KooDrive

Service Overview

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1 What Is KooDrive?

Introduction

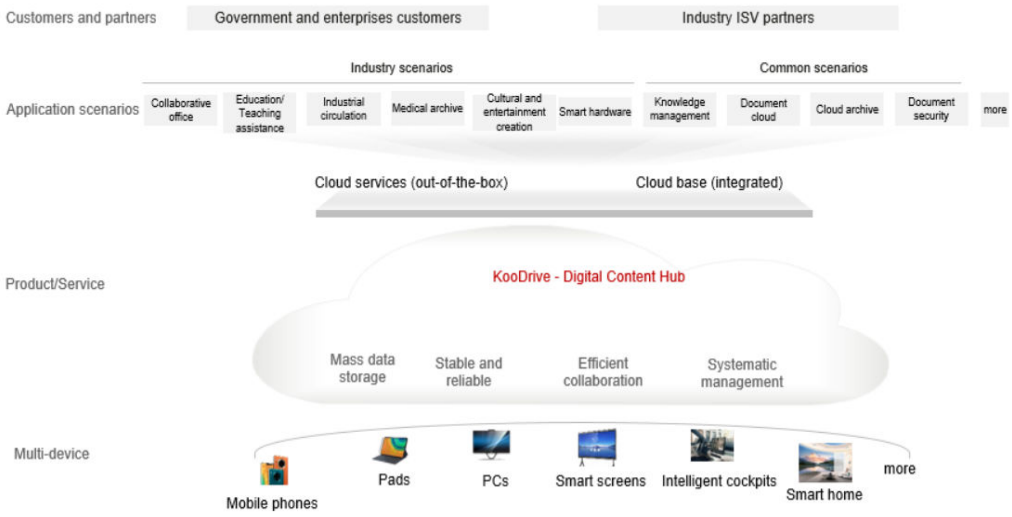
KooDrive is an online service provided by Huawei Cloud for government and enterprise customers. It provides functions such as data storage, access, synchronization, management, and collaboration. It is a one-stop digital content center for enterprises and enables efficient knowledge collaboration.

KooDrive fully utilizes the cloud-cloud synergy advantages of Huawei Cloud and covers multiple terminals to meet digital content storage and collaboration requirements in various application scenarios.

Architecture

Figure 1-1 shows KooDrive architecture.

Figure 1-1 Architecture



Access Mode

KooDrive provides a web-based service management platform. Tenants can access KooDrive through the management console, and users can access KooDrive through web or APIs.

- Using APIs

  If you need to integrate KooDrive into a third-party system for secondary development, access KooDrive using APIs. For details, see the ***API Reference***.

- Web-based console

  Operations other than the secondary development can be performed on the KooDrive console.

If you have registered a Huawei account and subscribed to Huawei Cloud, you can log in to the **console** and select or search for KooDrive on the homepage to access. If you have not registered, register a Huawei account and perform real-name authentication. To register and authenticate an account, perform the following steps:

1. Open the **Huawei Cloud official website**.
2. Click **Sign Up** in the upper right corner and complete the registration as prompt.
3. For details about real-name authentication, see **Enterprise Real-Name Authentication**.

2 Product Advantages

- Mass Storage

  PB-level massive data storage, on-demand scale-out, and file backup are not restricted by offline physical capacity.

- Reliability

  The data durability is up to 12 nines, and the service reliability is 99.99%. The one-stop digital content center of organizations and individuals is protected, enabling more efficient content collaboration in thousands of industries.

- Efficient collaboration

  Supports multi-person, multi-region, and multi-terminal collaboration and mobile office, allowing users to access the latest files at any time, improving collaboration efficiency.

- Systematic warning management

  Supports space and file management based on the enterprise organizational structure, and supports team and personal space.

3 Application Scenarios

- Scenario 1: File Storage and Backup

  Files stored locally are scattered by multiple persons and devices, and digital assets are scattered, disordered, and easy to lose. As digital assets accumulate over time, local storage space cannot meet storage requirements, and self-construction and maintenance costs are high. There is no file management capability that matches the enterprise architecture.

  KooDrive supports centralized storage and management of massive enterprise files, preventing risks caused by file disorder, such as leakage, damage, and loss of important data. KooDrive also supports on-demand scale-out to solve the problem of insufficient local space and does not require self-maintenance. Supports systematic space and file management by enterprise organization and member, and supports team and personal space.

- Scenario 2: Enterprise Team Collaboration

  KooDrive is centered on the file management system and covers multiple collaboration scenarios, improving collaboration efficiency.

