cluster. Adopts a redundant design so that your services remain up and running even when a service node fails.

◎ Flexible Scaling: Automatically adjusts computing resources based on service requirements and preset strategies. ECSs can be increased or decreased to suit your changing traffic dynamics while ensuring that services remain up and running at all times.

◎ High Security: Mixes and matches security products to customize a profile that fully addresses your specific security pain points and service characteristics.

◎ Data Reliability: OBS achieves eleven-nines data reliability, delivering anytime availability when you need to call up your backup data.

◎ Abundant Applications: Huawei works with an extensive list of ISVs to provide you with one-stop shop experience for office applications, operating environments, bandwidths, and cloud-based resources in the cloud market.

- Related Services Elastic Cloud Server Virtual Private Cloud Elastic Load Balance Web Application Firewall

Cloud Office Desktop

- Provides virtual Windows desktops and applications with anytime/anywhere access. Professional office applications help build secure IT systems with game-changing management simplicity, delivering higher service efficiency at lower costs.

◎ On-Demand Creation: Virtual desktops can be created and used instantaneously in contrast to the sluggish process in conventional PC desktops requiring hardware purchase, installation, and maintenance.

◎ Flexible Office: Solidifies the "four As" in Mobile Office (Anyone, Anytime, Anywhere, Any device) with powerful software and peripheral compatibility. Supports multiple terminal types and BYOD mobility. Your workloads have never been easier to manage.

◎ First-Class Security and Reliability: The 7-layer comprehensive security protection system safeguards your data at the content, terminal, platform, and management levels.

◎ HD Experience: HD video quality ensures optimal experience even in HD graphics scenarios.

- Related Services Workspace Virtual Private Cloud Elastic Load Balance Virtual Private Network

Hybrid Cloud Solution

Allows customers to use HUAWEI CLOUD services in their local data centers to meet specific security and compliance requirements. An interactive development provides ever-improving cloud services to address customers' changing service requirements and the low-latency requirements in certain scenarios.

Solution Advantages

Consistent User Experience

Uses the same GUIs and follow the same operations as the public cloud to provide consistent user experience.

Compatibility with Different Clouds

Integrates and manages resources of HUAWEI CLOUD, jointly-operated clouds, and third-party public clouds.

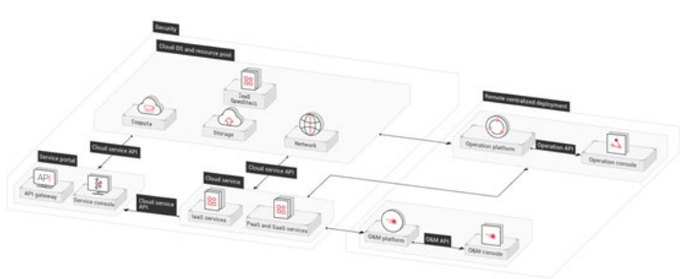
Fast Interaction and Unified O&M

Quick synchronization of newly available public cloud services and unified operation and maintenance of the public and hybrid clouds

Cross-AZ Disaster Recovery

One-click disaster recovery switchover and on-demand DR drills

- Solution Architectures()



◎ Highlights

◎ Uses fully decoupled cloud services.

◎ Shares the same application ecosystem as HUAWEI CLOUD.

◎ Decouples operations from maintenance.

◎ Scales services on demand.

◎ Combines cloud services as required.

◎ Provides robust platform reliability for all cloud services.

Solution Panorama

HUAWEI CLOUD Stack Online

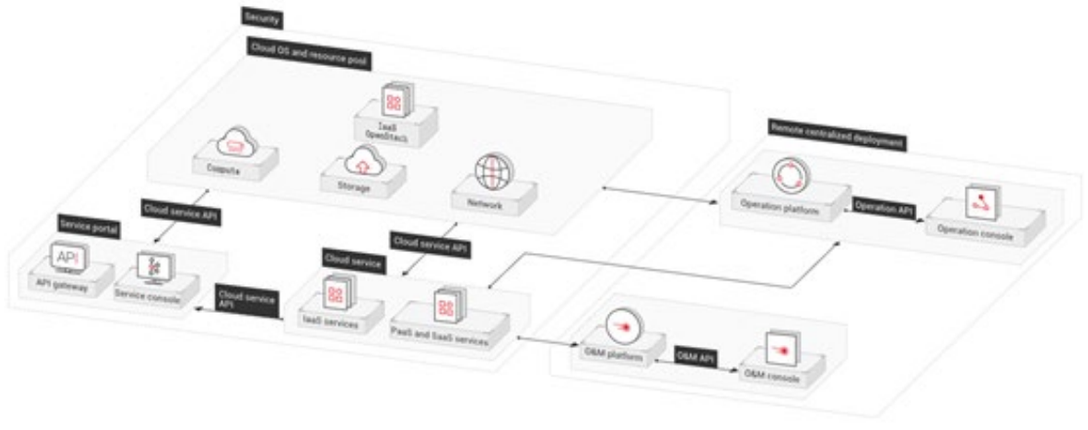
Hybrid Cloud Disaster Recovery and Backup

Third-Party Hybrid Cloud (under plan)

Solution Architectures

Description

HCS Online has the same technology architecture as that of HUAWEI CLOUD. It uses standardized hardware in the physical layer and uses CloudOS to logically virtualize hardware resources. It provides different cloud services with the same user experience as HUAWEI CLOUD. Cloud services feature unified multi-tenant authentication, infrastructure services, metering, O&M management (including monitoring, alarm reporting, and logging), operations management (including billing and ordering), API gateways, console framework, and security management.



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Combines cloud services as required.

Provides robust platform reliability for all cloud services.

Video Cloud Infrastructure

Huawei offers an infrastructure that provides mass cloud storage resources, various video functions, intelligent processing capabilities, and vast global networks, achieving HD television quality with the transmission efficiency of the Internet and a large user capacity.

Solution Advantages

Self-service Application

Includes console, API, and SDK operation modes, fulfilling quick access, clear operation process, and simple interfaces.

Multi-industry Coverage

Implements Internet and mobile Internet video applications for various industries such as e-government, education, new retail, finance, tourism, and automotive.

Abundant Production Tools

Lightweight tools for efficient content production, without any investment in professional hardware.

Security and Reliability

Reliable content management methods with a six-layer protection mechanism to host content securely.

Business Challenges

Frame Freezing

Since video streaming involves multiple parties, from live TV sources to the CDN and then to the audience, frame freezing is a possibility during video playback. Here, the key challenge is in improving the video viewing experience by tackling high concurrency in live TV sources, multi-CDN dynamic routing, and unstable streaming to the audience.

Delays in Live Broadcast

Since the live broadcast process involves a series of software and hardware devices, including streaming, network, and video consumption devices as well as live broadcast software codecs, small delays are seen to be acceptable. However, delays that are too large can cause interaction and calling synchronization errors, adversely affecting user experience.

Serious Video Leeching

Video leeching is an ethical, legal, and economic issue, as it infringes intellectual property rights and results in extra CDN traffic fees.

High Broadcast Traffic

The use of high definition and 4K photography devices has further propelled demand for high-quality video viewing experiences, increasing pressure on network traffic and leading to higher traffic fees, often accounting for 3/4 of video broadcast costs.

Typical Scenarios

Online Live Broadcast

Professional Internet live broadcast services for various scenarios such as summits, forums, exhibitions, and training sessions, covering public sector, education, new retail, finance, tourism, automotive, and other industries. Encompasses live broadcast processing - cloud-based video switching, stream splitting, and multi-camera setup - and other services - conversion from live broadcast to video on demand within seconds, Catch-up TV, and data analysis.

◎ Live Video Collection: Enables live video collection on cameras, mobile phones, drones, encoders, 4G backpacks, and other signal sources.

◎ Live Video Processing: Uses live video processing services such as transcoding, Catch-up TV, cloud-based video switching, stream splitting, and cloud NVOD.

◎ Live Video Delivery: Delivers smooth playback over the entire network, covering web, iOS, and Android platforms and devices.

◎ Live Interaction: Provides multiple interaction modes such as image- and text-based hosting, commenting, bonus package rewards, and highlights to make the video viewing experience more engaging.

◎ Live Broadcast APIs/SDKs: Integrates live broadcast APIs and SDKs seamlessly into self-owned platforms to quickly bring live TV services online.

- Related Services Elastic Cloud Server Object Storage Service Virtual Private Cloud Web Application Firewall Anti-DDoS

Online Video on Demand

One-stop audio and video on-demand (VOD) solution consisting of audio and video collection, editing, upload, automatic transcoding, media resource management, delivery acceleration, and video playback. Huawei cloud scalable storage, high-quality video transcoding, and stable content delivery help enterprises and developers quickly build secure, elastic, and high-availability VOD platforms and applications.

◎ Video Upload: Uploads content in various formats, using a console, an API, or an SDK.

◎ Video Management: Manages media assets including content catalogs, tags, types, and attributes.

◎ Video Transcoding: Transcodes videos in different encoding formats using perception-based enhanced techniques that improve image quality and reduce traffic by 30%, with watermarking and corner marking also supported.

◎ Video Playback: Plays videos smoothly on web, iOS, and Android devices.

◎ VOD APIs/SDKs: Product-level APIs and SDKs for quick access.

◎ Security Protection: Includes security protection mechanisms such as anti-leeching, HTTPS, and API security tokens.

◎ Data Statistics: Fine-grained service usage query within 90 days to control service usage and evaluate operation effects.

- Related Services Elastic Cloud Server Object Storage Service Virtual Private Cloud Web Application Firewall Anti-DDoS

Online Video Transcoding

Numerous cloud computing-based transcoding services: multi-format transcoding, watermarking and corner marking, transcoding in one-in and multiple-out mode, and perception-based enhanced encoding that improves image quality and reduces traffic by 30%. The elastic scaling feature, unique to cloud computing services, enhances the capacity of transcoding services to meet specialized business needs.

