



Building a Fully Connected, Intelligent World

Huawei Cloud Service Map



Huawei Cloud Services Portfolio

Compute	Containers	Storage	Networking	
Elastic Cloud Server Scalable cloud servers launched in minutes	Cloud Container Engine An enterprise-class, managed Kubernetes service	Object Storage Service Infinitely scalable object storage	Virtual Private Cloud A private network environment for your resources on the cloud	VPC Endpoint Secure access to services hosted on Huawei Cloud
Bare Metal Server Fully dedicated, secure, high-performance servers	SoftWare Repository for Container Full lifecycle management of container images	Elastic Volume Service Persistent block storage	Elastic IP Static public IP addresses	Virtual Private Network Encrypted IPsec connection between your on-premises data center and the cloud
Dedicated Host Scalable cloud servers launched in minutes	Application Orchestration Service Flexible and intuitive application deployment	Scalable File Service Fully hosted shared file storage	Elastic Load Balance Improve the availability of your applications by keeping server load balanced	Enterprise Router Simplify your network by connecting your VPCs and on-premises networks
Auto Scaling Scalable compute resources to meet demand	Ubiquitous Cloud Native Service Unified management of multi-cloud clusters	Cloud Backup Recover Cloud backups for in-cloud and on-premises resources	Cloud Connect Connect VPCs across regions	Enterprise Switch Connect cloud and on-premises networks at Layer 2
Image Management Service Simple, fast deployment of servers with images	Application Service Mesh Grayscale release of applications	Data Express Service Secure, fast transmission of massive data to Huawei Cloud	Direct Connect Dedicated network connection between your on-premises data center and the cloud	Global Accelerator Accelerate access through fast Huawei Cloud network
FunctionGraph Serverless, event-driven service that lets you run code without thinking about servers	Cloud Container Instance Provides Kubernetes-based serverless container services		Domain Name Service Highly available, scalable authoritative DNS web service	
Dedicated Computing Cluster Physically isolated compute resource pools for your workloads			NAT Gateway Network address translation for cloud and on-premises servers	

78 Cloud Services 16 Categories to Support Your Business on the Cloud

Security

Anti-DDoS

Network- and application-layer DDoS mitigation

Host Security Service

Manage assets, prevent intrusions, and eliminate vulnerabilities and unsafe settings

Database Security Service

Audit databases, prevent SQL injection, and identify suspicious operations

Cloud Bastion Host

Manage servers, control permissions, and audit O&M

Cloud Firewall

Control traffic and prevent intrusions

Web Application Firewall

Shield web apps and websites against emerging threats 24/7

Data Encryption Workshop

Secure and easy-to-use cloud data encryption and key management

Data Security Center

Identify, mask, and protect your sensitive data in structured and unstructured datasets

Sec Master

One-stop security operation center

Databases

RDS for MySQL

Popular, open-source database with excellent performance for the LAMP stack

GaussDB

Enterprise-grade, distributed relational database

GaussDB(for Cassandra)

Cassandra-compatible database with decoupled storage and compute

Document Database Service

High-availability scalable, and secure MongoDB-compatible document database service

RDS for PostgreSQL

Open-source database that ensures data reliability and integrity

GaussDB(for MySQL)

MySQL-compatible, enterprise-class database

GaussDB(for Redis)

