**Service Overview** 

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HUAWEI CLOUD COMPUTING TECHNOLOGIES CO., LTD.

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# What Is HaydnCSF?

Haydn Cloud Solution Factory (HaydnCSF) is a one-stop digital platform for solution full lifecycle management. It digitalizes objects, workflows, and rules to help partners and end users design, deploy, verify, deliver, and manage solutions online in a collaborative manner, accelerating solution monetization.

# Benefits

- 1. HaydnCSF provides you with **full lifecycle management of solutions as a service**.
- 2. HaydnCFS enables partners to create and develop cloud native partner solutions and helps partners to create value.

# Vision

With six built-in competence centers, HaydnCFS can enable efficient, intelligent, and reliable solution lifecycle management in six major scenarios.

# **2** HaydnCSF Advantages

# **Efficient Collaboration of Enterprises and Teams**

Enterprises and teams can collaborate effectively in the dedicated workspaces created. In a workspace, they can receive to-do tasks in real time, customize solutions, and verify BPM processes.

# Intelligent Architecture Recommendation

The open architecture template community continuously accumulates and shares architecture templates for industrial scenario-specific solutions, providing plentiful reference for solution design and improving the solution design efficiency.

# **Design Rule-based Real-Time Check**

The connectivity and quality of integrated paths are checked in real time based on design rules to ensure that the architecture design is optimal and the design can be implemented.

# **Intelligent Recommendation of Integrated Paths**

Integrated paths (1,000+) and next-hop cloud service diagram elements are recommended in real time to improve the solution design efficiency.

# **Automatic Application Orchestration and Deployment**

The cloud infrastructure and applications in the solutions can be orchestrated in a visualized manner and deployed easily, which greatly reduce the time required for resource provisioning and application deployment.

# **Automatic Generation of Configuration Lists**

Integrated architectures designed on HaydnCSF can use price calculators to quickly and accurately generate their configuration lists.

# **Architecture Export**

The architecture design can be exported as editable PowerPoint slides for communication and demonstration.

# **Architecture Sharing**

The architecture design can be shared via WeLink, email, and WeChat. You can view the architecture without login and reference it easily.

# **Five Types of Automatic Tests**

By integrating the Huawei Cloud automatic test framework, you can use HaydnCSF to automatically test and verify the solution functions, UI, performance, security, and APIs.

# **Automatic Generation of Test Reports**

Preset test report templates are available for use. Test reports can be generated and combined easily, saving your time for writing test reports.

# **Easy Reference of Solution Templates**

Solution templates can be used to generate delivery projects easily. Assets in the verification phase are reused in the delivery phase for efficient delivery.

# **Efficient Management of Implementation Jobs**

Delivery implementation jobs can be allocated, implemented, and managed online, so efficient delivery can be achieved across teams.

# **Unified Alarm Management**

Alarms reported to Cloud Eye, AOM, eSight, and Zabbix are all accessed to HaydnCFS for unified management.

# **Refined Shift Schedule Management**

Shift schedule is linked with O&M incident management, so alarms and events can be distributed to O&M personnel who are on duty.

# **Quick O&M Event Distribution**

Events can be automatically generated based on alarms or manually created by the O&M personnel. In addition, events are automatically distributed to on-duty personnel for handling.

# **O&M Event SLA Management**

SLA settings for O&M incident response and handling and SLA expiration notification are supported.

# **Experience in Solutions**

Continuously accumulated solution assets such as architecture templates and test case templates can be reused easily.

# **Customized Efficiency Analysis**

Enterprise administrators can customize solution design and verification efficiency so that solution construction and verification are controllable and manageable.

# **3** Application Scenarios

HaydnCSF is applicable for six scenarios, supported by the six capability centers: the Design Center, the Test Center, the Operations Center, the Delivery Center, the O&M Event Center, and the Solution Acceleration Field.

# **Solution Design**

You can design the technical and information architectures of scenario-based solutions in the Design Center. Features such as solution design process management, intelligent solution architecture recommendation, and automatic deployment architecture design are preset in the Design Center, which can greatly improve your design efficiency and quality.

# 1. A variety of aesthetics diagram elements

The Design Center presets the Huawei Cloud service diagram elements, such as standard, colorful, and emboss diagram elements. You can use the diagram elements for the architecture design.



Figure 3-1 HaydnCSF Design Center - diagram element types

# 2. Design rule-based real-time check

More than 1,000 design rules are preset in the Design Center. The integration path connectivity is checked in real time to ensure an optimal solution design.

- Real-time check of integration paths: Integration paths can be checked in real time based on preset design rules, and check results can be provided.
- Accumulation of design rules: The Huawei Cloud solution team and service product departments will keep accumulating design rules.
- Life cycle management of design rules: The operations team updates the latest design rules and removes expired rules in a timely manner.





# 3. Intelligent architecture recommendation

- Quick architecture creation: You can create solution architectures using blank templates, templates in the Solution Acceleration Field, existing architectures, and using the architecture generation wizard.
- Intelligent architecture recommendation: HaydnCSF can recommend the most suitable solution architecture to you based on the language you entered. You can reference the recommended architecture quickly.
- Architecture diagram element recommendation: You can enable diagram element recommendation.
- Massive solution architecture library: More than 600 architecture templates have been accumulated. You can release your solution architectures as templates for other users to view and reference.

