VNNOX

Cloud-Based Publishing Service

User Guide (Pro)

Product Version: V7.9.0

Document Number: NS170100290

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1 Overview

1.1 VNNOX Introduction

With the development of smart city and commercial display, there are more and more LED display applications and large-scale cluster deployment. As a result, the number of displays is increasing rapidly. Users are in urgent need of remote centralized management for a large number of LED displays located in different places.

To meet users' needs, NovaStar has launched a secure cloud-based publishing service VNNOX which enables remote content management and terminal control.

VNNOX can be applied to any display device and application scenario. As long as the Internet is available, users can access VNNOX with PC, tablets or mobile phones at any time and in any place to transmit solutions to displays and play solutions as required.

1.2 Secure & Reliable

VNNOX delivers secure and reliable industry solutions for cluster management of LED displays.

Secure

VNNOX guarantees system security through following mechanisms:

- Input checking: Check the security and validity of the data input from the Web client.
- Client authentication: Use OAuth2.0 for the authentication of accessed clients.
- Security report: Record the visits that trigger the security mechanism in the security report, then analyze the security report and give warnings about security issues so as to avoid attacks in advance.
- Download authentication: Use a virtualized cluster cloud storage solution to make sure media storing and downloading service are highly available and guarantee the security of media downloading through authentication mechanism.
- Authorized access: Terminals access the system through organization isolation and user name and password authorization.
- Transmission encryption: Use HTTPS protocol to keep the data encrypted during network transmission and avoid packet capture and data tampering.

Reliable

VNNOX keeps the service stable through disaster recovery mechanism for the server and prevents data loss through data backup mechanism to offer you a highly reliable service.

At the same time, our technical support engineers are always ready for 24/7 support and service.

1.3 Advanced Solutions & Practical Functions

Based on users' actual needs and years of industry experience, VNNOX is designed with the concepts of simplicity, ease-of-use and reliability.

Advanced Solutions

VNNOX has adopted advanced cloud service technology and users are able to have access to the services they required only by visiting VNNOX over the Internet.

Advantages:

- More convenient: Users can visit and operate VNNOX via Web any time anywhere as long as the Internet is available.
- Securer: VNNOX guarantees system security through channel encryption, data fingerprint, and permission management.
- More efficient: Edit and publish solutions and control displays remotely through a unified platform.
- More intelligent: VNNOX has adopted a smart technical algorithm and monitoring which greatly reduce users' amount of work and enhance the efficiency.
- More reliable: Keep VNNOX highly reliable through disaster recovery mechanism for the server and data backup mechanism.

Practical Functions

Function	Sub-function	Operation	Description
User Feedback	-	Contacting Customer Service	Allows users to give their feedback.
Shortcut Menu Settings	-	Setting Shortcut Menus	Capable of setting shortcut menus for the functions.
Personal Settings	-	Setting Personal Information	Capable of setting the basic user information and system language.
NovaiCare Binding	-	Binding NovaiCare	Capable of quickly jumping to NovaiCare from VNNOX.
Organization Management	Organization Information	Customizing the System	Capable of self-defining VNNOX as users' own brand and setting the relevant information of system security.
	System Management	Setting Approval Function	
		Setting Player Authentication Information	
		Setting Timeout	
Permission Management	Roles	Viewing Roles	Capable of managing, and controlling users' permissions to operate VNNOX and access resources according to permissions and domains so as to prevent unauthorized operations.
		Creating Roles	
		Modifying Role Attributes	
		Deleting Roles	
	Workgroups	Viewing Workgroups	
		Creating Workgroups	
		Modifying Workgroup Attributes	
		Deleting Workgroups	
	Users	Viewing Users	
		Creating Users	
		Modifying User Attributes	
		Deleting Users	
Media Management	Media	Viewing Media	Capable of editing solutions online and providing a professional, simple and visualized operating platform.
		Adding Media	
		Editing Pages	
		Modifying Media Attributes	
		Adding Media to	

Function	Sub-function	Operation	Description
		Playlists	
		Deleting Media	
	Playlists	Viewing Playlists	
		Creating Playlists	
		Modifying Playlist Attributes	
		Deleting Playlists	
		Importing Playlists	
	Solution	Viewing Solutions	
		Creating Solutions	
		Modifying Solution Attributes	
		Setting Solution Schedules	
		Setting Solution Insertion	
		Deleting Solutions	
	Category	Viewing Categories	
		Creating Categories	
		Modifying Category Attributes	
		Deleting Categories	
Playlists Management	Frame	Viewing Frame Templates	Support for any layout, multiple media combination and independent playback of multiple windows.
		Creating Frame Templates	
		Modifying Frame Template Attributes	
		Deleting Frame Templates	
	Page Template	Viewing Page Templates	
		Creating Page Templates	
		Editing Page Templates	
		Deleting Page Templates	
Players Management	Players	Viewing Players	Capable of creating synchronous players and asynchronous players to enable remote centralized solution publishing in manual or auto mode as
		Creating Players	
		Modifying Player Attributes	
		Deleting Players	

Function	Sub-function	Operation	Description
		Associating Solutions	well as remote terminal control.
		Remotely Controlling Terminals in Real Time	
		Capturing Screenshots	
		Upgrading Terminal Software	
		Authorizing Players	
	Play Log	Viewing Play Logs	
	Remote Control Plan	Viewing Remote Control Plans	
		Creating Remote Control Plans	
		Modifying Remote Control Plans	
		Deleting Remote Control Plans	
	Time Synchronization	Viewing Time Synchronous Tasks	
		Creating Time Synchronous Tasks	
		Modifying Time Synchronization Task Attributes	
		Deleting Time Synchronization Tasks	
License Management	-	Viewing Licenses	Capable of buying licenses. A player becomes available after associating a valid license.
		Buying Licenses	
		Renewing Licenses	In the self-built system, functions related to licenses are not supported.
		Viewing Order History	

1.4 Related Concepts

Remote Publishing

Remote publishing enables users to publish solutions associated with players to remote terminal players via Internet. The solutions will be downloaded and played by terminal players as scheduled.

Remote Control

Remote control enables users to perform real-time or scheduled operations such as restarting displays. Scheduled control can be implemented by sending remote control plans.

Players

Players include synchronous players and asynchronous players, which can be associated with solutions and remote control plans.

Players in VNNOX Lite are created automatically when users bind terminal players to players and the players can be transferred to VNNOX Pro after authorization.

Players in VNNOX Pro can be created manually in the player list and can be used after associated with licenses.

In the self-built system, VNNOX Lite and functions related to licenses are not supported.

Terminal Players

Solutions can be downloaded and played by terminal players as scheduled.

VNNOX Player is a software application for Windows and can be used as a terminal player on PC.

Taurus series multimedia players are hardware products based on Android and can be used as the terminal players of the asynchronous system.

Player Binding

Player binding is also called terminal binding.

Binding terminal players to players enables users to publish solutions and control displays remotely. Only one player can be bound to a terminal player.

- Synchronous players: Bound to VNNOX Player
- Asynchronous players: Bound to Taurus with ViPlex

ViPlex includes ViPlex Handy (Android and iOS) and ViPlex Express (Windows).

Solutions

VNNOX Lite allows users to edit and publish simple solutions. A solution can be created by adding media and then editing the solution page. In the self-built system, VNNOX Lite is not supported.

VNNOX Pro allows users to edit and publish complex solutions. After users add media, add the media to playlists and schedule the playlists, a solution is created.

The relationship between the media, playlist and solution is shown in Figure 1-1.

Figure 1-1 Media management
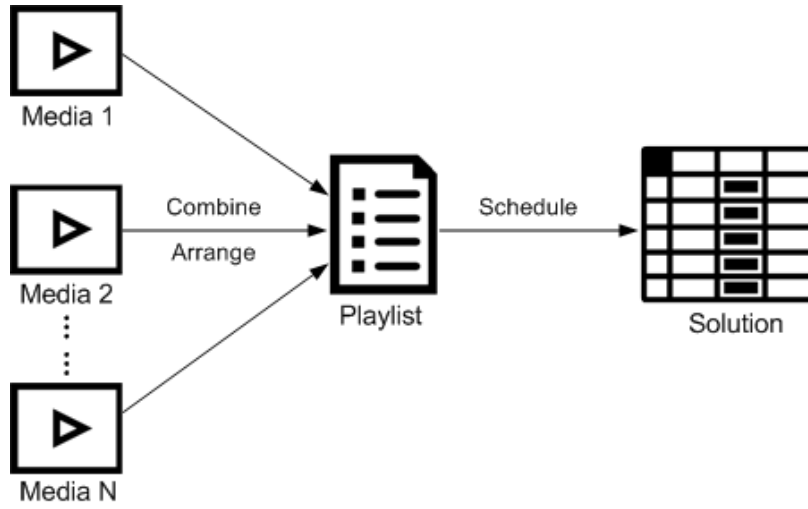
2 Login

In the self-built system, VNNOX Lite is not supported and the login address must be entered according to the actual condition.