◎ Rich Encoding Formats: Matrix management of more than 50 audio and video formats, and the customization, manual import, and manual export of the formats.

◎ Powerful Transcoding Functions: Multi-format transcoding, screenshots, watermarking, GIF animation, stitching, corner marking, and other functions for various scenarios.

◎ Dynamic Load Balancing: Maximized throughput of each transcoding node to improve efficiency and reduce costs.

◎ Elastic Cluster Scaling: Dynamic scaling on the transcoding cluster based on service volume proportions.

Intelligent Perception-based Enhancement

Real-time perception-based transcoding enhancement to achieve high image quality, low traffic, and low latency for different networks and devices.

◎ Transcoding APIs/SDKs: Product-level APIs and SDKs for fast connection and seamless integration to implement quick launch of transcoding services.

- Related Services Elastic Cloud Server Object Storage Service Virtual Private Cloud Web Application Firewall Anti-DDoS

Solution Architectures

- Highlights

◎ Integrated Solution: Performs video collection, editing, upload, management, and delivery using a console, an API, or an SDK.

◎ Live Broadcast Services: Stable, smooth, low-latency, and high-concurrency real-time audio and video services.

◎ VOD Services: Media asset management, including uploading, managing, and releasing media assets.

◎ Transcoding Services: Supports more than 50 formats, watermarking and corner marking, and transcoding in one-in and multiple-out mode.

◎ Perception-based Encoding: Image perception-based dynamic encoding, improving image quality and reducing traffic by 30%.

IoT Cloud Infrastructure

Huawei offers a wide range of cloud services, including an IoT platform and big data, security, management, and application services. These services accelerate IoT-based innovation for a variety of industries.

Solution Advantages

Scenario-specific Solutions

Pre-integrated, highly adaptable solutions for connected cars, public utilities, and predictive maintenance

Easy Device Access

Smooth device-platform communication via IoT Agents and OSGi-based cloud inter-networking gateways (CIGs)

Easily Obtained Data Insights

Value-enhancing E2E data processing capabilities, such as data injection, real-time processing, storage, analysis, and mining

Extended Ecosystem

Extensive IoT application ecosystem with pre-integrated modules and devices from leading IoT manufacturers

Business Challenges

◎ Concurrent Access Support: Collecting a large amount of sensor and device data is the first step for IoT digitalization. Diverse protocols complicate access. After the data is rapidly reported to the cloud, the platform must be stable and support high-concurrency processing.

◎ Data Insight Extraction: IoT processes a large amount of data from different systems. Efficiently processing and analyzing data to facilitate operations and innovate services and business models is one of the top challenges in the IoT industry.

◎ Lack of Application-enabling Tools: Due to a lack of IoT enablement tools, traditional enterprises with insufficient IT capabilities cannot focus on service innovation. They have to invest too much in infrastructure, resulting in slow service rollouts and causing them to miss market opportunities.

◎ Security and O&M Efficiency: IoT networks are more complex and face more security threats. Security measures are urgently needed. O&M is inefficient due to a lack of monitoring, logging, and auditing measures, and incompatibility with third-party platforms.

Typical Scenarios

Lots of IoT Connections

Build hundreds of millions of IoT connections using the following options.

◎ Option 1: Create Connection Processing Modules Based on the IoT Platform

In one-stop pre-integration service scenarios, you can quickly integrate multiple devices and support hundreds of millions of connections, without needing to implement O&M.

◎ Option 2: Deploy and Migrate Existing IoT Connection Processing Modules Using Basic Cloud Services

You can quickly deploy self-developed IoT connection processing modules on the cloud by using basic services such as ECS, CCE, ELB, DMS, and DDS.

- Related Services Elastic Cloud Server Cloud Container Engine Elastic Load Balance Distributed Message Service Document Database

One-Stop Big Data Analytics

Easily gain IoT insights based on the uniform big data analysis architecture.

◎ E2E Process: E2E IoT data processing capabilities are provided, including data injection, real-time processing, storage, analysis, calculation, mining, and presentation.

◎ Scenario-specific Design: IoT-required cloud services are provided, including SQL queries for CS, preventive maintenance modeling for MLS, and time sequence data for CloudTable.

◎ Cost-Effectiveness: The most suitable data storage, query, and analysis architectures and solutions are selected based on customer requirements. For example, compute can be decoupled from storage for non-real-time services to greatly reduce big data analysis costs.

Diverse Application Enablement

Quickly create applications based on various IaaS and PaaS services.

◎ Basic Scenario: ECS and CCE are used to support cluster hosting and horizontal expansion.

◎ Intermediate Scenario: Highly scalable and reliable middleware services are used to reduce O&M workloads. Common middleware services for IoT include RDS, DDS, and DMS.

◎ Advanced Scenario: Services such as FunctionGraph, ServiceStage, and DevCloud are used, so that you can focus on business innovation.

- Related Services Elastic Cloud Server Cloud Container Engine Distributed Message Service Document Database Service ServiceStage

Security and O&M Tools

Implement efficient O&M over IoT applications by using security, O&M, and management services.

◎ Management and Deployment Services: Core O&M services such as Cloud Eye and CTS facilitate O&M.

◎ Security Services: Multiple products are used to make networks, data, hosts, and applications more secure, enabling you to build a secure IoT application architecture.

◎ Compatible with Leading Automation Platforms: The OpenStack architecture is compatible with leading automation platforms such as Cloud Foundry and Terraform, so that you can easily deploy your applications on the cloud.

- Related Services Data Encryption Workshop Cloud Eye Cloud Trace Service Web Application Firewall Anti-DDoS

IPv6 Solution

The development of new technologies such as 5G and IoT raise huge demands on IP addresses. IPv6 has become the foundation of connectivity of everything. To embrace this new trend, HUAWEI CLOUD provides the IPv6 solution for different industries such as finance, broadcasting and television, and media asset, helping the enterprises to smoothly migrate their traditional architecture to IPv6.

An IPv6 Leader, 10 Years in the Making

◎ Formulator of IPv6 Standards: Huawei leads the formulation of WAN IPv6 standards in China and is a prominent player in international IPv6 standards.

◎ Full-Stack Solutions: Huawei provides an IPv6 full-stack solution covering cloud/pipe/device/chip.

◎ Leader in IPv6 Network Building: Huawei provides not only an abundance of IP addresses but also efficient, secure, simple, and flexible next-generation networks for firms.

◎ Pilot of IPv6 Deployment: Huawei is actively involved in the construction of the six backbone networks of China's Next Generation Internet (CNGI) and enterprise IPv6 network deployment for pilot industries.

Top-Quality IPv6 Solution

◎ Dual-Stack Communication: Supports IPv4 and IPv6 dual-stack communication. The two communication modes do not affect each other.

◎ Seamless Migration: Seamlessly migrates your IPv4 services to the IPv6 architecture with no need to modify any configurations.

◎ Intelligent Dual-Stack Resolution: When you use both IPv4 and IPv6 to provide services for users, intelligent dual-stack resolution ensures unified access entries and addresses for your users to provide consistent user experience.

◎ Shared Bandwidth: Allows IPv4 and IPv6 networks to share bandwidth, reducing costs and simplifying bandwidth management.

Embracing the IPv6 Era: Now or Never

◎ Next-Generation Internet: It is estimated that the number of active IPv6 users in China will exceed half a billion by the end of 2020, and the scale of both users and traffic will be unsurpassed worldwide. It is time to seize the business opportunities of the next-generation Internet.

◎ High IPv4 Address Retention Costs: Almost all IPv4 addresses have been allocated. If an IPv4 address is allocated to each Internet terminal, the IPv4 address retention costs will be high.

◎ Promoting IPv6 Deployment: According to the Action Plan for Advancing the Extensive Deployment of Internet Protocol Version 6 (IPv6) issued by the General Office of the CPC Central Committee and the General Office of the State Council, IPv6 will be fully supported by the website systems of government bodies from the provincial- and ministerial-level and up, central enterprises, and press, radio and television media outlets by the end of 2018.

Typical Scenarios

Next-Generation Internet Portal

Next-generation Internet portals must support access from various terminal types and versions, and support both IPv4 and IPv6 to provide unified access addresses to external systems.

◎ ECS Support for IPv4 and IPv6: ECSs support IPv4/IPv6 dual-stack communication and public network access.

◎ DNS Supporting IPv4/IPv6 Resolution: DNS must resolve both IPv4 and IPv6 access requests.

• Related Services Elastic Cloud Server Virtual Private Cloud Elastic IP Domain Name Service Elastic Load Balance Object Storage Servi

Smooth Migration to IPv6 Architecture

Most enterprise portals are designed and built based on the IPv4 architecture. HUAWEI CLOUD IPv6 solution enables customers to quickly use IPv6 to provide services to their users without changes to their existing website architecture.

◎ Seamless Migration: Retains the original application architecture and networking approach while providing IPv6 for applications.

• Related Services Elastic Cloud Server Elastic IP Domain Name Service Elastic Load Balance

Web & Mobile

Web & Mobile provides an elastic cloud environment and mobile Internet ecosystem with high data security. It can process up to 100 million concurrent connections and millions of transactions, perform big data analysis, and ensure system reliability and performance.

Solution Advantages

Full Application Lifecycle Management

Provides DevOps and end-to-end support for microservice frameworks.

Security and Reliability

Protects the integrity of customer data and applications with the full security and reliability of HUAWEI CLOUD.

Precision Marketing

Actionable insights from big data analysis facilitate precision marketing.

Quick Deployment

Templates can be used to quickly deploy services and provision resources.

