

Professional Services

Service Overview

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1 Consulting and Planning

1.1 GaussDB(DWS) Consulting and Planning Service

1.1.1 Statement of Work (SOW)

Service Overview

The GaussDB(DWS) consulting and planning service is dedicated to assisting enterprises and organizations in building and optimizing their data warehouse systems. The expert team at Huawei Cloud GaussDB(DWS) provides survey, evaluation, planning, design, and consulting services for migrating data warehouses to the cloud. Our offerings include system capacity planning, architecture design and transformation, and performance tuning. Additionally, we optimize data warehouse performance, security, and scalability. The service focuses on enhancing the performance, security, and scalability of data warehouses. The primary objective is to ensure that the data warehouse system effectively supports enterprise service requirements and provides accurate, timely, and consistent data to facilitate decision-making and operational efficiency.

Huawei assists enterprises in integrating their business and GaussDB(DWS) by providing consultation, planning, and flow charts for **three migration options and four data usage scenarios** and relevant service configurations.

Scenario	Content
Three types of migration	Migrate customers' traditional data centers to Huawei Cloud GaussDB(DWS), that is, migrate traditional IDCs to the cloud.
	Migrate data from the existing Alibaba Cloud data warehouses, such as ADB and Hologres, to GaussDB(DWS).
	Migrate data warehouses outside China, such as Redshift, BigQuery, and Snowflake, to GaussDB(DWS).

Scenario	Content
Four data usage scenarios	A large amount of data is analyzed offline in batches.
	The data lake and data warehouse are combined to form a unified data storage and management system known as a lakehouse.
	Integrated real-time and batch processing: Stream processing is used to analyze data in real-time. It can be integrated with real-time and batch processing to create a unified data processing and analysis system.
	Scenario-based solution for replacing n with one: Multiple similar systems or services are managed in a unified manner to better manage and analyze data.

Service Content

Table 1-1 GaussDB(DWS) Consulting and Governance Service

L6 Service	Content	Use Case
GaussDB(DWS) Consulting Service - Principal consultant	Offer comprehensive architecture design consultation, end-to-end data flow planning, and high availability and disaster recovery solutions for data warehouse products for upcoming business systems.	This item is ideal for businesses needing Huawei Cloud GaussDB(DWS). It is recommended for businesses with 500U or fewer (for reference; actual needs may vary) that require optimization and upgrades of their existing data warehouse.
GaussDB(DWS) Consulting Service - Advanced consulting expert	Examine the business system and data warehouse architecture of already launched services, pinpoint system architecture risk points and performance bottlenecks, and provide both long-term and short-term solutions.	Ideal for enterprises with Huawei Cloud GaussDB(DWS) and 500U-1000U (for reference; actual needs may vary) that need further improvement and optimization of their data governance system.

L6 Service	Content	Use Case
GaussDB(DWS) Consulting Service - Principal consulting expert	Conduct a thorough evaluation of the customer's data warehouse system by considering their resource environment, architecture design, system load, and security. This includes comprehensive positioning, analysis, and consultation on bottlenecks and potential risk points.	Ideal for businesses with Huawei Cloud GaussDB(DWS) and 1000U or more (for reference; actual needs may vary) that require comprehensive optimization and future planning.

Prerequisites

1. Customers should apply for professional services in advance, so that Huawei Cloud can evaluate their business objectives and make service schedule.
2. Before providing professional services for customers, Huawei Cloud must obtain customers' authorization for site survey, personnel cooperation, and material input.

Service Scope

1. Service Coverage

Assist enterprises in integrating their business and GaussDB(DWS) by providing:

 - Offer comprehensive architecture design consultation, end-to-end data flow planning, and high availability and disaster recovery solutions for data warehouse products for upcoming business systems.
 - Examine the business system and data warehouse architecture of already launched services, pinpoint system architecture risk points and performance bottlenecks, and provide both long-term and short-term solutions.
 - Evaluate resource environment, data warehouse architecture design, system load, and security to provide insights on bottlenecks and potential risks. We also aid in developing and optimizing data governance strategies.
2. Items Not Covered

Huawei support engineers only provide the services specified in this document. Additional fees apply for services outside the scope, including but not limited to:

 - a. Customer business logic code development and transformation.
 - b. Planning and supply of purchased products, such as DataArts and Migration.

Service Process

Procedure of the GaussDB(DWS) Consulting and Planning Service:

Phase	Task
Submitting the service application (Day N)	Submit a service application based on the related process.
Confirming the requirements (Day N +3)	Survey the customer's service scenarios and technology status to confirm the customer's requirements for data warehouses.
Confirming the service order (Day N +10)	Confirm the service order.
Implementing and delivering the service (Day N+10+K)	Provide customers with data warehouse consulting reports, data warehouse solution planning, design, and implementation, data warehouse development guidance, and data warehouse migration support.
Service acceptance	Hand over deliverables for the customer to perform service acceptance.

Service Deliverables

Table 1-2 GaussDB(DWS) Consulting and Governance Service

No.	Service Activity	Deliverable
1	Service scenario survey	<i>XX Customer GaussDB(DWS) Requirement Survey Form (Public Cloud)</i>
2	Consulting and delivery	<i>XX Customer GaussDB(DWS) Consulting Report Template XX Project GaussDB(DWS) Consulting Service Daily/Weekly Report (Optional)</i>

Responsibility Matrix

1. Shared Responsibilities
 - Both parties agree on specific business requirements and objectives.
 - Both parties agree on the project management plan.
 - Both parties agree on and review the solution.
 - Both parties sign a contract.

2. Huawei Responsibilities

- Huawei shall specify a dedicated project owner. If there is a personnel change due to special reasons, Huawei shall notify the customer three working days in advance until the project acceptance is complete.
- Use authorized data only for items in GaussDB(DWS) Consulting and Planning Service.

3. Customer's Responsibilities

- Assign a project owner to assist Huawei Cloud in implementing services. The project owner is responsible for coordination between the two parties and for reviewing and accepting the services provided by Huawei Cloud.
- Provide service system information, including but not limited to application architecture, deployment architecture, resource quantity, and performance.

4. Responsibility Matrices

Before implementing GaussDB(DWS) Consulting and Planning Service, essential information must be collected from the customer's existing system to determine the service scope and delivery period. The information to be collected includes but is not limited to the following: versions, components, users, and permissions of the data warehouse and big data clusters, demo code, and routine maintenance scope for the service.

Huawei Responsibility	Customer Responsibility
1. Submit the information collection form to the customer for completion. 2. Sort out and identify information related to data warehouse consulting and planning.	1. Cooperate with Huawei engineers to provide necessary information and the corresponding query methods for the data warehouse consulting and planning solution. 2. Provide account information and access conditions for the implementation of GaussDB(DWS) Consulting and Planning Service.

The following table provides responsibility matrix examples and can be modified as needed.

R: responsible; S: supportive.

No.	Process	Content	Hua wei	Cust ome r
1	Project initiation	Set up a project team.	R	S
		Explain the project content.	R	S
2	Project survey	Make a survey plan.	R	S
		Conduct a survey.	S	R
		Evaluate the status.	R	S

No.	Process	Content	Huawei	Customer
		Generate the status diagnosis report.	R	S
		Perform a phased acceptance of the status diagnosis report.	S	R
3	Solution design	Develop a design solution.	R	S
		Perform a phased acceptance of the design plan.	S	R
4	Project acceptance	Accept the project, and sign and seal the acceptance report.	S	R

Acceptance Criteria

- Acceptance Criteria
 - a. Online/On-site acceptance is available.
 - b. Acceptance criteria: Huawei must submit standard deliverables for each service sub-item. The customer can confirm acceptance on the Huawei Cloud console or by signing and sealing the *GaussDB(DWS) Consulting and Governance Service Acceptance Report* offline.
- Service acceptance notes
 - Acceptance of deliverables should focus on substantive content. Minor discrepancies in format, vocabulary, and embellishment should not prevent acceptance, though Huawei shall address these within a reasonable timeframe.
 - Throughout the project, deliverables must be discussed and reviewed daily to ensure mutual understanding and to expedite acceptance. The customer should provide timely feedback and approval for any suggestions or requirements from Huawei. Depending on project specifics, some or all deliverables must be reviewed by the project team, business department, and reported to leadership before signing. The customer is responsible for managing and completing all internal reviews and reports before the contract-specified acceptance time.
 - Huawei shall complete deliverable modifications within 5 working days based on feedback, then submit the final version for customer acceptance.
 - After receiving the final version, the customer has 5 working days to provide feedback. Huawei should submit modified deliverables within 5 working days of receiving feedback. This process should not exceed 2 rounds (i.e., a maximum of 3 submissions). Deliverable acceptance should be completed within 15 working days from the customer receiving the final version. The customer should accept and sign the project deliverables within this period. If no written feedback is received from the customer within 5 working days of submission, the deliverables are deemed accepted as final.

- If more time is needed due to factors other than Huawei, the project team will apply for a change request to extend the timeline and obtain corresponding payment.
- If acceptance is not completed after 3 submission rounds within 15 working days, both parties should evaluate the impact on subsequent work and negotiate further modifications and acceptance.
- After the deliverables are accepted and signed, any additions or deletions to the deliverables will be evaluated for complexity and risk (impact on fees, schedule, and resources), with changes executed upon agreement by both parties.
- Once milestone deliverables are accepted, the person in charge will authorize the signing of the milestone acceptance report. Completion of tasks outside Huawei's scope should not affect milestone acceptance.

1.1.2 FAQs

1.1.2.1 Service Consulting

1.1.2.1.1 What is the consulting and planning service?

GaussDB(DWS) Consulting and Planning Service involves offering consultation and planning for data warehouses to businesses or organizations. This service helps businesses better understand and utilize data warehouses to achieve their goals and increase competitiveness. The service includes:

1. Data analysis and mining: By analyzing and mining the data of enterprises or organizations, this service helps customers discover the value and potential within the data to support business decision-making.
2. Data management and governance: This service assists customers in establishing data management and governance frameworks to ensure data quality, security, and compliance.
3. Data architecture and technology: This service provides customers with data architecture and technology solutions to support data collection, storage, processing, and analysis.
4. Business applications and solutions: This service provides customers with business applications and solutions based on GaussDB(DWS) to meet their specific business needs.
5. Training and support: This service provides training and support for customers to help them better understand and use data warehouse technologies and tools.

1.1.2.1.2 What services items are included?

1. GaussDB(DWS) Consulting Service - Principal consulting expert
2. GaussDB(DWS) Consulting Service - Advanced consulting expert
3. GaussDB(DWS) Consulting Service - Principal consultant

1.1.2.1.3 What are the advantages of the consulting and planning service?

1. Powerful data processing capabilities: With robust data processing capabilities, Huawei Cloud GaussDB(DWS) Consulting and Governance Service delivers customized data analysis and mining to uncover opportunities and address challenges within business data.
2. Flexible data processing architecture: This service employs a flexible data processing architecture, enabling the rapid construction of data processing platforms tailored to specific business needs, enhancing efficiency and quality.
3. Advanced data analysis technology: Utilizing advanced technology, Huawei Cloud GaussDB(DWS) Consulting and Governance Service provides comprehensive, accurate, and efficient data analysis services, empowering informed business decisions.
4. Reliable data security assurance: Huawei Cloud GaussDB(DWS) Consulting and Governance Service provides reliable data security measures, establishing a secure environment for data processing and safeguarding business data.
5. Comprehensive consulting services: Huawei Cloud GaussDB(DWS) Consulting and Governance Service offers a full range of consulting services, including data cleansing, analysis, visualization, and mining to help businesses thoroughly analyze and explore their data.

1.1.2.1.4 Can I use this service no on Huawei Cloud?

Yes. Huawei Cloud and partner clouds are supported.

1.1.2.2 Service Purchase

1.1.2.2.1 How do I place an order?

Place orders on customers' behalf.

1.1.2.2.2 Do I need to purchase other related services before purchasing this service?

No. It is not required to set a public SSH key for each repository.

1.1.2.3 Service Delivery

1.1.2.3.1 Can this service be delivered onsite?

Currently, we only offer remote services.

1.1.2.3.2 How long will it take to deliver the service after I place an order?

It varies depending on the project.

1.1.2.3.3 What are the final deliverables of the consulting and planning service?

GaussDB(DWS) Consulting and Governance Service:

For details, see *Delivery & Acceptance Template > Deliverable Template*.

1.1.3 Billing

This document describes the billing policy for the GaussDB(DWS) consulting and planning service, including billing items, modes, changes, renewal, and arrear.

Billing Items

Sub-service	Service	Billing	Outside China 1 Unit Price (USD)	Outside China 2 Unit Price (USD)	Unit
GaussDB(DWS) Consulting and Governance Service	GaussDB(DWS) Consulting Service - Principal consultant	One-off payment based on the number of person-days in the order.	\$1,920	\$2,880	Person-day
	GaussDB(DWS) Consulting Service - Advanced consulting expert	One-off payment based on the number of person-days in the order.	\$4,800	\$7,200	Person-day
	GaussDB(DWS) Consulting Service - Principal consulting expert	One-off payment based on the number of person-days in the order.	\$6,720	\$10,080	Person-day

NOTE

- Outside China 1: Asia Pacific/Russia/Latin America (Excluding Brazil)
- Outside China 2: Europe/South Africa/Brazil/Middle East

Billing Mode

Huawei Cloud GaussDB(DWS) Consulting and Planning Service uses one-off billing.

Configuration Change

The GaussDB(DWS) Consulting and Planning Service does not support configuration changes or unsubscription. When purchasing the service, users need to consider the typical service scenario and actual service requirements.

Renewal

The Huawei Cloud GaussDB(DWS) Consulting and Planning Service uses one-off billing and cannot be renewed. To use the service after it has expired, purchase it again.

Expiration and Overdue Payment

The GaussDB(DWS) consulting and planning service is a one-off service. You are advised to use it as soon as possible after purchasing it. If you want to use the service after it has expired, buy it again.

Whether there are purchase dependencies or whether add-on purchase is supported?

You can purchase the service together with other products. For example, if there are new links during synchronization, you need to purchase Migration or Flink together.

2 Cloud Migration and Implementation

2.1 Cloud Migration Service

Overview

Cloud Migration Service, developed by HUAWEI CLOUD, provides customers with comprehensive migration solutions and helps customers implement these solutions based on source information.

Service Scope

This service is applicable to:

- Assisting customers in re-deploying infrastructure or helping customers design solutions to migrate hosts, databases, and data according to the target applications and data clarified by both HUAWEI CLOUD and customers.
- Offering infrastructure assurance services during switchover of specified applications.

This service is not applicable to:

- Design and reconstruction of application software and databases
- Installation and deployment of application software and databases
- Design of cloud platform infrastructures and environment setup
- Communication components required for migration
- Migration of application systems, databases, and data that are beyond the specified scope

Service Items

Table 2-1 Cloud Migration Service Item

Item	Description
Migration solution design	Evaluates information about applications, databases, and stored data, provides application migration solutions, including cloud-based network planning, infrastructure deployment, application host migration, database migration, and stored data migration, and helps you switch over applications.
Network deployment	Helps customers deploy private lines, Virtual Private Networks (VPNs), Virtual Private Clouds (VPCs), security groups, and ACLs according to cloud migration plan.
Infrastructure deployment	Helps customers implement infrastructure migration solutions, for example, buy resources such as ECSs or RDS DB instances.
Host migration	Helps customers migrate host OSs to HUAWEI CLOUD.
Database migration	Helps customers migrate databases by performing full or incremental data migration according to cloud migration plan.
Stored data migration	Helps customers migrate local data to the cloud by performing full or incremental data migration and verify the migration results.
Application switchover insurance	Provides customers with infrastructure assurance services while the agreed applications are switched over to HUAWEI CLOUD.