Step 1 Visit www.en.vnnox.com and click **Login** at the top right of the page.

Step 2 Select the server node and click **OK**.

Step 3 Enter the account name and password, and then click **Login**.

A registered user is the system administrator by default, who has all the permissions and can create multiple sub-users.

- The system administrator logs in to VNNOX Lite by default at the first login. Clicking **VNNOX Pro** can switch to VNNOX Pro.
- Sub-users log in to VNNOX Pro every time by default and cannot switch to VNNOX Lite.
- Any user will log in to the system (VNNOX Pro/VNNOX Lite) of last login by default after logging out of VNNOX.

The **Home** page of VNNOX Pro is shown in Figure 2-1.

Figure 2-1 The Home page
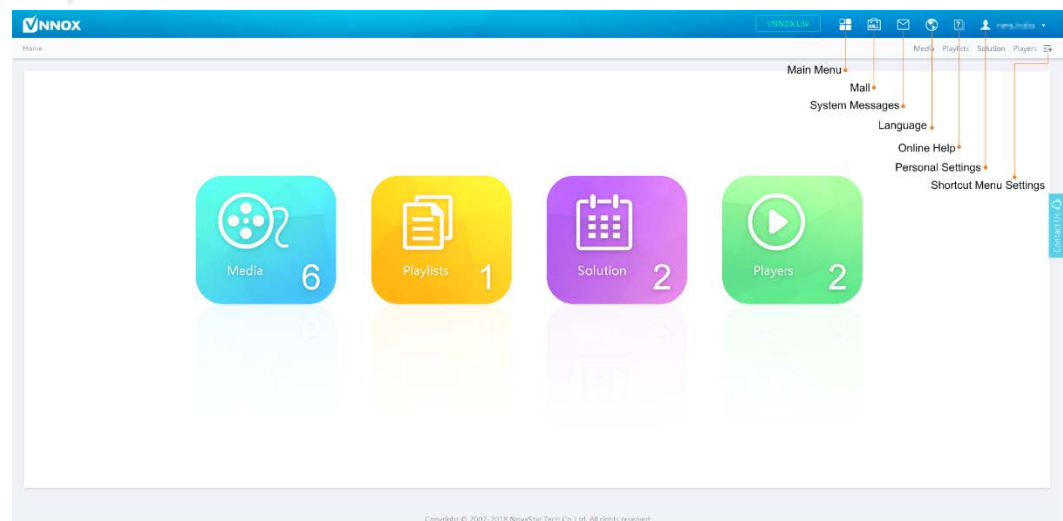
- System administrator: Click **VNNOX Lite** to switch to VNNOX Lite.
- Sub-user: The **VNNOX Lite** button is not shown.

3 Functions

3.1 User Feedback

Application Scenarios

Users give their feedback.

Related Information

None

Contacting Customer Service

Click **Contact Us** on the right side of any page to contact the customer service team of NovaStar.

3.2 Shortcut Menu Settings

Application Scenarios

Quickly access the sub-menus in 🔲.

Related Information

Shortcut menu is a quick access to system functions. Users can set shortcut menus for their frequently used functions to make operation more efficient.

Setting Shortcut Menus

Step 1　Click ⊒+ at the top right of the page.

Step 2　Select one or more menus in the pop-up dialog box, such as **Solution** and **Players**.

Step 3　Click **OK**, and the following shortcut menus appear.

Solution　Players　⊒+

3.3 Personal Settings

Application Scenarios

Current VNNOX user views or updates personal settings.

Related Information

Personal settings include the basic information and workgroup of the current user, and system language.

Setting Personal Information

Step 1 Choose ![admin] > **Personal Settings**.

Step 2 Set basic user information and system language or view the workgroup of the user.

Table 3-1 Personal settings

Tab Name	Description
Basic Info	For following operations: ● Set first name and last name. ● View the role of the user. ● Change email address. ● Change phone number. ● Change login password.
Workgroup	View the workgroup of the user.
Language Settings	Set system language. Click ![globe] at the top right of the page to directly enter this tab.

Step 3 After the settings are completed, click **Save** or **Save&Close**.

3.4 NovaiCare Binding

Application Scenarios

Quickly jump to the NovaiCare system from the VNNOX system.

Related Information

After NovaiCare is bound successfully, the user name and password are not required while jumping to NovaiCare from VNNOX.

Binding NovaiCare

Step 1 Choose ![admin] > **Bind NovaiCare**.

Step 2   Enter your NovaiCare login user name and password, and then select the server node.

Step 3   Click **Bind**. The NovaiCare icon 💬 appears at the top right of the page, and the **Bind** button changes to **Unbind**.

Related Operations

Click **Unbind** to unbind NovaiCare from VNNOX. After NovaiCare is unbound successfully, the 💬 icon disappears.

3.5 Organization Management

3.5.1 Organization Information

Application Scenarios

Users add the information and Logo of their own companies to customize VNNOX.

Related Information

Organization information refers to the website, name, copyright, Logo, etc. of the VNNOX system. Users can customize VNNOX as their own brand by setting these information.

Customizing the System

Step 1   Choose 🔲 > **Organization Management** > **Organization Info**.

Step 2   Customize the company name and set **The custom system** to **Yes**. Then all the user-definable items are shown on the page.

Step 3   Set the parameters according to the prompts. Then click **Save** or **Save&Close**.

3.5.2 System Management

Application Scenarios

● Approval setting: Control the distribution of media, and search play logs by custom field.

● Player authentication: Bind the players on VNNOX to terminal players.

● Session timeout: Automatically log out VNNOX if users do not perform any action for a long period of time.

Related Information

VNNOX provides settings related to security, including media approval, player authentication and auto logout after timeout, to enhance the security of system operation and media publishing.

VNNOX also supports setting custom fields. When searching play logs by keyword, users can use the custom fields to specify the searching range.

3.5.2.1 Setting Approval Function

Choose to enable or disable the **Approval** function in **Media Management** > **Media**.

Step 1 Choose ▦ > **Organization Management** > **System Management**.

Step 2 Set Enable media items approval to Yes or No.

- Yes: Select a record in the media list, click **Attribute**, and then the **Approval** tab appears. Users can approve, request for approval or refuse media. Approved media can be distributed while refused media cannot be distributed.

- No: Select a record in the media list, click **Attribute**, and the **Approval** tab is not shown. Approval is not needed and the media can be distributed directly.

Step 3 Click **Save** or **Save&Close**.

3.5.2.2 Setting Player Authentication Information

After successful registration, VNNOX will generate the default authentication information automatically. Authentication information is required while users bind terminal players to players. To prevent terminal players accessing VNNOX illegally, you are advised to modify the default authentication information.

Step 1 Choose ▦ > **Organization Management** > **System Management**.

Step 2 Select the Player Authentication tab.

Step 3 Set user name and password. Then click **Save** or **Save&Close**.

3.5.2.3 Setting Timeout

Log out the VNNOX system automatically if users do not perform any action within the time preset in session timeout.

Step 1 Choose ▦ > **Organization Management** > **System Management**.

Step 2 Select the **Other Settings** tab.

Step 3 Set the duration for session timeout and then click **Save** or **Save&Close**.

3.6 Permission Management

By using the permission management mechanism, the VNNOX system restricts users to the permissions assigned to their roles and restricts users' access to resources in workgroups. Users can access the media, playlists, solutions, players and time synchronization tasks only in the public workgroup, the workgroup the user belongs to and its sub-workgroups, as well as those resources shared to the workgroup the user belongs to.

The relationship among permission, role, user and workgroup is shown as Figure 3-1.