Business Challenges

Slow Response During Peak Hours

Websites, mobile applications, and e-commerce portals must often process up to 100 million concurrent connections and millions of transactions. This can cause bandwidth bottlenecks, sluggish system responses, database failures, or even system unavailability.

Poor User Experience

When a large amount of static data (such as photos and videos) is processed, web pages may be slow to load, impacting performance and user experience.

Lack of Big Data Analysis

User behavior and transaction data are not analyzed to potential due to the lack of big data analysis tools. This situation may lead to reduced user loyalty and misdirected investments for the organization.

Low Data Security

Websites, mobile applications, and e-commerce platforms are exposed to a variety of risks, including credential stuffing, ticket scalping, web page tampering, DDoS attacks, and Trojan horses.

Typical Scenarios

Promotions & Flash Sales

ECSs automatically scale up or down to meet concurrency requirements.

◎ ELB: ELB automatically scales its request handling capacity according to the incoming traffic. It can process up to 100 million concurrent connections and distribute traffic across AZs. Service continuity is ensured, even if an AZ becomes faulty.

◎ Dynamic Expansion: ECSs and databases can be dynamically extended based on preset scaling policies to handle traffic peaks and ensure service stability.

• Related Services Elastic Cloud Server Auto Scaling Elastic Load Balance

Precision Marketing

Big data analysis drives precision marketing.

◎ Data Analysis: Hadoop, Spark, and HBase are used to process user data and analyze behavioral trends, and actionable insights are provided for your product marketing and O&M.

◎ Data Storage: With Object Storage Service (OBS), you can store large amounts of data (up to 5 TB) for a short period or long term, and pay only for the storage space you use.

• Related Services Object Storage Service

One-Stop Website Construction

All the resources you need for building a website are available.

◎ Domain Name Registration and Licensing: HUAWEI CLOUD provides Domain Name Service (DNS) for customers to register and resolve their domain names. DNS also provides free licensing for domain names.

◎ Accelerated Website Construction: A wide range of website design templates available in the Marketplace enable you to build and launch your site fast.

• Related Services Domain Name Service Elastic Cloud Server

Resource Acceleration

The five-connection dynamic Border Gateway Protocol (BGP) network improves service access, separates dynamic and static content, and delivers an excellent user experience.

◎ High-Quality Network: The five-connection dynamic BGP network ensures fast access for users on all networks. Virtual Private Network (VPN) and Direct Connect facilitate connections between services in the cloud and those in enterprise-owned data centers.

◎ Enhanced User Experience: OBS provides static website hosting and stores static data, including photos and videos. It works with Content Delivery Network (CDN) to quickly load content, enhancing user experience.

• Related Services Object Storage Service Content Delivery Network

Highly-Reliable Architecture

Intra-city and remote disaster recovery capabilities ensure service reliability.

◎ Intra-City Disaster Recovery: Best-in-class cloud infrastructure enables service deployment across AZs within the same city. Cloud services, such as RDS for MySQL and ELB, also support cross-AZ deployment, fully satisfying DR requirements of financial enterprises.

◎ Remote Disaster Recovery: Enterprises can use Huawei data centers around the world to facilitate remote disaster recovery and to meet reliability and regulatory requirements.

• Related Service RDS for MySQL

Solution Architectures

• Description

An elastic cloud environment that supports complete lifecycle management, guarantees data security, handles a massive number of concurrent connections and transactions, and features high reliability and performance

• Highlights

Service neutrality

One-stop service

User support

Seamless user experience

Highly-reliable architecture

Comprehensive data protection

Automotive

Leveraging the advantages of device-pipe-cloud, Huawei Automotive platform provides full-stack cloud services. Automotive manufacturers and associated industry enterprises can diversify their income streams with such services as region/municipality-wide direct rentals and automated driving applications, making vehicles and people's lives smarter.

Business Challenges

Heavy Assets, High OPEX, Slow Construction

Constructing a data center is costly, involving equipment rooms, power supply, cooling, fire fighting, and system management outlays. Centers must be able to handle the highest peaks in traffic, which means a vast majority of the investment underutilized during normal hours. Construction is slow and cannot meet service development requirements.

Ineffective Content-Data Integration

Automobile companies build separate content and management systems, forming data silos. Moreover, data models are not interoperable. Therefore, capturing customer profiles or implementing precision marketing is difficult. Automobile companies also need to purchase vertical medium resources at a huge cost, without any data quality assurance.

Challenging Data Assets Management

Traditional IoV construction emphasizes content accessed over the in-vehicle infotainment system. As more and more vehicles access the network, more data is amassed. The new generation of IoV platforms should focus on extracting IoV data value to provide drivers with a richer and more personalized service experience.

Arduous App Development

To develop and deploy an automated driving system, a company must gather, store, and manage masses of data. Tools integrating AI and using an advanced learning framework with high-performance computing capabilities help minimize costs of transferring data to the cloud, accelerate model training, and streamline development efforts.

Typical Scenarios

Simulation Analysis

- Simulation analysis, improving R&D efficiency

In automobile R&D, CAE is used to simulate and analyze rigidity, strength, modes, collision, and NVH.

◎ Evident Finite Element Analysis (EFEA): Used in analyzing vehicle collision safety, high-speed impact, and explosion

◎ Invisible Finite Element Analysis (IFEA): Used in analyzing vehicle structure strength, vibration mode, fatigue, heat, and NVH

◎ Fluid analysis: Used in analyzing external airflow, air channels, and airflow resistance

- Related Services Elastic Cloud Server Bare Metal Server Object Storage Service Direct Connect

Digital Marketing

• Digital marketing, driving car sales growth

Streamlines the service process, establishes data specifications, and integrates online and offline marketing, improving customer experience and promoting automobile sales.

◎ Omni-channel Integration & Unified Mgmt: Connects to omni-channel users and integrates all valuable marketing elements, such as consumers, suppliers, and 4S shops. Uses standard data fields, creating a unified content and user experience management system.

◎ Precision Marketing, Personalized Service: Leverages HUAWEI CLOUD Enterprise Intelligence to analyze data and refine vehicle owner profiles, providing personalized services. Precision marketing improves the customer retention rate and conversion rate of potential customers.

◎ Smart Marketing Activity Management: Allocates marketing resources to according activities based on vehicle owner profiles by using Huawei AI algorithm, improving the proportion of self-owned channels and utilization of vertical media resources.

• Related Services ServiceStage

Connected Car

• Internet of vehicles, mining data value

Provides richer, and personalized services for vehicle owners, improving customer experience and loyalty.

◎ Unified Multi-Service Platform: Offers customers and partners with a secure, efficient, and smart Connected Car platform that unifies the TSP, new energy vehicle monitoring platform, fleet management platform, and transportation risk monitoring platform.

◎ Intelligent Connected Car Suite: Supports pre-integration scenarios, such as user profile, route analysis, driving behavior analysis, and predictive maintenance.

◎ Vehicle, Connectivity, and Access Mgmt.: Supports multiple data transmission protocols, such as GB/T32960, MQTT, HTTP, and JT/T 808. Uses vehicle shadow to store and retrieve current state information about the vehicle, and supports data parsing and OTA management.

• Related Services Elastic Cloud Server Object Storage Service

Autonomous Vehicle

• Autonomous vehicle development platform, accelerating the driverless car commercialization

Provides highly scalable storage, high-performance computing, and an advanced one-stop AI development platform. Enables users to collect, receive, store, and analyze automated driving vehicle data, supporting the field's comprehensive development.

◎ Data Collection and Logistics: Uses the data express service to import to the development platform significant volumes of automated driving test data.

◎ Data Storage Platform: Provides standard archive storage platforms requiring low-frequency access for data collected during countless amount automated driving tests.

◎ Data Lake, Computing Platform, Machine & Deep Learning: Performs end to end management of the data required for automated driving development. Imports masses of drive test data to the platform offline. Parses, filters, and marks the data, then simulates the realistic scenarios to model driving decision making and route planning, and then trains the model repeatedly.

• Related Services Object Storage Service Cloud Container Engine

Recommended Solutions

Simulation Analysis

High-performance, reliable, quick, simple, and secure solutions powered on HUAWEI CLOUD for automobile manufacturers

Digital Marketing

Based on full-stack cloud services, provide customer profiles for precision marketing, improving your services and sales conversion

Connected Car

Gather, store, and analyze vehicle data, raising service innovation capabilities and accelerating transformation efforts

Autonomous Vehicles

Build scalable massive storage and algorithm models for quicker algorithm training & testing, supporting the development & deployment

Smart Campus

Campuses contain a large number of facilities that must all be monitored to ensure security. There were more than 1.2 million campuses spread across China in 2017. Seeing the great potential, HUAWEI CLOUD geared up its solution so partners can build smart campuses with higher safety standards at lower cost.

Application Scenarios

Huawei is committed to building a digital platform that enables smart campuses and redefines campus service architecture. By integrating various intelligent frontend subsystems and supporting innovative application development by ecosystem partners, the platform enables integrated data, visualized statuses, manageable services, and controllable events. At Huawei, our focus is on making sure that campuses are safe, comfortable, efficient, and green, and our Smart Campus solution does just that. It provides a better service experience for campus users and maintains excellent operations capabilities for campus operators, thereby creating a greater economic and social value.

Technical Architecture

Smart Campus integrates device, pipe, and cloud technologies to enable edge-cloud synergy.

Edge Computing Architecture

Edge computing enables remote management, data processing, analysis and decision making, as well as the intelligent implementation of edge nodes. It also provides you with an integrated edge-cloud synergy service.

ROMA Architecture

The ROMA cloud service integration solution has been incubated in Huawei's campus solution, integrating more than 20 Huawei campus applications and supporting over 90 integration scenarios. The solution can integrate applications within a few days.