Service Process

Kickoff meeting -> Project Survey -> Planning and design -> Migration -> Project acceptance

Division of Responsibilities

The division of responsibilities involved in migration of a project at different stages are as follows. S denotes Support, and R denotes Responsibility.

Table 2-2 Cloud Migration Responsibility Division at Each Stage

Stage	Task	Huawei Cloud	Customer
Project initiation	Building a team	R	R
	Planning the project	R	R
Assessment and analysis	Analyzing requirements	R	R

Stage	Task	Huawei Cloud	Customer
	Assessing migration risks	R	S
	Determining migration policies	R	S
Solution design	Planning the migration process	R	S
	Formulating a migration solution	R	S
	Preparing an emergency plan	R	S
	Making technical preparation	R	S
Implementation and verification	Reviewing migration plan	R	R
	Conducting migration drills	R	R
	Migrating applications	R	S
	Verifying applications	S	R
	Switching over applications	S	R
Migration acceptance	Preparing an acceptance plan	R	R
	Monitoring application performance	S	R
	Performing acceptance	S	R

- Responsibilities Shared by HUAWEI CLOUD and Customers
Both parties negotiate and confirm the service scope and objectives, build a team, analyze requirements, design plans, and perform migration drills.
- Responsibilities of Customers
 - Assigning a project owner to coordinate and manage issues and establish a project team
 - Providing source information and authorization for migration solution design and implementation
 - Coordinating with the third-party software vendors and helping HUAWEI CLOUD solve problems during project implementation

- Verifying and switching over applications, monitoring performance, and performing project acceptance
- Responsibilities of HUAWEI CLOUD
 - Assisting customers in collecting source information, planning migration solutions, and performing testing and verification
 - Assessing migration risks, formulating migration policies, designing migration solutions, and preparing the *XX Project Migration Solution*
 - Conducting migration drills and migrating applications according to the *XX Project Migration Solution*
 - Preparing the *XX Project Migration Acceptance Report* and submitting it to customers
- Disclaimer
 - HUAWEI CLOUD takes no responsibility for failure of any third-party device or system caused by the reasons not attributable to HUAWEI CLOUD.
 - Customers shall ensure that the installed operating systems and application software do not infringe on the intellectual property rights or other rights of any third party. If a third party claim is caused by the breach of this SOW, customers shall bear all the responsibilities.

Acceptance Criteria

Project acceptance starts when the following conditions are met:

- HUAWEI CLOUD submits the *XX Project Migration Solution*.
- HUAWEI CLOUD designs a migration solution and migrates the specified applications, and the applications are running properly for 5 consecutive working days.
- HUAWEI CLOUD submits the *XX Project Migration Acceptance Report*.

After the *XX Project Migration Acceptance Report* is submitted, customers accept the services and then sign the *XX Project Migration Acceptance Report* within 5 working days.

Project Completion

After the services are accepted, customers sign the *XX Project Migration Acceptance Report*. The whole service process is then completed.

2.2 Data Cloudification Design and Implementation Service

2.2.1 Statement of Work (SOW)

Overview

As cloud migration and cloud use are becoming more and more mature, enterprises choose to use cloud storage and migrate their data to cloud. This cloud

migration process involves the planning and design, migration implementation, and continuous optimization. For storage services already running on the cloud, enterprises still have requirements on performance optimization, security configuration, backup and disaster recovery, cost analysis, collaboration between public and private clouds, and others.

To fit such needs, Huawei Cloud launches **Data Cloudification Design and Implementation Service**. This service is based on Huawei Cloud storage services and solutions and consists of the following packages: **planning and design, migration implementation, and technical support**. All these services can simplify cloud migration and speed up data migration, helping customers migrate their data to cloud in a secure, reliable, and efficient way.

Service Content

This service provides the following packages:

- Data Cloudification-Planning and Design Package: survey and evaluation of cloud migration and solution design for cloud migration and storage
- Data Cloudification-Migration Implementation Package: migration design and implementation
- Data Cloudification-Technical Support Package: storage application integration consultation and support for cloud migration

Prerequisites

- Customers should apply for this service at least 15 working days in advance, so Huawei can evaluate their business objectives and service schedule.
- Written authorization for collecting service data must be obtained from customers before providing the service.

Applicable Scope

1. Service Content Covered
 - a. Survey and evaluation of cloud migration, and migration solution design and implementation
 - b. Suggestions on selection, use, and optimization of cloud storage technologies
 - c. Integration consultation and technical support for storage services
2. Service Content Not Covered
 - a. Cloud architecture planning and design of global services and non-storage services
 - b. Design or reconstruction of applications, software, and databases' logical structure, and software installation, deployment, and tuning
 - c. Routine O&M support (such as installation, patch update, test, fault diagnosis, optimization, and Q&A) for third-party software
 - d. Documents except those on the Huawei Cloud official website and the deliverables specified in this service
 - e. Others that are not clarified in the service content covered

3. Service Regions
Asia Pacific, Latin America (excluding Brazil), Europe, Southern Africa, and Brazil.

Service Process

The table below describes the service process.

Phase	Description
Service request	A customer submits a request for the cloud migration design and implementation service.
Requirement survey	Huawei Cloud collects the customer's storage requirements through interviews and survey forms.
Requirement evaluation	Huawei Cloud analyzes the customer's requirements and evaluates whether the Huawei Cloud storage products and solutions can meet the requirements.
Solution design	Based on the collected requirements and evaluation results, Huawei Cloud designs a storage solution, and invites the customer to review the solution together.
Solution implementation	Based on the approved storage solution, Huawei Cloud formulates an implementation plan and implements cloud migration as planned.
Service acceptance	After the cloud migration is complete, Huawei Cloud creates a service acceptance list and invites the customer to accept the service.

Deliverables

The table below shows the deliverables required.

Package	Deliverables
Data Cloudification-Planning and Design Package	<i>Data Cloudification (Planning and Design) Survey Form (XX Project)</i> <i>Data Cloudification Proposal (XX Project)</i>
Data Cloudification-Migration Implementation Package	<i>Data Cloudification (Migration Implementation) Runbook & Plan (XX Project)</i>
Data Cloudification-Technical Support Package	<i>Data Cloudification (Technical Support) Summary Report (XX Project)</i>

Responsibility Division

1. Huawei Cloud and Customer
 - Negotiate and confirm specific requirements and objectives.
 - Negotiate and confirm project management plans.
 - Negotiate, confirm, and review solutions.
 - Negotiate to build teams.
 - Sign contracts.
2. Huawei Cloud
 - Assists customers in collecting source data and performing testing and verification.
 - Specifies a project owner and notifies the customer of any personnel changes three working days in advance.
 - Uses the data authorized by the customer only for stability improvement.
3. Customer
 - Designates a project owner to coordinate and manage issues and sets up a project team.
 - Provides source information and authorization required by migration solution design and implementation.
 - Coordinates with third-party software vendors to help Huawei Cloud resolve problems during project implementation.
 - Takes charge of the service verification, switchover, monitoring, and acceptance.
 - Designates a project owner to assist Huawei Cloud in implementing services. The project owner is responsible for arranging and coordinating all affairs between both parties, and reviews and accepts the services provided by Huawei Cloud.
 - Provides business system information, including but not limited to application architecture, deployment architecture, resource quantity, and performance.
 - Creates and tops up a Huawei Cloud account for project implementation.

4. Responsibility Matrices

The following table provides responsibility matrix examples and can be modified as needed.

R: responsible; S: supportive.

- The following table shows the responsibility matrix during the migration planning and design.

No.	Process	Description	Huawei Cloud	Customer
1	Requirement survey	Investigate customer's cloud migration requirements through interviews and questionnaires.	R	S

No.	Process	Description	Huawei Cloud	Customer
2	Requirement analysis	Evaluate and analyze requirements based on the survey results and Huawei Cloud storage products and solutions.	R	S
3	Solution design	Based on the survey and analysis results, design a cloud migration solution.	R	S
4	Solution review	Jointly (Huawei Cloud and the customer) review the feasibility, risks, and improvement points of the solution.	R	S
6	Solution improvement	Optimize the solution based on the review result.	R	S
7	Solution alignment	Align the final migration solution with the customer.	R	S
8	Acceptance confirmation	Accept the deliverables provided by Huawei Cloud.	S	R

- The following table shows the responsibility matrix during the migration implementation.

No.	Service Process	Description	Huawei Cloud	Customer
1	Migration plan output	Make a migration plan based on the customer's data volume and service requirements.	R	S
2	Migration tool deployment	Set up a migration test environment (compute and network resources, and tool deployment).	R	S
3	Migration test	Perform the migration test (the customer creates test resources, such as buckets or parallel file systems).	R	S
4	Migration resource expansion	Prepare resources for the formal migration.	R	S

No.	Service Process	Description	Huawei Cloud	Customer
5	Migration batch division	Determine the migration batches with the customer.	R	S
6	Full data migration	Perform full data migration in batches.	R	S
7	Service cutover	Migrate services to Huawei Cloud in batches.	S	R
8	Incremental data migration and data verification	Perform incremental data migration and data verification in batches.	R	S
9	Acceptance confirmation	Accept the deliverables provided by Huawei Cloud.	S	R

- The following table shows the responsibility matrix of technical support.

No.	Process	Description	Huawei Cloud	Customer
1	Feedback providing	Report technical problems encountered during data migration.	S	R
2	Problem analysis	Analyze and clarify the problems reported by the customer.	R	S
3	Solution formulation	Based on the problem analysis result, answer questions or develop a solution for the customer.	R	S
4	Solution implementation	Resolve problems based on the solution provided by the professional service team.	S	R
5	Acceptance confirmation	After the service is delivered, confirm the acceptance report provided by the professional service team.	S	R

Acceptance Criteria

The deliverables of each package must be submitted in compliance with the following criteria. If the customer accepts the deliverables, they sign or seal the acceptance reports, or click the acceptance button on the official website.

2.2.2 FAQs

2.2.2.1 Service Consultation

2.2.2.1.1 What Is Data Cloudification Design and Implementation Service (DDI) and What Does It Provide?

DDI is a secure, reliable, and efficient cloud migration service that guides you through planning, designing, implementing, and optimizing a migration from object or file storage. This service provides the planning and design, migration implementation, and technical support packages. For details, see the following table.

Package	Service Content	Applicable Scenarios
<p>Data Cloudification-Planning and Design Package</p>	<p>Survey and evaluation of cloud migration:</p> <ul style="list-style-type: none"> - Investigate and analyze the customer's service status and core storage requirements through survey forms and interviews, analyze the feasibility of storage migration, and clarify the cloud migration solution and strategies. - Provide suggestions on technology selection, for example, how to choose a storage type. <p>Cloud storage solution design:</p> <ul style="list-style-type: none"> - Based on the survey and evaluation results, complete the cloud storage planning and design, including storage type selection, resource planning, cost analysis, as well as suggestions on data security configuration, DR configuration, application integration, and performance optimization. <p>Technical solution design of data migration:</p> <ul style="list-style-type: none"> - Based on the survey and evaluation results, design the solutions of full and incremental data migration and a data cutover solution, and provide suggestions on reconstructing applications to adapt to relevant storage interfaces. 	<ol style="list-style-type: none"> 1. Before migrating storage data to the cloud, the customer needs the evaluation on and planning of the cloud architecture and resources. 2. Before cloud migration, the customer required in-depth storage planning and design, including the lifecycle and permissions configuration, storage DR, and self-built big data scenarios. 3. If application integration is involved, Huawei needs to analyze existing applications, and then design adaptation solutions after cloud migration, and provide suggestions on integration, cost optimization, and performance optimization.
<p>Data Cloudification-Migration Implementation Package</p>	<p>Detailed cloud migration guidance for customers who cannot implement the migration themselves:</p> <ul style="list-style-type: none"> - Create an implementation plan and a runbook, and guide the customer through completing the migration. - Assist the customer in service migration. 	<p>This package is mainly for customers who cannot implement cloud migration themselves. Huawei takes the lead in the implementation of customer's cloud migration, for example, reconstruction of buckets with the same name.</p>

Package	Service Content	Applicable Scenarios
Data Cloudification-Technical Support Package	<p>Technical support for customers who can implement the migration themselves:</p> <ul style="list-style-type: none"> - Provide remote support for five consecutive working days. - The main support content includes O&M assurance, real-time response to and handling of problems, and technical guidance during application integration. 	<p>This package is for customers or partners who can implement cloud migration themselves. During the migration, Huawei needs to:</p> <ul style="list-style-type: none"> • Guarantee the customer's key services. • Provide technical support during the application integration.

2.2.2.1.2 What Are the Advantages of DDI?

This service has the following advantages:

- Professional teams. Our team has expertise in storage, cloud migration, and solution design. Each experienced expert can help you migrate data to the cloud.
- End-to-end support. Our one-stop solution will guide you from migration design to implementation. We can address any issues you encounter in a professional way.
- Extensive experience. We have accumulated extensive cloud migration experience from over 100 cases in the Internet, video entertainment, video surveillance, e-commerce, gene sequencing, aerospace, livestreaming, VOD, and other industries.
- Advanced migration tools and solutions. Our industry-leading migration tools and diverse solutions can help you migrate your work to the cloud with ease.

2.2.2.1.3 How Long Is a DDI Order Valid?

It is valid for one year from the day of purchase.

2.2.2.1.4 How Can I Get Consultation About DDI?

Click **Contact Us** to leave a message.

2.2.2.1.5 How Long Will I Get Responses in a Remote Consulting?

You will receive responses within three working days.

2.2.2.2 Service Purchase

2.2.2.2.1 How Can I Place an Order?

You need to consult the account manager for placing an order.

2.2.2.2.2 Is There a Limit on How Many Orders I Can Place?

No.

2.2.2.2.3 Do I Need to Purchase Other Related Services Before Purchasing This Service?

Yes. Before purchasing this service, you need to purchase related storage services, such as Object Storage Service (OBS) or Scalable File Service (SFS).

2.2.2.2.4 How Is DDI Billed?

One-off billing based on the purchased quantity is applied.

2.2.2.2.5 Can I Change My DDI Order?

No.

2.2.2.2.6 Can My DDI Order Be Refunded?

No. Once an order is placed, it cannot be refunded.

2.2.2.3 Service Delivery

2.2.2.3.1 Does DDI Provide Onsite Delivery?

Both on-site and remote delivery are involved.

2.2.2.3.2 How Long Does the Delivery Take After My Order Is Placed?

The delivery period depends on the start time and your requirements. Factors such as service volume and service complexity may affect the delivery.

2.2.2.3.3 What Is the Working Time of Delivery Personnel?

Delivery personnel work 8-hour shifts Monday through Friday, excluding official holidays.

2.2.2.3.4 What Are the Deliverables of DDI?

Package	Deliverables
Data Cloudification- Planning and Design Package	<i>Data Cloudification (Planning and Design) Survey Form (XX Project)</i> <i>Data Cloudification Proposal (XX Project)</i>
Data Cloudification- Migration Implementation Package	<i>Data Cloudification (Migration Implementation) Runbook & Plan (XX Project)</i>
Data Cloudification- Technical Support Package	<i>Data Cloudification (Technical Support) Summary Report (XX Project)</i>

2.2.2.3.5 Can I Apply for a Refund When DDI Is Being Delivered?

Once the delivery begins, this service is non-refundable.

2.2.3 Billing

This document describes the billing policies for Data Cloudification Design and Implementation Service, including billing items, modes, and renewal.

Billing Items

The following table shows the billing items and details.