Figure 3-1 Permission management
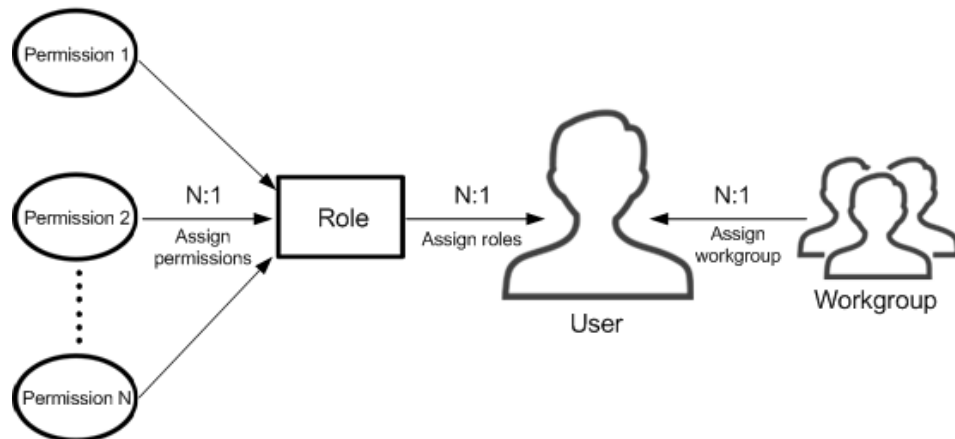
3.6.1 Roles

Application Scenarios

Assign one or more roles to a user, and the user will have all the permissions corresponding to the roles.

Related Information

Roles are groupings of system operation permissions. System administrator is the default role of users and has all the permissions. Other roles only have the assigned permissions.

The role of registered VNNOX users is system administrator and cannot be changed.

3.6.1.1 Viewing Roles

System administrator and sub-users of system administrator can view all the roles.

Step 1   Choose ▦ > **Permission** > **Roles**.

Step 2   View role list, or view a role by searching its name.

Step 3   (Optional) Click a role name in the **Name** column to enter the attribute page of the role.

3.6.1.2 Creating Roles

Step 1   Choose ▦ > **Permission** > **Roles**.

Step 2   Click **New**.

Step 3   Enter a name for the role and click **OK**.

3.6.1.3 Modifying Role Attributes

Step 1   Choose ▦ > **Permission** > **Roles**.

Step 2   Select a role and click **Attribute**, or click the name of a role.

Step 3   Select one or more permissions, and then click **Save** or **Save&Close**.

3.6.1.4 Deleting Roles

Step 1   Choose ⊞ > **Permission** > **Roles**.

Step 2   Select one or more permissions and click **Delete**.

Note: If a role is associated with users, it cannot be deleted.

Step 3   Click **OK** in the pop-up dialog box.
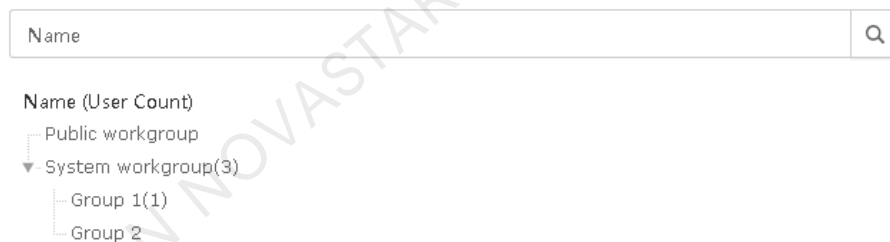
3.6.2 Workgroups

Application Scenarios

Manage resources in groups to enable data isolation.

Related Information

When a user in the system workgroup has logged in to the VNNOX, the **Workgroups** page is shown as Figure 3-2. When a user in the sub-workgroup has logged in, the system workgroup is not shown on the page.

In the figure below, the number **3** next to **System workgroup** indicates the system workgroup has 3 users. Similarly, the number **1** next to **Group 1** indicates Group 1 has 1 user.

Figure 3-2 Workgroups

- The public workgroup and system workgroup are generated by default after successful registration. The system administrator (registered user) belongs to the system workgroup by default.

- The system administrator can transfer the data of any workgroup to the public workgroup.

- Only the system administrator can modify and delete the data in the public workgroup and sub-users only can view and use the data.

- Users can create sub-workgroups.

- The user can modify and delete the data in the workgroup the user belongs to and its sub-workgroups, as well as can share the data with other sub-workgroups.

- The data shared from other workgroups can be viewed and used only.

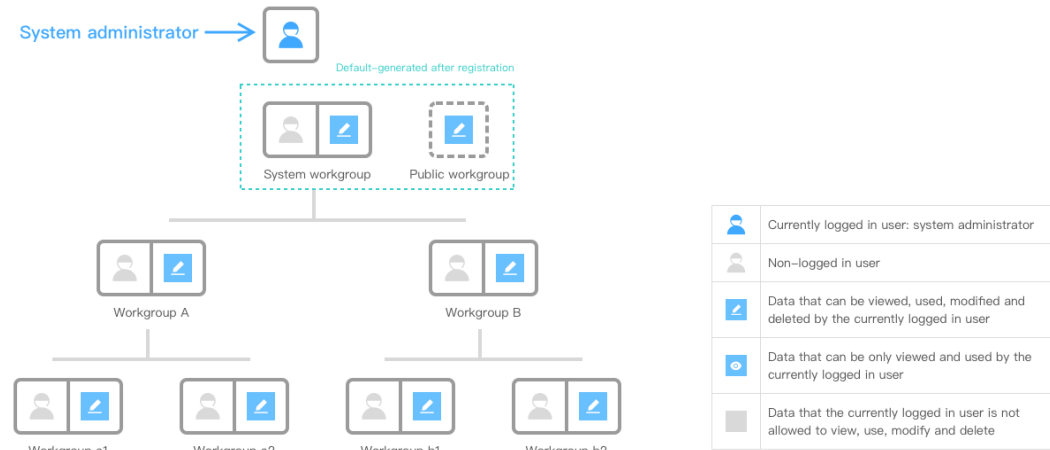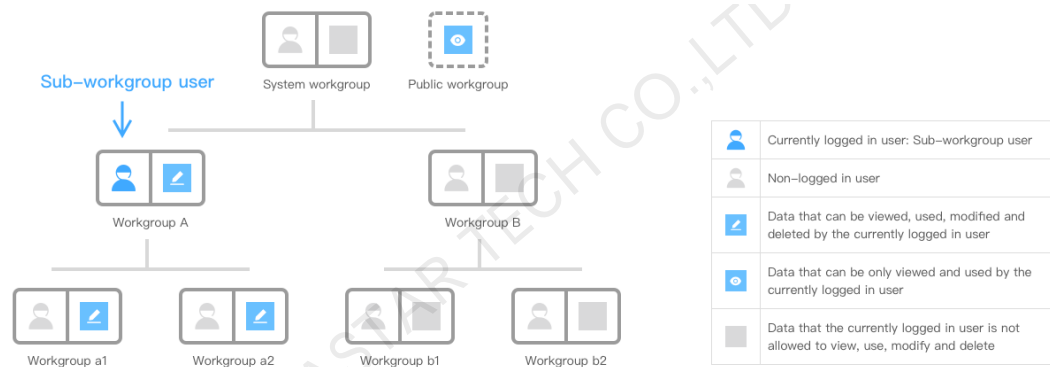Figure 3-3 Data operation permission–system administrator

Figure 3-4 Data operation permission–sub-workgroup user

3.6.2.1 Viewing Workgroups

Step 1 Choose ⊞ > **Permission** > **Workgroups**.

Step 2 View workgroup tree, search for a level 1 sub-workgroup name.

3.6.2.2 Creating Workgroups

The VNNOX allows users to create up to 5-level sub-workgroups.

Step 1 Choose ⊞ > **Permission** > **Workgroups**.

Step 2 Click on a workgroup name and click **New**.

Step 3 Enter a workgroup name in the text box and click **OK**.

3.6.2.3 Modifying Workgroup Attributes

The VNNOX allows users to change the attributes of sub-workgroups.

Step 1 Choose ⊞ > **Permission** > **Workgroups**.

Step 2 Click on a sub-workgroup name and click **Attribute** to enter the attribute page.

Step 3 Modify workgroup attributes and then click **Save** or **Save&Close**.

3.6.2.4 Deleting Workgroups

The VNNOX allows users to delete sub-workgroups.

Step 1 Choose ⊞ > **Permission** > **Workgroups**.

Step 2 Click on a sub-workgroup name and click **Delete**.

Step 3 Click **OK** in the pop-up dialog box.

3.6.3 Users

Application Scenarios

Log in and use the VNNOX system.

Related Information

Users are the people who use the VNNOX system. Assign one or more roles to a user, and the user will have all the permissions of the role(s).

The default role of registered VNNOX users is system administrator. Registered users have all the permissions and can create multiple sub-users.

3.6.3.1 Viewing Users

System administrator can view all the sub-users and the sub-users can only view the users created by themselves.

Step 1 Choose ⊞ > **Permission** > **Users**.

Step 2 View the user list, or view a user by searching the user's name.