EI Big Data Architecture

HUAWEI CLOUD provides enterprise-level AI, video analysis, and big data cloud services to help partners build smart campuses and provide a more secure, convenient, and green experience.

E-Commerce

HUAWEI CLOUD provides an end-to-end solution comprising basic and advanced services that help enterprises rapidly roll out e-commerce platforms and manage resources.

Solution Advantages

Industry-specific Services

Industry-specific services help enterprises quickly construct e-commerce platforms.

Service Neutrality

HUAWEI CLOUD's well-defined service boundaries ensure that customer applications and data are not touched.

Open Architecture, Easy Migration

OpenStack architecture enables easy migration of applications without vendor lock-ins.

Open Ecosystem

The open cloud ecosystem ensures mutual benefits for all participants and eliminates dependency on external e-commerce platforms.

Business Challenges

Sudden Traffic Surges

There will be a dramatic surge in access during promotions, flash sales, and sweepstakes. As a result, servers become overloaded, system responses are sluggish, and e-commerce platforms may even crash.

Poor User Experience

Massive amounts of static data (including pictures and videos) are processed on a daily basis, and the data is usually stored on servers. Access to such data may be delayed, resulting in poor user experience.

Lack of Proper Data Analysis

Existing e-commerce platforms and related data analysis tools cannot intelligently analyze data. As a result, it is difficult to make key business decisions based on data.

Compromised Security

The whole process from traffic diversion to commenting may face vulnerabilities from credential stuffing, bonus hunting, ticket scalping, DDoS attacks, account leakage, and Trojan horses.

Typical Scenarios

Online Promotions

Compute resources are scaled up or down so that services can meet high throughput requirements.

◎ Load balancing: ELB automatically distributes incoming traffic and supports 100 million concurrent connections. ELB features redundancy, ensuring service continuity and reliability even if a node is faulty.

◎ Dynamic expansion: ECS and RDS feature preset scaling policies to handle traffic surges during large-scale promotions and flash sales, ensuring service stability.

• Related Services Elastic Cloud Server Auto Scaling Elastic Load Balance Elastic Volume Service RDS for MySQL

Static Resource Acceleration

Dynamic content is separated from static content, delivering a latency-free user experience.

◎ High-quality network: A network to multiple Internet service providers eliminates network latency and ensures fast access for users in different network environments. In addition, VPN and Direct Connect facilitate connections between services in the cloud and those in enterprise-owned data centers.

◎ Enhanced user experience: Massive amounts of static data (including pictures and videos) are processed on a daily basis. The data is typically stored on servers, which is expensive and results in slow access to data. OBS provides storage space for static content such as product images and videos. Its static website hosting separates static content from dynamic content, and integration with CDN improves the content loading speed.

• Related Services Elastic Cloud Server Virtual Private Network Content Delivery Network Object Storage Service Direct Connect

Precision Marketing Powered by Big Data Analysis

Precision marketing is realized through big data analysis.

◎ Big Data analysis: MRS uses Hadoop, Spark, and HBase to process unstructured or semi-structured data, analyze user behavior patterns, and output data for product display, promotion, O&M, and personalized recommendations. DWS provides efficient query of business data, comprehensive analysis on historical operations data, and prediction of operation trends. EI big data services help enterprises optimize marketing strategies to maximize return on investment.

◎ Data storage: E-commerce enterprises require cost-effective and easily manageable storage for massive amounts of data. OBS allows enterprises to easily manage and store up to 5 TB data.

• Related Services Object Storage Service

Comprehensive Protectio

A fully vetted security architecture protects applications and data.

◎ Anti-DDoS: Professional anti-DDoS devices defend network applications against DDoS attacks, such as challenge collapsar, SYN flood, and UDP flood.

◎ VSS: VSS periodically detects vulnerabilities in cloud servers and notifies personnel to address risks in time.

◎ WAF: WAF detects exceptions in HTTP requests and prevents web page tampering, information leaks, and malicious attacks, including SQL injection, cross-site scripting (XSS), Trojan horses, and vulnerability-based intrusions.

•Related Services Vulnerability Scan Service Anti-DDoS Web Application Firewall

Recommended Solutions

E-Commerce Appliances and Digital Products

This solution combines online wholesale, distribution, consumer attraction, and offline service for enterprises dealing with appliances and digital products.

E-Commerce Cross-Border Trade

This solution enables enterprises to quickly build an e-commerce platform that facilitates cross-border trade and allows seamless interworking with multiple systems, including customs, logistics, and payment systems.

E-Commerce Apparel & Footwear

This solution implements the omni-channel approach for apparel and footwear retailers by integrating online and offline channels for product marketing, pricing, and associated services.

E-Commerce Security

Huawei offers a security solution that ensures data privacy and full-stack security protection for e-commerce customers.

E-Commerce AR Solution

Huawei provides one-stop e-commerce augmented reality (AR) solution with basic HUAWEI CLOUD services and advanced AR technologies such as simultaneous localization and mapping (SLAM) and large-scale precise image identification. This solution integrates clouds with devices into a closed loop, improving user experience of e-Commerce platforms.

E-Commerce Intelligent Recommendations

This solution helps enterprises build precise user models and provides consumer-specific recommendations based on in-depth analysis of consumer behavior and transaction history.

E-Commerce Function Service

With a serverless architecture, the E-Commerce Function service solution efficiently processes requests from backends, fulfills image and video transcoding needs, and provides auto-scaling service capabilities.

App Performance Optimization

This solution helps you to monitor and manage both performance and faults of e-commerce apps in real time. It ensures optimum performance and user experience by testing the stress on links supporting flash sales, while also quickly diagnosing and locating performance bottlenecks.

Solution Architectures

• Architecture

Provides a one-stop solution that allows all customers to deploy their services rapidly while keeping costs down. The solution is elastic, reliable, and secure, making it easy for customers to deal with promotions, sweepstakes, and hot sale events while maintaining rapid response.

• Highlights

Service neutrality

Reduced TCO for e-commerce platforms

Enhanced user experience in traffic surges

Pleasant shopping experience

Refined operations system

Comprehensive protection

Big Data analysis

Education

This solution supercharges efficiency and performance to support your online education and hands-on training efforts with the robust scalability and capabilities of cloud computing, big data, and artificial intelligence. Enable, simply, accelerate your education matrix.

Recommended Solutions

Online Education Training

This online training platform helps students meet their learning needs by intelligently connecting a variety of cloud resources and services online. For example, students can use this solution to find online resources for self-study, and then complete exercises and answer questions to test comprehension afterwards. Then, the system intelligently analyzes student's answers, highlighting strengths and weakness and helping improve learning efficiency.

• Solution Advantages

Multiple Interaction Methods

Teachers and students can communicate with one another using audio, videos, and text messages. Teachers can interact with students by writing content on whiteboards or annotating courseware documents in real time. Students can also answer or raise questions in real time.

Real-time Content Sharing

Teachers and students can watch the same content and annotations on whiteboards at the same time using their own PCs, mobile phones, and tablets. Teachers can also control the sharing of auto and video files with students.

In-class Management

Teachers and students can use public cloud services for online testing, test result analysis, revealing answers, and providing further information. In addition, teachers can use functions such as roll call, screen lock, attendance statistics, and desktop monitoring to enhance teaching efficiency.

Flexible Class Modes

Classes that have fewer than 100 students (such as small-class teaching and family education) can have interactive classes. Classes that have thousands or tens of thousands of students can have live broadcast classes, such as MOOCs or professional training. This cost-efficient solution provides strong interaction capabilities and allows everyone to use e-learning solutions on multiple devices without the need to install clients.

Business Challenges

Online Study Peaks

Students often study at specific times, which requires cloud services to provide a large number of elastic resources for fast and automatic deployment. HUAWEI CLOUD provides free auto-scaling resources and high-performance, large-capacity cloud services for resource expansion and recycling.

Rigid Student-teacher Interactions

Teachers do not have effective ways to interact with their students, and therefore struggle to maintain students' attention. To address this issue, HUAWEI CLOUD provides teachers with online interaction and coordination capabilities.

Slow Course Deployment

Courses and services cannot be deployed and adjusted based on students' needs. HUAWEI CLOUD provides Cloud Container Engine (CCE) to enable second-level course deployment and online services, helping online service providers enhance their competitive strengths.

Singular, Boring Teaching Style

Lack of tailored teaching styles (mostly courseware on demand) leads to inefficient learning. HUAWEI CLOUD provides an online education training solution to enable flexible, personalized online training services.

Typical Scenarios

Online Classroom (E-Campus)

Uploads lecture videos to the cloud, enabling students across regions to learn from the best teachers. Provides educators with comprehensive content and channels, establishing a bridge between teachers and students.

◎ Mass Storage Service: Enables playback of lecture videos anytime, anywhere, and stores resources on different storage media based on their access frequencies.

◎ Video on Demand: Uses CDN acceleration to quickly transfer video resources to clients, improving user experience. Dynamically adjusts the number of servers based on online user quantity.

• Related Services Elastic Cloud Server Object Storage Service Elastic Load Balance RDS for MySQL Direct Connect

Online Library

Uses dedicated cloud resource pools on HUAWEI CLOUD to migrate the library management system, academic journal management system, and other service systems to the cloud. In addition, it also provides independent computing resources to directly migrate some services that cannot be moved to the cloud to physical servers. HUAWEI CLOUD provides ECSs for quick and elastic capacity expansion and stores different types of resources by category, enabling fast data access at the underlying storage layer and offering dedicated link services.

◎ High-Performance Storage Service: Enables the system to host hundreds of billions of files and provides million-level IOPS, allowing data libraries to effectively access and query data. Supports backup on the cloud to ensure high service availability.