Regions	Service	Specifications	Description	Unit Price (USD)	Sales Unit
Europe, Southern Africa, and Brazil	Data Cloudification Design and Implementation Service	Data Cloudification-Planning and Design Package	One-off billing based on the number of purchases	69,120.00	Per purchase
		Data Cloudification-Migration Implementation Package	One-off billing based on capacity. Both a starting capacity and an increment are 1 TB.	31.00	Per TB
		Data Cloudification-Technical Support Package	One-off billing based on the number of purchases	17,280.00	Per purchase

Billing Mode

You must purchase this service in a single payment when you need it.

Service Change

This service cannot be unsubscribed from. Before placing an order, obtain the confirmation from your account manager.

Renewal

This service cannot be renewed. When the service expires or is completed, if you want to use it again, you must repurchase the service.

Expiration and Overdue Payment

The validity periods of all products of Data Cloudification Design and Implementation Service are one year. You need to purchase those products again if they expire.

FAQ

- Does This Service Provide Onsite Delivery?
Both on-site and remote delivery are involved.
- How Long Does the Delivery Take After My Order Is Placed?
The delivery period depends on the start time and your requirements. Factors such as service volume and service complexity may affect the delivery.
- What Is the Working Time of Delivery Personnel?
Delivery personnel work 8-hour shifts Monday through Friday.
- Can I Apply for a Refund When This Service Is Being Delivered?
Once the delivery begins, this service is non-refundable.

2.3 GaussDB(DWS) Cloud Migration and Implementation Service

2.3.1 Statement of Work (SOW)

Service Overview

As data continuously grows and becomes more important, more and more enterprises need to build or reconstruct data warehouse platforms. To save money and protect data, many businesses choose to build their data warehouses on the cloud. Data warehouses typically store a large amount of data, often measured in terabytes or petabytes, and involve complex relationships between databases and tables. Moving data warehouses to the cloud presents many challenges, such as managing multiple platforms, components, and vendors. Traditional companies often lack the expertise and experience required for data warehouse transformation and cloud migration. Consequently, migrating data warehouses, upgrading architectures, and transferring data to the cloud can be difficult for them. Huawei Cloud GaussDB(DWS) provides a professional team and comprehensive migration tools to help customers smoothly, efficiently, and securely migrate their data warehouses.

Service Content

- GaussDB(DWS) Planning and Implementation Service

L6 Service	Content	Use Case
GaussDB(DWS) Planning and Implementation Service - Basic (Number of vCPUs ≤ 128)	Assess existing customer services, design and plan data warehouse solutions, and provision cloud services.	Within 128 vCPUs
GaussDB(DWS) Planning and Implementation Service - Incremental Package (Number of vCPUs > 128)	Assess existing customer services, design and plan data warehouse solutions, and provision cloud services.	More than 128 vCPUs

- **GaussDB(DWS) Migration Support Service**

L6 Service	Content	Use Case
GaussDB(DWS) Migration Support Service - Basic (Homogeneous) (≤ 10 TB)	Conduct migration surveys, design and plan migrations, execute data/service migrations, ensure delivery, and guarantee acceptance.	Homogeneous migration, data volume within 10 TB
GaussDB(DWS) Migration Support Service - Incremental Package (homogeneous) (per TB)	Conduct migration surveys, design and plan migrations, execute data/service migrations, ensure delivery, and guarantee acceptance.	Homogeneous migration, one incremental package per TB

Prerequisites

1. Customers should apply for professional services in advance, allowing Huawei to access their business goals and service schedule.
2. Before providing professional services for customers, Huawei Cloud must obtain customers' authorization for site survey, personnel cooperation, and material input.

Service Scope

1. Items Covered
 - The service covers the following two types of services:
 - i. GaussDB(DWS) Planning and Implementation Service
The service includes customer current service survey, data warehouse solution design and plan, delivery implementation, and acceptance assurance.

- ii. GaussDB(DWS) Migration Support Service
The service covers migration survey, migration design and plan, delivery implementation, and acceptance assurance.
 - The service includes the following three service scenarios:
 - i. Migrating IDCs to the cloud
You can migrate all workloads and data to the cloud data warehouse on Huawei Cloud at a time and quickly build an on-premises system based on the cloud environment to keep pace with rapid business growth. The main migration objects include:
Commercial products: Oracle, Teradata, GBase, and HANA
Open source: Greenplum, StarRocks, and Doris
 - ii. Migration from other clouds to Huawei Cloud
A one-stop migration platform is available for you to smoothly migrate your workloads and data from another cloud to Huawei Cloud data warehouse platform, with no downtime.
Alibaba Cloud: AnalyticDB MySQL, AnalyticDB PostgreSQL, and real-time data warehouse Hologres
Tencent Cloud: TCHouse-P, TCHouse-C, TCHouse-D
AWS: Redshift
Google Cloud: BigQuery
 - iii. Creating data platform on Huawei Cloud
 - GaussDB(DWS) Cloud Migration and Implementation Service is provided in the following scenarios:
 - i. Content related to data warehouse analysis platforms needs to be planned for digital transformation and data governance projects.
 - ii. Customers plan to purchase Huawei Cloud data warehouse platform for a new site.
 - iii. Customers plan to purchase Huawei Cloud data warehouse platform to replace their existing platforms to meet increasing service requirements.
 - iv. Huawei Cloud data warehouse platform needs to be expanded to meet increasing service and data requirements.
2. Items Not Covered
- Huawei development support engineers only provide the services specified in this document. Any services beyond the scope mentioned here will incur additional charges, which include:
- a. Going to other cities for related work (Note: Fees may include, but are not limited to, traveling, accommodation, and additional communication fees.)
 - b. Working overtime (If necessary, the customer needs to pay for the overtime hours and subsidies.)
 - c. Purchasing products from other companies or individuals

Service Process

- **GaussDB(DWS) Planning and Implementation Service**

Phase	Description
Requirement survey	Survey on data applications, customer scenarios, data sources, data volume, data formats, timeliness requirements, and data governance requirements.
Solution design	Cloud service selection, compute/storage selection, cluster division, solution design, and data flow design.
Cloud service provisioning	Cloud service provisioning and deployment, compute and storage configuration, component deployment, and data link configuration, and network connection and resource provisioning assistance.

- **GaussDB(DWS) Migration Support Service**

Phase	Description
Migration survey and solution design	Review the current architecture diagram, business data flows, data warehouse cluster configuration, cloud migration needs, and customer pain points. Based on this analysis, we create a comprehensive solution, examine the business and data before migration, define the scope of data migration, devise a cut-over plan, and perform a solution review.
Inventory data migration	Estimate the migration time and set up a dedicated connection to transfer the source data in batches to GaussDB(DWS).
Incremental data migration	Synchronize the added, updated, or deleted data in the source database to the target database in real time.
Service migration	Migrate jobs, users, and permissions, complete service interconnection (ensuring smooth migration to the cloud/DataArts), and configure permissions on the live network.
Data consistency check	Confirm the comparison scope and run the data verification tool.
Task verification and adaptation	Perform cutover drill/dual-write verification, complete service interconnection, and verify service system functions.
Parallel running and cutover	Provide service system cutover and rollout assurance.

Service Deliverables

- **GaussDB(DWS) Planning and Implementation Service**

No.	Service Activity	Deliverable
1	Project requirement survey	<i>XX Customer GaussDB(DWS) Requirement Survey Form (Public Cloud)</i>
2	Platform solution	<i>XX Customer GaussDB(DWS) Provisioning List</i>
3	Cloud service provisioning	<i>XX Customer GaussDB(DWS) Consulting Report Template</i> <i>XX Customer Data Warehouse Solution Design</i>

- **GaussDB(DWS) Migration Support Service**

No.	Service Activity	Deliverable
1	Business survey	<i>XX Customer Data Warehouse Requirement Survey Form (Public Cloud)</i>
2	Migration solution design	<i>XX Customer Data Warehouse Service Provisioning List</i>
3	Environment setup and configuration	<i>XX Customer Data Warehouse Consulting Report Template</i>
4	Data service migration Performance and stability tests	<i>XX Customer Data Warehouse Solution Design</i>
5	Service verification Cutover and rollout	<i>XX Customer Data Warehouse Migration Service Survey Form (Public Cloud)</i> <i>XX Project GaussDB(DWS) Delivery Checklist</i> <i>XX Project GaussDB(DWS) Migration Work Plan</i> <i>XX Project GaussDB(DWS) Cluster Key Assurance Checklist</i> <i>XX Project GaussDB(DWS) Cutover Runbook</i> <i>XX GaussDB(DWS) Migration Project - Migration and Cutover Solution</i>

Responsibility Matrix

1. Shared Responsibilities
 - Negotiate and confirm requirements and objectives.
 - Negotiate and confirm project management plans.

- Negotiate, confirm, and review solutions.
 - Sign contracts.
2. Huawei Responsibilities
- Huawei Cloud must clarify the project owner and notify the customer of any personnel changes three working days in advance until project acceptance.
 - Huawei Cloud can only use the authorized data for the GaussDB(DWS) Cloud Migration and Implementation Service.
3. Customer's Responsibilities
- Assign a project owner to help Huawei Cloud implement services. The project owner is responsible for coordination between the two parties and for reviewing and accepting the services provided by Huawei Cloud.
 - Provide service system information, including but not limited to application architecture, deployment architecture, resource quantity, and performance.
4. Responsibility Matrix

The following table provides responsibility matrix examples and can be modified as needed.

R: responsible; S: supportive.

- GaussDB(DWS) Planning and Implementation Service

No	Process	Content	Hua wei	Custo mer
1	Project initiation	Set up a project team.	R	S
		Explain the project content.	R	S
2	Project survey	Make a survey plan.	R	S
		Conduct a survey.	S	R
		Evaluate the status.	R	S
		Generate the status diagnosis report.	R	S
		Perform a phased acceptance of the status diagnosis report.	S	R
3	Solution design	Service and HA architecture design of the target data warehouse platform	R	S
		Develop a design solution.	R	S
		Perform a phased acceptance of the design plan.	S	R
4	Migration solution verification	Set up the verification environment.	R	S

No.	Process	Content	Hua wei	Custo mer
		Verify migration tools and methods.	R	S
5	Project acceptance	Accept the project, and sign and seal the acceptance report.	S	R

- GaussDB(DWS) Migration Support Service

No.	Process	Content	Hua wei	Custo mer
1	Migration survey	Survey the customer's data warehouse platform, third-party tools, and network environment.	R	S
2	Solution design	Create an overall migration solution and verify the test cluster.	R	S
3	GaussDB(DWS) installation and deployment	Prepare the network environment and install and deploy GaussDB(DWS).	R	S
4	Tool adaptation and deployment	Prepare the tools for data migration and data comparison.	R	S
5	Migration script development	Identify syntax differences and reconstruct DDL and service SQL statements.	R	S
6	Metadata/Job migration	Migrate metadata and initialize the GaussDB(DWS) database. Deploy and schedule jobs to ensure smooth data migration.	R	S
7	Data migration	Migrate inventory data.	R	S
		Incremental data migration	R	S
		Service data migration	R	S
8	Service verification	Data consistency check	R	S
		Task verification and adaptation	S	R
9	Performance tuning	Perform pressure tests on service SQL statements to identify performance bottlenecks and make optimizations accordingly.	R	S

No	Process	Content	Huawei	Customer
10	Parallelism and switchover	Conduct parallel running verification and data comparison.	R	S
11	Acceptance and handover	Conduct project cutover acceptance.	S	R

Acceptance Criteria

1. Acceptance Criteria
 - a. Online and on-site acceptance are available.
 - b. Acceptance criteria: Huawei must submit standard deliverables for each service sub-item. The customer can confirm acceptance on the Huawei Cloud console or by signing and sealing the *GaussDB(DWS) Cloud Migration and Implementation Service Acceptance Report* offline.
2. Service Acceptance Criteria
 - The acceptance should focus on the content of the delivered documents. If the content of the deliverables complies with this SOW, the deliverables should pass the acceptance. A few formatting or description issues should not be used as the reason for rejecting the deliverables. However, Huawei should modify the issues within a reasonable period of time as required by customers.
 - To ensure mutual understanding and expedite acceptance, it is important to discuss and review project deliverables on a daily basis throughout the project. The customer should provide timely feedback and approval for any suggestions or requirements from Huawei. Based on the actual situation of the project, some or all deliverables must be reviewed by the project team and business department and be reported to relevant leaders before being accepted and signed. The customer should organize (including coordinating consultants) and complete all internal reviews and reporting in time before the acceptance time specified in the contract.
 - Huawei shall complete deliverable modifications within 5 working days based on feedback, then submit the final version for customer acceptance.
 - After receiving the final version, the customer has 5 working days to provide feedback. Huawei should submit modified deliverables within 5 working days of receiving feedback. This process should not exceed 2 rounds (i.e., a maximum of 3 submissions). Deliverable acceptance should be completed within 15 working days from the customer receiving the final version. The customer should accept and sign the project deliverables within this period. If no written feedback is received from the customer within 5 working days of submission, the deliverables are deemed accepted as final.
 - If more time is needed due to factors other than Huawei, the project team will apply for a change request to extend the timeline and obtain corresponding payment.

- If acceptance is not completed after 3 submission rounds within 15 working days, both parties should evaluate the impact on subsequent work and negotiate further modifications and acceptance.
- After the deliverables are accepted and signed, any additions or deletions to the deliverables will be evaluated for complexity and risk (impact on fees, schedule, and resources), with changes executed upon agreement by both parties.
- Once milestone deliverables are accepted, the person in charge will authorize the signing of the milestone acceptance report. Completion of tasks outside Huawei's scope should not affect milestone acceptance.

2.3.2 FAQs

2.3.2.1 Service Consulting

2.3.2.1.1 What is GaussDB(DWS) Cloud Migration and Implementation Service?

As data continuously grows and becomes more important, more and more enterprises need to build or reconstruct data warehouse platforms. To save money and protect data, many businesses choose to build their data warehouses on the cloud. Data warehouses typically store a large amount of data, often measured in terabytes or petabytes, and involve complex relationships between databases and tables. Moving data warehouses to the cloud presents many challenges, such as managing multiple platforms, components, and vendors. Traditional companies often lack the expertise and experience required for data warehouse transformation and cloud migration. Consequently, migrating data warehouses, upgrading architectures, and transferring data to the cloud can be difficult for them. Huawei Cloud GaussDB(DWS) provides a professional team and comprehensive migration tools to help customers smoothly, efficiently, and securely migrate their data warehouses.

2.3.2.1.2 What services does GaussDB(DWS) Cloud Migration and Implementation Service provide?

1. GaussDB(DWS) Planning and Implementation Service
 - a. GaussDB(DWS) Planning and Implementation Service - Basic (Number of vCPUs \leq 128)
 - b. GaussDB(DWS) Planning and Implementation Service - Incremental Package (Number of vCPUs $>$ 128)
2. GaussDB(DWS) Migration Support Service
 - a. GaussDB(DWS) Migration Support Service - Basic (Homogeneous) (\leq 10 TB)
 - b. GaussDB(DWS) Migration Support Service - Incremental Package (homogeneous) (per TB)

2.3.2.1.3 What are the advantages of GaussDB(DWS) Cloud Migration and Implementation Service?

Efficient migration tool: CDM streamlines the integration of multiple data sources into data warehouses, facilitating smooth migration to the cloud and simplifying

transitions from other vendors to Huawei Cloud. DSC converts various data warehouse services into compatible service code for Huawei Cloud, reducing the effort needed to reconstruct services. The data check tool ensures data consistency throughout the migration process, enhancing efficiency.