Cloud-native, Redis-compatible database

Data Replication Service

Migrate your databases with minimum downtime

Middleware

Distributed Cache Service

An in-memory caching service compatible with Redis or Memcached

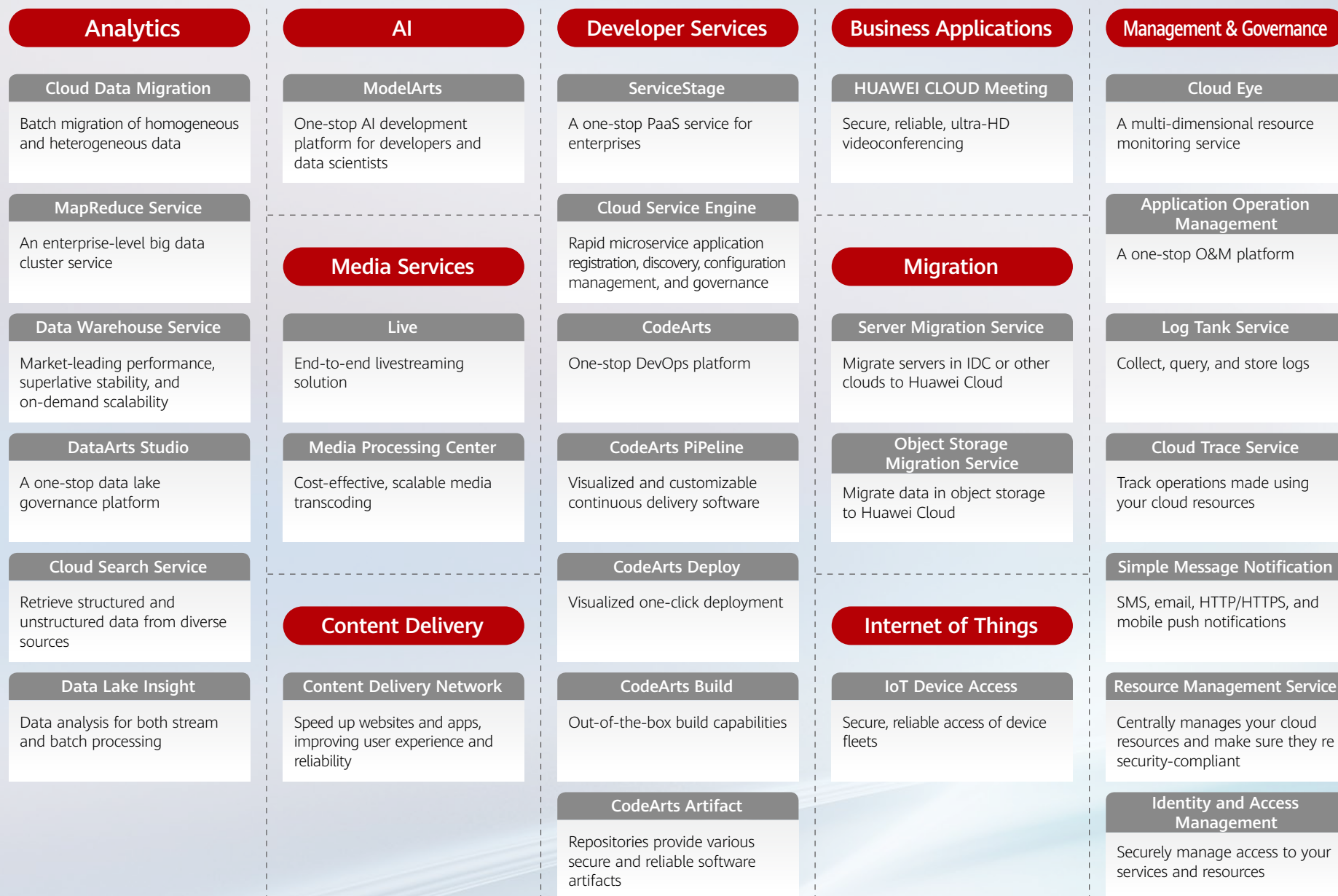
Distributed Message Service

A high-performance managed message queue service

API Gateway

Build, manage, and deploy APIs at any scale

Huawei Cloud Services Portfolio



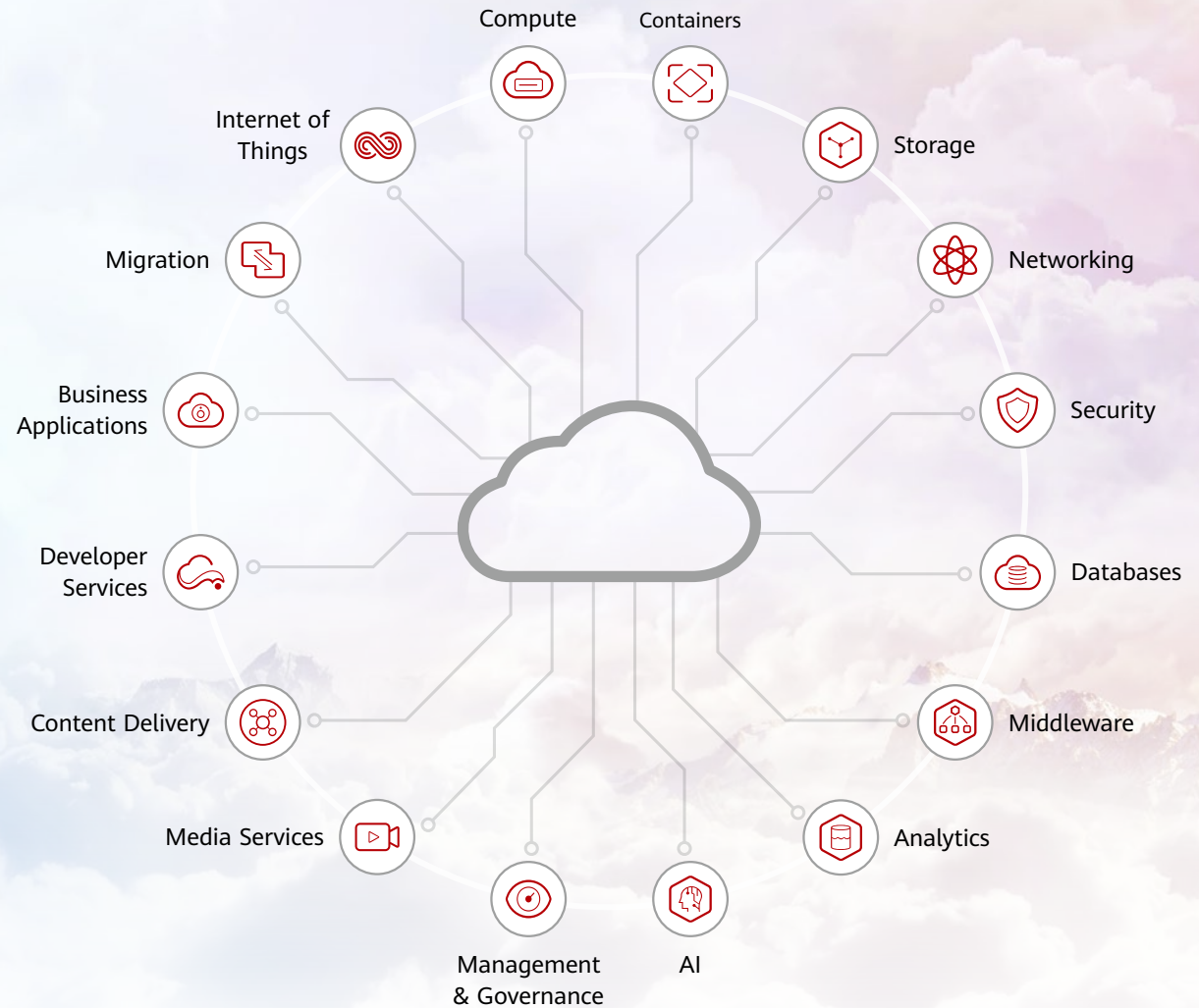
Content

Huawei Cloud value proposition

Huawei Cloud opens up Huawei's over three decades of expertise in ICT and digitalization. We work with our customers, partners, and developers to dive into digital and provide Everything as a Service, together building the cloud foundation for an intelligent world.

Huawei Cloud & AWS & Azure Cloud Service Map

This document defines how common cloud services are made available via Huawei Cloud, Azure and AWS. We hope that this guide helps you understand the services that Huawei Cloud offers. We map the capability to the service offering name for both Huawei Cloud, Azure and AWS.



Compute

Compute commonly refers to the collection of cloud services that can be obtained at any time and scaled out as needed to help users build a reliable, secure, flexible, and efficient application environment.

Huawei Cloud	Description	AWS	Azure	Differentiated Capabilities of Huawei Cloud
Elastic Cloud Server (ECS)	ECS provides secure, scalable, on-demand compute resources, enabling you to flexibly deploy applications and workloads.	Amazon EC2	Azure Virtual Machines (VMs)	- The VPC can be changed without stopping the services. - S6 ECS burstable performance is not restricted by CPU credits or spends additional credits. - The yearly/monthly billing mode is supported. - Automatic backup is supported during the ECS creation to improve reliability. - Text injection and file injection are supported.
Bare Metal Server (BMS)	BMS features both the scalability of VMs and high performance of physical servers. It provides dedicated physical servers to optimize performance.	Amazon EC2 Bare Metal	/	- Huawei Cloud provides BMSs with local disks, including SSD, SAS, and SATA disks, covering more big data scenarios than other cloud service providers. - Up to 60 EVS disks can be attached to a BMS. For a V6 BMS, up to 128 EVS disks can be attached. - GPU-accelerated BMSs are provided. - BMSs can be provisioned in the Dedicated Cloud.
Dedicated Host (DeH)	DeH provides dedicated physical hosts. You can create ECSs on a DeH to enhance isolation, security, and performance of your ECSs.	Amazon EC2 Dedicated Host	Azure Dedicated Host	- The specifications of ECSs that are shut down on a DeH can be modified. - ECSs that are shut down can be migrated from public resource pools to a DeH. - Once a DeH becomes faulty, ECSs on it will be automatically migrated to other available DeHs.
Auto Scaling (AS)	AS can automatically adjust resources based on your service requirements and configured AS policies. You can specify AS policies based on service requirements. AS can automatically adjust ECS and bandwidth resources.	AWS Auto Scaling	Azure Virtual Machine Scale Sets	- AS can automatically adjust dedicated, shared, and enhanced 95th percentile bandwidths at scheduled intervals, a specific time, or as alarms triggered. - AS allows users to customize conditional step scaling policies.