◎ Auto Scaling: Uses the smart campus cloud platform and auto-scaling cloud computing resources to improve server utilization.

• Related Services: Elastic Cloud Server Object Storage Service Elastic Load Balance RDS for MySQL Direct Connect

E-Campus Workspace

Uses a 1:1 full copy desktop solution to provide teachers with a high-performance VM, which enables them to access their desktop at anytime, from anywhere. Consolidates computing and cloud resources in data centers for centralized management. Fan module-free thin clients with low power consumption are used at offices.

◎ Workspace: Workspace is a virtual desktop service hosted on HUAWEI CLOUD. It provides Windows desktops and applications as cloud services. You can access virtual desktops in the cloud for office anytime, anywhere. Workspace provides professional office applications to help you build simplified and secure IT office systems that offer high service efficiency at low costs.

◎ Fast Capacity Expansion: Flexibly and linearly adjusts VM specifications without the need to change hardware configurations.

• Related Services Elastic Cloud Server Object Storage Service Elastic Load Balance RDS for MySQL Workspace Direct Connect

Solution Architectures

Optimized for customers in education, enterprise internal training, training institutions, and other scenarios that use video teaching, this solution has the following advantages.

Multiple interaction methods, including audio and video, data exchange, and text messages to ensure effective interactions between teachers and students.

Diverse teaching styles leverage functions on the cloud, such as whiteboard writing, high-speed document scanners, and shared courseware, desktops, and multimedia.

Comprehensive classroom management functions include roll call, desktop monitoring, attendance statistics, and screen lock.

Flexible class modes provide a variety of teaching modes including video-on-demand (VOD), live broadcast, and interactive classes.

Live Interactive Education

• Solution Advantages

◎ Multiple Interaction Methods: Teachers and students can communicate with one another using audio, videos, and text messages. Teachers can interact with students by writing content on whiteboards or annotating courseware documents in real time. Students can also answer or raise questions in real time.

◎ Real-time Content Sharing: Teachers and students can watch the same content and annotations on whiteboards at the same time using their own PCs, mobile phones, and tablets. Teachers can also control the sharing of auto and video files with students.

◎ In-class Management: Teachers and students can use public cloud services for online testing, test result analysis, revealing answers, and providing further information. In addition, teachers can use functions such as roll call, screen lock, attendance statistics, and desktop monitoring to enhance teaching efficiency.

◎ Flexible Class Modes: Interactive class: Applicable to a class with fewer than 100 students, group class, and family teaching mode (one-to-one or one-to-many). Live broadcasting is applicable to a class with thousands or tens of thousands of students, network live broadcasting, and vocational training. With an installation-free client, this solution features high mobility, low cost, and strong interactivity, and provides various teaching functions and multi-terminal courses.

• Business Challenges

◎ Poor Interaction: Teachers and students do not have timely and effective communication and interaction, and the interaction modes are too simple.

◎ Lack of Self-discipline of Students: Due to lack of supervision, students' self-discipline and concentration problems cannot be resolved.

◎ Singular, Boring Teaching Style: Teaching methods are simple. VoD learning is mainly used.

◎ Low Class Loyalty: Simple interactions and teaching modes cause low class loyalty.

• Typical Scenarios

Video teaching scenarios for education industry customers, enterprise internal training, and training organizations

◎ Various Interaction Modes: Interaction modes include audio and video interaction, data interaction, and text message interaction, meeting the interaction requirements.

◎ Rich Teaching Approaches: Cloud functions enable various teaching methods, such as whiteboard writing and courseware sharing, desktop and multimedia sharing, class exercise, and high-speed photographic apparatus used for whiteboard writing.

◎ Comprehensive Classroom Management: This solution provides comprehensive classroom management functions, including the class roll call, desktop monitoring, lecture statistics collection, and screen lock.

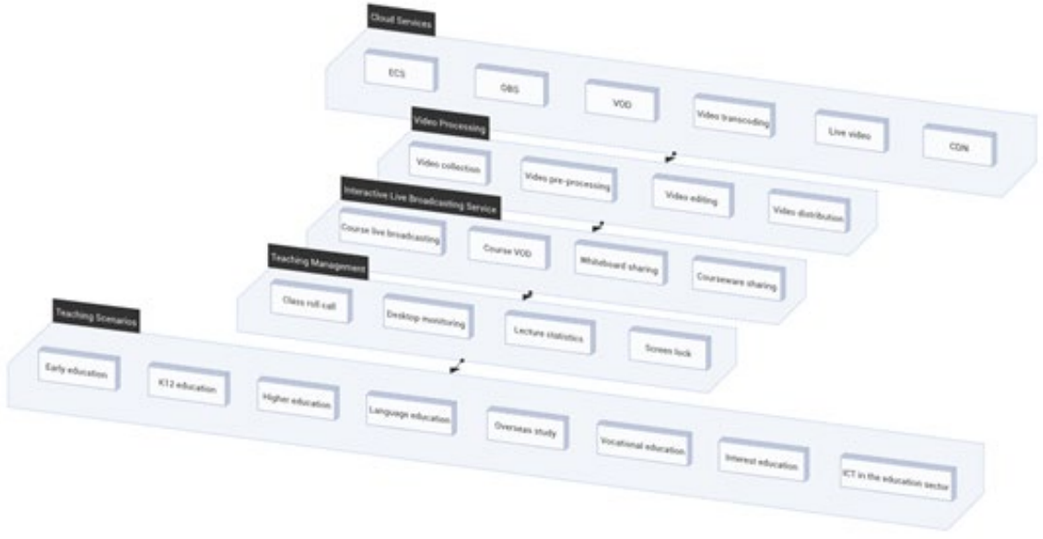
◎ Flexible Class Modes: This solution provides various classroom teaching modes, such as VoD, live broadcasting, and interactive class

• Related Services Content Delivery Network Elastic Cloud Server Elastic Load Balance Object Storage Service Direct Connect

Solution Architectures

• Description

By using Huawei's live interactive education solution, enterprises and education and training institutions can quickly implement video education and training. Huawei provides an out-of-the-box solution to quickly migrate users' services to the cloud and reduce construction and maintenance costs.



• Highlights

◎ Advanced Video Encoding and Decoding and Transmission Technologies: Mainstream mobile platforms support hardware encoding and decoding, optimize the encoding quality, bit rate control, and scalable encoding for real-time communication, and implement adaptive bit rate control, ensuring video fluency and quality.

◎ Professionally Optimized Audio Communication Quality: Adaptive optimization for audio transmission bandwidth is used to transmit voice streams with different bit rates based on the user bandwidth. The network transmission optimization, forward error correction, and packet loss concealment technologies are used to restore the original voice quality to the maximum extent. Various audio processing technologies are provided, including automatic gain control, noise suppression, echo cancellation, and mute detection.

◎ Rich Cloud Services Meeting Various Requirements in the Online Education Field: This solution supports special computing scenarios, such as high-performance computing, and provides independent and operable cloud desktops and professional solutions to meet different teaching requirements.

◎ Integrated Experience of Development and Teaching: Huawei DevCloud is oriented to teaching scenarios, such as software development, and supports full development process experience.

Financial Omni-Channel

By combining industrial features and Huawei's cloud services, this solution provides end-to-end cloud services for financial customers such as banks, insurance agents, security companies, or Internet finance enterprises. It helps customers quickly migrate their services to the cloud, promoting fast growth and improving their competitiveness.

Solution Advantages

Cost Reduction

ELB works with Auto Scaling to handle a great quantity of concurrent requests and flexibly scale resources. This helps cope with services during peak hours in a cost-effectively manner.

Security and Reliability

HUAWEI CLOUD provides financial enterprises with secure and reliable one-stop cloud solutions, concentrating their efforts on core business development.

Service Neutrality

To protect customer privacy and partner interests, Huawei scrupulously abides by service neutrality. They are not involved in other applications or data, nor do they invest in any other service partners.

Business Innovation

Artificial intelligence and other innovative services enable customers to transform their business transactions, payment verification, investment management, risk control, and help them step into the Artificial Intelligence era.

Typical Scenarios

Exclusive Resources

An exclusive resource pool is deployed for financial enterprises to meet security compliance requirements.

◎ Exclusive Resources: DeC isolates a dedicated physical resource pool for tenants on HUAWEI CLOUD. Users can exclusively use physical devices, as well as computing, storage, and network resources. This helps meet compliance requirements.

◎ Dedicated Physical Resources: Tenants can use BMSs as dedicated physical servers to provide excellent computing capabilities and ensure data security for core databases, key application systems, and high-performance computing services.

• Related Services Dedicated Computing Cluster Elastic Cloud Server Bare Metal Server Dedicated Distributed Storage Service

Comprehensive Protection

HUAWEI CLOUD provides a professional cloud security service system to ensure both application and data security for financial businesses.

◎ Anti-DDoS: Anti-DDoS protects customers' Internet applications against DDoS attacks, including Challenge Collapsar, SYN Flood, and UDP Flood attacks.

◎ Web Application Firewall: To safeguard the security of financial applications, WAF detects abnormal HTTP requests to prevent web page tampering, information leakage, and Trojan horse implanting.

◎ Database Security Service: By using reverse proxy and machine learning, DBSS provides sensitive data discovery, data masking, database auditing, and SQL injection prevention to ensure the security of cloud databases.

• Related Services Web Application Firewall Anti-DDoS Host Security Service Database Security Service

Intra-City and Remote DR

The intra-city and remote disaster recovery of HUAWEI CLOUD is reliably deployable.

◎ Four Regions and Seven Data Centers: Huawei has built seven data centers in four regions. This helps financial businesses easily realize both intra-city and remote disaster recovery, ensuring service reliability and financial supervision.