Mature migration capability: We provide a standard migration process, methodology, template, implementation guide, and data verification guide, as well as a comprehensive risk control solution. They can help you migrate your data to the cloud in the shortest time and with the minimum impact on your applications.

Professional data warehouse experts: We provide comprehensive support during the migration process, including optimizing architecture design, creating migration solutions, making adjustments during parallel running, and offering post-cutover key assurances.

Powerful service team: We have a support system consisting of the professional service engineers, site reliability engineers (SREs), and product R&D engineers. They provide 24/7 end-to-end consultation, migration, and optimization services for you.

Abundant successful stories: We have served more than 3,000 enterprises, such as ICBC, CMB, CEB, and KingMed Diagnostics, and have accumulated a large number of feasible solutions and tools.

2.3.2.1.4 Can I use these services from sites off Huawei Cloud?

Yes. Huawei Cloud and partner clouds are supported.

2.3.2.2 Service Purchase

2.3.2.2.1 How do I place an order?

Place orders on customers' behalf.

2.3.2.2.2 Do I need to purchase other related services before purchasing these services?

Make necessary consultations and acquire a GaussDB(DWS) cluster first before buying the data warehouse migration support service

2.3.2.3 Service Delivery

2.3.2.3.1 Can these services be delivered onsite?

Yes. It supports both onsite and remote delivery based on the requirements in different phases.

2.3.2.3.2 How long does the delivery take after an order is placed?

It varies depending on the project.

2.3.3 Billing

This document describes the billing policy for the GaussDB(DWS) Cloud Migration and Implementation service, including billing items, modes, changes, renewal, and arrear.

Billing Items

Sub-service	Service	Unit	Unit Price [Outside China 1: Asia Pacific/ Russia/Latin America (Excluding Brazil)]	Unit Price [Outside China 2: Europe/South Africa/Brazil/ Middle East]
GaussDB(DWS) Planning and Implementation Service	GaussDB(DWS) Planning and Implementation Service - Basic (Number of vCPUs ≤ 128)	Set	\$57,200 USD	\$85,600 USD
	GaussDB(DWS) Planning and Implementation Service - Incremental Package (Number of vCPUs > 128)	vCPU	\$130 USD for up to 640 vCPUs, and \$78 USD for over 640 vCPUs.	\$145 USD for up to 640 vCPUs, and \$87 USD for over 640 vCPUs.
GaussDB(DWS) Migration Support Service	GaussDB(DWS) Migration Support Service - Basic (Homogeneous) (≤ 10 TB)	Set	\$108,000 USD	\$162,000 USD
	GaussDB(DWS) Migration Support Service - Incremental Package (homogeneous) (per TB)	TB	> 10 TB: \$3,750 USD	> 10 TB: \$6,350 USD

Billing Mode

Huawei Cloud GaussDB(DWS) Cloud Migration and Implementation uses one-off billing.

Changing Billing Mode

This service does not support configuration changes or unsubscription. You can purchase services of different specifications based on your specific application scenarios and service requirements.

Renew

Huawei Cloud GaussDB(DWS) Cloud Migration and Implementation Service uses one-off billing and cannot be renewed. To use the service after it has expired, purchase it again.

Expiration and Overdue Payment

Huawei Cloud GaussDB(DWS) Cloud Migration and Implementation Service is one-off and has a valid period. After expiration, you need to buy it again to continue the service.

3 O&M and Management

3.1 aPaaS Deterministic O&M

3.1.1 Statement of Work (SOW)

Service Overview

Huawei has launched the aPaaS Deterministic O&M to meet the hosting requirements of customers' applications after migration to the cloud basic environments, including self-developed applications of small- and medium-sized enterprises, and project requirements related to the aPaaS O&M support, application hosting, and governance of on-premises cloud customers. The expert technical team ensures smooth project implementation and provides remote or onsite operations optimization services to help customers continuously operate the platform and perform adaptation optimization.

Service Content

- **aPaaS Maintenance Service**

Huawei Cloud provides unified and professional O&M services for customers to reduce costs and improve efficiency, ensure service stability of basic application environments after migration to the cloud, and quickly detect, demarcate, and rectify faults. Managed O&M services are currently available for carriers and small- to medium-sized enterprises. Huawei Cloud deterministic operations, as a competitive and professional cloud management service, is a one-stop solution for customers to solve O&M problems, improving customer satisfaction and loyalty. In addition, it encourages customers to continuously purchase or expand Huawei Cloud services.

Service	Content	Scenario
aPaaS Technical Support Services (Per 20 Instances)	Provide usage Q&A for aPaaS platforms and products of certain specifications (20 instances), system inspection (infrastructure, middleware, and applications), and problem handling (location, analysis, and rectification). The Q&A covers external model access (only in closed-source API mode), data engineering, knowledge engineering, application design and operation management, and service system interconnection.	The customer's O&M team is not capable enough and needs Huawei's assistance.
aPaaS Agent Hosting Service	Provide application hosting services for customers' applications during the service period. This includes 24/7 continuous monitoring using customer logs, metrics, and alarms. Respond to and handle alarms generated in the customer's production environment according to the pre-agreed contingency plan. Identify and resolve production faults while managing the entire lifecycle.	The customer hands over the cloud service to a more experienced third party for managed O&M.
aPaaS High-Reliability Governance Service	Provide services twice a year. Determine the high-reliability governance objectives for customer applications, identify key DFX requirements, such as high availability and resilience design, including DR fault tolerance, overload control, and grayscale release, consider maintainability design, such as deployment and capacity expansion, monitoring, and fault drill solutions, and use IT-based methods to measure the application's DFX capability implementation.	Add the version deployment function and supports a higher proactive prevention level (compared with the basic edition).
aPaaS Risk Governance Service	Provide services twice a year. Build a health manager tool based on systematic monitoring and data analysis, to quickly detect and analyze risks of service running on the live network. Support visualized and measurable O&M for service improvement, reliability, maintainability, and user experience.	

Service	Content	Scenario
<p>aPaaS Security and Compliance Governance Service</p>	<p>Infrastructure security: Include scanning for host vulnerabilities, completing annual OS patches, managing privileged accounts (root) for hosts and databases, and periodically changing passwords. The domain name management process is used to monitor the correct resolution of domain names and ensure that WAF protection is configured. This service is provided twice a year.</p> <p>Trustworthy O&M operations: Use the AppStage platform for implementing changes and ensure adherence to change e-flows. The permission management system categorizes roles into personnel of hosts, databases, security, and service O&M, which can be checked through the separation of duties (SOD) permission audit view. Manage operators' permissions on the live network. If the organization structure changes, related operators' permissions are automatically revoked. Manage live network data access and extraction in the production environment through compliant processes to meet privacy requirements.</p> <p>Application running security: Encrypt authentication credentials and sensitive configuration items for storage and invoking, preventing sensitive data leakage. Manage certificates throughout lifecycles, including application, distribution, use, deletion, and monitoring. Ensure compliance with software repository regulations to prevent unauthorized access.</p>	
<p>aPaaS Data Governance Service</p>	<p>Provide basic training on data governance of aPaaS intelligent applications, and review and verify related data, meeting requirements of industry application development and training solutions, as well as training algorithms and applications.</p>	

Service	Content	Scenario
aPaaS Application O&M Hosting (8/5)	This mode provides customers with remote hosting services during the service period. By using customers' logs, metrics, and alarms, it provides 8/5 monitoring of applications, responds to and handles production alarms according to the preset contingency plans, tracks production faults, and executes full-lifecycle management.	This mode applies to scenarios that require average service availability.
aPaaS Application O&M Hosting (24/7)	This mode provides customers with remote hosting services during the service period. By using customers' logs, metrics, and alarms, it provides 24/7 monitoring of applications, responds to and handles production alarms according to the preset contingency plans, tracks production faults, and executes full-lifecycle management.	This mode applies to scenarios that require high service availability.
aPaaS Application Hosting for Incremental Services (8/5)	This mode provides customers with remote hosting services for new or added applications during the service period. By using customers' logs, metrics, and alarms, it provides 8/5 monitoring of applications, responds to and handles production alarms according to the preset contingency plans, tracks production faults, and executes full-lifecycle management.	8/5 incremental service package
aPaaS Application Hosting for Incremental Services (24/7)	This mode provides customers with remote hosting services for new or added applications during the service period. By using customers' logs, metrics, and alarms, it provides 24/7 monitoring of applications, responds to and handles production alarms according to the preset contingency plans, tracks production faults, and executes full-lifecycle management.	24/7 incremental service package
aPaaS Application Hosting and Implementation Services	In this mode, resources and applications within the customer's target scope are managed by the AppStage O&M center. Up to 100 instances can be managed. The implementation services include resource management, account hosting, log collection, and monitoring configuration.	This mode is used when services are supported by the O&M platform for hosting for the first time.

Service	Content	Scenario
aPaaS Application Hosting and Implementation for Incremental Services	In this mode, newly deployed services or added resources are managed to meet O&M requirements.	This mode is used when incremental services are supported by the O&M platform for management.
aPaaS Platform O&M Indicator System Optimization Service	Based on enterprise business scenarios and IT O&M management, govern the O&M indicator system data architecture, life cycle, quality rules, security control, and application scenarios, plan the entire indicator system from top to bottom, classify and layer isolated data of each system, and determine core KPIs and support indicators at all levels. O&M indicators, such as pre-event prevention, in-event recovery, post-event improvement, and availability dashboard, are scenario-based.	Customers need analysis services related to intelligent O&M.
aPaaS Platform O&M Fault Management Technical Support Service	Includes observability, fault demarcation and locating, fault self-healing, fault prevention, and fault prediction lifecycle management. Conduct interviews and surveys on the customer's fault status, help the customer comprehensively evaluate the fault recovery maturity, and build the fault mode library and fault recovery plan.	Experience is mastered by a few O&M personnel, and there is no systematic knowledge accumulation. O&M personnel usually play the role of "fire fighting" after the incident occurs and handle the incident only after the incident occurs, resulting in low O&M efficiency.

Service	Content	Scenario
aPaaS Platform O&M Chaos Drill Technical Support Service- Medium	Fault mode library, drill fault scenarios, drill process design, drill plan, recommended drill report, and drill operation mechanism	For medium-sized enterprises, customers need to understand and improve their chaotic engineering capabilities to improve system availability.
aPaaS Platform O&M Chaos Drill Technical Support Service- Large	Fault mode library, drill fault scenarios, drill process design, drill plan, recommended drill report, and drill operation mechanism	For large-scale enterprises, customers need to understand and improve their chaotic engineering capabilities to improve system availability.
aPaaS Platform O&M Release Management Technical Support Service- Large	Change risk control mechanism, change actions, and SOPs, from which dimensions risks are controlled, analyze and evaluate the risk impact degree by digital measurement of risks in terms of change solution, change process, and permission management, and take risk mitigation or mitigation measures for risks related to personnel, tools, and process factors during the change process. Management measures taken to ensure the success of the change and minimize the explosion radius of the problems that may be caused by the change. This item is applicable to large-scale O&M teams.	Large-scale O&M organization, with more than 50 O&M application systems

Service	Content	Scenario
aPaaS Platform O&M Release Management Technical Support Service-Medium	Change risk control mechanism, change actions, and SOP, and the dimensions from which risks are controlled. Digitally measure, analyze, and evaluate the risk impact degree in terms of change solution, change process, and permission management, and take risk mitigation or mitigation measures for risks related to human, tool, and process factors during the change process. The management measures taken to ensure the success of the change and minimize the explosion radius of the problems that may be caused by the change. This item is applicable to large-scale O&M teams.	Medium-scale O&M organization, 20 to 50 O&M application systems
aPaaS Platform O&M Observability Technical Support Service	Based on the survey on the customer's observability status, fully identify the problems and requirements in the customer's observability construction, plan and design the observability, and help the customer improve the observability capability, ensure system stability, improve user experience, enhance system and data security, and optimize resource utilization. Enable other O&M methods.	This mode is applicable to the scenario where the O&M is poor in observability and alarm and fault detection and locating are slow.
aPaaS Platform O&M Production Readiness Review Technical Support Service	Huawei provides consulting services to focus on service availability. Before the open beta test (OBT) or commercial use, the production readiness review phase is set to identify O&M problems and risks after the product goes live in advance and reduce production accidents.	This document is applicable to the scenario where problems frequently occur after service rollout and change, and the version release quality needs to be improved.

Service	Content	Scenario
aPaaS Platform O&M Running Status Risk Assessment Technical Support Service	To improve the stability and reliability of the customer's service system, Huawei provides the running-state risk assessment service. This includes advanced theories, rich practical experience, perfect processes, all running instances and full quality elements, identifying live network running risks, evaluating live network health in real time through the problem management process and the establishment of a live network risk measurement system, and driving the orderly and quick closure of live network risks. Continuously improve the live network quality.	Apply to the scenario where problems or risks need to be detected and identified in a timely manner.
aPaaS Platform O&M Service Availability Measurement Technical Support Service	By surveying the service availability status, we can find the weakness in the availability of the customer's service system, plan the availability monitoring of the service system, evaluate the reasonableness of the availability measurement indicators, and form the monitoring baseline for the availability of the service system. Through the availability monitoring review process, we can help the service and O&M after the service system goes live. Service availability monitoring is complete for each service system to ensure that the service system availability is monitored on the live network after the service system goes live.	This mode is applicable to the scenario where the service system availability is low and the service quality is poor.
aPaaS Platform O&M Chaos Engineering Drill Service	Help users verify potential risks of the system online and build the system capability of chaos engineering by identifying and constructing fault patterns, analyzing and controlling risks, developing emergency plans, injecting faults, recovering faults, and rechecking. Construct the failure mode library and weapon library to verify the effectiveness of the emergency plan.	The customer needs to improve the drill capability of chaos engineering and assist the customer in completing the drill.

Service	Content	Scenario
aPaaS Platform O&M Management Managed Service	Based on HUAWEI CLOUD expert experience and best practices of cloud service O&M, fault trees are sorted out and emergency plans are developed for core applications that have pain points. Chaos drills and verification are performed to help customers improve fault recovery efficiency and ensure stable service running.	Customer service faults occur frequently, and the fault management process is not standard.
aPaaS Platform O&M Release Management Optimization Implementation Service	Analyze process risks based on a single change scenario, such as software change and configuration change, sort out the corresponding standardized SOP, and provide optimization suggestions.	1. The customer's change management system is insufficient. 2. The customer has some standardized operation capabilities and needs to advance the risk control for deterministic changes.
aPaaS Platform O&M Release Management Onsite Support Service - Basic Package	Be responsible for change review management, change backtracking, change knowledge summary, major change support, and change project management. Each basic package contains a maximum of 100 applications.	
aPaaS Platform O&M Release Management Onsite Support Service - Incremental Package	The service content is the same as that of the preceding basic service. It is mainly used for applications beyond the basic package. Each incremental package contains a maximum of 10 applications.	

