Huawei Cloud Astro Canvas

Service Overview

Issue 01

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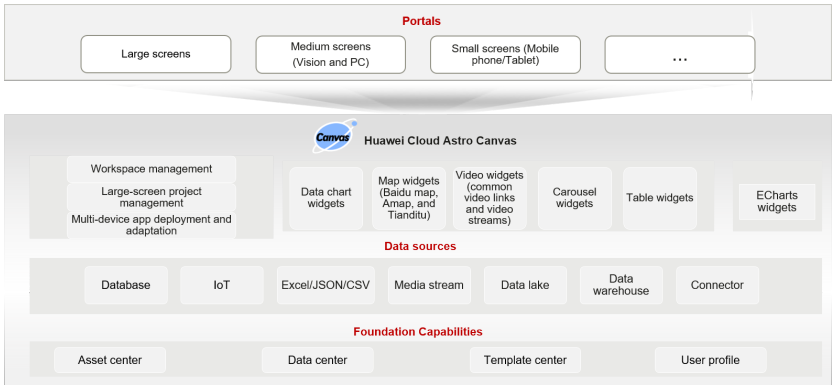
Contents

1 What Is Huawei Cloud Astro Canvas?

Huawei Cloud Astro Canvas, centering on data visualization, can be adapted and orchestrated, helping every developer easily build professional visual apps on the GUI. These apps meet the needs of one-stop real-time data visualization display on a large screen in various scenarios, such as project operations management, service monitoring, and risk warning.

Figure 1-1 Huawei Cloud Astro Canvas overview



Why Huawei Cloud Astro Canvas?

- Various data access modes; cards saved in large-screen asset center for quick adjustment and reuse
- Organizational divisions configured under one tenant, isolation by group permission, and large screens managed in separate workspaces
- 400+ widgets, all customizable for data display, with quick, easy layout tweaks
- Preset templates and best practices for building large screens, visualizing data, and digital operations
- Preset interaction events and actions for diverse widget delivery scenarios without needing coding; widgets are extendable for complex page interactions
- Reusable, collaborative screens for all sizes across projects

For details, see **Advantages** and **Application Scenarios**.

2 Advantages

Huawei Cloud Astro Canvas boasts the following advantages:

Large-Screen Asset Data Service Interconnection for Easy Access and Reuse

Function Description

Various data access modes; cards saved in large-screen asset center for quick adjustment and reuse

Advantages

- Rich data sources: 10+ preset data sources
- Easy data access with 3 steps: selecting data source/set, previewing data, and selecting data interconnection widgets
- Cards: Flexible indicator data access widget

Streamlined Teamwork with Permission Control, Workspace Isolation, and Asset Sharing

Function Description

Organizational divisions configured under one tenant, isolation by group permission, and large screens managed in separate workspaces

Advantages

- Large screens managed by workspace, protecting projects and data from being tampered
- Cross-workspace asset sharing for pages
- Preset workspace roles: administrator, developer, data analyst, data engineer, and visitor

Flexible Layouts with Easy Widgets

Function Description

400+ widgets, all customizable for data display, with quick, easy layout tweaks

Advantages

- More widgets: Charts, maps, videos, 2D/3D engines, and ECharts
- Custom widgets: Custom widgets and matching scaffolds for secondary development
- Quick configurations: Widget alignment and proportional dragging, shortcut keys for configuration, and flexible layout calibration

Rich Templates

Function Description

Preset templates and best practices for building large screens, visualizing data, and digital operations

Advantages

- Rich templates: For sectors like government affairs, traffic, and electric power, and scenarios including data analysis, device monitoring, environment monitoring, and product showcases
- Template customization: Personalization, sharing, and reuse of best practices
- Project templates: One-click creation of template sets for large screens

Tangible Ideas with 100+ Widget Interactions

Function Description

Preset interaction events and actions for diverse widget delivery scenarios without needing coding; widgets are extendable for complex page interactions

Advantages

- Smoother switching: Diverse visualization, flexible switching
- Better effects: Clear data flows
- Easy interactions: Standard ones with low-code, and custom ones in two steps

Multi-screen collaboration enables consistent experience

Function Description

Reusable, collaborative screens for all sizes across projects

Advantages

- Unified experience: Large, medium, and small screens support card construction and standard design
- Seamless multi-screen collaboration: Preset cards and unified background services

  Abstract industry common capabilities: Combining industry scenarios and common capabilities (cards + templates)
- Private cloud deployment: Integrated design and operation

3 Application Scenarios

Smart City

Large screens in smart cities display real-time data like traffic flow, pollution levels, and energy consumption. This helps managers monitor city operations and make informed decisions, enhancing efficiency and quality of life for residents.