◎ Nearest Access and Real-Time Response: Relying on the high bandwidth of HUAWEI CLOUD and sound infrastructure in economically developed cities, financial enterprises can deploy their services in the nearest data centers for real-time responses.

◎ Easy Handling of Service Surges: Elastic computing resources are automatically scaled up or down to deal with service surges and keep services running smoothly.

◎ Elastic Load Balance: ELB automatically expands load balancing capabilities as traffic changes. It can process up to 100 million concurrent connections and features an iterative design. It can still work properly even with a faulty node, thus ensuring high service reliability.

◎ Flexible Scaling: ECSs and RDS can be dynamically extended based on preset scaling policies. This helps financial businesses cope with service peaks.

• Related Services Elastic Cloud Server Elastic Load Balance Auto Scaling

Solution Architectures

• Description

By integrating different cloud services, HUAWEI CLOUD provides a one-stop solution that features low cost, high reliability, and elastic scaling for financial enterprises such as banks, insurance companies, securities companies, and Internet finance enterprises. By working with Enterprise Intelligence, this solution enables financial enterprises to innovate their business transactions, payment verification, investment management, and risk control strategies. It improves user experience and realizes data monetization.

• Highlights

A large quantity of access requests are easily handled during peak hours.

Network resources are isolated at layers 2 and 3, meeting high-level security isolation requirements.

A variety of big data and artificial intelligence services are provided to meet business innovation demands.

Faulty ECSs are automatically recovered, data is stored as multiple copies, and restoration from backup data is supported.

Compatibility with standard open-source big data APIs avoids vendor lock-in.

Comprehensive protection ensures data security.

Recommended Solutions

Securities Quotes

Small Internet-based Loans

Supply Chain Finance

Financial Transaction Dual-recording

Insurance Business

Dedicated Financial Cloud

Virtual Bank

Gaming

The Gaming solution provides a professional, fast, stable, and secure platform for game development, deployment, and operations. HUAWEI CLOUD offers comprehensive and rapid after-sales services and ecosystem support that is device-cloud synergy, driving the development of the game industry.

Solution Advantages

Service Neutrality and Win-win Cooperation

Huawei sticks to service boundaries. Specifically, Huawei will not invest in applications, never monetizes data for benefits, nor forces game partners to share data. Huawei purses co-existence and win-win relationships with game partners and customers.

Comprehensive Capabilities and Quick Response

To help with software development and deployment, hardware design and production, AI, and Internet of Things (IoT) are open to encourage customers' innovation. Services related to hardware and terminals continue to develop and grow with game customers.

Professional Assurance and Butler Services

Huawei provides a process-based and standardized cloud service system and local service teams worldwide to offer 24/7 services for game customers with special assurance and expert support.

Helping Customers with Global Development

Huawei's services are worldwide and have been certified by ISO and related laws and regulations in Europe, helping game customers adapt to user security, data security, and laws and regulations to achieve global service development.

Business Challenges

Long Delay and Poor Performance

Concurrent access of a large number of players has high requirements on the computing capability, I/O capability, and stability. PVE and PVP features have low tolerance for network delay.

Large Number of Attack Methods and High Security Risks

Game Cloud becomes the primary object for heavy-traffic DDoS attacks and CC attacks. Various attack methods lead to server suspension and player loss. Malicious registration, library attacks, and account theft severely affect game experience.

High R&D Costs and Difficult Management and Orchestration

Competitions in the game industry have intensified. Game product rollout needs to be accelerated to occupy the market. Mobile game tests need to adapt to different types of terminals from various vendors, causing high test cost.

Many Release Channels and Difficult to Precisely Locate Players

Game release and operation channels are widespread, uncurbed, and unstable, which makes it difficult to attract new customers. The game deployment platform is separated from the game operations platform, causing difficulties in precisely locating game players.

Typical Scenarios

Cloud Services for Concurrent Access

Provides high-performance cloud services to handle a large number of concurrent connections.

◎ Flexible and Scalable: 18 flavors of Elastic Cloud Server (ECS) instances are used to deploy game service nodes and provide calculation enhancement flavors (C1 and C2) and memory optimization flavors (M1). These flavors can be selected to satisfy the calculation and memory requirements of different game applications.

◎ High-performance VPC Network: To build a secure and isolated virtual network environment for game users on the cloud, computing networks are interconnected through 10GE Ethernet to provide users with a high-bandwidth network environment.

◎ Object Storage Service (OBS): The object-based OBS service provides storage space for game applications. Users can use the OBS service to flexibly upload and download game data.

• Related Services Elastic Cloud Server Bare Metal Server Virtual Private Cloud Distributed Cache Service for Redis Elastic Volume Service Object Storage Service

Enterprise-class Security Protection

Builds the industry's most reliable and stable security solution for game customers, providing an in-depth analysis on the success architecture of the game industry.

◎ Advanced Anti-DDoS and CC Defense: The exclusive "ISA (IP/Session/APP)" reputation mechanism supports various attack types. It has seven layer filtering, packet-based detection, and layer-by-layer cleaning functions. Multi-point in-depth CC defense: Anti-DDoS and cloud Web Application Firewall (WAF) support CC defense.

◎ Web Security Protection: Intelligent cloud WAF supports powerful decoding and human-machine identification. It has the high detection rate, low false alarm rate, and provides the exclusive web page anti-tampering feature.

◎ Data Security: The intelligent database security service provides functions such as sensitive data discovery, data anonymization, database audit, and anti-injection attacks to ensure database security on the cloud. Key management service: It supports command lines, easy maintenance, and encryption machines inside and outside China.

- Related Services Anti-DDoS Advanced Anti-DDoS Database Security Service Web Application Firewall Data Encryption Workshop

R&D DevOps and Test Automation

Provides a professional DevOps game development platform, agile and efficient development process, and automatic game test service to realize continuous delivery, promotes effective collaboration among game developers, and ensures high quality and fast rollout of games.

◎ Game Development Platform: HUAWEI CLOUD provides a one-stop DevOps game development platform to implement cross-region management and collaboration among core members of the project team. It also provides one-stop services such as agile project management and automated testing and deployment that shorten the product rollout period and improve product competitiveness.

◎ Game Automation Test: Provides the automatic test capability for mobile games, covering thousands of mainstream terminals in different countries and regions. It achieves one-stop compatibility test, effectively eliminates terminal adaptation problems, and greatly reduces the test cost and user loss rate.

Huawei App Store

Provides Huawei App Store for easy game operations.

◎ Nearly 100 Billion Downloads: Accumulated downloads of Huawei App Store exceed 90 billion, and the daily maximum downloads exceed 350 million. In the first half of 2017, 19,758 new applications have been added, and the average daily active users are 65 million.

◎ Fast Game Rollout: Uses innovative technologies to accelerate the launch of games and slash the period of game rollout to the promotion platform by more than a half, which contributes to the compliance of green games.

Healthcare and Life Sciences

Leveraging core cloud services such as cloud-network synergy, Big Data, and artificial intelligence of HUAWEI CLOUD and its partners, the Healthcare and Life Sciences solution provides high-performance, reliable, and secure resources and technologies and a full portfolio of applications and services for the medical and healthcare industry.

Recommended Solutions

Biomedicine

The end-to-end biomedicine solution provides enterprises with computing and storage services required for analyzing massive amounts of data, facilitating precision medical treatment.

Chronic Disease Treatment

With the new tech available in cloud computing, plenty of new opportunities are appearing in chronic disease treatment services. HUAWEI CLOUD provides extremely reliable and secure cloud services and IoT platforms that enable treatment organizations to take the lead in the marketplace and deliver high-quality therapy

Medical Image Diagnosis

Population aging, unhealthy lifestyles, and environmental issues increase the incidence of chronic diseases which require medical images to diagnose. Patients and hospitals need advanced medical equipment and efficient clinical solutions, so Huawei released the medical image diagnosis solution

Medical Image Archiving

Managing the storage of medical images has long been a challenge for medical institutions. HUAWEI CLOUD provides OBS for image storage and archiving, which is a cost-effective solution that ensures the high reliability of image data.

Genomic Sequencing

Provides ultra-high floating-point computing capabilities for computing-intensive and massive data processing scenarios, such as biopharmaceutical R&D, life sciences research, and targeted therapy analysis.

Manufacturing Digital Transformation

HUAWEI CLOUD provides a reliable and open industrial cloud platform, and an end-to-end solution to help manufacturers digitally transform within their industry. Huawei provides companies everything they need to conduct digital transformation and intelligent upgrade.

Business Challenges

Industrial Structure Upgrade

At present, the need to cut excessive industrial capacity and adjust the industry structure has become a major issue in China. In addition, challenges such as short lead times, as well as the need for low energy consumption and high resource utilization are driving the digital and intelligent transformation of enterprises.

Information Infrastructure Improvement

Faced with fierce competition in global manufacturing, Chinese SMEs need to upgrade their digital infrastructure to gain a sustainable competitive advantage.

Heavy Asset Operations

Enterprise IT hardware has a high initial investment, slow deployment, and high equipment O&M cost. Enterprises need to migrate away from heavy asset operations.

High Quality and Low Cost

Users have higher requirements for product quality, labor cost are increasing, environmental protection laws and regulations are increasingly stringent, and the protection of intellectual property rights are being reinforced. As a result, SMEs are losing their cost advantages.

Personalized Manufacturing

An increasing number of customers expect personalized high-quality products. Traditional popular products can no longer meet market demands.

Typical Scenarios

Cloud Design

Two modes for use: Workspace and application virtualization. Enterprises that choose Workspace can install the CAD software on each Workspace. Each user can exclusively use a GPU-accelerated Workspace. Enterprises that choose application virtualization can use the CAD software remotely and multiple users can share the resources of a GPU-accelerated cloud server.