Service	Content	Scenario
aPaaS Platform Production Readiness Review Governance Service	Based on the O&M tool, provide the production readiness review service for customers, develop the corresponding review process, and formulate the review sub-items, content description, and evaluation criteria related to the PRR review. Automatically implement online review related development work, perform PRR review test on actual services, and provide review results.	This document is applicable to the scenario where Huawei experts review the actual production readiness for customers and drills.
aPaaS Platform Runtime Risk Assessment Governance Service	Based on the running-state risk assessment service and O&M tools, customize the standard process for customer running-state risk assessment, and customize the information and detection standards related to risk assessment sub-items. Automatically implement part of the assessment, evaluate the risks of actual services, and provide the assessment results.	This document is applicable to the drills and operations that require Huawei experts to perform the actual running-state risk assessment service for customers.
aPaaS Platform Service Availability Measurement Governance Service	Based on the SLO/SLI usability design service and the actual services and O&M tools of the customer, formulate the SLO of the customer's product, develop the corresponding SLI indicators and baseline data, and monitor the SLO/SLI indicators of the service.	This document is applicable to the drills and operations that require Huawei experts to perform the actual availability measurement service for customers.
aPaaS Platform O&M Tool Governance Service	Based on customer requirements, Huawei provides O&M tools for customers to monitor service applications and resources, collect and report service alarms, and perform routine O&M management.	Applicable to scenarios where customers require Huawei intelligent O&M tools. Yearly package

Service	Content	Scenario
aPaaS Platform O&M Tool Governance Service - Incremental Package	Based on customer requirements, Huawei provides O&M tools for customers to monitor service applications and resources, collect and report service alarms, and perform routine O&M management.	Applicable to the scenario where customers require Huawei intelligent O&M tools. The incremental package is monthly.

- **aPaaS Operation Service**

Huawei Cloud provides customers with comprehensive aPaaS Operation Service. Module optimization provides model access, optimization, and evaluation. Application development support assists developers in development, such as model inference acceleration, knowledge engineering, application orchestration, and deployment. Scenario-specific application incubation helps customers build and incubate intelligent applications from start to finish. aPaaS operations services support user, data, resource, application. In addition, application adaption and optimization are also supported.

Service	Content	Scenario
aPaaS Platform O&M Digital Diagnosis Service-Basic Edition	Conduct interviews and surveys based on the customer's O&M status, integrate standards, models, and industry SRE practices in multiple fields, perform targeted diagnosis, propose optimization policies, and output survey and diagnosis reports.	This document is mainly applicable to customers' IT departments with no more than 50 employees and related business departments with no more than 10 employees. The complexity and uncertainty of O&M keep increasing. The O&M capability cannot meet the increasing availability requirements of enterprises' digital transformation. Therefore, basic diagnosis services are required.

Service	Content	Scenario
aPaaS Platform O&M Digital Diagnosis Service- Professional Edition	Based on the customer's O&M status, evaluate the maturity, diagnose the fault based on multiple domain standards, models, and industry SRE practices, propose optimization policies, and output survey reports, maturity assessment reports, and diagnosis reports.	This document is mainly applicable to customers' IT departments with no more than 50 employees and related business departments with no more than 10 employees. The O&M complexity and uncertainty of customers keep increasing. The O&M capability cannot meet the increasing availability requirements of enterprises' digital transformation. Professional diagnosis services are required.
aPaaS Platform O&M Digital Assessment and Planning Service- Medium	Based on the O&M digital diagnosis report and enterprise development strategy, align the O&M transformation objectives with executives, analyze gaps, and provide improvement suggestions, output the overall O&M transformation plan and evolution roadmap, and customize a definite O&M system for customers.	This document mainly applies to customers with 20 to 50 IT department employees and 10 related business departments. The customer's O&M system does not have strictly defined process roles and responsibilities. It relies on personal experience and passive O&M driven by events. Some siloed tools are built, resulting in low overall efficiency.

Service	Content	Scenario
aPaaS Platform O&M Digital Assessment and Planning Service-Large	Based on the O&M digital diagnosis report and enterprise development strategy, align with the O&M transformation objectives with executives, analyze gaps, and provide improvement suggestions, output the overall O&M transformation plan and evolution roadmap, and customize a definite O&M system for customers.	This document is mainly intended for customers with more than 50 IT personnel and more than 10 related business departments. The customer's O&M system does not have strictly defined process roles and responsibilities. It relies on personal experience and passive O&M driven by events. Some siloed tools are built, resulting in low overall efficiency.
aPaaS Platform O&M Organization Optimization Service-Medium	Based on the As-Is Survey and Diagnosis Analysis Report and the Overall Planning and Evolution Roadmap of Deterministic O&M, Huawei helps customers design organizational structures and job responsibilities suitable for enterprises and facilitates the implementation of deterministic O&M capabilities.	The customer IT department has 20 to 50 employees and 10 related business departments. Based on the output of the basic package and customer requirements, the customer needs to purchase the basic package and then the incremental package. It is mainly to help enterprises design organizational structure and job responsibilities, and optimize organization and culture.

Service	Content	Scenario
aPaaS Platform O&M Organization Optimization Service-Large	Based on the As-Is Survey and Diagnosis Analysis Report and the Overall Planning and Evolution Roadmap of Deterministic O&M, help customers design organizational structures and job responsibilities suitable for enterprises and facilitate the implementation of deterministic O&M capabilities.	The customer has more than 50 IT department employees and more than 10 related business departments. Based on the output content of the basic package and customer requirements, the customer needs to purchase the basic package and then the incremental package. It is mainly to help enterprises design organizational structure and job responsibilities, and optimize organization and culture.
aPaaS Platform O&M Tool Consulting and Planning Service	Provides consulting and planning services for the O&M tool system, including requirement insight, precise model selection, blueprint drawing, and strategic planning. Help enterprises plan an end-to-end integrated O&M tool platform to improve O&M efficiency and quality.	The customer needs to plan or improve technical capabilities, such as ITSM tools, automatic O&M platform, E2E service monitoring and alarm reporting, log management, and visualized large screen.

Service	Content	Scenario
aPaaS Platform O&M Process Optimization Service-Medium	The detailed design is based on the seven O&M processes and specifications that meet the customer's business requirements. The seven O&M processes and specifications are as follows: (Change management, monitoring alarm management, including on-call management, event management, including WarRoom, backtracking and improvement management, problem management, capacity management, and delivery-to-maintenance)	This document is mainly applicable to customers' IT department with 20 to 50 employees. If the number of related business departments is less than 10, you need to purchase the basic package first and then the incremental package. Help enterprises design seven sets of standardized O&M processes and specifications.
aPaaS Platform O&M Process Optimization Service-Large	The detailed design is based on the seven O&M processes and specifications that meet the customer's business requirements. (Change management, monitoring alarm management, including on-call management, event management, including WarRoom, backtracking and improvement management, problem management, capacity management, and delivery-to-maintenance)	Customers with more than 50 IT personnel and more than 10 related business departments need to purchase the basic package and then the incremental package. Help enterprises design seven sets of standardized O&M processes and specifications.

Prerequisites

- The customer has either purchased or intends to use Huawei Cloud aPaaS and its related products.
- The customer has granted Huawei Cloud permission to process relevant data in their system during service delivery.
- The customer has designated a team to work with Huawei Cloud service team to complete O&M services.
- The customer and Huawei Cloud have confirmed the migration solution and signed a contract.

Service Scope

1. Covered Content
 - aPaaS O&M
 - Cloud service applications running on or managed through aPaaS.
 - Underlying modules of Huawei Cloud that are integrated into and sold through aPaaS.
 - aPaaS Operation Service
 - Cloud service applications running on or managed through aPaaS.
 - Underlying modules of Huawei Cloud that are integrated into and sold through aPaaS.
2. Not Covered Content
 - aPaaS O&M
 - Third-party applications introduced by customers.
 - Underlying modules of Huawei Cloud that are not integrated into or sold by aPaaS.
 - The reconstruction fee of the customer's system architecture generated during the O&M service is not covered and needs to be purchased separately. If the customer's resources are inadequate or do not meet the service's security redundancy design (found during inspection), the customer needs to pay for the reconstruction.
 - aPaaS Operation Service
 - Third-party applications introduced by customers.
 - Underlying modules of Huawei Cloud that are not integrated into or sold by aPaaS.
 - Extra resources required during operations are not covered. For example, extra storage and computing resources are required for data analysis, and the customer needs to pay extra fees.
3. Service Area
Outside the Chinese mainland

Service Process

- One-off Services (aPaaS Operation Service and aPaaS Maintenance Service)

Stage	Description
Requirement survey	Fully communicate with the customer on their requirements.
Solution design	Clarify the existing problems and provide corresponding solutions through in-depth communication with the customer.

Stage	Description
Solution output	Generate the <i>XXX Customer _____ Solution Proposal</i> based on the project objective, which must be reviewed and approved by the customer.
Implementation	Construct the project according to the service content.
Summary	Summarize the project achievements, analyze the problems in the construction, and make a summary report.

- Yearly/Monthly Services (aPaaS Maintenance Service)

Stage	Content	Description
Preparations	Requirement communication	Huawei fully communicates with the customer about the specific requirements of O&M personnel, such as the service type, service duration, and engineer level.
	Requirement confirmation	Huawei collects customer requirements, evaluates resources, and confirms the customer's O&M service requirements.
	Contract signing	Huawei provides the O&M service quotation and discusses with the customer about the contract. Both parties sign the contract after reaching an agreement.
Implementation	Personnel selection	Huawei provides O&M engineers that meet the contract requirements and confirms the personnel with the customer.
	Personnel induction	O&M engineers enter the site according to the customer's requirements. (remote O&M not involved)
	Personnel training	O&M engineers provide training on industry specifications based on customer requirements. (remote O&M not involved)
	Routine O&M	O&M engineers provide routine O&M services specified in the contract and output documents such as weekly and monthly O&M reports, and delivery quality assessments as required.
End	Service end or renewal negotiation	Huawei reminds the customer one month before the service time specified in the contract expires. The two parties communicate with each other about whether to renew the service.

Stage	Content	Description
	Personnel exit	O&M engineers hand over documents and accounts and leave the site on time. The service process ends.

Service Deliverables

- **aPaaS Maintenance Service**

Service	Deliverable	Acceptance Report
aPaaS Technical Support Services (Per 20 Instances)	aPaaS Support Report	Not involved
aPaaS Agent Hosting Service	Proactive O&M Inspection Report (on-demand) Troubleshooting Report (on-demand) Monthly Project O&M Report	Not involved
aPaaS High-Reliability Governance Service	aPaaS High-reliability Management Report	Not involved
aPaaS Risk Governance Service	aPaaS Risk Governance Report	Not involved
aPaaS Security and Compliance Governance Service	aPaaS Security and Compliance Governance Report	Not involved
aPaaS Data Governance Service	aPaaS Data Governance Report	Not involved
aPaaS Application O&M Hosting (8/5)	Application O&M Daily Report Application O&M Weekly Report Application O&M Monthly Report	Not involved

Service	Deliverable	Acceptance Report
aPaaS Application O&M Hosting (24/7)	Application O&M Daily Report Application O&M Weekly Report Application O&M Monthly Report	Not involved
aPaaS Application Hosting for Incremental Services (8/5)	Application O&M Daily Report Application O&M Weekly Report Application O&M Monthly Report	Not involved
aPaaS Application Hosting for Incremental Services (24/7)	Application O&M Daily Report Application O&M Weekly Report Application O&M Monthly Report	Not involved
aPaaS Application Hosting and Implementation Services	Application Access Implementation Report Application Access Implementation Solution	aPaaS Platform Application Hosting & Implementation Acceptance Report
aPaaS Application Hosting and Implementation for Incremental Services	Application Access Implementation Report Application Access Implementation Solution	aPaaS Platform Application Hosting & Implementation Acceptance Report
aPaaS Platform O&M Indicator System Optimization Service	XXX O&M Indicator System Governance Solution	Acceptance Report on the Optimization Service of the aPaaS Platform O&M Indicator System for the XX Project
aPaaS Platform O&M Fault Management Technical Support Service	Fault Recovery Maturity Assessment Report Design Scheme for Fault Recovery Process Specifications Pilot Fault Recovery Capability Development in X Application Scenarios	Acceptance Report of the aPaaS Platform O&M Fault Management Technical Support Service for the XX Project

Service	Deliverable	Acceptance Report
aPaaS Platform O&M Chaos Drill Technical Support Service-Medium	Investigation Form of Chaos Engineering Capability Status Chaos Engineering Capability Diagnosis Report Chaos Engineering Capability Building Solution	Acceptance Report on Technical Support Service for Chaos Drilling on the aPaaS Platform of the XX Project
aPaaS Platform O&M Chaos Drill Technical Support Service-Large	Investigation Form of Chaos Engineering Capability Status Chaos Engineering Capability Diagnosis Report Chaos Engineering Capability Building Solution	Acceptance Report on Technical Support Service for Chaos Drilling on the aPaaS Platform of the XX Project
aPaaS Platform O&M Release Management Technical Support Service-Large	XXX Change Risk Control Planning and Design XXX Change Risk Control Tool Design Suggestions XXX Change Risk Control Process Regulations XXX Change Risk Control Technical Specifications	Acceptance Report on the aPaaS Platform O&M, Release, Management, and Technical Support Service for Project XX
aPaaS Platform O&M Release Management Technical Support Service-Medium	XXX Change Risk Control Planning and Design XXX Change Risk Control Tool Design Suggestions XXX Change Risk Control Process Regulations XXX Change Risk Control Technical Specifications	Acceptance Report on the aPaaS Platform O&M, Release, Management, and Technical Support Service for Project XX

Service	Deliverable	Acceptance Report
aPaaS Platform O&M Observability Technical Support Service	XXX (Customer Name) Observability As-Is Survey and Capability Building Solution Report XXX (Customer Name) Observability Pilot and Test Summary Report	Technical Support Service Acceptance Report for the aPaaS Platform O&M Observability of the XX Project
aPaaS Platform O&M Production Readiness Review Technical Support Service	PRR Implementation Guide PRR O&M Process Guide PRR Baseline Design Checklist	Technical Support Service Acceptance Report for the Review of the Production Readiness of the aPaaS Platform for the XX Project
aPaaS Platform O&M Running Status Risk Assessment Technical Support Service	Running-state risk assessment capability diagnosis report Runtime Risk Assessment Solution Regulations on Risk Assessment Process in Running State Runtime Risk Assessment Baseline	Project XX aPaaS Platform O&M Running Status Risk Assessment Technical Support Service Acceptance Report
aPaaS Platform O&M Service Availability Measurement Technical Support Service	SLO/SLI Usability Assessment Capability Diagnosis Report Management Regulations on SLO/SLI Usability Assessment Schemes and Standards SLO/SLI Usability Monitoring Review Baseline Operation Guide to SLO/SLI Usability Review	Project XX aPaaS Platform O&M Service Availability Measurement Technical Support Service Acceptance Report
aPaaS Platform O&M Chaos Engineering Drill Service	Drill Risk Analysis Report Exercise Emergency Plan Exercise Runbook Drill Plan Drill Summary Report Drill Acceptance Report	Acceptance Report on Chaos Engineering Drilling Service of the aPaaS Platform O&M on the XX Project

Service	Deliverable	Acceptance Report
aPaaS Platform O&M Fault Management Managed Service	XXX Application Fault Tree XXX Application Fault Mode Library XXX Application Fault Mode Library Drill Report	Acceptance Report of the aPaaS Platform O&M Fault Management Agent Maintenance Service for Project XX
aPaaS Platform O&M Release Management Optimization Implementation Service	Change Standard SOP Design for XXX Scenario	Acceptance Report on the Implementation Service of the aPaaS Platform, Release, Management, and Optimization for Project XX
aPaaS Platform O&M Release Management Onsite Support Service - Basic Package	XXX Change Risk Control Management Report Change Backtracking Report Summary of Change Knowledge Change Review Template	Acceptance Report on the aPaaS Platform O&M, Release Management, Onsite Support Service for the XX Project
aPaaS Platform O&M Release Management Onsite Support Service - Incremental Package	XXX Change Risk Control Management Report Change Backtracking Report Summary of Change Knowledge Change Review Template	Acceptance Report on the aPaaS Platform O&M, Release Management, Onsite Support Service for the XX Project
aPaaS Platform Production Readiness Review Governance Service	XXX Service Production Readiness Implementation Solution XXX Service Production Readiness Implementation Report	Acceptance Report of the aPaaS Platform Production Readiness Review and Governance Service for the XX Project

Service	Deliverable	Acceptance Report
aPaaS Platform Runtime Risk Assessment Governance Service	XXX Service Running Status Risk Assessment Implementation Solution XXX Service Running State Risk Assessment Implementation Report	Acceptance Report on the Risk Assessment and Governance Service of the aPaaS Platform Running Status in the XX Project
aPaaS Platform Service Availability Measurement Governance Service	XXX Service SLO/SLI Implementation Solution XXX Service SLO/SLI Implementation Report	Acceptance Report on the aPaaS Platform Service Availability Measurement and Governance Service for Project XX
aPaaS Platform O&M Tool Governance Service	XXX Application O&M Tool Governance Solution	Not involved.
aPaaS Platform O&M Tool Governance Service - Incremental Package	XXX Application O&M Tool Governance Solution	Not involved.