Figure 3-1 Smart city of city S

Industrial Manufacturing

In industrial manufacturing, large screens display real-time data on production line status, device alarms, and efficiency. This helps managers monitor and analyze the production process, quickly detect and resolve issues, and improve efficiency and product quality.

Figure 3-2 Field operation large screen

Presentation and Report

Large screens display key data such as project progress, performance metrics, and budget execution, helping meeting participants quickly grasp information and make better decisions. Data visualization also makes reporting more engaging and improves communication efficiency.

Figure 3-3 Large screen for reseller' investment

Operations Data Analysis

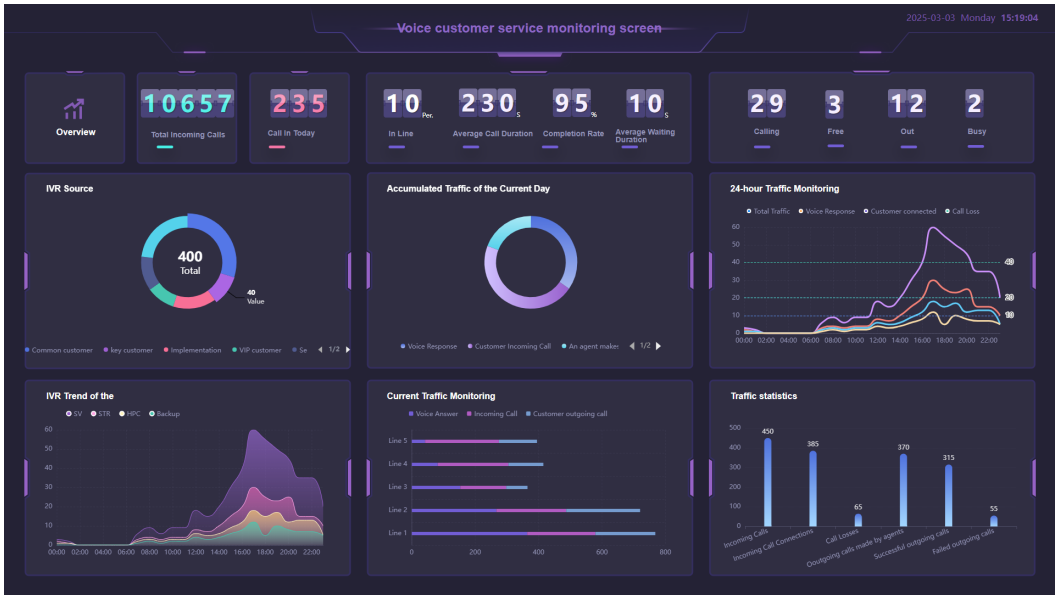
Large screens display key data such as service operations, market trends, and user behavior, helping decision-makers quickly understand complex data and make accurate decisions. This enhances enterprise competitiveness and strategic flexibility.

Figure 3-4 Marketing revenue large screen

Business Monitoring

Large screens monitor service performance, customer service quality, and sales status in real time. This helps managers quickly detect and resolve issues, boosting service efficiency and customer satisfaction.

Figure 3-5 Voice customer service large screen



4 Edition Differences

Huawei Cloud Astro Canvas provides three editions: basic, professional, and enterprise. See **Table 4-1** for details on each edition's functions.

- Basic: supports professional large screen development based on templates and basic widgets.
- Professional: provides advanced, customizable widgets to precisely restore design drafts, plus basic edition features.
- Enterprise: applies to 3D development and supports private deployment.

Table 4-1 Edition specifications

Edition	Basic	Professional	Enterprise
Workspaces	2	5	100
Pages	20	40	500
Storage (GB)	5	10	100
Encrypted sharing	Supported	Supported	Supported
Data access	Supported	Supported	Supported
Project management	Supported	Supported	Supported
Chart widgets	Supported	Supported	Supported
Map widgets	Supported	Supported	Supported
Custom widgets	Not supported	Supported	Supported
Map service access	Not supported	Not supported	Supported

3D scene editing	Not supported	Not supported	Supported

5 Permissions Management

If you need to assign different permissions to employees in your enterprise to access your Huawei Cloud Astro Canvas resources, Identity and Access Management (IAM) is a good choice for fine-grained permissions management. IAM provides identity authentication, permissions management, and access control, helping you secure access to your Huawei Cloud resources.

With IAM, you can use your Huawei Cloud account to create IAM users, and assign permissions to the users to control their access to specific resources. For example, if you want your software developers to use Huawei Cloud Astro Canvas resources but not delete them or perform any high-risk operations, you can create IAM users for these software developers and assign them only the permissions required for using Huawei Cloud Astro Canvas resources.

If your Huawei Cloud account does not need individual IAM users for permissions management, skip this chapter.