**Figure 3-3** HaydnCSF Design Center - intelligent solution architecture recommendation





Integrated Architecture Design 39 (1600×900) •	Cloud Service Specification Configuration	● ◆   巳 ↓   110% ・	Q Q   𝔅 ← → IS	Auto Save Recommendation Path Description
		ROS Kr Nysa	Cloud Data Magration	Object S OBS Data Enablement OBS Hiv MSS Hiv RDS for MRS Hiv MRS Hiv RDS for MRS Him RDS for OBS COMPARENT CONTRACTOR CONTRACTOR MISTHE

# 4. Automatic generation of architecture configuration lists

- Generating configuration lists using graphical orchestration: The integrated architecture designed on HaydnCSF can use graphical orchestration to automatically generate their configuration lists of different specifications.
- Exporting configuration lists to Excel files: You can export generated configuration lists to Excel files.

### Figure 3-5

Integrated Architecture D	esign Cloud Service Spe	edification Configuration							
	* 🕀							130%	• Q Q   (Auto Same)
Object Storage Service Specification Conf	Update Specifications								
Cloud Service								1	<b>*</b>
Specifications	Object Storage	Service					Service Overview	Notes (?)	
Quantity	Region	EU-Dublin	AP-Singapore	CN-Hong Kong	CN East-Shanghai1	LA-Sao Paulo1			
Charging Mode Charging Period	AZ	General AZ							Cloud Data Migration Storage Service
Reference Price Description	Billing Mode	Yearly/Monthly	Pay-per-use						
	Product Type 🕥	Object storage							Hive MRS Hive
	Package Type	Standard single	e-AZ storage	Internet outbo	und traffic				
	Storage Space	40GB	100GB	500GB	1TB	2TB	5TB	10TB	
		20TB	50TB	100TB	200TB	300TB			
< Comparison of the second sec	Internet Outbound Traffic	50GB	100GB	1TB	10TB	30TB	50TB	100TB	
	Estimated Price \$2.85 USD							Save	

# 5. Automatic deployment and orchestration

Deployment Architecture Design Deployment and Commissioning

The Design Center integrates the CAM of Resource Formation Service (RFS). You can deploy, orchestrate, and commission common cloud services easily.

- Automatic deployment and architecture orchestration: You can deploy and orchestrate architectures that consist of common cloud services.
- Easy commissioning: You can commission and reclaim orchestrated architectures and verify these architectures on demand.

### edit Preview < 🔡 cam Designing 请输入关键字 Q × Elastic Cloud Server ECS 计算 Charging mode Elastic Cloud Server ECS Yearly/Monthly O Pay-per-use Bare Metal Server name 网络 ecs-d43f Virtual Private Cloud VPC Availability Zone cn-south-1c Subnet Specification C Pa Security Group ai1.2xlarge.4 8vCPUs 32GiB (IP) Elastic IP EIP Q Ab Dedicated Elastic Load Balance ELB ai1.2xlarge.4 8vCPUs 32GiB Shared Elastic Load Balance ELB ai1.4xlarge.4 16vCPUs 64GiB Virtual Private Network VPN ai1.8xlarge.4 32vCPUs 128GiB 88 . ai1.large.4 2vCPUs 8GiB Q Cloud Container Engine CCE E ai1.xlarge.4 4vCPUs 16GiB 数据库 ¢, C. Cloud Database GaussDB Password Key pair 0 Relational Database Service RDS 79.68 Price: ¥4,558/hours ⑦

# Figure 3-6 HaydnCSF Design Center - automatic deployment

# 6. Identifying different deployment environments

The automatic deployment of the Design Center can identify different deployment environments. As shown in the following figure, the source deployment environment is Huawei Cloud and the target deployment environments are Huawei Cloud Stack and HCS Online. The system compares the resource differences between the source and target environments and gives suggestions on verification policies. **Figure 3-7** Identification of different deployment environments - differentiation details

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**Figure 3-8** Identification of different deployment environments - evaluation conclusion

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		.)	Adaptation to Multiple Deployment Environments for	One Verification		
			Verification Policy	Based on the c	current deployment architecture HC HCS / HCSO	
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# 7. Architecture Sharing and Export

The Design Center allows you to share designed architectures through WeLink, email, and WeChat and export these architectures to PowerPoint files.

- Sharing architectures through WeLink: You can scan the QR code in WeLink to share designed architectures with WeLink contacts and groups or to share with WeChat contacts and groups. You can view the shared architectures without login.
- Sharing architectures through WeChat: You can scan the QR code in WeChat to share designed architectures to WeChat contacts and groups and view these architectures without login.
- Sharing architectures by email: You can share designed architectures by sending emails and view these architectures without login.
- Exporting architectures to PowerPoint files: You can export the designed integrated architectures and deployment architectures to PowerPoint files with just one click.