Huawei Cloud	Description	AWS	Azure	Differentiated Capabilities of Huawei Cloud
Image Management Service (IMS)	An image is a template used to create servers or disks. IMS provides full lifecycle management for images, helping you quickly deploy services.	Amazon Machine Image (AMI)	Azure VM Image Builder	• More disk file types can be used to create images. • Users can create data disk images. • Images can be created using ISO files. • Users can share private images in the same region. • An image can be used to change the OS of a cloud server.
FunctionGraph	FunctionGraph hosts and computes functions in a serverless context. It automatically scales to suit fluctuations in resource demands during peaks and spikes while requiring no reservation of dedicated servers or capacities.	AWS Lambda	Azure Functions	• Both stateless and stateful functions are supported. • For whitelisted users, functions can run for up to 12 hours. • Cold start tuning is supported. • Dynamic memory configuration is supported.
Dedicated Computing Cluster (DCC)	DCC provides dedicated, physically isolated computing resource pools on Huawei Cloud to ensure secure service operation. DCCs are applicable to scenarios with high security requirements, such as financial systems, data warehouses, and high-performance computing.	/	/	• Dedicated virtual computing resource pools isolated on the public cloud allow users to apply for exclusive physical devices and exclusively use physically isolated computing resources.



Containers

Huawei Cloud provides a full container technology stack: Kubernetes-based cluster management, container image management, automated service orchestration, unified management of multi-cloud clusters, and grayscale release of applications.

Huawei Cloud	Description	AWS	Azure	Differentiated Capabilities of Huawei Cloud
Cloud Container Engine (CCE)	A fully hosted Kubernetes service for you to build, run, and scale containerized applications.	Amazon Elastic Kubernetes Service (EKS)	Container Service Azure Kubernetes (AKS)	• Trunk port-enabled VMs and ENI-enabled BMSs, ELB passthrough networking, zero-loss communications between containers, and security groups. • Volcano, a container scheduling engine, supports scheduling of a maximum of 10,000 pods per second (with multiple schedulers). The scheduling performance of a single scheduler is improved by 16 times. • Support cross-version upgrade, and in-place upgrade without service interruption. • No.1 contributor in China to Kubernetes and Istio; the only founding member from Asia; Donated KubeEdge and Volcano to the open source community. • A cluster supports a maximum of 5,000 nodes.
Cloud Container Instance (CCI)	Provides Kubernetes-based serverless container services and is compatible with native Kubernetes and Docker APIs. You do not need to focus on clusters and servers. You can quickly create container workloads in three steps.	AWS Fargate AWS App Runner	Container Instances Azure Container Apps	• Supports multiple scaling policies: Supports scaling from hosted Kubernetes clusters (including self-built clusters and other cloud vendors) to the serverless Kubernetes (CCI) platform. • Scenario container: Provides pre-configured frameworks for big data, gene, and AI scenarios so that users can directly use the frameworks without adaptation, improving user experience and efficiency. • Advanced scheduling capability: supports queue scheduling, priority scheduling, and gang scheduling.
SoftWare Repository for Container (SWR)	SWR allows you to easily manage the full lifecycle of container images and facilitates secure deployment of images for your applications.	EC2 Container Registry	Container Registry	• Auto trigger based on preset replication policies. • Configurable number of images retained in the image repository based on retention policies.

Huawei Cloud	Description	AWS	Azure	Differentiated Capabilities of Huawei Cloud
Application Orchestration Service (AOS)	AOS automates cloud resources provisioning and application deployment based on templates you define. A graphical template designer and a large number of free sample templates enable you to intuitively and easily create custom templates.	AWS CloudFormation	Azure Resource Manager	• Free use. • YAML supported. • Low-code platform with drag and drop.
Ubiquitous Cloud Native Service (UCS)	UCS is the industry's first ubiquitous cloud native service. Your cloud native applications can run freely across regions and clouds with intelligent traffic distribution, and enjoy consistent experience in deployment, management, and ecosystem.	Amazon EKS Anywhere	Azure Arc	• Based on Karmada, UCS supports multiple distribution policies for all Kubernetes resources, regions, and label affinity, and automatic distribution based on resources. • Support cross-cloud and cross-cluster workload scaling. • Keep monitoring clusters. • Distribute cloud-to-app traffic by region, carrier, and weight.
Application Service Mesh (ASM)	By providing a complete non-intrusive microservice governance solution, ASM can well resolve service network governance issues such as cloud native service management, network connection and security management.	AWS App Mesh	AKS add-on: Open Service Mesh	• Fully compatible with open source Istio. • Provide diversified built-in grayscale releases, including canary release and blue-green deployment, for one-stop, automated release.

Storage

Offer persistent block storage, object storage, file storage for Windows and Linux cloud servers, batch migration, cloud-native backup and restore, as well as disaster recovery.



Huawei Cloud	Description	AWS	Azure	Differentiated Capabilities of Huawei Cloud
Object Storage Service (OBS)	OBS provides scalable, secure cloud storage that is efficient and easy to use. With OBS, you can store virtually any amount of unstructured data of any format and access it from anywhere using REST APIs.	Simple Storage Service (S3)	Blob Storage	- The write bandwidth of a bucket can reach 300 MB/s. - POSIX-compatible buckets and clients are available to provide high performance, as well as the append write, modify write, and truncate functions. - Scheduled upload automatically uploads data from your local disks or directories to OBS on a daily, weekly, or monthly basis or at a customized frequency.
Elastic Volume Service (EVS)	EVS provides highly durable block storage for Huawei Cloud servers such as ECSs and BMSs. EVS offers 99.9999999% durability and as little as sub-millisecond read/write latency for a broad range of mission-critical applications.	Elastic Block Store (EBS)	Disk Storage	- Up to 100 disks can be created in a batch. - Disk sharing is supported. A shared disk can be attached to a maximum of 16 servers and can reach up to 160,000 IOPS. - Disks can be moved to the recycle bin upon deletion and restored from the recycle bin when necessary.
Scalable File Service (SFS) & SFS Turbo	SFS provides reliable, high-performance shared file storage hosted on Huawei Cloud. With SFS, you can enjoy shared file access spanning multiple ECSs, BMSs, and containers created on CCE and CCI.	- Elastic File System (EFS) - FSx	- Azure Files - HPC Cache	- The bandwidth of a single file system can reach up to 10 TB/s (SFS). - File systems support multiple protocols, including NFSv3, CIFS, OBS, HDFS, and proprietary protocols, and support the interworking between these protocols (SFS). - The capacity of a single file system can reach exabytes (SFS). - The IOPS of a single file system can reach up to 1 million (SFS Turbo). - Cross-region backup of file systems is supported (SFS Turbo).