◎ Rich Ecosystem: Through in-depth cooperation with mainstream CAD vendors, Cloud Design provides various software for an optimal user experience.

◎ Excellent Experience: Huawei desktop transfer protocol enables a cloud workstation to replace a local workstation. It lets your users have a convenient and flexible office experience.

◎ Security and Reliability: Design documents are stored in the cloud. It protects against disclosure of assets or loss of documents caused by local hard disk security breaches or damage.

- Related Services Workspace Elastic Load Balance Elastic Volume Service Object Storage Service Virtual Private Cloud

Cloud Simulation

High-performance, reliable, convenient, and secure simulation services to meet component simulation requirements in manufacturing. It shortens the TTM for products and improves the enterprise benefits.

◎ Rich Ecosystem: Integrated with industry-leading simulation systems, such as Dassault, Altair, and ESI

◎ Quick Deployment: Deployed in a few clicks and easily scalable

◎ Optimal Performance: Industry-leading performance, 100 G IB computing network, 3.2 TB enterprise-level SSD disks, and high-speed local cache disk among all cloud services

- Related Services Elastic Cloud Server Bare Metal Server Elastic Volume Service Object Storage Service Scalable File Service Virtual Private Cloud Direct Connect Image Management Service

Production

Component-based system functions and standard industry interfaces to enable flexible assembly based on your service needs, strategies to meet different scenario requirements, data application services, life cycle management in the production process chain, and lean business management.

◎ Flexible Assembly: The service system data processing is standardized, off-the-shelf applications are provided, and standard and open APIs are used between the different components. Together, they enable a variety of applications and services based on demand, flexible assembly, and plug and play setup for users.

◎ Unified Deployment in the Cloud: Workspace is used as the terminal in the production line, enabling deployment of the production system in the cloud, unified resource planning, and providing a one-stop cloud solution.

- Related Services Elastic Cloud Server Elastic Load Balance RDS for MySQL Workspace Virtual Private Cloud

Operations and Management

Huawei SAP cloud solution helps enterprises optimize operations and management to allow flexible production. It takes advantage of prediction and analysis to help enterprises improve their operations efficiency.

◎ Visible: SAP MII and SAP ME are deployed in HUAWEI CLOUD to make the production and operations process visible.

◎ Integrated: SAP Pco is used to integrate operations in the workshop with the core business process.

◎ Real-time: SAP HANA is used to update machine data in real time, optimize production, and increase asset utilization.

- Related HUAWEI CLOUD Services Elastic Cloud Server Elastic Volume Service Object Storage Service Virtual Private Network Direct Connect Virtual Private Cloud
- Related SAP Products SAP S/4 HANA SAP Business Suite SAP HANA

Intelligent Logistics

Combine Huawei best practices and adopt multiple optimized algorithms to optimize the storage, packing, transport, and customs declaration processes to improve logistics efficiency.

◎ Goods Quantity Estimation: Previous shipped orders are analyzed to improve the accuracy of goods quantity estimation. Packing is simulated to provide a goods quantity estimation that can be better explained.

◎ Warehousing Planning: The correlation between materials in the warehouse is analyzed and used for the warehouse layout and material storage. Materials strongly correlated to each other are stored together to improve the efficiency of warehouse operations.

◎ Intelligent Packing: An estimation of the packing list before shipment is provided to calculate the optimal placement of goods.

◎ Path Planning: Rented vehicles are distributed rationally based on the delivery plan to increase the full-load ratio of vehicles and reduce the number of trips.

◎ Order Identification: Logistics orders are identified by OCR, reducing the cost and improving the efficiency of database data entry.

• Related Services Elastic Cloud Server Object Storage Service

Sales

Build an independent e-commerce platform based on HUAWEI CLOUD which integrates online wholesale and distribution, online customer marketing, and offline service modes to provide B2C, B2B2C, O2O, and C2M e-Commerce solutions.

◎ C2M-driven Consumption Upgrade: Consumption demands are connected with the production line to minimize intermediate stages, allow you to meet demands quickly, eliminate inventory effectively, lower product prices and increase product benefits, shorten the duration between production and sales, and improve production efficiency.

◎ All-channel Integration Management: Online and offline channels are integrated. Standard digital product and component catalogs are provided to shorten the sales process, integrate the supply chain, streamline ERP, synchronize online and offline inventory in real time, and increase the product turnover.

◎ Neutrality, Security, and High Performance: Cloud security protection and scaling up to 100 million parallel data processing streams and 1 million transaction capabilities are provided. Consumption data is available to let you better respond to sales activities.

• Related Services Elastic Cloud Server Object Storage Service Elastic Load Balance Auto Scaling RDS for MySQL Distributed Cache Service for Redis Distributed Message Service Content Delivery Network Anti-DDoS Web Application Firewall Vulnerability Scan Service

Intelligent Maintenance

Predict device maintenance improves service O&M efficiency, reduces unscheduled device down time, and saves on-site labor costs.

◎ Industry Data Collection: Device data can be obtained from the OPC interface, time sequence database, industry gateway, and sensor.

◎ Full-stack Data Service: Data injection, storage, analysis, mining, and visibility capabilities are available, and wizard-based configuration and provisioning of the typical reference structure are provided.

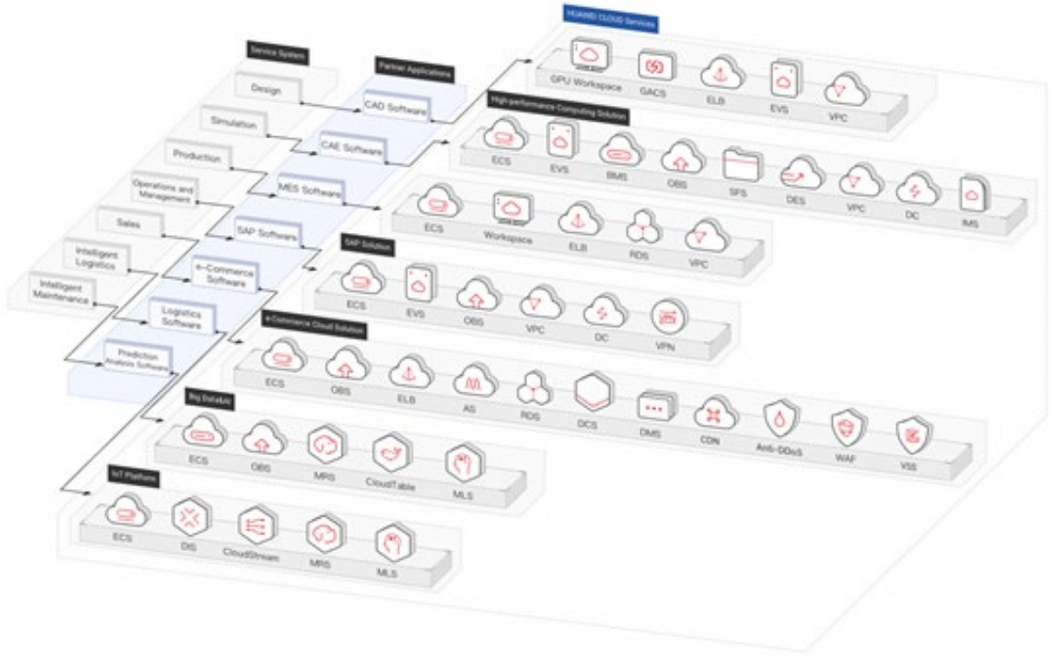
◎ Predictive Modeling: Typical industrial algorithms are pre-integrated, such as the decision tree, classification, clustering, regression, and abnormality detection. Training models can be exported and loaded into rule engines to enable real-time alarms.

• Related Services Elastic Cloud Server

Solution Architectures

• Description

The manufacturing digital transformation solution provides a one-stop cloud solution for manufacturers based on common solutions, including high-performance computing, Workspace, e-Commerce, SAP, and IoT, to help reduce costs and allow a quick digital transformation.



• Highlights

Service neutrality

Rich ecosystem

One-stop solution

Remarkable design experience

Smooth shopping experience

Comprehensive security protection

Media & Entertainment

From content production, analysis and processing to content distribution and business function assistance, HUAWEI CLOUD provides efficient, intelligent, secure and stable lifecycle service capabilities for the media and entertainment industry.

Solution Panorama

EI Internet Solution

Internet media services continue to proliferate, presenting new challenges in terms of content moderation and service enhancement. HUAWEI CLOUD provides all-round AI service capabilities oriented to emerging Internet scenarios. These efficient, convenient services facilitate Internet new media companies' content services, helping them meet compliance review requirements, and increase user loyalty and DAU.

Home Video Surveillance Solution

Home Video Surveillance Solution is designed to take care of children, pets, and the elderly. The solution enables real-time video surveillance and viewing online, and supports automatic alarms powered by AI recognition, keeping your family safe and cared for.

Rendering Solution

Cloud rendering is an end-to-end solution equipped with an ample amount of computing resources, diversified storage, excellent performance, and flexible charging modes, helping you achieve superfast cloud rendering.

Smart Retail

HUAWEI CLOUD promotes retails' digital transformation by providing a comprehensive Retail solution for building both omni-channel online and offline solutions, integrating retail applications with rich big data, AI, and cloud services.

Solution Advantages

Service Neutrality

Huawei does not touch applications or data, and espouses full cooperation in the open ecosystem.

Secure and Reliable

The comprehensive security protection system provides airtight security. Customer data is never collected and never commercialized without customers' permission.

High Performance Assurance

HUAWEI CLOUD Smart Retail has been verified by hundreds of millions of Consumer Cloud users and online and offline Vmall customers. It handles a massive amount of concurrent connections, and handles promotional activity service pressure with ease.

Enterprise Intelligent

Upgrades your services with a wide range of intelligent retail solutions, incorporating Enterprise Intelligence (EI) provided by HUAWEI CLOUD.