  Multi-person collaboration: Multiple teams and multiple persons in a team can access and perform operations at the same time, improving enterprise collaboration efficiency.

  Multi-region collaboration: Cross-region remote office breaks regional collaboration restrictions and implements online file collaboration.

  Multi-terminal collaboration: Supports access from multiple terminals at any time, real-time synchronization between multiple terminals, and mobile office.

4 Functions

The KooDrive service provides enterprise users with enterprise office file services such as file storage and management and collaboration, building a one-stop cloud space for enterprises.

KooDrive provides the functions described in **Table 4-1**.

Table 4-1 KooDrive functions

Function	Description	Region Availability
Organization management	Allows users to create, modify, and delete enterprise departments.	AP-Singapore
User management	Users can be added, modified, disabled, enabled, and deleted.	AP-Singapore
Workspace management	Allows users to manage team spaces and personal spaces, including allocating, modifying, disabling, enabling, and deleting spaces.	AP-Singapore
File storage and management	Allows users to create folders, copy files, view file details, rename, move, dump, search for folders, add folders to favorites, delete folders, permanently delete folders, and restore folders.	AP-Singapore
File transmission	Supports file upload and download. Large files can be uploaded and downloaded through the fragmentation mechanism.	AP-Singapore
File storage	Users can view image thumbnails online.	AP-Singapore
File Sharing and collaboration	Allows enterprise users to share files or folders, and view, download, and save shared files or folders.	AP-Singapore

Function	Description	Region Availability
Tool Center	Manages user groups, including creating, modifying, and deleting groups, and adding and removing group members.	AP-Singapore
Recycle bin management	Files (folders) in the personal recycle bin and team recycle bin can be managed. including restoring and permanently deleting files or folders in the recycle bin and clearing the recycle bin.	AP-Singapore
Open APIs	Opens interfaces for department management, user management, and space management for third parties to perform secondary development.	AP-Singapore

5 Security

5.1 Shared Responsibilities

Huawei guarantees that its commitment to cyber security will never be outweighed by the consideration of commercial interests. To cope with emerging cloud security challenges and pervasive cloud security threats and attacks, Huawei Cloud builds a comprehensive cloud service security assurance system for different regions and industries based on Huawei's unique software and hardware advantages, laws, regulations, industry standards, and security ecosystem.

Unlike traditional on-premises data centers, cloud computing separates operators from users. This approach not only enhances flexibility and control for users but also greatly reduces their operational workload. For this reason, cloud security cannot be fully ensured by one party. Cloud security requires joint efforts of Huawei Cloud and you, as shown in **Figure 5-1**.

- **Huawei Cloud**: Huawei Cloud is responsible for infrastructure security, including security and compliance, regardless of cloud service categories. The infrastructure consists of physical data centers, which house compute, storage, and network resources, virtualization platforms, and cloud services Huawei Cloud provides for you. In PaaS and SaaS scenarios, Huawei Cloud is responsible for security settings, vulnerability remediation, security controls, and detecting any intrusions into the network where your services or Huawei Cloud components are deployed.
- **Customer**: As our customer, your ownership of and control over your data assets will not be transferred under any cloud service category. Without your explicit authorization, Huawei Cloud will not use or monetize your data, but you are responsible for protecting your data and managing identities and access. This includes ensuring the legal compliance of your data on the cloud, using secure credentials (such as strong passwords and multi-factor authentication), and properly managing those credentials, as well as monitoring and managing content security, looking out for abnormal account behavior, and responding to it, when discovered, in a timely manner.

Figure 5-1 Huawei Cloud shared security responsibility model

Cloud security responsibilities are determined by control, visibility, and availability. When you migrate services to the cloud, assets, such as devices, hardware, software, media, VMs, OSs, and data, are controlled by both you and Huawei Cloud. This means that your responsibilities depend on the cloud services you select. As shown in **Figure 5-1**, customers can select different cloud service types (such as IaaS, PaaS, and SaaS services) based on their service requirements. As control over components varies across different cloud service categories, the responsibilities are shared differently.

- In on-premises scenarios, customers have full control over assets such as hardware, software, and data, so tenants are responsible for the security of all components.
- In IaaS scenarios, customers have control over all components except the underlying infrastructure. So, customers are responsible for securing these components. This includes ensuring the legal compliance of the applications, maintaining development and design security, and managing vulnerability remediation, configuration security, and security controls for related components such as middleware, databases, and operating systems.
- In PaaS scenarios, customers are responsible for the applications they deploy, as well as the security settings and policies of the middleware, database, and network access under their control.
- In SaaS scenarios, customers have control over their content, accounts, and permissions. They need to protect their content, and properly configure and protect their accounts and permissions in compliance with laws and regulations.