Figure 3-10 HaydnCSF Design Center - exporting architectures to PowerPoint

Figure 3-9 HaydnCSF Design Center - architecture sharing



# 8. Easy reference of solutions

You can view the shared architectures without logging in to HaydnCSF. The architecture can be referenced to a specified workspace with one click.

- One-click reference: You can reference the solution architecture to the default solution in the quick startup design workspace and design your architecture without creating a workspace or solution.
- Reference to designated workspace: You can select a specified workspace and solution, and modify the architecture name to refer the architecture to the specified workspace and solution.



Figure 3-11 HaydnCSF - quick solution reference

# **Baseline Verification**

The Test Center provides features such as verification process management, automatic test, requirement management, one-click reference of test case templates, verification issue management, one-click report generation, and verification asset sharing. It can greatly improve the baseline verification efficiency of Huawei- and partner-led verification.

# 1. Solution verification process management

- Flexible verification process: Standard Huawei- and partner-led baseline building processes are preset on the baseline building workbench. You can orchestrate and apply your baseline building workflows.
- Collaborative verification of enterprises and users: Architects, test engineers, and project managers from different enterprises can cooperate on the verification process. Collaboration modes, such as partner verification partner review and partner verification Huawei review are provided.
- Instant task notification: You can be notified of to-do tasks in real time through platform notifications and emails.

# 2. Automatic test

- Automatic function (including UI) test: The Python-based automatic function test framework, Selenium-based automatic UI test, and automatic test case template loading are supported.
- Automatic API test: Automatic API test and continuous integration test based on drag-and-drop orchestration are supported.
- Automatic performance test: By interworking with CodeArts PerfTest (PerfTest for short, formerly CPTS), the automatic performance test is supported. Verification based on a combination of metrics such as request success rate, RT, and RPS is supported.

3			
Case Management			1 Back to the old version
Case List Cases Details ×			~
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Successful 2022-8-23	Test Procedure Preparations Followups	Detailed Log	
Executing duration 0ms	Test Log: 5444cbea-affa-4cf0-9546-3f109b3ff549-attachment.log	Test Name: step1	
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Total Records: 1 < 1/1 v	atan) a Dunamatal	Start Time: 2022-09-23 19:21:48 GMT+08:00	
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		duration:	
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Figure 3-12 HaydnCSF Test Center - automatic function test



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	Total Records: 6 🤇	1/2 •	<pre>[/home/jenkins/agent/workspace/j_J2blplD0/cloudtest/testcase/8890582304f946a9ba2c92294fec766d/entry.py:31]</pre>		

Figure 3-14 HaydnCSF Test Center - automatic performance test

Case Management				1 Back to the old ve	ersion
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Total Records: 1 < 1/1 × >	Download Report • update	Report View Details			• Sync	
	File name: demos-Haydn-jar.jar					
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Figure 3-15 HaydnCSF Test Center - automatic security test

# 3. Verification issue management

- Cooperation on issue closure: Verification issues can be handled by users in the workspace collaboratively. The handling process includes submission, locating, fixing, acceptance, and closure. Huawei, partners, and end users can collaborate in the space.
- Issue handling report: Issue closure reports are provided for you to know about issue closure status. You can label issues for classification and analysis.

# Figure 3-16 HaydnCSF Test Center - issue management



# 4. Tools and sample code

The Huawei Cloud verification team continuously accumulates self-developed tools and sample code during solution design and verification. Partners can quickly pre-integrate and verify specified cloud services by using the tools and sample code.

### 

# Figure 3-17 HaydnCSF Solution Acceleration Field - tools and sample code

# **Certification Test**

The Design Center, Test Center, and Solution Acceleration Field help partners to quickly complete joint operations certification tests based on the certification standards and requirements. After the test reports are approved by the Huawei Cloud certification test team, partners can release joint operations products.

HaydnCSF has integrated the developer application building certification test and test case templates for you to complete the certification test.

# 1. Automatic generation of test cases for joint operations

The performance, security, reliability, and service control certification templates for joint operations products have been released to the Solution Acceleration Field. You can create joint operations certification tests and test cases based on these templates within 10 minutes.

- Loading requirements from templates: You can load the released joint operations certification test requirement templates on HaydnCSF.
- Wizard-based requirement and test case generation: When creating a requirement template, you need to upload your function list, select a reliability level, and provide an integration path description as instructed by HaydnCSF. Then, the system will automatically create a joint operations certification test template and test cases for you.