Step 3 (Optional) Click a username in the **Username** column to enter the attribute page of the user.

3.6.3.2 Creating Users

Step 1 Choose ⊞ > **Permission** > **Users**.

Step 2 Click **New**.

If a sub-workgroup under the system workgroup does not have any sub-workgroups, the user in that sub-workgroup must create a sub-workgroup first and then create users.

The system workgroup can have up to 5-level sub-workgroups. Since the level 5 sub-workgroup cannot have sub-workgroups, users in that sub-workgroup cannot create users.

Step 3 Set the information related to the user, and then click **OK**.

3.6.3.3 Modifying User Attributes

Step 1 Choose ⊞ > **Permission** > **Users**.

Step 2 Select a user and click **Attribute**, or select multiple users and click **Bulk edit**. User attributes are explained in Table 3-2.

Table 3-2 User attributes

Tab Name	Description
Basic Info	Set the basic information of the user, including username, first name, last name, email address, phone number, role and login password.
	Only role can be set while editing user attributes in batches.
Workgroup	Set the workgroup which the user belongs to.
	A user belongs to only one workgroup, except the public workgroup. Users can access resources in the public workgroup, the workgroup the user belongs to and its sub-workgroups, as well as those resources shared to the workgroup the user belongs to.
Language Settings	Set the default language for users to log in the system and receive emails.
Other Settings	Set the user status and approve or do not approve all the content of the user. When the user status is **Enable**, the user can log in to and use VNNOX normally. When the user status is **Disable**, the user cannot log in to VNNOX.

Step 3   After the attributes are edited, click **Save** or **Save&Close**.

3.6.3.4 Deleting Users
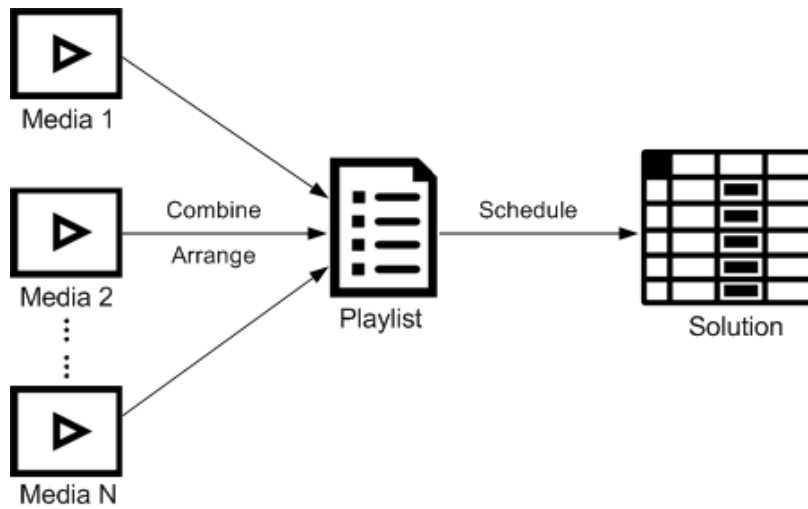
Step 1   Choose ▦ > **Permission** > **Users**.

Step 2   Select one or more users and click **Delete**.

Step 3   Click **OK** in the pop-up dialog box.

3.7 Media Management

Users upload media, add media to playlists and schedule the playlists. Then a solution is created. The relationship among media, playlist and solution is shown as Figure 3-5.

Figure 3-5 Media management

3.7.1 Media

Application Scenarios

A playlist is formed by combining and arranging media items.

Related Information

Media is the smallest unit of a solution.

The types of images, videos and streaming media supported by VNNOX are shown in Table 3-3.

Table 3-3 Media types

Media Type	Synchronous Terminal	Asynchronous Terminal
Image	JPG, PNG, ICO, BMP, GIF, JPEG	JPG, PNG, ICO, BMP, GIF, JPEG
Video	Video container formats: MP4, AVI, RMVB, FLV, MKV, WMV, MOV	Video container formats: MP4, AVI, FLV, WMV, MOV
Streaming Media	● HLS, RTMP: Can be previewed online and played. ● RTSP: Can be played but cannot be previewed online.	● HLS, RTMP: Can be previewed online and played. ● RTSP: Can be played but cannot be previewed online.
Audio	Currently not supported.	MP3 Note: Audio files can be used as the background audio of text widgets only.
Document	Word, Excel, PPT, PDF	

3.7.1.1 Viewing Media

System administrator can view all the media. Sub-users can view media only in the public workgroup, the workgroup the sub-user belongs to and its sub-workgroups, as well as the media shared to the workgroup the sub-user belongs to.

Step 1   Choose 🔳 > **Media Management** > **Media**.

Step 2   View the media list, or view a media item by searching its name.

Step 3   (Optional) Select filter criteria in the **Filter** on the left side of the page. If you want to save the settings, select **Remember filter criteria**.

Step 4   (Optional) Click a media name in the **Name** column, and then the attribute page of the media appears.

3.7.1.2 Adding Media

Step 1   Choose 🔳 > **Media Management** > **Media**.

Step 2   Click **Add** and select a media type from the drop-down options.

- Upload File: Click **Choose file** to choose media from your local devices and click **OK**.
- Webpage: Name the webpage and enter its address. Click **OK**, and the webpage attribute editing page appears.
- RSS: Name the RSS and enter its address. Click **OK** and the attribute editing page of the RSS appears.
- Page: Enter a name for the page and click **Next**. Select a page template and click **OK**. Then the attribute editing page appears.
- Streaming Media: Enter the name and address of the streaming media. Click **OK** and the attribute editing page of the streaming media appears.

3.7.1.3 Editing Pages

A page includes one or more media items and widgets. Media in the page are restricted to the attributes of the page and the attributes of the media doesn't take effect.

Step 1   Choose 🔳 > **Media Management** > **Media**.

Step 2   Select a media item the type of which is **Page**, and click **Page Edit**, or click 🖉 next to the name of a page media to enter the **Edit** page, as shown in Figure 3-6. The Edit page is illustrated in Table 3-4.
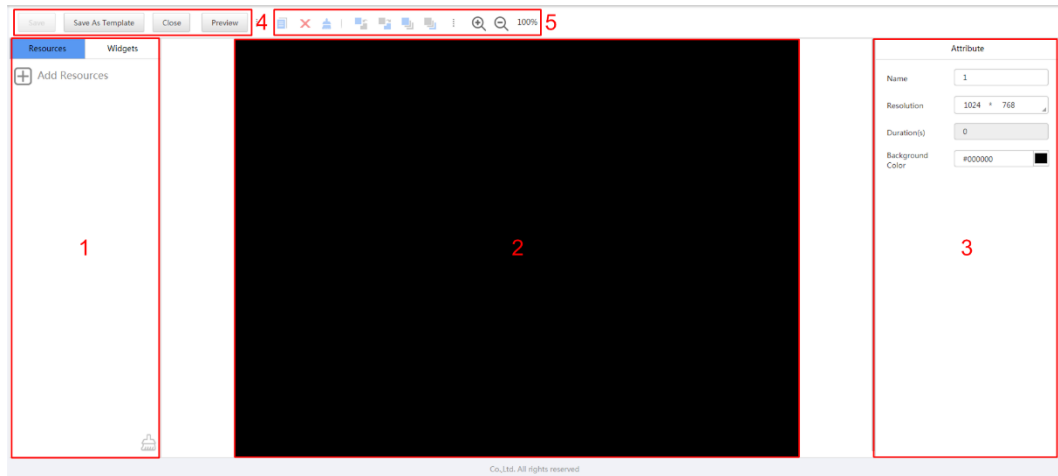
Figure 3-6 The Edit page

Table 3-4 Description of the Edit page

No.	Function	Description
1	Resources and widgets	● Resources: Add media to the resource list. Click 🧹 to clear the resource list. ● Widgets: Show all the widgets provided by the system, including small containers, weather, analog clock, digital clock, calendar, syntext, temperature and humidity. Media and other widgets can be added into the small container. In the self-built system, weather, temperature and humidity widgets are not supported.
2	Editing the page	Edit contents on the page, including media and widgets.
3	Editing attributes	Click to select the media items and widgets on the page editing area to edit their relevant attributes.
4	Common buttons	Save, close and preview the page, and save the page as a template. In a text widget that is added with audio media, the text can be previewed while the audio cannot be previewed currently.
5	Icon buttons	From left to right, the meanings of the icons are as follows: ● 📋: Copy an object ● ✖: Delete an object ● 🧹: Clear objects ● 🔼: Bring forward ● 🔽: Send backward ● ⬆: Bring to front ● ⬇: Send to back

No.	Function	Description
		● ⊕: Zoom in
		● ⊖: Zoom out
		All the operation objects of the above buttons are the media items and widgets in the page editing area. Click and select an object before operation.