Huawei Cloud	Description	AWS	Azure	Differentiated Capabilities of Huawei Cloud
Cloud Backup and Recovery (CBR)	CBR lets you back up cloud-native servers, disks, and file systems as well as on-premises VMware virtual environments with ease. If there is a virus intrusion, accidental deletion, or software/hardware fault, you can restore resources to any point when the data was backed up.	AWS Backup	Azure Backup	- Backup and restore of Bare Metal Servers (BMS) are supported. Yearly/Monthly billing is supported. - Backups of on-premises VMware VMs can be synchronized to the cloud and then be used to restore data on the cloud.
Data Express Service (DES)	DES provides you with physical devices to make it easier to migrate terabytes, or even petabytes of data to Huawei Cloud inexpensively and much faster than would be possible over a network connection.	Snowball	Data Box	- You can send Teleports or disks to Huawei data centers. This makes a 10 times faster data migration than a 1000 Mbit/s high-speed Internet connection. - Teleports are dust- and water-proof and vibration and crush resistant.



Networking

Easily provision private networks, connect your cloud to your on-premises data centers, edge cache, and more.

Huawei Cloud	Description	AWS	Azure	Differentiated Capabilities of Huawei Cloud
Virtual Private Cloud (VPC)	VPC allows you to isolate cloud resources with virtual private networks.	Virtual Private Cloud	Virtual Network	- Multiple VPC peering connections can be transitive through routes. - A virtual IP address can be used for high availability and can have an EIP bound to access the Internet. - On-premises and cloud networks can communicate at Layer 2.
Elastic IP (EIP)	EIP service provides static public IP addresses and scalable bandwidths that enable your cloud resources to communicate with the Internet.	EC2 Elastic IP	Virtual Network IP Addresses	- IPv6 EIP lifecycle management is supported. - Bandwidth adjustment can be triggered based on a specified time, period, or alarms. Pay-per-use bandwidths can be elastically scaled. - Enhanced 95th percentile and traditional 95th percentile billing are supported.
Elastic Load Balance (ELB)	ELB automatically distributes incoming traffic across multiple servers to balance their workloads, increasing service capabilities and fault tolerance of your applications.	Elastic Load Balancing (ELB)	Load Balancer	- Private IP address of load balancers can be changed based on service requirements. - Trunk-port function for access to container IP.
Cloud Connect	Cloud Connect enables you to establish secure, high-speed connections among VPCs in different regions to meet growing requirements for cloud resources while reducing operations costs.	VPC peering	Virtual Network Peering	- A full mesh network is automatically built after routes are added to the cloud connection. - A bandwidth package is shared among multiple interworking regions. - Cloud connection network topology.
Direct Connect	Direct Connect establishes a dedicated, secure, and stable network connection between your on-premises data center and Huawei Cloud.	Direct Connect	ExpressRoute	Dedicated connections from the customer's equipment room to the cloud.

Huawei Cloud	Description	AWS	Azure	Differentiated Capabilities of Huawei Cloud
Domain Name Service (DNS)	A highly available and scalable authoritative DNS service that translates domain names into IP addresses, reliably directing end users to your applications.	Amazon Route 53	Azure DNS	- Global search for all domain names via IP addresses or domain names to analyze record sets. - Integration of existing lines into a new line. - Multi-layer CNAME acceleration.
NAT Gateway	NAT Gateway is a network address translation (NAT) service. It can be a public NAT gateway or a private NAT gateway.	VPC NAT gateway	Virtual Network NAT	- NAT Gateway supports Direct Connect or VPN. - DNAT rules can be created or deleted in batches. Port ranges can be configured. - An SNAT rule and a DNAT rule can share an EIP. - CIDR block: 32-bit subnet masks are supported.
VPC Endpoint (VPCEP)	VPCEP enables you to access public cloud services or your own private services securely.	VPC PrivateLink	Azure Private Link	- Support external publishing of VPC endpoint services whose backend resource is an ECS, load balancer, and BMS. - Support external publishing of VPC endpoint services whose backend resource is a floating IP address. RDS can use such a VPC endpoint service.
Virtual Private Network (VPN)	VPN establishes a secure, encrypted communications tunnel between your local data center and a VPC on Huawei Cloud.	VPN	VPN Gateway	Support for tenant-dedicated gateways.

Huawei Cloud	Description	AWS	Azure	Differentiated Capabilities of Huawei Cloud
Enterprise Router	An enterprise router connects your VPCs and on-premises networks and uses BGP to learn routes and dynamically select or switch between connections.	Transit Gateway	Virtual WAN hub	- Maximum bandwidth: 1 Tbit/s - Routes can be dynamically learned and selected across regions.
Enterprise Switch	Enterprise switches enable communications between cloud and on-premises networks at Layer 2.	VMware On AWS (Valid only for VMware VMs)	/	- No IP address change, VM-based cloud migration. - High-availability clusters and disaster recovery based on layer 2 communications between cloud and on-premises networks. - Simplified cloud network planning with flexible communication at Layer 2 and Layer 3.
Global Accelerator (GA)	Global Accelerator allows users around the world to access cloud applications faster through anycast IP addresses and highly reliable, low-latency networks.	Global Accelerator	/	Support cross-border communication.



Security

Full-stack security features on cloud, strong hardware & software convergence capabilities, and comprehensive protection of physical devices, networks, servers, applications, workloads, data, etc.

Huawei Cloud	Description	AWS	Azure	Differentiated Capabilities of Huawei Cloud
Anti-DDoS	Anti-DDoS protects your Huawei Cloud resources from DDoS attacks, so your services will be more stable and reliable, and your bandwidth always available.	AWS Shield	Azure DDoS Protection	- BGP lines that provide free defense against common reflection attacks and SYN large-packet attacks. - Support for defense against HTTP GET/POST floods, HTTP retransmission attacks, and HTTP hijacking attacks. - Support for precision defense against HTTP low-rate attacks, HTTPS flood attacks, and null session attacks. - Support for defense against CC attacks, SockStress attacks, connection flood attacks, and SIP methods flood attacks.
Host Security Service (HSS)	HSS defends your Linux and Windows cloud servers from the inside out, with a suite of advanced security features including powerful brute-force protection, intrusion detection, and vulnerability fixes.	Amazon Inspector	Microsoft Defender for Cloud	- Examine the files in Linux OS, applications, and other components to help users identify changes that may be exploited for system compromise. - Password + SMS/Email authentication prevent brute-force attacks. - HSS can detect and intercept the tampering of files in a specified directory in real time, and quickly obtain valid backup files to restore the tampered files, protecting web pages, electronic documents, and images. - Standalone sales licenses and software copyrights.
Database Security Service (DBSS)	DBSS uses machine learning and big data technologies to protect your databases on the cloud, intelligently auditing them and detecting risky behaviors like SQL injection.	/	/	- Audit of databases built on RDS, ECS, and BMS on Huawei Cloud. 99%+ application association audit, complete SQL parsing, and accurate protocol analysis. - Quick response to data queries with 10,000 requests per second from massive volumes of data. - Compliance with laws and regulations, such as the cybersecurity law and SOX. - Separation of permissions among the system administrator, security administrator, and audit administrator to meet audit security requirements.