- **aPaaS Operation Service**

Service	Deliverable	Acceptance Report
aPaaS Platform O&M Digital Diagnosis Service-Basic Edition	Status Survey and Diagnosis Analysis Report	aPaaS Deterministic O&M Project Acceptance Report
aPaaS Platform O&M Digital Diagnosis Service-Professional Edition	Status Survey and Diagnosis Analysis Report	aPaaS Deterministic O&M Project Acceptance Report
aPaaS Platform O&M Digital Assessment and Planning Service-Medium	Status Survey and Diagnosis Analysis Report Overall Planning and Evolution Roadmap for Deterministic O&M	aPaaS Deterministic O&M Project Acceptance Report

Service	Deliverable	Acceptance Report
aPaaS Platform O&M Digital Assessment and Planning Service-Large	Status Survey and Diagnosis Analysis Report Overall Planning and Evolution Roadmap for Deterministic O&M	aPaaS Deterministic O&M Project Acceptance Report
aPaaS Platform O&M Organization Optimization Service-Medium	Detailed Design of O&M Organization Architecture	aPaaS Deterministic O&M Project Acceptance Report
aPaaS Platform O&M Organization Optimization Service-Large	Detailed Design of O&M Organization Architecture	aPaaS Deterministic O&M Project Acceptance Report
aPaaS Platform O&M Tool Consulting and Planning Service	Integrated O&M Tool Platform Consulting and Planning Report	Acceptance Report on the Consulting and Planning Service of the aPaaS Platform O&M Tools for the XX Project
aPaaS Platform O&M Process Optimization Service-Medium	Detailed Design of O&M Process Specifications	aPaaS Deterministic O&M Project Acceptance Report
aPaaS Platform O&M Process Optimization Service-Large	Detailed Design of O&M Process Specifications	aPaaS Deterministic O&M Project Acceptance Report

Responsibility Matrix

1. Shared Responsibilities
 - Negotiate and confirm specific requirements and objectives of the aPaaS Deterministic O&M.
 - Negotiate and confirm project management plans for the aPaaS Deterministic O&M.
 - Negotiate, confirm, and review solutions of the aPaaS Deterministic O&M.
2. Huawei Responsibilities
 - Completes requirement survey, solution design, and delivery based on the responsibility matrix.
 - Before providing services, prepares a service plan and a BOQ for the customer to confirm.

- Provides services based on the service plan and creates the deliverables needed.
 - Provides the list of deliverables after services are all complete.
 - Appoints a dedicated project owner. If there is a personnel change due to special reasons, notifies the customer three working days in advance.
 - Only uses the authorized data for aPaaS Deterministic O&M.
3. Customer Responsibilities
- Backs up and saves data.
 - Verifies service systems.
 - Operates and maintains the infrastructure layer, including compute, networking, storage, OBS bucket, and security services.
 - Assigns a project owner to coordinate between the two parties and to manage, review, and accept services provided by Huawei Cloud.
 - Provides service system information, including application architecture, deployment architecture, resource quantity, and performance.
4. Responsibility Details

The following table provides responsibility matrix examples and can be modified as needed.

R: responsible; S: supportive.

- aPaaS Maintenance Service

No	Process	Content	Huawei	Customer
1	Project kick-off meeting	Communicates with the customer's project leader (team) to clarify requirements, expectations, scope, contents, deliverables, and stakeholders, and develop work plans.	R	S
2	Customer service survey	Interviews and researches the customer to survey their overall O&M status and pinpoints challenges in each domain.	R	S
3	Service implementation	Assigns site reliability engineers (SREs) to perform 24/7 monitoring on customer applications and handle alarms in the way agreed with the customer.	R	S
		Follows the operation manual to manage any events that happen on the live network.	R	S

No	Process	Content	Hua wei	Custo mer
		Contacts customers or relevant parties to record, track, verify, and resolve issues throughout their lifecycle.	R	S
		Rectifies the fault on the live network by referring to the customer-approved troubleshooting manual.	R	S
		Implements the change solution approved by the customer within the specified time.	R	S
		Provides a service desk to receive customer inquiries and manage their requests through service tickets.	R	S
		Inspects and monitors infrastructure resource load and manages system capacity.	R	S
		Upgrades the application according to the customer-provided upgrade guide.	R	S
		Identifies and handles system risks by detailed inspection and problem management.	R	S
		Inspects the system infrastructure, middleware, databases, and applications, and outputs inspection reports.	R	S
		When a major system fault occurs, reviews the fault, analyzes the technical and management root causes, and provides suggestions for optimization.	R	S
		Conducts fault drills based on the customer-approved fault drill solution.	R	S
4	Deliverable output	Outputs deliverables: proactive O&M inspection report, proactive O&M risk check report, troubleshooting report, and project O&M monthly report.	R	S

No	Process	Content	Hua wei	Custo mer
5	Review and summary	Reviews and summarizes the overall O&M service.	R	S

- aPaaS Operation Service

No	Process	Content	Hua wei	Custo mer
1	Requirement survey	Conducts a detailed survey on customer requirements and negotiates the service scope.	R	S
2	Service determination	Specifies the intended scope of the service.	S	R
3	Solution design	Designs the aPaaS Operation Service solution based on customer requirements and outputs the Statement of Work (SOW).	R	S
4	Delivery	Delivers the aPaaS Operation Service based on the SOW.	R	S
5	Acceptance	Accepts and confirms the delivered items.	S	R

Acceptance Criteria

- aPaaS Maintenance Service:
Recurring Services: aPaaS Technical Support Services (per 20 instances), aPaaS Agent Hosting Service, aPaaS high-reliability governance, aPaaS risk governance, aPaaS security and compliance governance, aPaaS data governance, aPaaS application O&M hosting (8/5), aPaaS application O&M hosting (24/7), aPaaS application hosting for incremental services (8/5), aPaaS application hosting for incremental services (24/7)”, above services automatically terminate after the time specified in the contract expires.
One-off Services: Remainings are all one-off services. Huawei submits standard deliverables of each service subitem. If the customer accepts the deliverables, the customer needs to click the acceptance link on the Huawei Cloud console or sign and seal the XXX Service Acceptance Report.
- aPaaS Operation Service (one-off service):
Huawei submits standard deliverables of each service subitem. If the customer accepts the deliverables, the customer needs to click the acceptance link on the Huawei Cloud console or sign and seal the *XXX Service Acceptance Report*.

3.1.2 FAQs

3.1.2.1 About the Service

3.1.2.1.1 What Is aPaaS Deterministic O&M?

aPaaS Deterministic O&M is used to provide basic environment hosting of migrated self-developed applications for small- and medium-sized enterprises, and O&M support, application hosting, and governance for government cloud customers. The expert technical team ensures the hosting, issue solving, and project can be smoothly implemented. Additionally, online or offline operation optimization services are provided for platform operation and adaptation.

3.1.2.1.2 What service items are included in aPaaS Deterministic O&M?

- aPaaS Maintenance Service
- aPaaS Operation Service

3.1.2.1.3 What are the advantages of aPaaS Deterministic O&M?

Low O&M cost: aPaaS Deterministic O&M can reduce customers' investment in the O&M system, tool deployment, and team building.

Quick response to emergencies: Offer prompt emergency response through multiple channels based on support from representative offices

Fast fault recovery: O&M engineers blend years of expertise in troubleshooting with their comprehensive understanding of aPaaS and Huawei Cloud solutions to quickly resolve problems with multiple O&M analysis tools.

Whole-process follow-up: O&M engineers cooperate with global ecosystem O&M center throughout the entire troubleshooting process to handle major faults and difficult problems of customers' devices.

Efficient resource coordination: An O&M engineer, the only contact person of Huawei services, can efficiently coordinate Huawei's internal resources from trouble ticket creation to closure.

3.1.2.2 About Service Purchase

3.1.2.2.1 How do I place an order for this service?

Consult the customer manager before placing an order.

3.1.2.2.2 Is there a limit to how many times the service can be purchased?

No. Enterprises can purchase aPaaS Deterministic O&M based on actual requirements.

3.1.2.2.3 Do I need to purchase other related services before purchasing this service?

No.

3.1.2.2.4 Can I change the service specifications after signing a contract?

No. aPaaS Deterministic O&M service is one-off and therefore cannot be changed. When ordering these services, set the parameters based on your own service needs.

3.1.2.2.5 Is this service refundable?

aPaaS Deterministic O&M service adopts once-off charge. Refund and unsubscription are supported only before the service is used. When subscribing to these services, make the appropriate choices based on your own service needs.

3.1.2.3 About Service Delivery

3.1.2.3.1 Can this service be delivered on site?

Yes. Service experts will provide onsite delivery.

3.1.2.3.2 What are the working days?

Support from Monday to Friday (5 x 8 hours)/from Monday to Sunday(7 x 24 hours) according to respective services.

3.1.2.3.3 How long does the delivery take after an order is placed?

It is calculated based on the actual purchased person-days. Acceptance is performed after the delivery is complete.

3.1.2.3.4 Is this service available outside the Chinese mainland?

Yes. The service is available for users or enterprises outside China.

3.1.2.3.5 Can I apply for refund during delivery?

No. It is not refundable during the service delivery.

3.1.3 Billing

This section describes the billing of Huawei Cloud aPaaS Deterministic O&M, including billing items and billing modes.

Billing Item

Service L4 Offering	Sub-service L4.5	SKU	Billing Mode	Unit	Price(USD)
aPaaS Deterministic O&M	aPaaS Operation Service	aPaaS Platform O&M Digital Diagnosis Service-Basic Edition	one-off billing	set	35,140.00

Service L4 Offering	Sub-service L4.5	SKU	Billing Mode	Unit	Price(USD)
		aPaaS Platform O&M Digital Diagnosis Service-Professional Edition	one-off billing	set	75,300.00
		aPaaS Platform O&M Digital Assessment and Planning Service-Medium	one-off billing	set	469,440.00
		aPaaS Platform O&M Digital Assessment and Planning Service-Large	one-off billing	set	676,317.00
		aPaaS Platform O&M Organization Optimization Service-Medium	one-off billing	set	93,600.00
		aPaaS Platform O&M Organization Optimization Service-Large	one-off billing	set	113,760.00
		aPaaS Platform O&M Tool Consulting and Planning Service	one-off billing	set	273,600.00
		aPaaS Platform O&M Process Optimization Service-Medium	one-off billing	set	388,800.00
		aPaaS Platform O&M Process Optimization Service-Large	one-off billing	set	541,440.00
	aPaaS Maintenance Service	aPaaS Technical Support Services (Per 20 Instances)	yearly	set/yearly	37,390.08
		aPaaS High Reliability Governance Service	yearly	instance/yearly	862.85

Service L4 Offering	Sub-service L4.5	SKU	Billing Mode	Unit	Price(USD)
		aPaaS Agent Hosting Service	yearly	instance/yearly	2,157.12
		aPaaS Risk Governance Service	yearly	instance/yearly	431.42
		aPaaS Security Compliance Governance Service	yearly	instance/yearly	431.42
		aPaaS Data Governance Service	yearly	set/yearly	1,155,600.00
		aPaaS Application O&M Hosting (8/5)	yearly	set/yearly	42,800.00
		aPaaS Application O&M Hosting (24/7)	yearly	set/yearly	171,200.00
		aPaaS Application Hosting for Incremental Services (8/5)	monthly	instance/monthly	214.00
		aPaaS Application Hosting for Incremental Services (24/7)	monthly	instance/monthly	856.00
		aPaaS Application Hosting and Implementation Services	one-off billing	set	42,800.00
		aPaaS Application Hosting and Implementation for Incremental Services	one-off billing	instance	428.00
		aPaaS Platform O&M Indicator System Optimization Service	one-off billing	set	172,800.00
		aPaaS Platform O&M Fault Management Technical Support Service	one-off billing	set	108,640.00

Service L4 Offering	Sub-service L4.5	SKU	Billing Mode	Unit	Price(USD)
		aPaaS Platform O&M Chaos Drill Technical Support Service-Medium	one-off billing	set	279,240.00
		aPaaS Platform O&M Chaos Drill Technical Support Service-Large	one-off billing	set	386,640.00
		aPaaS Platform O&M Release Management Technical Support Service-Large	one-off billing	set	288,000.00
		aPaaS Platform O&M Release Management Technical Support Service-Medium	one-off billing	set	100,800.00
		aPaaS Platform O&M Observability Technical Support Service	one-off billing	set	178,560.00
		aPaaS Platform O&M Production Readiness Review Technical Support Service	one-off billing	set	136,800.00
		aPaaS Platform O&M Running Status Risk Assessment Technical Support Service	one-off billing	set	180,000.00
		aPaaS Platform O&M Service Availability Measurement Technical Support Service	one-off billing	set	144,000.00
		aPaaS Platform O&M Chaos Engineering Drill Service	one-off billing	set	179,000.00
		aPaaS Platform O&M Fault Management Managed Service	one-off billing	set	233,900.00

Service L4 Offering	Sub-service L4.5	SKU	Billing Mode	Unit	Price(USD)
		aPaaS Platform O&M Release Management Optimization Implementation Service	one-off billing	set	28,800.00
		aPaaS Platform O&M Release Management Onsite Support Service - Basic Package	one-off billing	set	720,000.00
		aPaaS Platform O&M Release Management Onsite Support Service - Incremental Package	one-off billing	set	63,360.00
		aPaaS Platform Production Readiness Review Governance Service	one-off billing	set	136,800.00
		aPaaS Platform Runtime Risk Assessment Governance Service	one-off billing	set	180,000.00
		aPaaS Platform Business Availability Measurement Governance Service	one-off billing	set	144,000.00
		aPaaS Platform O&M Tools Governance Service	yearly	set/ yearly	21,400.00
		aPaaS Platform O&M Tool Governance Service - Incremental Package	monthly	instance/ monthly	107.00

 **NOTE**

The instances specified in the SKU refer to the number of cloud service instances on the management plane.

Billing Mode

The aPaaS Operation Service supports one-off payments and times-based billing.

Some aPaaS Maintenance services are yearly/monthly services, and some are one-off services. For details, see the billing item description.

Billing Mode Changing

You are advised to make appropriate purchases by referring to the service descriptions. Once purchased, aPaaS Operation Service cannot be unsubscribed from, and the configurations cannot be changed.

The aPaaS Maintenance Service supports continuous subscription for multiple years and unsubscription before the service starts. The unsubscription period is one year.

Renewal

One-off service do not support renewal, you can purchase it again as required.

For a yearly/monthly service, you can renew the subscription before the service expires.

Expiration and Arrears

The validity period of the one-off service is one year, and renewal is not supported, you can purchase it again as required.

Periodical services are provided within the service period starting from the effective date of the subscription. Unless you renew, the service will be disabled upon expiration.