# **NOTE**

When you reference requirements by directly loading requirements from templates or generating requirements and test cases using the wizard, HaydnCSF will load the referenced requirements and test cases contained in the requirements (for example, the security test of the joint certification test contains manual security test cases and automatic test cases). After the requirements are created, you can view the test cases in the test case management module.

st Requirement Test Requirement Name	ution Information (2) Verification Policy	3 Test Requirements	— ④ Plan development	
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Figure 3-18 Loading requirements from templates



Requirements Management / New Test Requirement			
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Test Requirement	Wizard-based		×
Test Requirement Name     Requirements for start and end time     Start Da	Generating Function Cases	Cases	③ Generating Integration Cases
Load From Template Wizard-based	Function Cases Upload Download Function Cases Template Max 1 .xls or .xlsx file not exceeding 50 MB		
No. * Test Requirement Type	Ensure that the attachment does not contain: 1. Non-public Software or tools that are not authorized by the right holder	information assets (including but not limited to key source code, faulty code, a ; 3. RMS encrypted file.	nd full set of product/platform source code); 2.
		Next	

# 2. Solution practices

- Synchronization of solution best practices: Huawei Cloud solution practices and best practices of each service are synchronized to HaydnCSF for quick search.
- Sample code and architecture templates: The sample code and architecture templates of the best practices are released to the Acceleration Field.
- Real-time recommendation of best practices: During solution design, best practices can be accurately recommended. You can reference templates associated with best practices directly.



# **Project PoC**

The Design Center, Test Center, and Solution Acceleration Field help partners to customize the PoC process and collaborate with enterprises and organizations to complete solution PoC.

# 1. One-click generation of test reports

- Report generation: During test case execution, test reports can be generated, downloaded, and previewed at any time. You do not need to write reports manually.
- Report combination: Test reports of the same solution can be combined into one for export.
- Report countersign review: Test reports can be submitted to users in the workspace for countersigning and review to ensure that the test results are reliable.

# Figure 3-21 One-click generation of test reports



# 2. Architecture template

 Abundant architecture templates: The Huawei Cloud solution team has accumulated more than 600 reference architecture templates, covering more than 150 solution scenarios. Partners can release the architecture of a verified joint solution to the Solution Acceleration Field. The architecture can be searched and referenced by Huawei Cloud frontline personnel, partners' architects, and end users' architects.

 Reference by the Design Center: Architecture templates have been associated with the Design Center. The Design Center can recommend architecture templates by industries and scenarios through intelligent algorithms. Architects can find reference architectures quickly.

# Figure 3-22 HaydnCSF Test Center - architecture templates

Hayo Se	dnCSF Solution Digital Platfo olution Acceleration Farm	Architecture Template Enter knywords. Q	My Release History
Template Type Environments Applicable Industries Applicable Scenario	Al Full Architecture Template     Al Huave Cloud Huave     Al General industry Ret:     Construction-Rel estate IT serv     Al Construction-Rel estate IT serv     Al Construction-Rel estate IT serv     Al Cond-edge collaboration     HANA cloud-edge collaboration	Bub-scenario Achtecture Templane er Cloud Stack Huavei Cloud Stack Online Intelligent Egystile (ES) all Internet Maavei Cloud Stack Online Intelligent Egystile (ES) all Internet Maavei Cloud Stack Online Intelligent Egystile (ES) cloud Gene Service Indontry Construction materials Chemical Industry Big data Insurance Smart campus Data Migration Al Redundancy Disaster recovery SAP Network acceleration Data Integration Migration to the cloud Data and Data Internet Gene Service Indontry Retail Data disaster recovery SAP Network acceleration Data Integration Migration to the cloud Data and Data Integrate Service Indon	More industries •
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# 3. Test case templates

Common test cases for different scenarios can be abstracted as test case templates, which can be quickly reused in similar scenarios to greatly improve the efficiency of the case design and execution. There are manual and automatic test case templates, and standard test case template sets released for scenarios such as joint operations and developer application building.

- Test case templates: Common test cases for different scenarios can be abstracted as test case templates. This is also applicable to templates of manual test cases.
- Quick reference of test case templates: Currently, automatic test cases of IMC integration, standard test cases of jointly operations product certification, and test cases of developer application building certification have been released as test case templates for partners to design test cases quickly.

Figure 3-23 HaydnCSF Solutions Acceleration Field - test case templates

HaydnC:	SF Solution Digital Platform Test Case Template Please order a case benefative name Q	My Release History
plicable Industries	AN General industry Retail Manufacturing Finance Healthcare Education Industry cloud Digital government IT services Agriculture, forestry, anima Transportation Scientific research Construction/Real estate Internet Software development an Logistics Software Professional services Other Computer hardware and n	More Industries •
plicable Scenario	Data enable         Data integration         General Data Enablement         IT data into the lake         IT ADT data convergence         Universal         Function test         ITSOT data into universal           HUMVEI CLOUD Stack         Interface automation         Integration vertication test         Intermodal Safety Centrica         Fettles soil cloud oreation         HUMVEI CLOUD Open C           ICP security         ETL         Use Fliek SQL to increme         General Data Enable         Universal Data Enableme         Test Case	More Scenes
omprehensive Sorting	1 Latest Release Most References My Concerns	
Featured [Cloud ]	nnovation Certification] Function and Integration Test Case Haydn Import Template 8e38154	195d704c919c39e92a68246a04 🗇
[Cloud Innovation Ce	tification Function and integration test case Haydn import template, Help partners improve self-test efficiency. PS: Function and integration test cases need to be updated based on the actual solution.	Delection Terrs 2022 00 45
Applicable Industries: Applicable Scenario	we Some incline Control         Autom means         64/51/21/2           Apriculture, forestry, aminah husbandry, and fishery         Image: Autom means         64/51/21/2           Fertile soil cloud creat         (HUAWEI CLOUD Open)         63         3	Kelleesing Time 2022 - 06 - 15
Featured Self-bui	t High-Level Cloud Service HA Test Case Template V1.0 d94e95/	3297ad4a82a21f893914739ab1 🗖
The reliability checkle security services) De	at and reliability verification cases have been executed. The reliability test requirements are as follows: (1) Deploy the HA test environment based on the reliability checklist (SaaS and independent deploym sign reliability test cases based on the reliability checklist to test the high availability of services at each fault point.	ent). (HA of data, HA of applications, and
Enterprise Name:She	Author Huwei Cloud Computing Technology Co., Ltd. Author Highhong LJ Jinhong - Associate Certified Test Engineer	Releasing Time:2023 - 02 - 17
Applicable Industries	Retail Finance Healthcare Scientific research	