Huawei Cloud	Description	AWS	Azure	Differentiated Capabilities of Huawei Cloud
Cloud Bastion Host (CBH)	CBH manages servers and permissions, audits O&M actions, and authenticates identity. It also enables remote O&M anytime, anywhere, and using mainstream browsers like Google Chrome.	/	Azure Bastion	• CBH manages various types of host resources, including SSH-, RDP-, VNC-, TELNET-, FTP-, SFTP-, DB2-, and Rlogin-based host resources, and system resources with the B/S or C/S architecture. • CBH offers the best O&M experience, providing functions such as collaborative sessions, batch login, group command sending, and automatic. • Fine-grained permission control: CBH supports multi-dimensional permission control in terms of system access and resource access.
Cloud Firewall (CFW)	CFW is a next-generation cloud native firewall that protects Internet and VPC borders on the cloud. It can detect and defend against intrusions in real time, analyze traffic and visualize results, audit logs, and trace traffic sources. You can scale CFW resources as needed.	AWS Network Firewall	Azure Firewall	• Huawei Cloud CFW can be scaled out without limit on the protection bandwidth or the number of ACL rules. • Huawei Cloud CFW supports traffic control among east-west VPCs.
Web Application Firewall (WAF)	WAF acts as a shield for web apps and websites against multiple attacks such as SQL injection, malicious file execution, cross-site scripting, and more. Powered by Huawei's machine learning technology, WAF intelligently filters out malicious traffic to safeguard data, ensure fast load times, and maintain uptime.	AWS WAF	Web Application Firewall(WAF)	• Independently used without depending on ELB or CDN. • Protection for web applications and websites on or off the cloud. • Protection granularity based on domain names and ports. • Professional functions such as OWASP TOP 10 attack defense, web page tampering prevention, and sensitive information leakage prevention. • Elastic scaling of protection performance and specifications.

Huawei Cloud	Description	AWS	Azure	Differentiated Capabilities of Huawei Cloud
Data Encryption Workshop (DEW)	DEW is a full-stack data encryption service. It provides Key Management Service (KMS), Key Pair Service (KPS), and Dedicated HSM. With DEW, you can customize encryption applications and integrate it with other Huawei Cloud services to meet even the most demanding encryption scenarios.	AWS Key Management Service AWS Cloud HSM AWS Secrets Manager	Key Vault Azure Dedicated HSM	- Asymmetric key in KMS. - KMS interconnection. - Dedicated HSM: Dedicated HSM provides encryption hardware certified by China State Cryptography Administration (CSCA).
Data Security Center (DSC)	DSC helps identify, classify, and mask sensitive or confidential data, helping to protect your customers, prevent data breaches, and meet data protection compliance requirements.	Amazon Macie	Azure Information Protection	- Lineage diagram: View the names, paths, and risk levels of sensitive data in assets. - Flexible data masking: DSC leverages preset and user-defined masking algorithms to reduce exposure of sensitive data, preventing unauthorized access to sensitive data. - AK leakage detection
Sec Master	The next-generation cloud security operation center comprehensively detects, analyzes, and handles threats and simplifies security operations.	/	Azure Sentinel	- Comprehensive security posture screen - Various forms of security reports - The security operation process can be defined.

Databases

Cloud SQL and NoSQL databases support open source as well as Huawei Cloud native database engines for mission-critical workloads and offer cloud data management, replication, and migration.

Huawei Cloud	Description	AWS	Azure	Differentiated Capabilities of Huawei Cloud
Relational Database Service (RDS) including MySQL, PostgreSQL, and MariaDB (in roadmap)	A popular, open-source, centralized database with excellent performance	Amazon RDS	Azure Database for MySQL/ PostgreSQL/ MariaDB	- Extensive Specifications, 2 vCPUs–64 vCPUs. - Leading user experience and one-click plug-in installation for RDS for PostgreSQL instances on the RDS console.
GaussDB	A cloud-based, enterprise-grade, distributed relational database	/	/	- Ultra-High Availability: A DB instance can be deployed across AZs within a given region or across multiple regions. Distributed deployment with strong consistency guarantees zero data loss. - Superlative Performance: enterprise-class capacity, with over 1,000 nodes and petabytes of storage for a single DB instance. - Security and Openness: Huawei owns 100% of the intellectual property for the core code of GaussDB, and the standalone and primary/standby instances run on open-source code from the openGauss community. - Enterprise-class Features: GaussDB supports a wide range of enterprise-class features, such as intelligent diagnosis and index recommendation.
GaussDB(for MySQL)		Aurora	/	100% compatible with MySQL but delivers 7x the performance. 1 primary node and 15 read replicas. - Automatically grows storage as needed without sharding, up to 128 TB per DB instance. - Snapshots are created in seconds and can be retained for up to 732 days and restored to any point in time.

Huawei Cloud	Description	AWS	Azure	Differentiated Capabilities of Huawei Cloud
GaussDB NoSQL Series Products (New brand names will be determined in 2023, and new products will be launched for incorporation)	Cloud-native NOSQL multi-mode databases compatible with multiple ecological interface types, such as KV, wide column, time series, and document	- DynamoDB - DocumentDB (with MongoDB compatibility) - Amazon Timestream	- CosmosDB - Time Series Insights - Managed Instance for Apache Cassandra	- Compatible with multiple popular open-source NoSQL APIs. - Multiple copies of data based on distributed shared storage, ensuring strict data consistency. - Nearly 100 TB of storage per instance, compute resources scalable in minutes, and fast data restoration.
Document Database Service (DDS)	High-availability scalable, and secure MongoDB-compatible document database service	DocumentDB (with MongoDB compatibility)	Cosmos DB	- Offer three types of architecture to suit any scenario: cluster, replica set, and single node; - With up to 32-shard clusters and 7-node replica sets, you set the pace and DDS keeps up; - Data can be retained for 732 days and even backed up to a specific point in time, ensuring optimum reliability
Data Replication Service (DRS)	Cloud service for database online migration and real-time synchronization	AWS Database Migration Service (DMS)	Azure Database Migration Service	- Migrate databases to the cloud with zero downtime. - Support migration between homogenous, heterogeneous, distributed, and shared databases.

Middleware

The general PaaS platform offers hosting and development services that can be used right out of the box in the cloud. Highly available, scalable, simple, and portable middleware helps you build applications more efficiently.