Step 3 (Optional) Click **Add Resources** in the **Resources** tab on the left. Select one or more media in the pop-up dialog box and click **OK**.

Step 4 Drag the media items or widgets on the left side of the page to the editing area.

Step 5 Click to select one media item or widget to edit the attributes and adjust the layout.

Step 6 Click **Save** after the attributes and layout of all the contents on the page are edited.

Step 7 (Optional) Click **Save As Template** to save the page as a template.

Step 8 Click **Close**.

3.7.1.4 Modifying Media Attributes

If a modified media item is added to a playlist and the playlist is added to a solution which is already associated with a player, there will be two cases according to the distribution type after the modified media item is saved:

● Auto distribution: VNNOX distributes the new solution automatically.

● Manual distribution: Users perform following operations to distribute the new solution manually.

Choose ⊞ > **Players Management** > **Players**. Select the target player and click **Update solution**.

Step 1 Choose ⊞ > **Media Management** > **Media**.

Step 2 Select one media item and click **Attribute**, or select more media items and click **Bulk edit**. Media attributes are explained in Table 3-5.

Table 3-5 Media Attributes

Tab Name	Description
Basic Info	Set the basic information of the media, such as description, validity, category, etc.
	Only this tab appears while editing media in batches.
	Expired media cannot be played.
	Subscriptions will be refreshed automatically according to the **RSS refresh period(s)**.
	When the media type is document, you also need to set the duration and effect of each page of the document.
Workgroup	Set the workgroup the media belongs to and set the workgroups to which you share the media in a non-public workgroup.
History	View the history information of images and videos.

Tab Name	Description
	This tab appears when the media type is image or video.
Approval	Approve, request for approval or refuse media.
	In **Organization Management** > **System Management**, set the parameter **Enable media items approval** to **Yes**, then this tab appears.
	Approved media can be distributed while refused media cannot be distributed.
Play Log	Turn on or off the function of hiding play log.
	After the function is turned on, the play log of this media cannot be found in **Players Management** > **Play Log**.
Preview	Preview images, videos, streaming media, or documents.
	This tab appears when the media type is image, video, streaming media, or document.

Step 3   After attributes are edited, click **Save** or **Save& Close**.

3.7.1.5 Adding Media to Playlists

Audio files can be used only in the text widget of page media. They cannot be added to playlists.

Step 1   Choose 🔲 > **Media Management** > **Media**.

Step 2   Select one or more media, then click **Add to Playlist**.

Step 3   Select one or more playlists in the pop-up dialog box and click **OK**.

Step 4   In the pop-up dialog box, click **Stay**, or click **View** to view the playlist(s) you selected in the previous step.

3.7.1.6 Deleting Media

Step 1   Choose 🔲 > **Media Management** > **Media**.

Step 2   Select one or more media and click **Delete**.

Step 3   Click **OK**.

3.7.2 Playlists

Application Scenarios

A solution is formed by scheduling playlists.

Related Information

A playlist is a collection of sequenced media.

A playlist can be used as a sub-playlist. For example, after playlist B is added to playlist A, playlist B is the sub-playlist of playlist A. Sub-playlists make media playback more flexible and diversified. Special playback requirements can be simply satisfied without the need to create complex playlists.

If a playlist is to be used as a sub-playlist, it must meet the following requirements:

- It cannot contain media of page type.
- It cannot contain sub-playlists.

3.7.2.1 Viewing Playlists

System administrator can view all the playlists. Sub-users can view playlists only in the public workgroup, the workgroup the sub-user belongs to and its sub-workgroups, as well as the playlists shared to the workgroup the sub-user belongs to.

Step 1   Choose ⊞ > **Media Management** > **Playlists**.

Step 2   View playlists, or view a playlist by searching its name.

Step 3   (Optional) Select filter criteria in the **Filter** on the left side of the page. If you want to save the settings, select **Remember filter criteria**.

Step 4   (Optional) Click a playlist name in the **Name** column and the attribute page of the playlist appears.

3.7.2.2 Creating Playlists

Step 1   Choose ⊞ > **Media Management** > **Playlists**.

Step 2   Perform any of the following operations to create a playlist.

- Click **New**. Enter a name for the playlist and specify one or more categories, then click **OK**.
- Select a playlist and click **Copy**. Enter a name for the copied playlist and click **OK**.

Note: Categories are used for quickly filtering out playlists through the filter.

3.7.2.3 Modifying Playlist Attributes

If a modified playlist is added to a solution which is already associated with a player, there will be two cases according to distribution type after the modified playlist is saved.

- Auto distribution: VNNOX distributes the new solution automatically.
- Manual distribution: Users perform following operations to distribute the new solution manually.

  Choose ⊞ > **Players Management** > **Players**. Select the target player and click **Update solution**.

Step 1   Choose ⊞ > **Media Management** > **Playlists**.

Step 2   Select a playlist and click **Attribute**, or select more playlists and click **Bulk edit**. The playlist attributes are explained in Table 3-6.

Table 3-6 Playlist attributes

Tab Name	Description
Basic Info	Set the basic information of playlists, such as description, duration, category, etc.
	After the duration of a playlist is customized, the playlist will be played

Tab Name	Description
	according to the duration you set. If there is a sub-playlist, all the media items in the sub-playlist will be played during each round of playback.
Workgroup	Set the workgroup the playlist belongs to and set the workgroups to which you share the playlist in a non-public workgroup.
History	Show the operation history of playlists.
Media Item	Click ☑ to display the media item editing page where you can filter out or search for specific media items, and perform the following operations. ● Add media: Add one or more media to the current playlist. ● Add sub-playlist: Add one or more sub-playlists to the current playlist. ● Attribute/Bulk edit: Set the basic information and play plan of media items. ● Delete: Delete media items in a playlist. ● Replace: Replace one or more media items in the media item list with a specified media. ● View media: Go to the editing page of the selected page media or the attribute page of other types of media. Save the modifications to the playlist before operation. ● View sub-playlist: Go to the attribute page of a specified sub-playlist. Save the modifications to the playlist before the operation. ● Standby: Set images or videos as standby media. After all the media items in a playlist are played, the standby media will be played if there is time remaining. ● Export: Export media item information and generate a "csv" file. ● Count: Set the number of times to play a media item. A sub-playlist will be played once by default and this count cannot be set.
	Click ☰↓ to display the media item sorting page where you can search for or move specific media items and perform the following operations. ● Statistics: Statistics of the number, duration and play count of media items in the playlist. ● Sorting type: Set the sorting type of media items. The system will play media items from top to bottom according to the order in the list.

Step 3　After attributes are edited, click **Save** or **Save&Close**.

3.7.2.4 Deleting Playlists

Step 1　Choose ⊞ > **Media Management** > **Playlists**.

Step 2　Select one or more playlists and click **Delete**.

Step 3　Click **OK** in the pop-up dialog box.

3.7.2.5 Importing Playlists

Step 1   Choose ⊞ > **Media Management** > **Playlists**.

Step 2   Click **Import**.

- If you do not have a template, go to Step 3.
- If you have filled out the template, go to Step 5.

Step 3   In the **Select File** dialog box, click **Download Template**.

Step 4   Follow the notes in the template and the following information to fill out the template.

- The sheet name is the playlist name. Up to 5 playlists can be imported each time. If a sheet name does not exist in the system during importing, a new playlist will be created. If a sheet name already exists in the system, the original playlist will be overwritten.
- The media items must exist in the media library.
- If you want to play a media item multiple times, enter multiple pieces of data correspondingly and ensure they have the same play plan and duration.
- If the play plan of a media item is not entered, its **Valid range** will default to **No**. If the duration is not entered, it will use the default value in the system. Other attributes of the media item all use the default values.

Step 5   Click **Select File** to select a template.

Step 6   Click **Next**.

If data verification failed, please modify the contents in the template and import again.

Step 7   Select the playlists you want to import and click **Import**.

3.7.3 Solutions

Application Scenarios

After being associated in player attributes, solutions are distributed through VNNOX manually or automatically.

Related Information

A solution is a collection of scheduled playlists.

3.7.3.1 Viewing Solutions

System administrator can view all the solutions. Sub-users can view solutions only in the public workgroup, the workgroup the sub-user belongs to and its sub-workgroups, as well as the solutions shared to the workgroup the sub-user belongs to.

Step 1   Choose ⊞ > **Media Management** > **Solution**.