Figure 3-24 Loading a test case template

Haydn	Case Management					
HaydnCSF	Test Requirements Common Test Cases	s Case List				
- Ę	Requir • Search by requiren Q	Manual Tes Functio	on Automation API Automa	ation Performance Auton	nation <sup>6</sup> Safety Automation <sup>3</sup>	Case Oven
Workspace Management	- •	Create Import	More 🔺			
Design Center	Function Test	No. Delete	Case Name	C 7 Requirements	Review Status 77 Executing S	Ƴ Test Resu
Test Center 🔺	+ Security Test		sing Template		Test case de     Pending	
Requirements	+ Reliability Test	2 Release	sing History		Test case de     Pending	
Plans	+ Integration Test	Export	t		Test case de     Pending	
Casas	+ •	Batch	Сору		• rest case de • r enang	
Cases	(+) ●	4 View E	Execution		Test case de	

# **Solution Delivery**

In HaydnCSF Delivery Center, you can implement project data governance, including designing and deploying governance solutions, implementing governance, releasing your projects, transferring projects to maintenance status, and summarizing projects. This reduces delivery costs and improves efficiency by 50%.

# 1. Requirement analysis

Features such as 4A architecture design, data source exploration, and data lake list generation, help you analyze your requirements.

# 2. A variety of delivery implementation jobs

Implementation jobs relating to batch generation of Cloud Data Migration (CDM) jobs, infrastructure deployment, data governance, and quality check are supported. The data governance implementation efficiency meets the requirements of various delivery scenarios such as professional services, solutions, and migration.

(iupin)	Implementation management / Implementation delivery							
HaydnCSF	Implementation management Jobs							
澤	implement job DataArts Studio CDM Infrastructure Deployr	nent Implementation Quality Chec	k					
Workspace Management	Enter a keyword. Q	DataArts Studio Naming F	ule Check (Job Naming)					
Delivery Center 🔹		Naming	Definition	Stan	dard ⑦	Example	Opera	tion
Projects	Data Model Design     Table Naming Rule Check			batch	_(minutely/hourly/daily/weekly	/mon batch_minutely_fina	ance Edit	
Plans	Additional Field Rule Check			real	time_{kafka/dis}_(business_in	fo) real_time_kafka_fin	ance Edit	
Requirements Solution Design	Data Consistency Check Between Sou     Table Records	Monitored Objects +Monit	ored Objects					
Implementation	Table Fields Table Contents	region	IAM Project	DataArts Studio Instance	DataArts S	tudio Workspace	Naming	Operation
Cases	<ul> <li>DataArts Studio Naming Rule Check</li> <li>Job Naming</li> </ul>	CN South-Guangzhou	< 1 >	DAYU-smartcampus	dgc-aedem	2	我起 <b>想</b> 作业, 实际处理作业	Delete   Edit   Executing
Reports	<ul> <li>Node Naming</li> <li>Script Naming</li> </ul>	Check Results						
Project Online	Environment Variable Naming	region	DataArts Studio Insta.	. DataArts Studio Wor	Result 7	Details	Tim	e
Project Maintance	Data Connection Naming Script Rule Detection	CN South-Guangzhou	DAYU-smartcampus	dgc-ædemo	Not passed	theck failed. P	Name check failed 202	3/05/05 19:07:17 GMT+08:00
Project Summarize	DataArts Studio Job Monitoring	10 • Total Records: 1	< 1 >					

Figure 3-25 Synchronizing ETL mapping

Implementation management	Jobs					
implement job DataArts Studio CDM Infrastr	ructure Deployment Imple	mentation Quality Check				
DataArts Studio +DataArts Studio						
region	IAM Project	DataArts Studio Instance		DataArts Studio Workspace	Operation	
CN South-Guangzhou	cn-south-1	DAYU-smartcampus		retail_practice_renjinmei	View Instance   Edit   Delete   Sync ETL Mapping	
Metric Information		Sync ETL Mapping			×	
Name					Progress of implementation	
		* Job Name			Completed	
		Associate Requirement -Select-	*		Completed	
		* ETL Mapping DataArts	Studio Dire ⑦ * Connection	Database		
			dayu_dii_reta	il_renj •	Completed	
			(H) Add		Completed	
			• Add		Completed	
			OK Cancel		Completed	

# 3. **One-click generation of acceptance reports**

Acceptance reports can be generated in one click. Test engineers do not need to write acceptance reports.