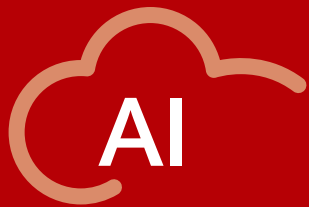
Huawei Cloud	Description	AWS	Azure	Differentiated Capabilities of Huawei Cloud
Distributed Cache Service (DCS for Redis and Memcached)	DCS is an online, distributed, in-memory cache service compatible with Redis and Memcached.	ElastiCache for Redis	Azure Cache for Redis	• Single-node and master/standby types are provided by default, and the Proxy Cluster type can be provided based on a whitelist. • Online and offline migration. • Full and incremental migration.
Distributed Message Service (DMS for Kafka, RabbitMQ and RocketMQ)	DMS enables you to create message queues for transmitting messages among application components. With DMS, application components that send or receive messages do not have to remain available at the same time.	Amazon MQ Managed Streaming for Apache Kafka	/	• Fully compatible with open-source Kafka, RabbitMQ and RocketMQ. • Ready-to-use, secure advanced queues that support high throughput or high reliability.
API Gateway (APIG)	APIG is an API hosting service that helps you build, manage, and deploy APIs at any scale.	Amazon API Gateway	Azure API Management	• Scalable, dedicated, and secure API gateway. • Precise control of API calling. • Capability of integration with any server or system.

Analytics

Support data warehouse, data lake, and lakehouse workloads with cloud-hosted, open source big data components as well as cloud-native big data services.

Huawei Cloud	Description	AWS	Azure	Differentiated Capabilities of Huawei Cloud
Cloud Data Migration (CDM)	Cloud Data Migration helps you migrate homogeneous and heterogeneous data between on-premises and cloud-based file systems, relational databases, data warehouses, NoSQL, big data services, and object storage services.	AWS Database Migration Service (DMS)	Azure Data Factory	• Migration of mainstream relational databases and big data systems (such as HDFS, Hive, and HBase). • Entire DB migration. • Dirty data archiving and management. • Unified orchestration and scheduling of data migration tasks and data development tasks.
MapReduce Service (MRS)	MapReduce Service provides Hadoop-based, high-performance big data components, such as Hudi, ClickHouse, Spark, Flink, Kafka, and HBase for data lakes, data warehouses, business intelligence (BI), AI, and more.	Amazon EMR	• Azure HDInsight • Azure Databricks	• Data lakehouse, T+0 incremental data ingestion and real-time analysis. • Multi-tenant, isolation of compute and storage resources for different tenants. • Rolling upgrade, restart, and patch installation for a large quantity of nodes in a cluster without service interruption. • Automatic cluster scaling. • HA for all components of the system. • Table, column, and data encryption, as well as system-wide auditing • Active/standby cluster DR, and single-cluster cross-AZ DR with high reliability (RPO and RTO are close to 0). • Graphical self-service O&M system.
Data Warehouse Service (DWS)	GaussDB is a next-generation data warehouse with virtually unlimited scalability. Power your digital transformation and unlock the value of data.	Amazon Redshift	Azure Synapse Analytics	• High reliability and multi-active CN architecture, no performance bottlenecks. • Dual-cluster, cross-AZ DR and one-click switchover between the two clusters, RPO < 2 hours • Indexes, tablespaces, hints, table partitions, sequences, triggers, recursion, and data formats such as JSON and XML. • Row-column hybrid storage, HATP transactions, and hybrid workloads. • A maximum of 480 nodes in a commercial cluster, 20 PB installed capacity. • Syntax conversion tools that facilitate data migration from Teradata, Oracle, and MySQL.

Huawei Cloud	Description	AWS	Azure	Differentiated Capabilities of Huawei Cloud
DataArts Studio	Simplify big data operations and build intelligent knowledge libraries with DataArts Studio, a one-stop data lake operations platform that manages data design, development, integration, quality, and assets.	• AWS Glue • AWS Database Migration Service (DMS) • AWS Data Pipeline	• Microsoft Purview • Azure Data Factory • Azure Data Share • Azure Data Catalog	• Subject areas, business object modeling, and logical and physical modeling. • Management of data standards and lookup tables. • Business metric management, comparison of data in different tables, and data quality reports. • Quick API release based on database tables or datasets, as well as API throttling.
Cloud Search Service (CSS)	Cloud Search Service facilitates data-driven O&M and business operations with a distributed search engine that is based on Elasticsearch, but fully hosted on Huawei Cloud. Compatible with Elasticsearch APIs, CSS vector search can help you quickly build AI-powered applications capable of image search, recommendation, and semantic search.	• Amazon CloudSearch • Amazon OpenSearch Service	Azure Cognitive Search	• Zero downtime during node and disk capacity expansion and word dictionary updates. • Custom configuration of word dictionaries, parameters, and plugins. • 10x higher performance than open source Elasticsearch with an industry-leading vector retrieval engine.
Data Lake Insight (DLI)	Data Lake Insight is a serverless data processing and analysis service fully compatible with Spark, Flink, and openLookeng (Presto-based) ecosystems. Now, streaming, batch, and interactive data analysis in data lakes and warehouses is effortless thanks to comprehensive BI and AI capabilities.	Amazon Athena	• Azure Data Lake Analytics • Azure Stream Analytics	• Only SQL knowledge is required for using DLI. • Users are billed based on the number of SQL scans. This is more affordable than exclusive clusters. • On-demand elastic resource pools allow users to set scaling priorities for a range of periods. • Storage and compute resources are decoupled, and Spark/Flink/Presto computing engines are supported. • The serverless deployment mode frees users from any O&M and cluster upgrade tasks.



Fully managed cloud AI services (vision & speech) offer ready-to-use APIs/SDKs easily accessible to your applications. They support self-tuning, without the need for human intervention. A cloud-based, one-stop AI lifecycle management platform provides massive data processing capabilities.



Huawei Cloud	Description	AWS	Azure	Differentiated Capabilities of Huawei Cloud
ModelArts	ModelArts is a one-stop AI platform that enables developers and data scientists of any skill level to rapidly build, train, and deploy models anywhere, from the cloud to the edge.	Amazon SageMaker	Azure Machine Learning	• Support multiple mainstream engines and frameworks, such as TensorFlow, PyTorch, PySpark, scikit-learn and XGBoost, Caffe, MxNet, and MindSpore. • Provide solvers and scientific compute engines. • Allow a single training job to run on 4,096 cards, with an overall acceleration ratio higher than 0.8.



Management & Governance

Cloud Eye is a multi-dimensional resource monitoring service, allowing you to gain insights into the health and performance of your cloud resources. APM monitors application performance in near-real-time. CTS helps you collect, store, and query operational records.