Step 2   View the solution list, or view a solution by searching its name.

Step 3   (Optional) Select filter criteria in the **Filter** on the left side of the page. If you want to save the settings, select **Remember filter criteria**.

Step 4 (Optional) Click a solution name in the **Name** column to enter the attribute page of the solution.

3.7.3.2 Creating Solutions

Step 1 Choose ⊞ > **Media Management** > **Solution**.

Step 2 Perform any of the following operations to create a solution.

- Click **New**. Enter a name for the solution and set its categories, and then click **Next**. Choose a frame template and click **OK**.

- Select a solution and click **Copy**. Enter a name for the copied solution and click **OK**.

Note: Frame templates can be filtered out through the filter on the left side of the **Choose Frames** dialog box according to the specified number framesets.

3.7.3.3 Modifying Solution Attributes

If a modified solution is associated with players, there will be following two cases according to the distribution type after the modified solution is saved.

- Auto distribution: VNNOX distributes the new solution automatically.

- Manual distribution: Users perform following operations to distribute the new solution manually.

  Choose ⊞ > **Players Management** > **Players**. Select the target player and click **Update solution**.

Step 1 Choose ⊞ > **Media Management** > **Solution**.

Step 2 Select a solution and click **Attribute**, or select more solutions and click **Bulk edit**. The solution attributes are explained in Table 3-7.

Table 3-7 Solution attributes

Tab Name	Description
Basic Info	Set the name and description of a solution. Only the description can be set while editing solutions in batches.
Workgroup	Set the workgroup the solution belongs to and set the workgroups to which you share the solution in a non-public workgroup.
Frame	Set screen size and frame. If there are two or more framesets, following three buttons will appear in the **Operate** column. ● ⬆ : Set the priority to a higher level. ● ⬇ : Set the priority to a lower level. ● ✖ : Delete the frameset. A frameset with lower priority is overlaid by a frameset with higher priority.
Solution Settings	Set solution schedules and insertions. See detailed operation in 3.7.3.4 "Setting Solution Schedules" and

Tab Name	Description
	3.7.3.5 "Setting Solution Insertion".

Step 3 After the attributes are edited, click **Save** or **Save&Close**.

3.7.3.4 Setting Solution Schedules

If a solution contains many framesets, it will be required to schedule each frameset respectively.

Step 1 Choose ⊞ > **Media Management** > **Solution**.

Step 2 Select a solution and click **Attribute**. The **week** timetable on the **Schedule** page under the **Solution Settings** tab is displayed by default. Assume that the solution only have one frameset, as shown in Figure 3-7. Description of the page is shown in Table 3-8.
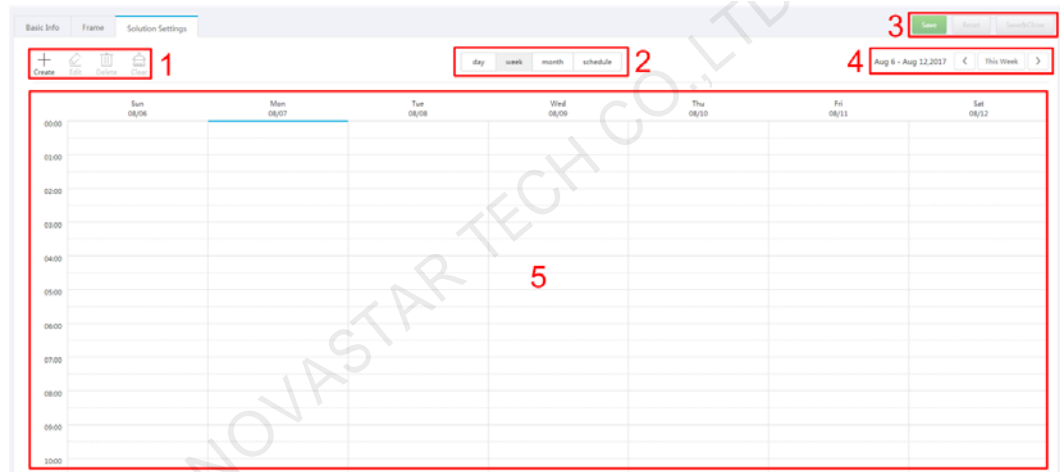
Figure 3-7 Schedule

Table 3-8 Description of the Solution Settings tab

No	Function	Description
1	Schedule buttons	● Create: Click this button, and the **Create** dialog box appears. ● Edit: Select a schedule in the timetable and click this button. Then the **Edit** dialog box appears. ● Delete: Select a schedule in the timetable and click this button to delete the schedule. ● Clear: Click this button to clear schedules.
2	Date buttons	● Day: Show the timetable in day view. ● Week: Show the timetable in week view. ● Month: Show the timetable in month view. ● Schedule: List schedules and the media contained in each schedule.

No	Function	Description
3	Common buttons	● Save: Save configuration. ● Reset: Restore configuration. ● Save&Close: Save configuration and close the attribute page.
4	Date switching buttons	● 〈 : Switch to a previous date by day, week or month. ● 〉 : Switch to a subsequent date by day, week or month. ● Today: Switch the timetable to the current day. ● This Week: Switch the timetable to the current week. ● This Month: Switch the timetable to the current month.
5	Schedules	The timetable is shown in **week** view by default.

Step 3 Click **day**, **week** or **month** to enter relevant timetables. Perform any of the following operations to create a solution.

- Click **Create**.
- Click a cell in the timetable and click ✛. Each cell of the timetable in **day** and **week** views stands for one hour, while in month view stands for one day.

Step 4 Select a playlist in the **Playlist** tab of the **Create** dialog.

Step 5 Select the **Play plan** tab and set play duration and date or play duration and period.

- When the **Repeat** is set to **Not repeating**, the solution can be played normally according to the plan if the date is set to the current day or any day within 7 days after the current day. The solution will not be played if the date is set to other days.
- If the **Repeat** is set to **Every day**, **Weekly**, **Per month** or **Per year**, the solution will be played repeatedly according to the period you set.

Step 6 Select the **Option** tab and set the schedule color shown in the timetable.

Step 7 After the configuration is done, click **OK**. The schedule is graphically shown in the timetable.

For the timetable in **day** and **week** views, the schedules will be shown side by side in the timetable if the schedules have overlapped timeslot. In Figure 3-8, three schedules in the **week** timetable are taken as an example. The VNNOX supports following operations on the schedules:

- Drag the top and bottom edges of a schedule to modify its timeslot.
- Drag a schedule to any position of the date when the schedule will be played to modify the timeslot.
- Drag the schedules to modify the playback priority order during the overlapped timeslot, for example, the priority order of the three playlists in Figure 3-8 is: **Playlist3** > **Playlist2** > **Playlist3**. After the playback of **Playlist2** is over, **Playlist3** will be played from the beginning. **Playlist1** will not be played.
- Double click a schedule and the **Edit** dialog box appears.

Figure 3-8 There is overlapped timeslot
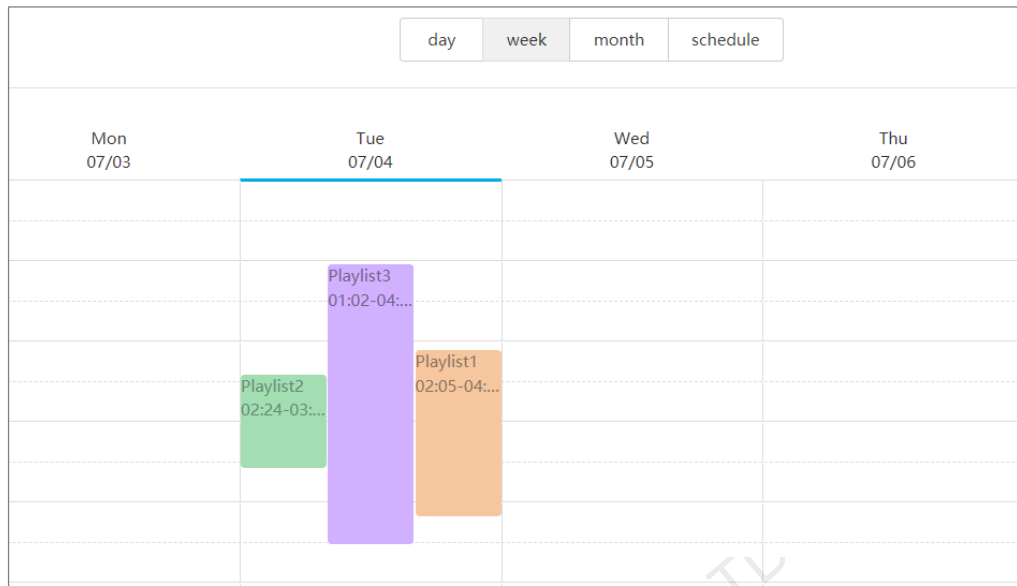
Drag the three schedules in Figure 3-8 until there is no overlapped timeslot. Then the schedules is shown as Figure 3-9.