4 Optimization and Improvement

4.1 GaussDB(DWS) Optimization and Support Service

4.1.1 Statement of Work (SOW)

Service Overview

Some enterprises have many platforms with various types of data. They are grappling with data silos and have limited expertise in building data warehouses. As the data volume increases year by year and the service complexity increases, the original data warehouse may encounter the performance bottlenecks. The construction and maintenance costs of the data warehouse are high. How to effectively control the cost while ensuring the performance and data quality of the data warehouse is an important challenge for customers. To control costs and improve efficiency, enterprises need to optimize and upgrade the existing platform or build a new data warehouse platform.

The GaussDB(DWS) optimization and support service offers technical assistance for developing, testing, and implementing enterprise service systems. It covers guidance on data warehouse development, performance optimization, support for integrating with third-party platforms, and ensuring smooth application integration and deployment. This service meets customers' requirements for service upgrade and data volume increase by solving problems encountered during data warehouse development and service operations. It helps improve the development and support capabilities of developers, ensures stable and efficient operation of enterprise service systems, and reduces data warehouse development and service O&M costs.

Service Content

GaussDB(DWS) development and support service is a professional data management service, aiming to help enterprises build efficient, stable, and reliable data warehouses for data integration, cleaning, analysis, and application. This service includes data warehouse design, modeling, development, testing, deployment, and maintenance, as well as data quality management and data security assurance.

L6 Service	Content	Use Case
GaussDB(DWS) Development and Support Service - Basic	Design a service survey table. After the survey, communicate with the customer to resolve pain points in application development and query performance, compare with benchmark cases, develop solutions, and implement delivery. These can be completed remotely. For details on time and manpower, refer to the <i>GaussDB(DWS) Optimization and Support Service Workload Baseline Template</i> . Adjust based on the customer's actual services if necessary.	This is suitable for small-sized enterprises or department-level applications with small data volume. It is perfect for scenarios requiring less than 100 vCPUs and have minimal data warehouse optimization needs.
GaussDB(DWS) Development and Support Service - Standard		This is suitable for medium-sized enterprises or department-level applications with moderate data volume. It is perfect for scenarios requiring 100 vCPUs to 300 vCPUs (for reference only), thorough optimization, and personalized services, such as data cleaning, integration, and modeling.

L6 Service	Content	Use Case
GaussDB(DWS) Development and Support Service - Expert	Design a service survey table. After the survey, communicate with the customer to resolve pain points in application development and query performance, fully consider the customer's requirements, formulate the solution, and implement delivery. These tasks require both remote and onsite completion. For details on time and manpower, refer to the <i>GaussDB(DWS) Optimization and Support Service Workload Baseline Template</i> . Adjust based on the customer's actual services if necessary.	This is suitable for large-sized enterprises with large-scale data warehouses. It is perfect for scenarios requiring 300 vCPUs to 700 vCPUs (for reference only) and comprehensive development and maintenance support, including architecture design, ETL development, data analysis, and report development.
GaussDB(DWS) Development and Support Service - Platinum		This is suitable for large-sized enterprises or enterprises with complex data warehouse projects. It is perfect for scenarios requiring 700 vCPUs to 1,000 vCPUs (for reference only) and highly customized data warehouse development and maintenance support, including the aforementioned services.

L6 Service	Content	Use Case
GaussDB(DWS) Development and Support Service - Flagship	Communicate with the customer's executives, understand their requirements and goals, carefully assess their service needs, and develop and implement tailored solutions. Assist enterprises in resolving issues during data warehouse development and operations, enhancing developer skills. These tasks require both remote and onsite completion. For details on time and manpower, refer to the <i>GaussDB(DWS) Optimization and Support Service Workload Baseline Template</i> . Adjust based on the customer's actual services if necessary.	This is suitable for ultra-large enterprises or data warehouses with high requirements. It is perfect for scenarios requiring more than 1,000 vCPUs (for reference only). The premium edition offers the most comprehensive and advanced data warehouse support, including all aforementioned services.

Prerequisites

- Customers should apply for professional services in advance, so that Huawei Cloud can evaluate their business objectives and service schedule.
- Before providing professional services for customers, Huawei Cloud must obtain customers' authorization for site survey, personnel cooperation, and material input.

Service Scope

1. Items Covered

GaussDB(DWS) optimization and support service allows development and support engineers to focus on the development guidance, performance optimization, and troubleshooting of Huawei Cloud GaussDB(DWS) based on the customer's internal processes and requirements, data warehouses on the live network, and other big data component environments, helping customers improve data warehouse development and support capabilities and ensure the stable running of customers' service systems.

This service consists of the following five parts:

- GaussDB(DWS) development guide:** includes sample code explanation, API usage guide, and development problem handling.
- Performance optimization:** Based on the customer's service performance objectives and requirements, Huawei provides a solution, including data warehouse performance evaluation, parameter optimization, and resource optimization.
- Support for interconnecting with third-party platforms:** provide consulting services and answer questions about interconnecting third-

party systems or monitoring platforms with data warehouses. The systems or monitoring platforms should be verified by Huawei.

- d. **Application joint commissioning and rollout support:** It is not the same as being tested in a test environment. Your application is more prone to problems in an actual production environment, but we can help you handle any problems you run into.
- e. **Database localization:** Huawei provides end-to-end professional services, including database surveys, reconstruction solution design, database migration, application reconstruction, service verification, and acceptance assurance.

2. Items Not Covered

Huawei development support engineers only provide the services specified in this document. Additional fees apply for services outside the scope, including:

- a. Customer business logic code development and transformation.
- b. Purchased products, such as DataArts and Migration.

Service Process

Phase	Description
Business survey	Based on the subscribed service package, conduct a comprehensive survey of the customer's business, architecture, performance, and stability to identify problems and bottlenecks.
Requirement analysis and assessment	Understand and analyze the customer's service requirements, evaluate the current data warehouse's performance, capacity, and data quality, and determine the optimization objectives, scope, and solutions.
Optimization and support	Perform optimization and support based on the designed solution, including software installation, configuration, testing, performance improvement, and quality optimization.
Service acceptance	Accept the corresponding capability items based on the project objectives, output the GaussDB(DWS) Optimization and Support Service Acceptance Report, and pass the customer's review and acceptance.

Service Deliverables

Service	Deliverable	Acceptance Report
GaussDB(DWS) Development and Support Service - Basic	<i>XX Customer GaussDB(DWS) Requirement Survey Form (Public Cloud)</i>	<i>GaussDB(DWS) Optimization and Support Service Acceptance Report</i>
GaussDB(DWS) Development and Support Service - Standard	<i>XX Project Optimization and Support Service Solution Design GaussDB(DWS) Development Technical Specifications</i>	
GaussDB(DWS) Development and Support Service - Expert	<i>GaussDB(DWS) Database Security Configuration GaussDB(DWS) Performance Tuning Guide</i>	
GaussDB(DWS) Development and Support Service - Platinum		
GaussDB(DWS) Development and Support Service - Flagship		

Responsibility Matrix

1. Shared Responsibilities
 - Negotiate and confirm requirements and objectives.
 - Negotiate and confirm project management plans.
 - Negotiate, confirm, and review solutions.
 - Sign contracts.
2. Huawei Responsibilities
 - Specifies a project owner. If Huawei personnel are changed due to special reasons, Huawei shall notify the customer three working days in advance until the project acceptance is complete.
 - Huawei Cloud can only use the authorized data for the GaussDB(DWS) Optimization and Support Service.
3. Customer's Responsibilities
 - Assign a project owner to help Huawei Cloud implement services. The project owner is responsible for coordination between the two parties and for reviewing and accepting the services provided by Huawei Cloud.
 - Provide service system information, including but not limited to application architecture, deployment architecture, resource quantity, and performance.
4. Responsibility Matrix

Before implementing GaussDB(DWS) optimization and support, essential information must be collected from the customer's existing system to

determine the service scope and delivery period. This includes, but is not limited to, data warehouse cluster version information, component information, user and permission details, sample code demos, and routine maintenance scope.

Huawei Responsibility	Customer Responsibility
<ol style="list-style-type: none"> 1. Submit the information collection form to the customer for completion. 2. Sort out and identify information related to data warehouse optimization and support. 	<ol style="list-style-type: none"> 1. Cooperate with Huawei engineers to provide necessary information and the corresponding query methods for the data warehouse optimization and support solution. 2. Provide account information and access conditions for the implementation of GaussDB(DWS) Optimization and Support Service.

The following table provides responsibility matrix examples and can be modified as needed.

R: responsible; S: supportive.

No.	Process	Content	Hua wei	Cust ome r
1	Project initiation	Set up a project team.	R	S
		Explain the project content.	R	S
2	Project survey	Make a survey plan.	R	S
		Conduct a survey.	S	R
		Evaluate the status.	R	S
		Generate the status diagnosis report.	R	S
		Perform a phased acceptance of the status diagnosis report.	S	R
3	Solution design	Develop a design solution.	R	S
		Perform a phased acceptance of the design plan.	S	R
4	Project acceptance	Accept the project, and sign and seal the acceptance report.	S	R

Acceptance Criteria

- Acceptance Criteria
 - a. Online and on-site acceptance are available.

- b. Acceptance criteria: Huawei must submit standard deliverables for each service sub-item. The customer can confirm acceptance on the Huawei Cloud console or by signing and sealing the *GaussDB(DWS) Optimization and Support Service Acceptance Report* offline.
- Service Acceptance Criteria
 - The acceptance should focus on the content of the delivered documents. If the content of the deliverables complies with this SOW, the deliverables should pass the acceptance. A few formatting or description issues should not be used as the reason for rejecting the deliverables. However, Huawei should modify the issues within a reasonable period of time as required by customers.
 - To ensure mutual understanding and expedite acceptance, it is important to discuss and review project deliverables on a daily basis throughout the project. The customer should provide timely feedback and approval for any suggestions or requirements from Huawei. Based on the actual situation of the project, some or all deliverables must be reviewed by the project team and business department and be reported to relevant leaders before being accepted and signed. The customer should organize (including coordinating consultants) and complete all internal reviews and reporting in time before the acceptance time specified in the contract.
 - Huawei shall complete deliverable modifications within 5 working days based on feedback, then submit the final version for customer acceptance.
 - After receiving the final version, the customer has 5 working days to provide feedback. Huawei should submit modified deliverables within 5 working days of receiving feedback. This process should not exceed 2 rounds (i.e., a maximum of 3 submissions). Deliverable acceptance should be completed within 15 working days from the customer receiving the final version. The customer should accept and sign the project deliverables within this period. If no written feedback is received from the customer within 5 working days of submission, the deliverables are deemed accepted as final.
 - If more time is needed due to factors other than Huawei, the project team will apply for a change request to extend the timeline and obtain corresponding payment.
 - If acceptance is not completed after 3 submission rounds within 15 working days, both parties should evaluate the impact on subsequent work and negotiate further modifications and acceptance.
 - After the deliverables are accepted and signed, any additions or deletions to the deliverables will be evaluated for complexity and risk (impact on fees, schedule, and resources), with changes executed upon agreement by both parties.
 - Once milestone deliverables are accepted, the person in charge will authorize the signing of the milestone acceptance report. Completion of tasks outside Huawei's scope should not affect milestone acceptance.

4.1.2 FAQs

4.1.2.1 Service Consulting

4.1.2.1.1 What is GaussDB(DWS) optimization and support service?

Some enterprises have many platforms with various types of data. They are grappling with data silos and have limited expertise in building data warehouses. As the data volume increases year by year and the service complexity increases, the original data warehouse may encounter the performance bottlenecks. The construction and maintenance costs of the data warehouse are high. How to effectively control the cost while ensuring the performance and data quality of the data warehouse is an important challenge for customers. To control costs and improve efficiency, enterprises need to optimize and upgrade the existing platform or build a new data warehouse platform.

The GaussDB(DWS) optimization and support service offers technical assistance for developing, testing, and implementing enterprise service systems. It covers guidance on data warehouse development, performance optimization, support for integrating with third-party platforms, and ensuring smooth application integration and deployment. This service meets customers' requirements for service upgrade and data volume increase by solving problems encountered during data warehouse development and service operations. It helps improve the development and support capabilities of developers, ensures stable and efficient operation of enterprise service systems, and reduces data warehouse development and service O&M costs.

4.1.2.1.2 What services does the GaussDB(DWS) optimization and support service provide?

1. GaussDB(DWS) Development and Support Service - Basic
2. GaussDB(DWS) Development and Support Service - Standard
3. GaussDB(DWS) Development and Support Service - Expert
4. GaussDB(DWS) Development and Support Service - Platinum
5. GaussDB(DWS) Development and Support Service - Flagship

4.1.2.1.3 What are the advantages of the GaussDB(DWS) optimization and support service?

Experienced data warehouse service team: Huawei has a team of over 300 veteran engineers with extensive experience in data warehouse applications across a wide range of fields, including sample code development, data warehouse performance tuning guidance, routine service maintenance, and service assurance during major holidays.

Efficient and easy-to-use tools: Huawei offers sample code, development guidelines, scenario-specific samples, and performance tuning tools to facilitate data warehouse service development.

Comprehensive development assets and knowledge bases: From the over 1,000 projects it has delivered in China, Huawei has accumulated methodologies in background surveys, key development points, continuous tuning, and continuous maintenance, as well as rich assets, facilitating data warehouse application development for enterprises.

An E2E service system: Huawei's E2E service system quickly resolves enterprise issues, responds to faults in a timely manner, and facilitates service development.

4.1.2.1.4 Can I use these services from sites off Huawei Cloud?

Yes. Huawei Cloud and partner clouds are supported.

4.1.2.2 Service Purchase

4.1.2.2.1 How do I place an order?

Place orders on customers' behalf.

4.1.2.2.2 Do I need to purchase other related services before purchasing these services?

You need to consult and purchase a GaussDB(DWS) cluster.

4.1.2.3 Service Delivery

4.1.2.3.1 Can these services be delivered onsite?

Yes. It supports both onsite and remote delivery based on the requirements in different phases.

4.1.2.3.2 How long does the delivery take after an order is placed?

It varies depending on the project.

4.1.3 Billing

This document describes the billing policy for the GaussDB(DWS) optimization and support service, including billing items, modes, changes, renewal, and arrear.

Billing Items

Sub-service	Service	Billing	Unit Price [Outside China 2: Europe/South Africa/Brazil/ Middle East]	Unit
GaussDB(DWS) Development and Support Service	GaussDB(DWS) Development and Support Service - Basic	One-off payment based on the number of sets purchased	\$37,000 USD	Set
	GaussDB(DWS) Development and Support Service - Standard	One-off payment based on the number of sets purchased	\$115,000 USD	

Sub-service	Service	Billing	Unit Price [Outside China 2: Europe/South Africa/Brazil/ Middle East]	Unit
	GaussDB(DWS) Development and Support Service - Expert	One-off payment based on the number of sets purchased	\$309,000 USD	
	GaussDB(DWS) Development and Support Service - Platinum	One-off payment based on the number of sets purchased	\$850,000 USD	
	GaussDB(DWS) Development and Support Service - Flagship	One-off payment based on the number of sets purchased	\$1,050,000 USD	

Billing Mode

Huawei Cloud GaussDB(DWS) optimization and support service uses one-off billing.

Changing Billing Mode

This service does not support configuration changes or unsubscription. Before you make a purchase, you can learn about the typical application scenarios of the service.

Renew

Huawei Cloud GaussDB(DWS) optimization and support service uses one-off billing and cannot be renewed. To use the service after it has expired, purchase it again.