Huawei Cloud	Description	AWS	Azure	Differentiated Capabilities of Huawei Cloud
Cloud Eye	Cloud Eye is a multi-dimensional resource monitoring service. It allows you to perform custom monitoring, view core metrics, and compare cloud server performance.	AWS CloudWatch	Azure Monitor	- Interconnection with Huawei Cloud services. - Server Agent taking less resources.
Application Operation Management (AOM)	AOM is a one-stop, multi-dimensional O&M management platform for cloud applications. It monitors applications and cloud resources in real time, and collects metrics, logs, and events.	AWS CloudWatch	Azure Monitor	- Comprehensive O&M data. - Application association analysis. - Mass log search and analysis.
Log Tank Service (LTS)	LTS stores logs, allowing you to query and transfer them in real time.	Amazon CloudWatch	Azure Monitor	- Iterative search of tens of billions of logs. - SQL query and more data dimensions in SQL analysis.
Cloud Trace Service (CTS)	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.	AWS CloudTrail	Azure Monitor	More default cloud service connectors built in.

Huawei Cloud	Description	AWS	Azure	Differentiated Capabilities of Huawei Cloud
Simple Message Notification (SMN)	SMN is a reliable and flexible large-scale message notification service. It pushes messages to specified subscription endpoints and greatly reduces system coupling.	Amazon Simple Notification Service (SNS)	/	Reliable and flexible large-scale message notification.
Resource Manage Service (RMS)	RMS enables you to centrally manage your cloud resources. You can search for cloud resources, evaluate their security compliance, and perform data dumps.	AWS Config	Azure Resource Manager Azure Policy	Global level resource management.
Identity and Access Management (IAM)	IAM helps you securely control access to your Huawei Cloud services and resources. IAM is a free service.	AWS Identity and Access Management (IAM)	Azure Identity and Access Management (IAM)	Compatible with global cloud providers.

Media Services

The media services of Huawei Cloud, powered by the infrastructure with an international reach, ensure fast content transmission and efficient codec, and provide end-to-end solutions covering livestreaming, low-latency live, and transcoding.

Huawei Cloud	Description	AWS	Azure	Differentiated Capabilities of Huawei Cloud
Live	Live helps you smoothly deliver live content to audience worldwide at a low latency.	Amazon Interactive Video Service	Live and on-demand streaming	• E2E latency < 5s • Average first frame arrival time < 1s • Value-added functions such as snapshot capturing, transcoding, and recording. • Active/standby disaster recovery for stream push. • Encrypted video/audio streaming and validation based on referrer, IP ACL, and URL. • Smooth live experience verified in scenarios with millions of concurrent requests.
Media Processing Center (MPC)	MPC combines blob storage with cloud computing to convert your media content into the formats you need for playback on devices like smartphones, PCs, and TVs.	AWS Elemental MediaConvert	Encoding	• Real-time/offline transcoding: H.264 & H.265 transcoding. Videos can be transcoded to SD, HD, 4K with higher video quality and lower bitrate. • Low-bitrate HD: The video file size can be halved without compromising video quality, reducing the costs of bandwidth and storage.

Content Delivery

Reduce access latency and improve site availability, breaking through the bottlenecks caused by low bandwidth, heavy user access traffic, and uneven distribution of edge nodes.

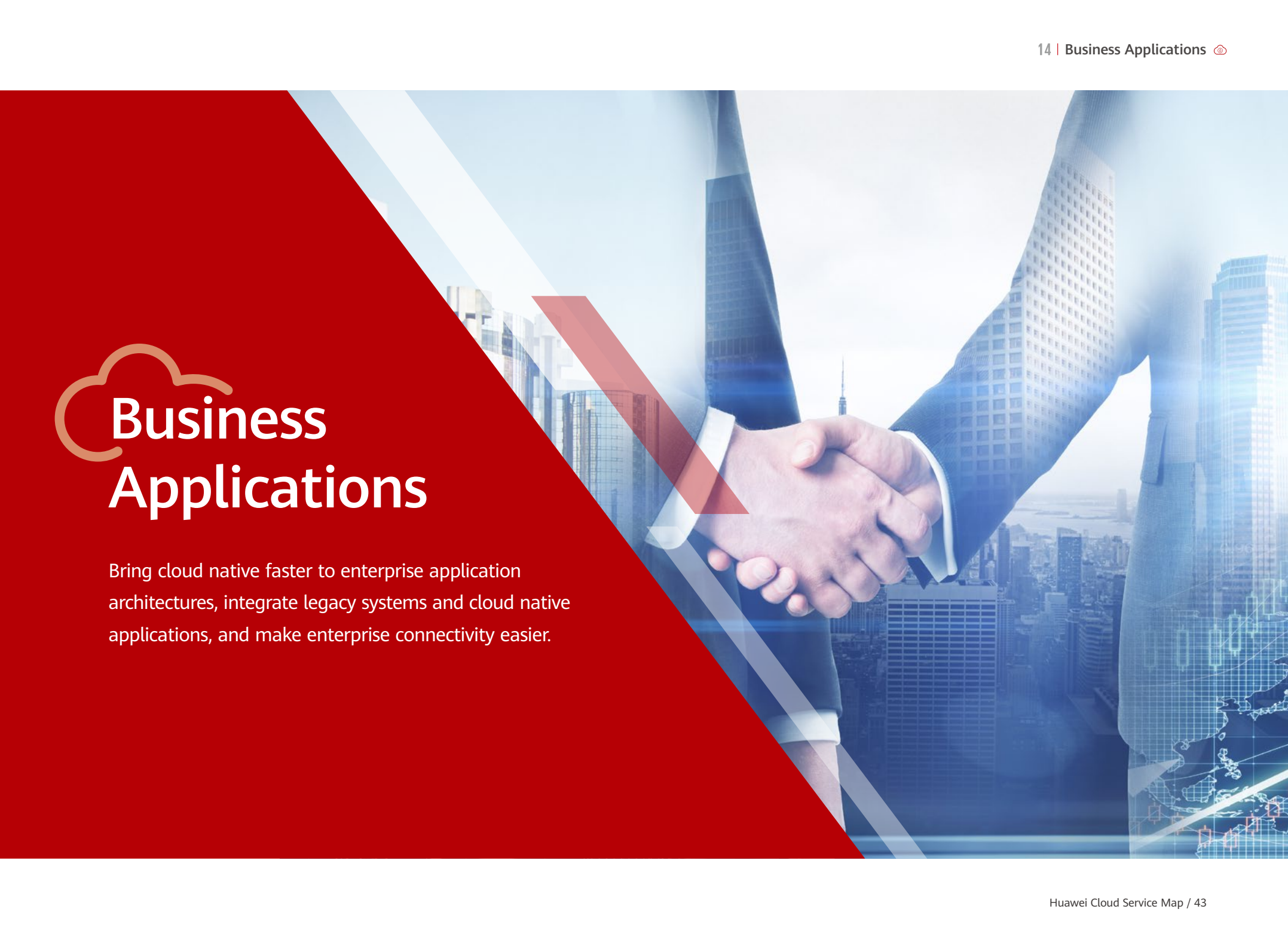
Huawei Cloud	Description	AWS	Azure	Differentiated Capabilities of Huawei Cloud
Content Delivery Network (CDN)	CDN massively speeds up website load-times, high-quality video streams, and file download times. Built upon a global network of 2,800+ edge nodes, huge bandwidth, and smart cache technology, CDN makes your apps faster and more reliable for users in every part of the world.	Amazon CloudFront	Content Delivery Network	• Boast 2,800+ edge nodes all over the world. • Maintain good relationships with global carriers. • Have a better understanding of carrier networks and deploy nodes appropriately to shorten user access paths and enhance performance and reliability. • Provide self-service domain management and quick domain access to CDN, speeding up service rollout.