IAM is free of charge. You pay only for the resources you use. For more information about IAM, see **What Is IAM?**

Huawei Cloud Astro Canvas Permissions

New IAM users do not have any permissions assigned by default. You need to first add them to user groups and attach policies or roles to these groups. The users then inherit permissions from their user groups and can perform specified operations on cloud services based on those permissions.

Huawei Cloud Astro Canvas is a project-level service deployed in specific physical regions. When granting permissions, set the scope to regional-level projects and set permissions in the project corresponding to the specified region. The permissions take effect only for this project. If you set permissions for **All projects**, the permissions will take effect for all region-specific projects. When accessing Huawei Cloud Astro Canvas, switch to the region where you are authorized.

You can grant permissions by using roles and policies.

- Roles: A coarse-grained authorization that defines permissions by job responsibility. Only a limited number of service-level roles are available for authorization. Different services often depend on other services, so these dependencies must be considered when assigning roles. Roles are not an ideal choice for fine-grained authorization and secure access control.

- Policies: A fine-grained authorization tool that defines permissions required to perform operations on specific cloud resources under certain conditions. This type of authorization is more flexible and is ideal for least privilege access.

Table 5-1 lists all system permissions of Huawei Cloud Astro Canvas.

Table 5-1 System permissions

Policy	Description	Type	Policy Content
Astro Canvas FullAccess	Administrator permission. Users granted this permission can use all functions.	System policy	Astro Canvas FullAccess Policy Content
Astro Canvas InstanceManagement	Permission to manage Huawei Cloud Astro Canvas instances, including creating and managing instances.	System policy	Astro Canvas InstanceManagement Policy Content

Table 5-2 lists the common operations supported by each Huawei Cloud Astro Canvas system policy. Select the policies as required.

Table 5-2 Common operations supported by each system policy

Operation	Astro Canvas FullAccess	Astro Canvas InstanceManagement
Querying the product sales period	√	√
Querying order information	√	√
Querying subscription prices	√	√
Querying instance information	√	√
Querying price details for batch change	√	√
Querying cloud service expiration	√	√
Purchasing an instance	√	√
Purchasing an expansion package	√	√
Upgrading an instance	√	√

Operation	Astro Canvas FullAccess	Astro Canvas InstanceManagement
Freezing an instance	√	√
Unfreezing an instance	√	√
Deleting an instance	√	√

Astro Canvas FullAccess Policy Content

```
{
    "Version": "1.1",
    "Statement": [
        {
            "Action": [
                "astrocanvas:*:*"
            ],
            "Effect": "Allow"
        }
    ]
}
```

Astro Canvas InstanceManagement Policy Content

```
{
    "Version": "1.1",
    "Statement": [
        {
            "Action": [
                "astrocanvas:instances:*"
            ],
            "Effect": "Allow"
        }
    ]
}
```


6 Restrictions

Huawei Cloud Astro Canvas Instances

Table 6-1 Restrictions

Item	Restriction
Instance edition	Huawei Cloud Astro Canvas offers three instance editions: basic, professional, and enterprise. • Basic: supports professional large screen development based on templates and basic widgets. • Professional: provides advanced, customizable widgets to precisely restore design drafts, plus basic edition features. • Enterprise: applies to 3D development and supports private deployment.

Changing an Instance

Table 6-2 Restrictions

Item	Restriction
Changing Huawei Cloud Astro Canvas instance specifications	You can upgrade but not downgrade specifications.

Supported Region

Table 6-3 Restrictions

Item	Restriction
Supported region	CN North-Beijing4

Workspaces

Table 6-4 Restrictions

Item	Restriction
Number of workspaces	• Basic edition: 2 • Professional edition: 5 • Enterprise edition: 100

Projects

Table 6-5 Restrictions

Item	Restriction
Project name	• Max. characters: 64. • Use letters, digits, and underscores (_), but cannot start or end with an underscore (_).

Pages

Table 6-6 Restrictions

Item	Restriction
Number of pages	• Basic edition: 20 • Professional edition: 40 • Enterprise edition: 500
Page name	Max. characters: 100 characters. No spaces allowed.

7 Basic Concepts

Workspaces

Each workspace corresponds to a Huawei Cloud Astro Canvas service. You can create workspaces to isolate and control permissions on tenants' resources.

Projects

Before creating a page in Huawei Cloud Astro Canvas, you need to create a project. A project can be regarded as a collection of service scenarios. A project can have multiple pages.

Widgets

A large screen or mobile page consists of one or more widgets, the reusable elements that serve as pieces of a puzzle.

Data Center

The data center allows for central management of data sources and simplifies data source configuration, improving configuration efficiency. Huawei Cloud Astro Canvas supports several types of datasets. **Figure 7-1** shows the relationships between datasets and data sources, converters, and folders.

Figure 7-1 Relationships between datasets and data sources, converters, and folders