Figure 3-9 There is no overlapped timeslot
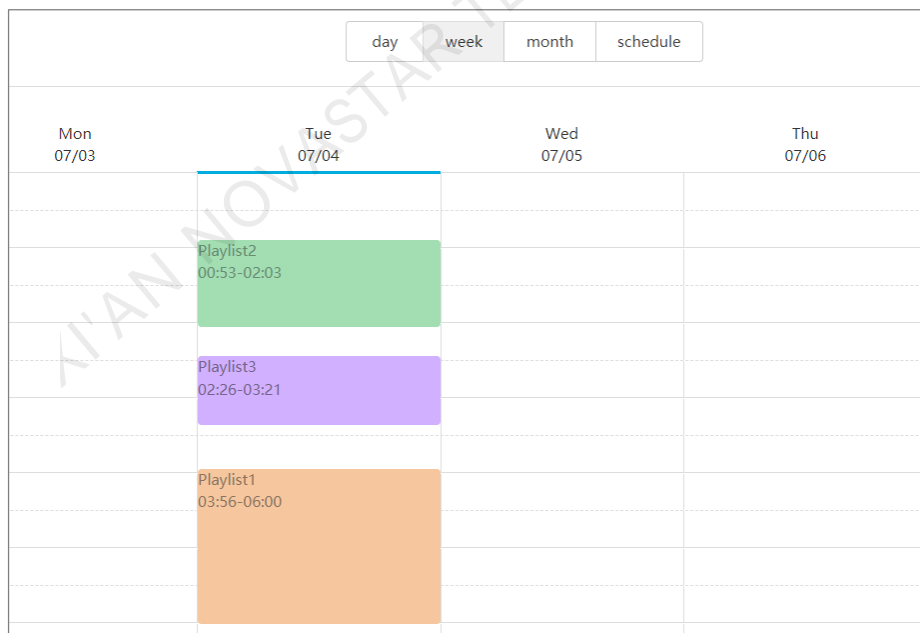
3.7.3.5 Setting Solution Insertion

The operating procedures described in this section are the steps to create an insertion. In addition, the system also offers the following functions:

● Modifying insertion attributes: Allows you to modify the basic information, playlist and playback plan of an insertion.

● Schedule statistics: Allows you to get the schedule statistics of an insertion.

- Deleting insertions: Allows you to delete insertions.

  A solution will stop playing when an insertion begins playing. When playing of the insertion ends, the solution will continue playing from where it stopped.
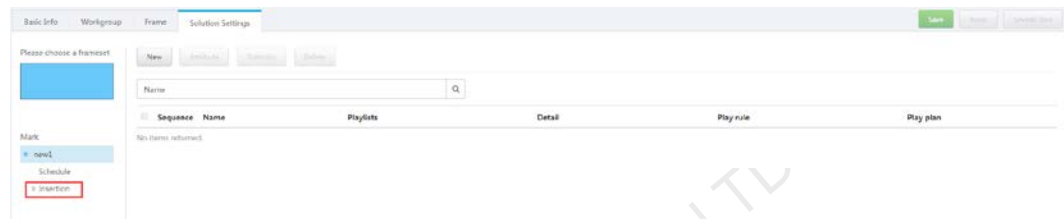
Step 1 Choose ⊞ > **Media Management** > **Solution**.

Step 2 Select a solution and click **Attribute**. The **week** timetable on the **Schedule** page under the **Solution Settings** tab is displayed by default.

Step 3 On the left of the page, click **Insertion**. For example, if a solution has only one frameset, the page shown in Figure 3-10 will be displayed.

Figure 3-10 Insertion

Step 4 Click **New** and perform any of the following operations.

- **Create**: Create an insertion.
  1. Enter a name for the new insertion and click **Next**.
  2. Choose a playlist and click **Next**.
  3. Set the insertion plan and click **Done**.
- **Choosing existing**: Copy an existing insertion.
  1. Choose an existing insertion and click **Next**.
  1. Enter a name for the insertion and click **Done**.

Step 5 Click **Save** or **Save&Close**.

3.7.3.6 Deleting Solutions

Step 1 Choose ⊞ > **Media Management** > **Solution**.

Step 2 Select one or more solutions and click **Delete**.

Step 3 Click **OK** in the pop-up dialog box.

3.7.4 Categories

Application Scenarios

Sort media, playlists and play logs in order to quickly filter out and find them.

Related Information

Media, playlists and play logs are sorted by categories. Objects can be filtered out by the filter according to specified categories.

Multiple categories can be assigned to a media, playlist or play log.

3.7.4.1 Viewing Categories

System administrator and the sub-users of system administrator can view all categories.

Step 1 Choose ⊞ > **Media Management** > **Category**.

Step 2 View category list, or view a category by searching its name.

3.7.4.2 Creating Categories

Step 1 Choose ⊞ > **Media Management** > **Category**.

Step 2 Click **New**.

Step 3 Enter a name for the category and click **OK**.

3.7.4.3 Modifying Category Attributes

Step 1 Choose ⊞ > **Media Management** > **Category**.

Step 2 Select a category and click **Attribute** to enter the attribute page of the category.

Step 3 Modify category attributes and then click **Save** or **Save&Close**.

3.7.4.4 Deleting Categories

Step 1 Choose ⊞ > **Media Management** > **Category**.

Step 2 Select one or more categories and click **Delete**.

Step 3 Click **OK** in the pop-up dialog box.

3.8 Playlist Management

3.8.1 Frames

Application Scenarios

It is required to choose a frame template while creating a solution.

Related Information

Frame is the layout of windows displayed on LED screen. The screen is split into different areas. The playback of each area is according to the play plan and content set in the solution.

Required templates can be filtered out by the specified number of framesets through the filter on the left side of the page.

Only one frame template can be selected for each solution.

3.8.1.1 Viewing Frame Templates

System administrator and the sub-users of system administrator can view all the templates.

Step 1 Choose ⊞ > **Playlists Management** > **Frame**.

Step 2 View frame template list, or view a template by searching its name.

Step 3 (Optional) Select filter criteria in the **Filter** on the left side of the page.

Step 4 (Optional) Click a template name in the **Name** column, and the attribute page of the frame template appears.

3.8.1.2 Creating Frame Templates

Step 1 Choose ⊞ > **Playlists Management** > **Frame**.

Step 2 Click **New**.

Step 3 Enter a name for the template and click **OK**.

3.8.1.3 Modifying Frame Template Attributes

Step 1 Choose ⊞ > **Playlists Management** > **Frame**.

Step 2 Select a template and click **Attribute**.

Step 3 Set screen size and frameset, and then click **Save** or **Save&Close**.

The frameset named **main** is generated by default. The positions of framesets from the top to bottom in the frameset list are corresponding to the priority order of the framesets from higher to lower level in the playback window.

3.8.1.4 Deleting Frame Templates

Step 1 Choose ⊞ > **Playlists Management** > **Frame**.

Step 2 Select one or more frame templates and click **Delete**.

Step 3 Click **OK** in the pop-up dialog box.

3.8.2 Page Templates

Application Scenarios

Page templates are required while creating the media of the **Page** type.

Related Information

A page template is the template of page media. Media items and widgets can be added to templates.

3.8.2.1 Viewing Page Templates

System administrator and the sub-users of system administrator can view all the page templates.

Step 1 Choose ⊞ > **Playlists Management** > **Page Template**.

Step 2 Perform any of the following operations to view page templates.

- View page template list.
- View a page template by searching its name.

● Select template resolution to view all the templates with a specific size.

Step 3 (Optional) Select a page template and click **Now Use**, and then the dialog box of the new page appears.

3.8.2.2 Creating Page Templates

Step 1 Choose ▦ > **Playlists Management** > **Page Template**.

Step 2 Perform any of the following operations to create a page template.

● Click **New**. Enter a name for the page template and click **OK**.

● Click to select a page template and click **Copy**. Enter a name for the copied template and click **OK**.

3.8.2.3 Editing Page Templates

Step 1 Choose ▦ > **Playlists Management** > **Page Template**.

Step 2 Click to select a page template and click **Edit**. The **Edit** page is shown as Figure 3-11. The page is explained in Table 3-9.