5.2 Authentication and Access Control

Identity Authentication

KooDrive provides two identity authentication login modes. Unauthorized users cannot access KooDrive.

- The tenant administrator can use the Huawei Cloud IAM account and password to log in to the KooDrive console. After the login is successful, the tenant administrator can use the IAM token for authentication. For details about tokens and how to obtain tokens, see **Obtaining a User Token Through Password Authentication**.
- Tenant administrators, department administrators, and common users can use the OrgID account and password to log in to the KooDrive service. After the login is successful, the token generated by the KooDrive service control service is used for authentication.

ACL

- Tenant administrators can set access permissions for employees, set service administrator roles, and add administrators.
- Common users can use the KooDrive service only with the permissions set by the tenant administrator and department administrator.

  For details, see **Fine-grained Permissions**.

5.3 Data Protection Controls

KooDrive uses multiple methods and features to ensure data security and reliability when users use KooDrive.

Table 5-1 KooDrive data protection methods and features

Measure	Description
Transmission encryption (HTTPS)	To ensure data transmission security, all interfaces provided by KooDrive use HTTPS (TLS1.2/SSL3.3).
Data storage	Key service data created by users is encrypted for storage. Different tenants use separate DEKs.
Sensitive data protection	The log, diagnostics, debug, and alarm information does not contain sensitive data. Sensitive data is transmitted only through secure channels or after being encrypted.
DR and data protection	Multiple real-time data disaster recovery modes.

5.4 Audit and Logs

Audit

Cloud Trace Service (CTS) is a professional log audit service in Huawei Cloud security solutions. It can record, store and search operation records on the cloud resources in your account to perform security analysis, audit compliance, track resource, and locate faults.

After CTS is enabled, traces can be generated for operations performed on the KooDrive console.

- For details about CTS how to enable and configure CTS, see **Getting Started with CTS**.
- CTS can track KooDrive management traces. For details, see **Auditing**.
- When you enable CTS, the system starts recording operations on KooDrive. You can view operations of the past seven days on the CTS console. For details, see **Querying Real-Time Traces**.

Logs

The KooDrive console provides enterprise tenants with services such as subscribing to (enabling and changing), freezing, and unsubscribing from the KooDrive cloud service. The log system of the KooDrive console is interconnected with the Log Tank Service (LTS) of Huawei Cloud. LTS provides one-stop log collection, log search in seconds, massive log storage, log structuring and transfer. Graphical application O&M, visual analysis of network logs, graded protection compliance, and operation analysis make organization tracking easier.

After you enable LTS, LTS can record operation logs on the KooDrive management side.

- For details about LTS how to enable and configure LTS, see **Getting Started with LTS**.
- When you enable LTS, the system starts recording operations on KooDrive. On the LTS console, click **Log Management** to view the logs reported in real time. (Logs are reported every about 1 minute. In the log message area, you can view the logs reported in real time after waiting for about 1 minute.)

KooDrive records logs about tenant resource access. Customers can use the log management tool provided by WiseCloud to query logs generated in a specified period, analyze the logs, and analyze the access to related service resources in detail.

5.5 Resilience

KooDrive provides a three-level reliability architecture and uses dual-AZ DR, intra-AZ cluster DR, and data DR technologies to ensure service durability and reliability.