Business Challenges

Changing Shopping Preferences

With the rapid development of e-commerce, an increasingly small share of customer purchases are at brick-and-mortar stores. Traditional retailers must find ways to keep and attract customers in the new shopping model if they hope to thrive amid fierce competition.

Changing Business Models

Traditional retailers focus their attention on goods and store operations. However, the shift in retail business models transforms the relationships between retailers and customers, requiring that retailers adapt accordingly.

Inconsistent Customer Experience

Isolated IT infrastructures and operation teams fail to integrate online and offline customers, members, commodities, inventories, and orders. Online and offline customer experience is inconsistent.

Absent Data Driving

Lacking a unified customer view, traditional retailers cannot identify potential customers and increase cross-selling. Retailers cannot view and analyze real-time operations data.

Typical Scenarios

Smart Store

Applies IoT, AI, and big data in retail stores to improve customer experience and sales performance.

◎ Improved Customer Experience: Visitor identification and smart guide

◎ Improved Conversion Rate: Customer flow analysis, facial recognition, VR/AR, smart billboard, and cloud shelf

◎ Lower Operation Cost & Higher Efficiency: Electronic shelf label, smart shelf, self-service checkout, and mobile payment

• Related Elastic Cloud Server Object Storage Service RDS for MySQL Distributed Cache Service for Redis Content Delivery Network

Omni-channel Platform

Builds a unified platform to process and manage front-end and services, supporting retailers and both self-built back-end and third-party e-commerce platforms.

◎ Online to Offline: Based on global data structure, ensures consistently optimal customer experience, order processing, inventory management, distribution and logistics services, and payment processing.

◎ Complete PaaS for the Platform: Provides the Kubernetes container platform, one-stop microservice development management platform, enterprise-level cloud middleware, and high-performance serverless functions.

◎ Huawei's Practical Experience: Builds a standard front-end architecture to quickly build sites globally. The omni-channel platform is built to efficiently process orders and unify delivery and payment processing.

• Related Services Elastic Cloud Server Elastic Load Balance Distributed Cache Service for Redis RDS for MySQL Object Storage Service Distributed Message Service Cloud Container Engine Application Performance Management Application Operations Management

Smart Wi-Fi

Converges IoT and Wi-Fi, enabling industry digital transformation.

◎ New Revenue Growth Point: Value of integrated offline merchant data increases while user locations form the basis for online marketing. Value of integrated online marketing data is improved by using user behavior data to guide traffic to offline merchants.

◎ Excellent Shopping Experience: Professional network planning ensures mall-wide Wi-Fi coverage and strong network signal, optimizing customer experience. In-store navigation, reverse vehicle search, and personalized advertisements keep customers shopping.

◎ Lower Operation Cost & Higher Efficiency: Electronic shelf labels and automatic update of commodity prices reduce workload by 90%. Smart purchase guides reduce labor costs by 80%.

Recommended Solutions

Self-Hosted E-Commerce

Logistics

Solution Architectures

• Description

Provides retailers with comprehensive cloud service support, such as IaaS, PaaS, AI, and big data. Integrates with ISV service platforms to help retailers build omni-channel, smart business forms.

• Highlights

Highly reliable cloud service product framework safeguards services.

Service neutrality

High-performance cloud services support rapid service provisioning.

Advanced security protection system

Smart cloud services enable smart retail.

Supportive to distributed applications based on the microservice architecture

Logistics

HUAWEI CLOUD integrates big data, Internet of Things (IoT), and Artificial Intelligence (AI) technologies to provide competitive logistic solutions that streamline the process from production, transportation, warehousing, and distribution. The solution reduces logistical costs, improves efficiency, and creates sustainable benefits for customers.

Solution Advantages

Elastic Scalability

The IoT platform provides one-stop services to help users quickly build a secure and controllable storage and transportation management system.

Big Data

Big data analysis and intelligent Enterprise Intelligence (EI) services implement intelligent logistics management, improving efficiency and reducing costs.

Open Architecture

HUAWEI CLOUD is based on the open architecture of OpenStack. Service applications can be migrated flexibly and are not bound to specific vendors.

Security & Reliability

HUAWEI CLOUD will not touch your applications or data. Logistics enterprises' application systems and data security are safeguarded by a professional cloud security system.

Business Challenges

Opaque Process, Low Efficiency

The logistics process involves too many steps (such as multi-level warehousing, trunk lines, branch lines, and distribution), and too many roles (including cargo owners, agents, carriers, and customers). Transportation and delivery processes are not transparent and hard to control, with low efficiency and high costs.

Low Satisfaction

About 80% of e-commerce customers report that they are dissatisfied with their logistics experience due to slow speeds, lost or improperly delivered goods, and the difficulty in making inquiries. Logistical issues are having a great impact on customer satisfaction.

Poor Data Support

Existing logistical systems cannot help customers make timely decisions or understand the status of their operations because they do not track or analyze logistics or lifecycles. These systems urgently need to analyze their operations and to optimize their transportation paths and warehousing.

Low Reliability

The logistics industry has high requirements for the security and reliability of service data, but self-built Disaster Recovery (DR) systems are very expensive. Rapid developments in IT require professional technical teams, and rapid service expansion requires IT systems with elastic scalability.

Typical Scenarios

Warehousing Management

This service includes warehouse-in, warehouse-out, inventory, counting, and processing management. It can manage the network structure of multiple organizations and logistics centers and is applicable to a variety of logistical businesses including third-party, self-owned (chain distribution/production), and assembly logistics. Big data solutions, such as sorting optimization, sales forecasting, and inventory optimization, can be used to reduce inventory costs.

◎ Inventory Optimization: MapReduce Service (MRS) provides capabilities such as Hadoop, Spark, and HBase. MRS helps e-commerce enterprises obtain more accurate warehouse inventory data, process this inventory data more efficiently, and continuously optimize inventory based on intelligent sales forecasting and inventory tracking engines.

◎ Parallel Architecture: A distributed parallel computing architecture, based on distributed database and Elastic Load Balance (ELB) services, is used to process orders in parallel. This merges cargo in real time to improve the efficiency of order processing, but it is difficult to calculate warehouse operation workloads and there are only a few methods for estimating work efficiency. However, big data can be used to calculate optimal sorting modes and reduce the cost of labor.

- Related Services Elastic Cloud Server Elastic Load Balance Auto Scaling RDS for MySQL Object Storage Service Distributed Message Service

Transportation Management

Transportation management implements intelligent visualized management for transportation processes, including shipping order, order tracking, cargo tracking, personnel, and carrier management. This improves efficiency and reduces costs.

◎ Fleet Control & Management: Internet of Vehicles (IoV) allows millions of vehicles to be connected to the Internet. Logistics companies can monitor their progress in real time, including vehicle locations, speeds, driving routes, driving conditions, entry and exit areas, waiting times, fuel consumption, driving behavior, driver attendance, cargo temperatures, and cargo handling. This massive amount of real-time data connects each truck, cargo owner, transportation owner, and driver to improve the efficiency of transportation and match high-quality transportation resources more precisely.

◎ Cost Reduction: HUAWEI CLOUD's EI platform provides intelligent services for calculating optimized transportation routes and reducing costs, including route optimization, intelligent loading, and warehouse-out route planning. It also helps enterprises make their warehouse-out plans based on actual sales conditions and sales forecasts, reducing the amount of time it takes to transfer goods between warehouses or other places, and improving transportation efficiency.

◎ Security and Reliability: HUAWEI CLOUD integrates a wide range of cloud services into a one-stop solution that features low costs, high reliability, and scalability. Multiple security measures are provided to protect freight information and the privacy of cargo and fleet owners. Distributed architecture and cross-AZ deployment support uninterrupted, 24/7 services, and a world-class Internet security system ensures business security.

- Related Services Elastic Cloud Server Elastic Load Balance Auto Scaling RDS for MySQL Object Storage Service Distributed Message Service

Intelligent Logistics

Intelligent Logistics uses AI and optimal technologies to facilitate the intelligent digital transformation of logistics enterprises, reduce the cost of logistical operations, and improve their efficiency. Intelligent Logistics applies to path selection planning, transportation route planning, and intelligent loading along the logistics chain.

◎ Route Planning: Transportation routes can be optimized to increase vehicle loading rates, reduce the amount of time and total distance required for transportation, and lower transportation costs.

◎ Intelligent Loading: Intelligent loading is used to estimate packing lists and calculate optimal placement policies, improving space utilization and packing security.

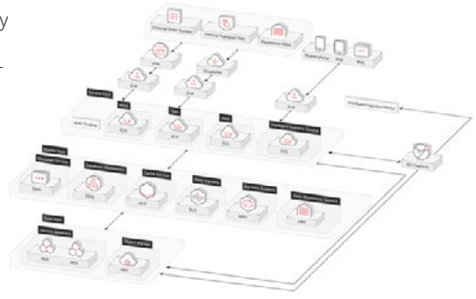
◎ Path Selection: Logistics companies can intelligently allocate vehicles, increase their full load ratio, and enhance the delivery efficiency.

- Related Services Elastic Cloud Server RDS for MySQL Object Storage Service

Solution Architectures

Description

HUAWEI CLOUD provides a one-stop cloud solution for logistics companies of any scale, helping customers deploy their services quickly and cost-effectively. It features high elasticity, high reliability, high concurrency, and robust security. Huawei also provides end-to-end ICT technologies and service support. Logistics companies can easily turn their challenges into opportunities with the help of Huawei's logistics IoT, data collection, and big data analytics technologies.



Highlights

Millions of concurrent connections

Big data analysis and EI

Standard interface for easy interconnection

Open architecture

Improved efficiency and reduced costs

Comprehensive protection

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