Developer Services

Huawei Cloud Developer Services is designed based on DevOps. Software development (Dev) and IT operations (Ops) is a collective term for a set of processes, methods, and systems that are used to promote communication, collaboration, and integration among software development, operation and maintenance, and quality assurance departments. The emergence of DevOps is due to the software industry's growing awareness to deliver software products and services on time. Dev and Ops must work closely together. DevOps can be seen as the intersection of development, operations and quality assurance (QA).

Huawei Cloud	Description	AWS	Azure	Differentiated Capabilities of Huawei Cloud
ServiceStage	ServiceStage is an application management and O&M platform that lets you develop, build, roll out, monitor, and maintain applications all in one place. It supports running environments such as Java, Go, PHP, Node.js, Docker, and Tomcat, and supports the web, Apache ServiceComb, Spring Cloud, Dubbo, and Service Mesh applications.	Beanstalk	/	- Application release and rollout: Multiple deployment formats of source code, build package (JAR/WAR), and container image are supported, and one-click release and rollout are supported. - Application management and governance: It connects to AOM/LTS and configures basic monitoring by default after applications are brought online to provide observable capabilities. The dark launch capability is provided to ensure that services are not interrupted during application upgrade.
CodeArts	One-stop, secure, and trusted DevSecOps platform. Full-process and fully cloud-native, it gives you out-of-the-box presets built on Huawei practices to improve quality and efficiency.	/	Azure DevOps	- Multi-R&D scenarios are supported. - Integrate multiple types of tools and services. You can use them out of the box. - Include products CodeArts Req, CodeArts Repo, CodeArts Pipeline, CodeArts Build, CodeArts Deploy, CodeArts Artifact, CodeArts Check, CodeArts TestPlan.
CodeArts Pipeline	A pipeline service that enables you to visualize and customize your delivery, improving delivery efficiency and quality.	CodePipeline	Azure Pipelines	- Quality control: Sets automatic control gates, manual checkpoints, and waiting time. Provides custom quality gates. - Hierarchical: Subpipeline-stage-job pipelines implement multi-level flexible scheduling for serial and parallel scenarios.
CodeArts Deploy	A visualized, one-click deployment service that supports parallel deployment and CodeArts Pipeline integration. It standardizes the deployment environment and allows script-based or container-based deployment in programming languages such as Java, Node.js, and Python.	CodeDeploy	Azure Pipelines	- Diverse functions: Provides multiple VM and container deployment modes, common file operation tasks, and software installation capabilities. - Deployment and O&M collaboration: In typical VM deployment scenarios (such as Spring Boot and Tomcat), it integrates deployment instances with O&M services to eliminate barriers between the running state and O&M layer.

Huawei Cloud	Description	AWS	Azure	Differentiated Capabilities of Huawei Cloud
CodeArts Build	An easy-to-use platform that supports multi-language parallel build on the cloud. It helps enterprises improve build efficiency while lowering overall costs.	CodeBuild	Azure Pipelines	• Out-of-the-box: The build environment is transparent, easy to configure, and supports various programming languages, enabling users to quickly get started. • Fast compilation: Parallel and incremental builds shorten the software development period and code integration duration, and improve the product release efficiency. • Efficient expansion: Users can access a build environment that is not built in the platform. CodeArts Build supports efficient environment expansion.
CodeArts Artifact	A cloud service for software release and management. Secure software repositories allow you to manage software packages and their metadata, download release packages, and release software, achieving continuous delivery.	Azure Pipelines	/	• In-house repository: Provides multiple artifact types and adds more than three artifact types to support all mainstream language package management tools of developers. • Artifact security: Provides artifact security hash verification capabilities. • Package and version management: Supports comprehensive package and version management capabilities.
Cloud Service Engine (CSE)	Cloud Service Engine is cloud middleware for microservice applications. It provides users with high-performance and high-resilience enterprise-class cloud service capabilities, such as registry and discovery, service governance, and configuration management.	/	Azure Service Fabric	• Open-source compatibility and multi-language development. • Scenario-based governance based on business semantics. • High availability and cross-AZ active-active.



Business Applications

Bring cloud native faster to enterprise application architectures, integrate legacy systems and cloud native applications, and make enterprise connectivity easier.

Huawei Cloud	Description	AWS	Azure	Differentiated Capabilities of Huawei Cloud
HUAWEI CLOUD Meeting	Secure and reliable videoconferencing with crystal-clear audio and ultra-HD video quality.	Amazon Chime	/	• UHD: supports UHD,1080p HD video, and 4K data sharing. • Low latency: < 400 ms globally. • Packet loss concealment: 80% for audio, 50% for video, and 50% for data. • SmartRooms for cloud-device synergy and intelligent collaboration.

Migration

Migration services provide professional migration solutions and dedicated tools to help you smoothly migrate data and applications to Huawei Cloud. This allows you to focus on your business instead of the migration process.



Huawei Cloud	Description	AWS	Azure	Differentiated Capabilities of Huawei Cloud
Server Migration Service (SMS)	Server Migration Service (SMS) helps you migrate applications and data from x86 physical servers or VMs on premises or in other private or public clouds to Elastic Cloud Servers (ECSs) on Huawei Cloud.	AWS Server Migration Service	Azure Migrate	• Real-time migration speed limiting. • Migration of dynamic disks in Windows and LVM in Linux. • Automatic creation of destination servers. • Batch server migration with RDA.
Object Storage Migration Service (OMS)	Object Storage Migration Service (OMS) helps you online migrate data from object storage on other clouds to Object Storage Service (OBS) on Huawei Cloud.	AWS DataSync	• AzCopy • Data Factory	• Automatic restore and migration of archive storage. • Real-time synchronization based on message notifications. • Object metadata migration. • Configuration of data verification policies.

Internet of Things

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.

CONNECTIONS

Huawei Cloud	Description	AWS	Azure	Differentiated Capabilities of Huawei Cloud
IoT Device Access (IoTDA)	Quickly connect your IoT device fleets to the cloud, where centralized management, remote O&M, device linkage, data forwarding, and other capabilities are made easy.	AWS IoT Core	Azure IoT Hub	- Support custom topics and codecs, which can flexibly adapt to different device access protocols in the cloud. - Support dedicated instances and connection with the customer's private network. - Provide B2B2B management capabilities to support channel customers' secondary development.



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