Table 5-2 KooDrive reliability architecture

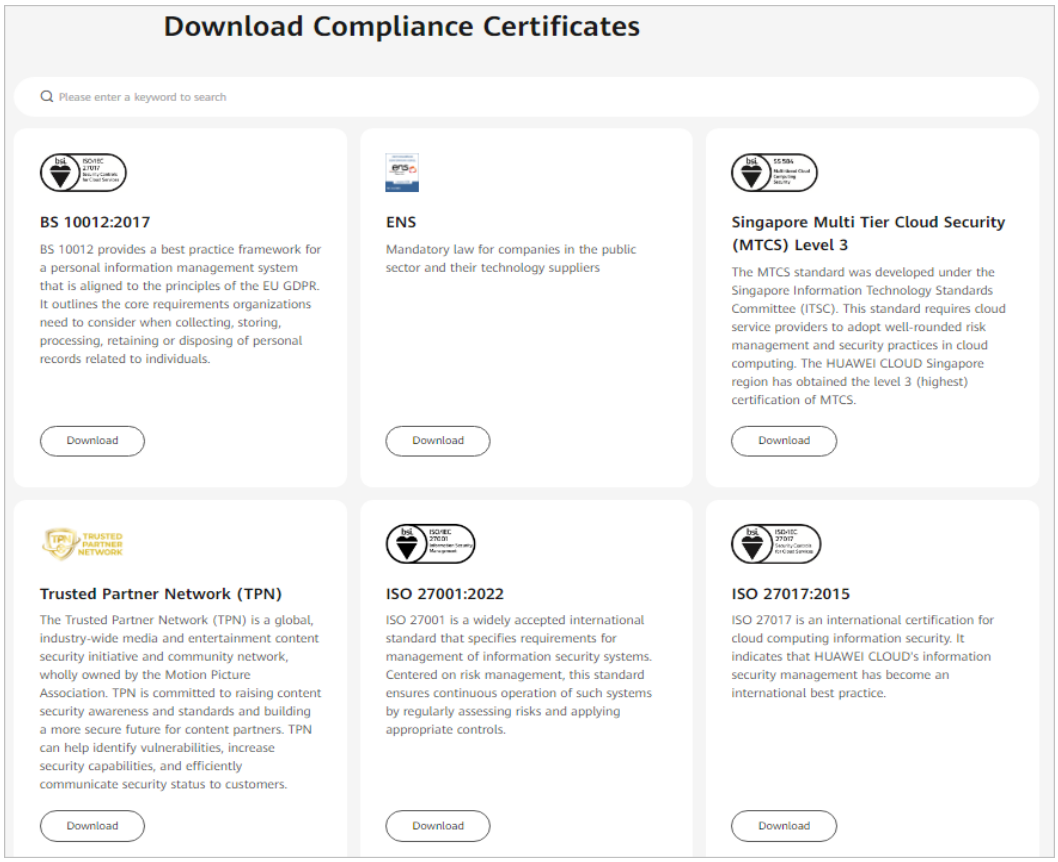
Reliability Solution	Description
Dual-AZ DR	KooDrive implements two AZs in active-active mode. When one AZ is abnormal, cloud services can still provide services.
Intra-AZ cluster DR	KooDrive provides services through clusters. Each microservice in a cluster has multiple instances. When one or some instances are abnormal, other instances can continuously provide services.
Data DR	KooDrive data is stored in RDS and DCS. RDS and DCS implement the AZ DR solution. Data is continuously synchronized to the DR site. When the RDS at the production site is faulty, the DR site can take over services, ensures continuous running of cloud services.

5.6 Certificates

Compliance Certificates

Huawei Cloud services and platforms have obtained various security and compliance certifications from authoritative organizations, such as International Organization for Standardization (ISO). You can **download** them from the console.

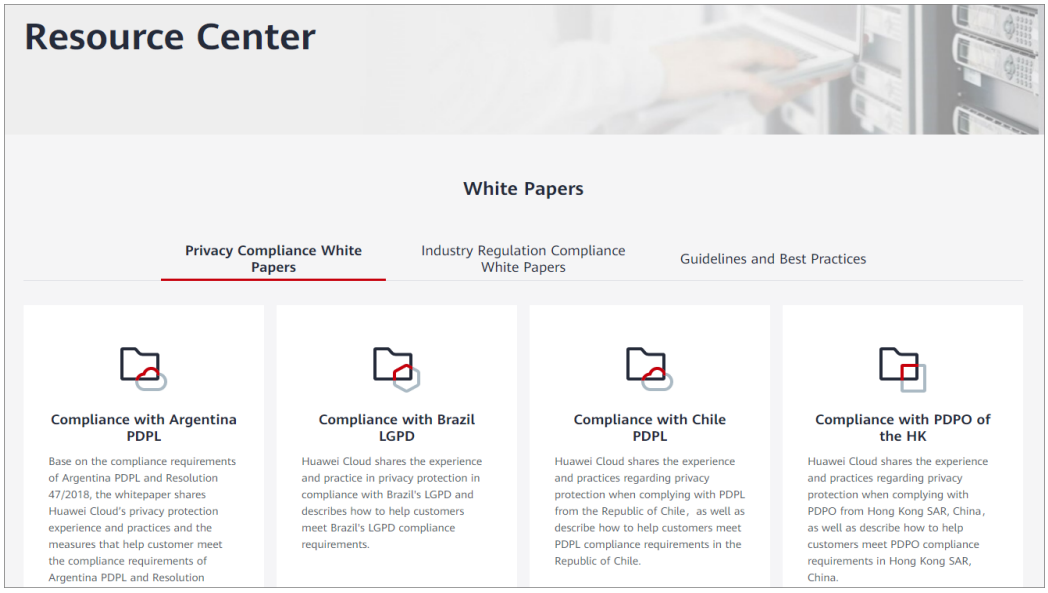
Figure 5-2 Downloading compliance certificates



Resource Center

Huawei Cloud also provides the following resources to help users meet compliance requirements. For details, see **Resource Center**.