**Figure 3-26** One-click generation of acceptance reports

# **O&M Event Management**

HaydnCSF O&M Center is a one-stop O&M digital platform providing various monitoring capabilities, powerful alarm noise reduction, reliable notifications, flexible event conversion, and ITIL-based event SLA management.

# 1. Unified management of alarms from seven sources

Seven alarm sources (Cloud Eye, Zabbix, eSight, AOM, Prometheus, Grafana and SkyWalking) are managed in a unified manner by service. Alarms of infrastructure and applications can be viewed on one page.

# Figure 3-27 Alarm management

(Pares)	Business Config / Integration Co	onfiguration					
HaydnCSF	+ Create						Configuration Na • Enter a keyword. Q
	Configuration Name	Monitoring Source	Status	Project	Service	Creator	Modified JE Operation
Hayd	xx	AOM	Disable	Haydn		nui.	2023/04/20 10:46:00 GMT+08:00 Edit   More +
Overview	es	ESIGHT	Enabled	Haydn		an	2023/01/17 10.48:23 GMT+08:00 Edit   More +
Alarm Monitoring •	Zŧ	ZABBIX	Disable	Haydn		an	2023/01/17 10:47:54 GMT+08:00 Edit   More +
Business Config 🔺	Ac	AOM	Enabled	Haydn		ân	2023/01/17 10:47:38 GMT+08:00 Edit   More +
Projects	a	CES	Disable	Haydn		эл	2023/01/16 10:44:56 GMT+08:00 Edit   More +
Services	10 • Total Records.	5 < 1 >					
Integration Configuration							
Transfer Rules							
SLAS							

# 2. Automatic event generation

Transfer rules can be configured for alarms to be automatically converted to events.

# 3. Refined shift schedule of O&M personnel

Each service supports quick shift schedule and refined shift schedule. Event tickets can be automatically allocated to O&M engineers based on the shift schedule.

# 4. Multi-channel notifications of O&M events

O&M events can be sent to on-duty engineers through multiple channels, such as emails, SMS messages, and group messages of DingTalk, WeCom, or WeLink.

Figure 3-28 Multi-channel collaborative processing of O&M events

User Manage / User Groups / Enable Mobile App		
If you exit during the process, start from the first steep	p again.	
Welink	<b>Talk</b> WeChat	
<ul> <li>Register an account.</li> </ul>	1. Register an acco	punt.
Create an enterprise, organization	or team.	
<ul> <li>Log in to the DingTalk client, create members.</li> </ul>	e a group chat, and add	Reserved.
Add a chatbot to the group chat or	a PC.	+86 ∨
		注册

# 5. **Refined SLA management**

SLAs of O&M events are controllable and manageable. You can configure SLAs for each service based on event response and handling. If an SLA expires, the notification can be sent by IM groups, emails, and SMS messages.

## Figure 3-29 Refined SLA management

Set SLA Management Policy + Add SLA Management Rule

SLA Management Rule	P1	0	•	0					
Event Response SLA	•	30	minutes	fukun 💿 👻	-Select-Notification	*	Group Notification (?)	Notification Group (M	• Ū
Event Response SLA	*	Response Time	minutes	Timeout Notification O •	sms		Group Notification (?)	Notification Group (M	• Ū +
					email				

# **4** Constraints

HaydnCSF uses the Huawei Cloud account authentication system. You can use HaydnCSF as long as you have a Huawei Cloud account. Some functions require real-name authentication.

# **Real-Name Authentication**

More than 1,000 design rules are preset in the Design Center. The integration path connectivity is checked in real time to ensure the optimal solution design. Real-name authentication must be completed before you can try these design rules. For details, see **Real-Name Authentication**.

You can use other functions without real-name authentication.

# **5** Billing

- 1. HaydnCFS is charged based on the actual use.
- 2. The cloud service resources you created for application deployment and verification on HaydnCSF need to be paid in addition to the HaydnCFS fee.

# 6 Permissions

# HaydnCSF Enterprise Administrator Permissions

Identity and Access Management (IAM) allows you to create IAM users for employees and colleagues. IAM users do not have any permissions by default. You need to grant permissions to them on the IAM console.

The HaydnCSF enterprise administrator can manage their IAM users of on the User Management page of the Operations Center. To manage IAM users, an enterprise administrator account must have the Security Administrator permission. Accounts with this permission are also IAM administrator accounts.

Role	Description	Туре	Dependen cies
Security Administor	Full permissions on IAM (except for switching roles). A HaydnCSF enterprise administrator with this permission can add IAM users as HaydnCSF users.	System- defined roles	None

 Table 6-1 HaydnCSF enterprise administrator permissions

# **NOTE**

You do not need to configure the Security Administrator permission in the following scenarios:

- Your account is registered or created on Huawei Cloud.
- Your account has all permissions (the admin permission).
- Your account is a common HaydnCSF user and does not need to manage the permissions of enterprise users on HaydnCSF.