Expiration and Overdue Payment

Huawei Cloud GaussDB(DWS) optimization and support service is one-off purchase. After you accept the service, the service will be unavailable. The default validity period is one year.

Whether There Are Purchase Dependencies or Whether Add-on Purchase Is Supported?

You can purchase the service together with other products. For example, if there are new links during synchronization, you need to purchase Migration or Flink together.

Before purchasing GaussDB(DWS), contact the service owner and purchase a GaussDB(DWS) cluster.

4.2 Cloud Storage Optimization Service

4.2.1 Statement of Work (SOW)

Overview

As your cloud storage needs grow, you may encounter performance bottlenecks. For instance, you might require greater storage elasticity during service peaks or faster AI model training as data and parameters increase. Industries operating across the Internet have even more demanding storage requirements, including performance, security, and usability. Nevertheless, configuring storage resources to optimize service support can be challenging.

To satisfy your storage needs in various situations, Huawei Cloud has introduced the Cloud Storage Optimization Service (CSOS). This service evaluates your storage performance and offers optimization solutions to help you make the most of cloud storage while minimizing expenses.

Service Content

- **Cloud Storage Performance Evaluation and Optimization for Large AI Model Training**

Specifications	Content	Applicable Scenario
SFS Turbo Performance Evaluation and Optimization for Large AI Model Training - Basic Package	The performance of your cloud storage for large AI model training will be evaluated, and optimization solutions will be provided. These include selecting the SFS Turbo file system types, designing a three-level cache solution, and generating an AI Turbo SDK. Additionally, data interworking solutions will also be provided to speed up the training process.	If you face performance bottlenecks while using cloud storage for AI model training and seek faster and more cost-effective solutions, try CSOS.

Specifications	Content	Applicable Scenario
SFS Turbo Performance Evaluation and Optimization for Large AI Model Training - Incremental Package		

- **Cloud Storage Performance Evaluation and Optimization**

Specifications	Content	Applicable Scenario
EVS Performance Evaluation and Optimization - Basic Package	The performance of cloud storage (EVS) will be evaluated, and optimization solutions will be provided to improve reliability in different scenarios. These solutions include configuring image cache, provisioning elastic resources in batches, removing local disks, and designing high-performance storage solutions for big data and databases. Solutions for selecting EVS disk types will also be provided to meet diversified requirements.	We offer performance evaluation and optimization solutions to address performance issues with cloud storage (EVS). For example, if you come from a medium- or large-sized enterprise, financial institution, or a government agency that suffers from a high local disk failure rate, we offer reliable, high-performance cloud storage solutions. If you work in industries such as video rendering and social media, we can provide you with robust cloud storage to handle sudden bursts of traffic, batch provision resources, and to scale out storage.
EVS Performance Evaluation and Optimization - Incremental Package		

Prerequisites

- Customers have migrated workloads to Huawei Clouds and are using Huawei Cloud storage products.
- Customers are highly cooperative. The owner on the customer side takes the lead and assigns personnel to conduct surveys and analysis, and formulate plans.
- Before providing customers with the cloud storage performance evaluation reports, Huawei must obtain customers' authorization to view their behavior data.

- Both parties agree on the service objectives and customers pay for the service.

Applicable Scope

1. Supported Services

During the entire process, Huawei Cloud provides the following services:

- **SFS Turbo performance evaluation and optimization for large AI model training**

The performance of your cloud storage for large AI model training will be evaluated, and optimization solutions will be provided. These include selecting the SFS Turbo file system types, designing a three-level cache solution, and generating an AI Turbo SDK. Additionally, data interworking solutions will also be provided to speed up the training process.

- **EVS performance evaluation and optimization**

The performance of cloud storage (EVS) will be evaluated, and optimization solutions will be provided to improve reliability in different scenarios. These solutions include configuring image cache, provisioning elastic resources in batches, removing local disks, and designing high-performance storage solutions for big data and databases. Solutions for selecting EVS disk types will also be provided to meet diversified requirements.

2. Unsupported Services

Services implemented by customers, including but not limited to:

Integrating different systems

3. Service Regions

Global

Delivery Process

Phase	Description
Requirement survey	Clarifying service objectives: Huawei Cloud conducts surveys on the customer's storage service statuses and basic requirements, interviews the customer, and agrees with the customer on service objectives. Formulating solutions: Huawei Cloud aligns detailed solutions with the customer, including the service content, process, schedule, and expense, to ensure that the solutions meet the customer's requirements and are feasible.
Evaluation and diagnosis	Huawei tests the performance of the cloud storage system that is being used by the customer, analyzes the performance bottlenecks, and outputs a diagnosis report.
Solution design	Huawei clarifies existing problems and provides corresponding solutions through in-depth communication with the customer.
Service acceptance	Customers accept the solutions. Huawei Cloud hands over related documents.

Deliverables

- **Cloud Storage Performance Evaluation and Optimization for Large AI Model Training**

Specifications	Deliverable	Acceptance Report
SFS Turbo Performance Evaluation and Optimization for Large AI Model Training - Basic Package	Huawei Cloud Large AI Model Storage Solution Planning and Design	Cloud Storage Optimization Service Acceptance Report for the XX Project
SFS Turbo Performance Evaluation and Optimization for Large AI Model Training - Incremental Package		

- **Cloud Storage Performance Evaluation and Optimization**

Specifications	Deliverable	Acceptance Report
EVS Performance Evaluation and Optimization - Basic Package	Huawei Cloud EVS Storage Solution Planning and Design	Cloud Storage Optimization Service Acceptance Report for the XX Project
EVS Performance Evaluation and Optimization - Incremental Package		

Responsibility Division

1. Huawei Cloud and Customers
 - Negotiate and confirm specific requirements and objectives.
 - Negotiate and confirm project management plans.
 - Negotiate, confirm, and review solutions.

- Sign contracts.
- 2. Huawei Cloud
 - Receives customer requirements and designates experts to help implement and guarantee the service delivery onsite or remotely.
 - Develops a service plan and quotation based on the service items for customers to review and confirm.
 - Implements the service as planned and compiles deliverables.
 - Provides the list of deliverables based on the selected service items after services are all complete.
 - Specifies a project owner and notifies customers of any personnel changes three working days in advance.
 - Uses the authorized data only for this service and not for any other purposes.
- 3. Customer
 - Assigns a project owner to assist Huawei Cloud in implementing services. The project owner is responsible for arranging and coordinating personnel, resources, or other matters between the two parties, and reviews and accepts the services provided by Huawei Cloud.
 - Provides service system-related information, including but not limited to application architecture, deployment architecture, resource quantity, and performance.

4. Responsibility Matrices

The following table provides responsibility matrix examples and can be modified as needed.

R: responsible; S: supportive.

- **Cloud Storage Performance Evaluation and Optimization for Large AI Model Training**

No.	Process	Content	Huawei	Customer
1	Requirement survey	Specify service objectives.	R	R
2		Formulate solutions.	R	S
3	Performance evaluation	Evaluate performance.	R	S
4	Solution design	Formulate performance optimization solutions.	R	S
5		Communicate with the other party and confirm the solutions.	R	R
6	Service acceptance	Accept the solutions and related documents provided by Huawei Cloud.	S	R

No.	Process	Content	Hua wei	Cus tom er
7		Guide the customer team to implement the performance optimization solutions.	R	S

- **Cloud Storage Performance Evaluation and Optimization**

No.	Process	Content	Hua wei	Cus tom er
1	Requirement survey	Specify service objectives.	R	R
2		Formulate solutions.	R	S
3	Performance evaluation	Evaluate performance.	R	S
4	Solution design	Formulate performance optimization solutions.	R	S
5		Communicate with the other party and confirm the solutions.	R	R
6	Service acceptance	Accept the solutions and related documents provided by Huawei Cloud.	S	R
7		Guide the customer team to implement the performance optimization solutions.	R	S

Acceptance Criteria

- **Cloud Storage Performance Evaluation and Optimization for Large AI Model Training**

For the SFS Turbo performance evaluation and optimization packages for large AI model training, Huawei Cloud submits standard deliverables based on service sub-items. Customers confirm the acceptance on the Huawei Cloud official website console, or signs and seals the *Cloud Storage Optimization Service Acceptance Report for the XX Project* onsite as the basis for service acceptance.

- **Cloud Storage Performance Evaluation and Optimization**

For the EVS performance evaluation and optimization packages, Huawei Cloud submits standard deliverables based on service sub-items. Customers confirm the acceptance on the Huawei Cloud official website console, or signs and seals the *Cloud Storage Optimization Service Acceptance Report for the XX Project* onsite as the basis for service acceptance.

4.2.2 FAQs

4.2.2.1 About This Service

4.2.2.1.1 What Is Cloud Storage Optimization Service?

As your cloud storage needs grow, you may encounter performance bottlenecks. For instance, you might require greater storage elasticity during service peaks or faster AI model training as data and parameters increase. Industries operating across the Internet have even more demanding storage requirements, including performance, security, and usability. Nevertheless, configuring storage resources to optimize service support can be challenging.

To satisfy your storage needs in various situations, Huawei Cloud has introduced the Cloud Storage Optimization Service (CSOS). This service assesses your storage performance and offers optimization solutions to help you make the most of cloud storage while minimizing expenses.

4.2.2.1.2 What Services Does Cloud Storage Optimization Service Provide?

- **Cloud storage performance evaluation and optimization for large AI model training:** CSOS offers faster and more cost-effective solutions to address cloud storage bottlenecks during large AI model training.
- **Cloud storage performance evaluation and optimization:** CSOS offers performance evaluation and optimization solutions to address performance issues with cloud storage (EVS). For example, if you come from a medium- or large-sized enterprise, financial institution, or a government agency that suffers from a high local disk failure rate, we offer reliable, high-performance cloud storage solutions. If you work in industries such as video rendering and social media, CSOS can provide you with robust cloud storage to handle sudden bursts of traffic, batch provision resources, and to scale out storage.

4.2.2.1.3 What Are the Advantages of CSOS?

- **Large AI model training acceleration:** Three-level cache interworking for AI native storage accelerates data loading, model training, and fault backup and recovery.
- **Extensive experience in cloud storage performance evaluation:** A storage expert team has extensive experience handling complex scenarios. They can quickly and accurately identify storage performance bottlenecks.
- **Professional cloud storage performance optimization practices:** The storage expert team has helped customers from numerous industries migrate their data to Huawei Cloud, and they excel at resolving performance issues in complex service scenarios. With their extensive experience in optimizing performance, CSOS provides expert-level solutions and E2E technical support to help you enhance storage performance.
- **Ultimate storage performance:** Resources can be batch created and elastically scaled out in a cloud native environment. CSOS provides Gigabytes of bandwidth with just a few hundred milliseconds of latency, fulfilling your high-performance needs.
- **Spectacular user experience:** Huawei Cloud focuses on user experience and closely cooperate with customers to customize cloud storage performance

optimization solutions that meet their specific requirements. Throughout the service process, engineers align service objectives with customers for multiple times to ensure that they can receive satisfactory cloud storage evaluation and planning solutions. Additionally, Huawei Cloud provides professional technical support to help customers implement the solutions.

4.2.2.2 About Service Purchase

4.2.2.2.1 How Can I Place an Order?

You can place an order on the Huawei Cloud official website. For any questions, contact customer service.

4.2.2.2.2 Do I Need to Purchase Other Services Before Purchasing This Service?

You are advised to purchase Huawei Cloud storage services before purchasing this service.

To purchase an incremental package, you must purchase a basic package of this service first.

4.2.2.3 About Service Delivery

4.2.2.3.1 Can the Service Be Delivered Onsite?

If you come from regions in the Chinese mainland and have purchased the SFS Turbo Performance Evaluation and Optimization for Large AI Model Training - Basic Package or EVS Performance Evaluation and Optimization - Basic Package, a remote delivery is preferentially provided, and a consecutive onsite delivery of up to two person-days will be provided based on your project requirements. If you have purchased the SFS Turbo Performance Evaluation and Optimization for Large AI Model Training - Incremental Package or EVS Performance Evaluation and Optimization - Incremental Package, a remote delivery is preferentially provided, and a consecutive onsite delivery of up to one person-day will be provided based on your project requirements.

If you come from regions outside the Chinese mainland, this service can only be delivered remotely.

4.2.2.3.2 How Long Does the Delivery Take After an Order Is Placed?

The delivery cycle depends on the start time of delivery and customer requirements. Factors such as service volume and service complexity may affect the delivery.

4.2.2.3.3 What Are the Final Deliverables from CSOS?

- If you have purchased the SFS Turbo Performance Evaluation and Optimization for Large AI Model Training - Basic or Incremental Package, you will obtain the *Huawei Cloud Storage Solution Planning and Design for Large AI Models*, which includes the survey results of your service systems, storage performance evaluation, resource configuration suggestions, and detailed configuration guide.

- If you have purchased the EVS Performance Evaluation and Optimization - Basic or Incremental Package, you will obtain the *Huawei Cloud EVS Solution Planning and Design*, which includes the survey results of your service systems, storage performance evaluation, resource configuration suggestions, and detailed configuration guide.

4.2.3 Billing

This document describes the billing of Cloud Storage Optimization Service (CSOS), including billing items and modes.

Billing Items

Sub-service	Specifications	Billing Description	Unit Price (USD)	Unit
Cloud Storage Performance Evaluation and Optimization for Large AI Model Training	SFS Turbo Performance Evaluation and Optimization for Large AI Model Training - Basic Package	Scenarios: large AI model training and inference with a scale of less than 100 cards If you come from regions in the Chinese mainland, Huawei Cloud preferentially provides remote services, and the consecutive onsite services of up to two person-days will be provided based on your project requirements. If you come from regions outside the Chinese mainland, this service can only be delivered remotely.	75,600.00	Set

Sub-service	Specifications	Billing Description	Unit Price (USD)	Unit
	SFS Turbo Performance Evaluation and Optimization for Large AI Model Training - Incremental Package	<p>Scenarios: large AI model training and inference with a scale of less than 100 cards, and an incremental package is required.</p> <p>If you come from regions in the Chinese mainland, Huawei Cloud preferentially provides remote services, and the consecutive onsite services of up to one person-day will be provided based on your project requirements.</p> <p>If you come from regions outside the Chinese mainland, this service can only be delivered remotely.</p>	30,240.00	Set
Cloud Storage Performance Evaluation and Optimization	EVS Performance Evaluation and Optimization - Basic Package	<p>If you come from regions in the Chinese mainland, Huawei Cloud preferentially provides remote services, and the consecutive onsite services of up to two person-days will be provided based on your project requirements.</p> <p>If you come from regions outside the Chinese mainland, this service can only be delivered remotely.</p>	75,600.00	Set

Sub-service	Specifications	Billing Description	Unit Price (USD)	Unit
	EVS Performance Evaluation and Optimization - Incremental Package	If you come from regions in the Chinese mainland, Huawei Cloud preferentially provides remote services, and the consecutive onsite services of up to one person-day will be provided based on your project requirements. If you come from regions outside the Chinese mainland, this service can only be delivered remotely.	30,240.00	Set

 **NOTE**

- You can purchase an incremental package only after you have purchased a basic package of this service.
- **Unit Price** is intended for customers in Europe, South Africa, Brazil, and Middle East.

Billing Mode

All CSOS packages are purchased on a one-time basis.

Changing Configurations

Configurations of products in CSOS cannot be changed, and these products cannot be unsubscribed once being purchased. You should buy these products based on typical application scenarios and your service needs.

Renewals

CSOS is purchased on a one-time basis and cannot be renewed. To use the service after it has expired, purchase it again.

Expiration and Arrears

CSOS is purchased on a one-time basis and cannot be renewed. After the service expires, you can purchase it again as needed.