Figure 5-3 Resource center



6 Fine-grained Permissions

If you need to set different access permissions for employees in an enterprise to isolate permissions of different employees, you can set different authorization policies when creating or managing departments or team cloud space in KooDrive.

- If you want an employee to have all permissions on the department space, such as uploading files to, downloading files from, and deleting files from a team space, you can set the role of the employee to the department administrator or grant the permission to **Manage**.
- If your employee is a common user of a department and you want the employee to only view the file directories in the department space, you can set the role of the employee to common user and grant the permission to **View only**.

KooDrive Permissions

An enterprise tenant who enables KooDrive on the Huawei Cloud console uses a Huawei Cloud account. After the KooDrive service is enabled, KooDrive creates a system administrator account using the Huawei Cloud account. After the account is used to sign in to the KooDrive service, organizations (departments and users) and space management can be performed. Roles and permissions need to be granted to users created by the system administrator. The process in which user permissions can be allocated and managed in detail is called authorization. After authorization, the user can perform operations on KooDrive resources based on the granted permissions. System administrators can manage member permissions. Members having manage permissions can manage permissions of other members excluding administrators and themselves.

KooDrive uses the role-based access control policy for permission management. Permissions are associated with roles. Users can obtain the permissions assigned to a role by becoming members of the role. **Table 6-1** describes permissions granted to each role, and **Table 6-2** describes permissions that can be allocated to common users. Members having manage permissions are granted by the system, department administrator, or group administrator. These users serve as administrators for department and group spaces, and manage resources and members for these spaces.

Table 6-1 KooDrive system-defined roles

Role Name	Description	Role Type
System administrator	The system administrator can perform operations on all KooDrive resources except the files in the individual spaces of other users.	System-defined role
Department administrator	Department administrator. Users with this permission can perform operations in their own departments, such as managing department spaces and personal spaces of department members. **Administrators can manage department members' personal spaces, such as adjusting space size or deleting personal spaces. However, they cannot view the files in these spaces; these files are only accessible to their owners.**	System-defined role
Group administrator	A user who creates a group is set as the group administrator and displayed as **Owner**. A group administrator manages resources and members of the own group.	System-defined role
Common user	A common user, the permissions are granted by administrators or members having manage permissions. For details about the permissions that can be granted, see **Table 6-2**.	System-defined role

Table 6-2 Permission description

Permission Name	File List	Preview	Upload	Download	Share	Move	Copy	Rename	Delete	Create Folder	Manage Recycle Bin	Manage Members
Manage	√	√	√	√	√	√	√	√	√	√	√	√
All permissions	√	√	√	√	√	√	√	√	√	√		
Unable to share	√	√	√	√		√	√	√	√	√		

Permission Name	File List	Preview	Upload	Download	Share	Move	Copy	Rename	Delete	Create Folder	Manage Recycle Bin	Manage Members
Unable to delete	√	√	√	√	√	√	√	√		√		
Upload/ Download/ Share	√	√	√	√	√					√		
Upload/ Download	√	√	√	√						√		
Upload	√	√	√	√						√		
Download	√	√		√								
Preview	√	√		√								
View only	√											

Department space permissions

- System and department administrators are responsible for managing member permissions, excluding administrators. Members having manage permissions can manage permissions of other members, excluding administrators and themselves.

- A system administrator can view space contents of all departments. Department administrators and members having manage permissions can only view file contents of their own departments. These three roles can set permissions for files and folders and perform operations on them.
- In any department, both the system administrator and department administrator have administrator permissions and can modify non-administrators' permissions. However, administrators cannot modify their permissions of each other. To change department administrators, you must adjust their roles on the console. Members having manage permissions cannot modify each other's permissions.

Group space permissions

- System administrators are responsible for managing member permissions; group administrators and members having manage permissions can manage member permissions. Members having manage permissions can manage permissions for members excluding themselves and owners. Group administrators can modify any member's permissions.
- System administrators cannot view contents of all group spaces; only group space members can see the contents of their group spaces. Group administrators and members having manage permissions can manage permissions of files/folders in the group space and perform operations on them.

7 Constraints

Provision

Only enterprise users who have completed real-name authentication can purchase KooDrive.

Billing

When a Huawei Cloud account is restricted or frozen or cloud space resources enter the retention period, the use of KooDrive cloud space will be restricted (including but not limited to user sign-in, organization management, and file management). Users must understand and handle the restrictions in advance to avoid impact on services.