# HaydnCSF User Access Permission

If you need to set different access permissions for HaydnCSF users in your enterprise, you can use the enterprise administrator role to grant refined

permissions through user management and set different roles for enterprise users based on their capabilities. A HaydnCSF user can have multiple roles. You can also set the permissions of a user in a specified workspace when inviting the user to join the workspace.

# • Roles on the HaydnCSF platform:

There are two types of users on HaydnCSF: enterprise administrators and common users. Enterprise administrators can use the Operations Center, while common users cannot.

- Enterprise administrators can use the Operations Center to manage the users of the enterprise, view reports of the enterprise, and analyze verification efficiency. Only HaydnCSF enterprise administrators can use the Operations Center.
- Common users are people in different positions of your enterprise, for example, project managers, architects, and test engineers.

# • Roles in the HaydnCSF standard workspace:

Standard workspaces are isolated from each other. A user can have different roles in different workspaces.

- Administrator: The administrator of a workspace. An administrator can manage users in the workspace.
- Project manager: A project manager can manage a workspace and the users in the workspace, make test plans, and review solutions, requirements, test cases and reports.
- Architect: An architect registers, designs, and reviews solutions, creates test requirements, and handles test issues on HaydnCSF.
- Test engineer: A test engineer designs and performs test cases, creates test resources, handles test issues, provides test reports, and reviews requirements, test cases, and reports.
- Visitor: A visitor can view a workspace but cannot perform any operations in the workspace. You can assign the visitor the role to a user when inviting them into the workspace.

# • Roles in the HaydnCSF delivery workspace:

Delivery workspaces are isolated from each other. A user can have different roles in different workspaces.

- Administrator: The administrator of a workspace. An administrator can manage users in the workspace.
- Project manager: A project manager manages users, creates projects, reviews reports, release projects, transfers projects to maintenance, and summarizes projects.
- Architect: An architect analyzes project requirements and designs technical and information architectures.
- Technical director: A technical director reviews project requirements, solutions, test cases, implementation jobs, and reports.
- Service representative: A service representative reviews project reports and transfers projects to maintenance.
- Test engineer: A test engineer designs and performs project test cases.
- Development engineer: A development engineer implements delivery jobs of projects.

# • Roles in the HaydnCSF O&M workspace:

O&M workspaces are isolated from each other. A user can have different roles in different workspaces.

- Customer policy: a project-level policy, which allows users to create and view event tickets.
- O&M engineer policy: a service-level policy, which allows users to add integration configurations, create transfer rules, and handle event tickets.
- O&M administrator policy: a project-level policy, which allows users to add services, add integration configurations, create transfer rules, create SLA rules, and create O&M user groups.

Funct	ional Module	Administr ator	Project Manager	Architec t	Test Enginee r	Visitor
Wor kspa ce man age men t	Adding and removing members	√	√	×	×	×
Desi gn	Registering solutions	×	×	$\checkmark$	×	×
er	Designing solution architectures	×	×	$\checkmark$	×	×
	Reviewing solutions	×	~	$\checkmark$	×	×
	Quickly starting solution design	×	×	$\checkmark$	×	×
Test Cent	Creating test requirements	×	$\checkmark$	$\checkmark$	$\checkmark$	×
er	Making test plans	×	~	×	$\checkmark$	×
	Designing × test cases		×	×	$\checkmark$	×
	Executing × test cases		×	×	$\checkmark$	×
	Creating resources	×	$\checkmark$	$\checkmark$	$\checkmark$	×

# Table 6-2 Permissions of roles in the HaydnCSF standard workspace

Functional Module		Administr ator	Project Manager	Architec t	Test Enginee r	Visitor
	Managing issues	×	$\checkmark$	$\checkmark$	$\checkmark$	×
	Generating reports	×	×	×	$\checkmark$	×
	Countersigni ng reports	×	$\checkmark$	$\checkmark$	$\checkmark$	×
Solu tion	Releasing solutions	×	×	$\checkmark$	×	×
Acce lerat ion Fiel d	Releasing architecture templates	×	×	$\checkmark$	×	×
	Releasing test case templates	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	×

# **Automatic Performance Test Permissions**

PerfTest is integrated to HaydnCSF to allow you to perform automatic performance tests. For details about PerfTest, see **What Is CodeArts PerfTest?** 

If you want to perform automatic performance tests on HaydnCSF, you need to configure a PerfTest agency and assign the PerfTest permissions to IAM users who perform the tests.

• PerfTest agency

HaydnCSF requires your authorization before you can use PerfTest to manage test resources for automatic performance tests. HaydnCSF will display a dialog box when you use PerfTest. Click OK to complete the authorization. You do not need to manually create an agency.

Role	Description	Туре	Depende ncies
ServiceStage Administrator	Users granted these permissions can perform all operations on test resources of all users in PerfTest, such as adding, deleting, modifying, and querying test resources.	System- defined role	None

 Table 6-3 PerfTest agency

## Figure 6-1 PerfTest authorization

Hayda	Case Management		1 Back to the old version
HaydnCSF	Test Requirements Common Test Cases Case List		Process History
Ę	Requir   Search by requiren Q Manual Tes Function Automation API Automation API Automation	ation Performance Automatio Safety Automation Case Overview Case Recycle Bin	
Workspace Management	•		
Design Center	Function Test     Ferformance Test	Are you sure you agree to grant the authorization to	
Test Center 🔹	Security Test	the mayone SF solution digital platform?	
Requirements	Reliability Test	The HaydriCSP solution digital platform requires you to authorize us to use the CPTS service to perform test resource management for automated performance testing.	
Plans	+ Integration Test	<ul> <li>Detected you do not have Security Administrator privileges and need to send this link to the administrator for authorization.</li> </ul>	
Cases	+ •	Permission Details	
Resources		Permission Name Description	
Issues	<	ServiceStage Administrator ServiceStage administrator, who has full permiss	
Reports		The HaydnCSF Solution Digital Platform will only manipulate resources that you create	
Sharing Center	<	with the HaydridSE Solution Digital Platform (including CPTS website project creation, task creation, task execution, and performance report analysis), nothing will be done on your other resources.	
		OK Cancel	

# • PerfTest permissions

By default, new IAM users do not have any permissions assigned. You need to add a user to one or more groups, and attach permissions policies or roles to these groups. The users then inherit permissions from the groups and can perform specified operations on cloud services based on the permissions they have been assigned.

If your IAM users need to use PerfTest, you need to grant the PerfTest access permission for them.

Role	Description	Туре	Depende ncies
ServiceStage Administrator	Users granted these permissions can perform all operations on test resources of all users in PerfTest, such as adding, deleting, modifying, and querying test resources.	System- defined role	None

## Table 6-4 PerfTest permissions

# **7** HaydnCFS Concepts

# Workspaces

The workspace is the entry and workbench for solution design and verification. The workspace includes members who participate in the solution design and verification and provides operation entries to each center. The workspace supports access control. Only members in the workspace can access and participate in solutions in the workspace.

- Standard workspace: You can design and verify solutions in a standard workspace. The solution verification includes baseline building, user-defined verification, and certification tests.
- Delivery workspace: You can create a delivery workspace for a solution in the delivery phase. In the delivery workspace, you can design solutions, manage projects, implement projects, and transfer projects to maintenance.
- O&M workspace: After a project is transferred to maintenance, you can create an O&M workspace. In the O&M workspace, you can manage alarm sources, O&M event tickets, and SLAs.

# **Architecture Templates**

Architecture templates provide solution design reference. They include the integrated architecture templates and deployment architecture templates. You can quickly complete the solution design by searching and referencing architecture templates by industry and scenario.

# **Test Case Templates**

Test case templates provide reference for designing and executing test cases. You can quickly design and execute the test cases by searching and referencing manual and automatic test cases.

# **Design Rules**

Design rules provide verified integration paths and those recommended by Huawei Cloud. Design rules have been preset in the design engine of the Design Center. Integration paths you designed can be checked in real time and check results will be provided to ensure the optimal solution.

# **Tool & Sample Code Sharing**

Tool & sample code sharing provides reference tools and sample code for solution pre-integration and verification.

# **8** HaydnCSF and Other Services

# IAM

HaydnCSF uses Huawei Cloud IAM, which enables you to easily manage users and control their access to Huawei Cloud services and resources. For more information about IAM, see **What Is IAM**?

# CodeArtsTestPlan

CodeArts TestPlan is a one-stop test management platform that covers the entire test process from planning to design, cases, execution, and evaluation. Take advantage of Huawei's years of high-quality software test engineering methods and practices to carry out collaborative, efficient, and trustworthy test activities for your product release.

CodeArts TestPlan is integrated into HaydnCSF to provide you with automatic test capabilities. For more information about CodeArts TestPlan, see What Is CodeArts TestPlan?

# **CodeArts PerfTest**

PerfTest provides performance tests for cloud applications using HLS, RTMP, WebSocket, HTTP-FLV, HTTP, HTTPS, TCP, or UDP, and support distributed pressure tests. CodeArts PerfTest simplifies performance pressure tests, helps you focus on services and performance problems, reduces costs, improves stability, optimizes user experience, and maximizes the business value of enterprises.

PerfTest is integrated to HaydnCSF to provide you with high-concurrency performance test capabilities. For more information about CodeArts PerfTest, see What Is CodeArts PerfTest?

# RFS

Resource Formation Service (RFS) is a new final-state orchestration engine from AOS and fully supports Terraform (HCL and Provider). It focuses on automatically building Huawei Cloud resources in batches, helps you create, manage, and upgrade required resources in a secure and consistent manner, improving resource management efficiency and reducing security risks caused by resource management changes.

RFS is integrated into HaydnCSF to provide you with the automatic orchestration and one-click deployment capabilities of solution architectures. For more information about RFS, see **What Is RFS**?