Figure 3-11 The Edit page of a page template
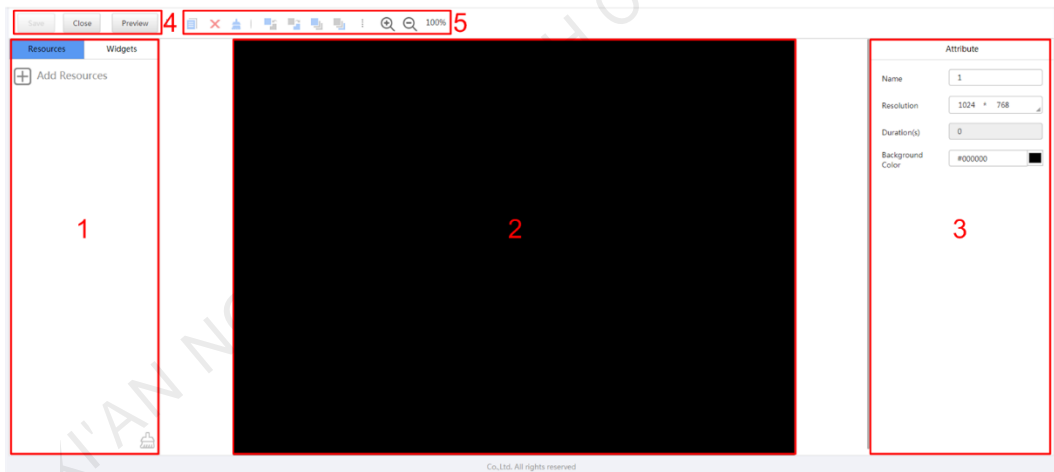
Table 3-9 Description of the Edit page

No.	Function	Description
1	Resources and widgets	● Resources: Add media to the resource list. Click 🖌 to clear the resource list. ● Widgets: Show all the widgets provided by the system, including small containers, weather, analog clock, digital clock, calendar, syntext, temperature and humidity. Media and other widgets can be added into the small container.
2	Editing the page	When adding resources or widgets, click and select an object, then drag it to the target location.
3	Editing attributes	Click and select the media and widgets in the page

No.	Function	Description
		editing area to edit their relevant attributes.
4	Common buttons	Save, close and preview pages.
5	Icon buttons	From left to right, the meanings of the icons are as follows: ● ▤: Copy an object ● ✕: Delete an object ● 🖌: Clear objects ● ▪: Send forward ● ▪: Bring backward ● ▪: Send to front ● ▪: Bring to back ● 🔍⁺: Zoom in ● 🔍⁻: Zoom out All the operation objects of the above buttons are the media and widgets in the page editing area. Click and select an object before operating.

Step 3 After a page template is edited, click **Save**.

Step 4 Click **Close**.

3.8.2.4 Deleting Page Templates

Step 1 Choose ▦ > **Playlists Management** > **Page Template**.

Step 2 Click to select one or more page templates and click **Delete**.

Step 3 Click **OK** in the pop-up dialog box.

3.9 Player Management

3.9.1 Players

Application Scenarios

Binding terminal players to players enables users to publish solutions and control displays remotely.

Related Information

Players include synchronous players and asynchronous players. Solutions can be distributed and played when players meet the requirements in Table 3-10.

Table 3-10 Requirements for players

Requirements	Description
Associated valid licenses (In the self-built system, this is not required.)	Available licenses are shown in the drop-down options of **Associated license**. Licenses associated with other players or expired licenses are not shown. After successful association, license number and valid period are shown in the **Player License** column of the player list.
Bound to terminal players	● Synchronous players: Bound to VNNOX Player ● Asynchronous players: Bound to Taurus through the software ViPlex
Associated with solutions and media in the solutions can be played normally	Players must be bound before associating solutions.

3.9.1.1 Viewing Players

System administrator can view all the players. Sub-users can view players only in the public workgroup, the workgroup the sub-user belongs to and its sub-workgroups, as well as the players shared to the workgroup the sub-user belongs to.

Step 1 Choose ⊞ > **Players Management** > **Players**.

Step 2 View the player list, or view a player by searching its name.

Step 3 (Optional) Select filter criteria in the **Filter** on the left side of the page. If you want to save the settings, select **Remember filter criteria**.

Step 4 (Optional) Click a player name in the **Name** column to enter the attribute page of the player.

3.9.1.2 Creating Players

Players cannot be created if there is no available licenses. If you want to view licenses, see 3.10.1 "Viewing Licenses".

In the self-built system, functions related to licenses are not supported.

Step 1 Choose ⊞ > **Players Management** > **Players**.

Step 2 Click **New**.

Step 3 Select synchronous player or asynchronous player and click **Next**.

● Synchronous player: Bound to VNNOX Player

● Asynchronous player: Bound to Taurus through the software ViPlex

Step 4 Enter a name for the player, associate a license, set the solution distribution type and the categories of the player, and then click **OK**.

Currently available licenses are shown in the drop-down options of **Associated license**. Licenses associated with other players or expired licenses are not shown. After successful association, license number and valid period are shown in the **Player License** column of the player list.

Meanings of the distribution types are shown as follows:

- Manual: After a solution is bound to players or is modified, users need to click **Update solution** in the player list page to distribute the solution manually.
- Auto: After a solution is bound to players or is modified, VNNOX will distribute the solution automatically without the need for any operation.

3.9.1.3 Modifying Player Attributes

Step 1 Choose ⊞ > **Players Management** > **Players**.

Step 2 Select a player and click **Attribute**, or select multiple players and click **Bulk edit**.

The player attributes are explained in Table 3-11. When multiple players are selected for bulk edit, only some of the tabs and attributes are shown.

Table 3-11 Player attributes

Tab Name	Description
Basic Info	Set player name, description, distribution type and time zone, enable or disable player, associate licenses and solutions, and select a non-scheduled content. In the self-built system, functions related to licenses are not supported. Meanings of the distribution types: ● Manual: After a solution is bound to players or is modified, users need to click **Update solution** in the player list page to distribute the solution manually. ● Auto: After a solution is bound to players or modified, VNNOX will distribute the solution automatically without the need for any operation. Currently available licenses are shown in the drop-down options of **Associated license**. Only after players are bound on the VNNOX Player or ViPlex, the solutions can be associated and the non-scheduled content can be set. The non-scheduled content can be an image or video, and is played during the non-scheduled periods of the solutions.
Workgroup	Set the workgroup the player belongs to and set the workgroups to which you share the player in a non-public workgroup.
Remote Control Plan	Set remote control plan to enable non-real-time remote control of screens. If it is required to control in real time, the **Real-time control** function in the player list page can be used. This tab appears only when players are bound through VNNOX Player or ViPlex. VNNOX Player must be V1.2.0 or above. After the player is bound or remote control plans are updated, VNNOX will distribute the plans to corresponding terminal player. Operation types of remote control plan: ● Synchronous player: Screen rebooting and screen status control ● Asynchronous player: Screen rebooting, screen status control,

Tab Name	Description
	screen power control, dual-mode switching, volume control and brightness adjustment
	Perform the following operations to set a remote control plan:
	● **Add**: Add remote control commands, including command type and execution plan settings.
	When all the function buttons in power control are grayed out, it indicates that the power configuration information of the terminal player is not obtained.
	When adding auto control commands for brightness adjustment, you need to set auto brightness adjustment parameters, namely the corresponding relationship between ambient brightness and screen brightness.
	● **Edit**: Change the remote control plan type and execution plan.
	● **Delete**: Delete remote control commands.
	● **Apply Preset Plan**: Apply plans created in **Players Management** > **Remote Control Plan**.
	Applying preset plans will overwrite the existing configuration data. Changing the plans here and changing the plans in **Players Management** > **Remote Control Plan** will not affect each other.
Status	Show the status and identifier of the player. The information related to the terminal player and host will be shown at the same time if the player is bound.
	● **Clean-up**
	If the terminal player is VNNOX Player, clicking this button will delete the media items that are not related to the solution currently being played.
	If the terminal player is Taurus, clicking this button will delete all the media items. In addition, if one of the media items is being played, clicking the button will cause a black screen.
	● **Remove Binding**
	Click this button to unbind the player from the terminal player. After unbinding, the system will clear screenshots of the player.
	● **Enable data threshold**
	Select this option to enable and set the data threshold. The threshold minus the data used by the terminal player is the remaining data of the terminal player. If the required data is greater than the remaining data of the terminal player while updating solutions, a prompt will appear.
Media Downloaded Status	Show the download status of media.
Screenshot	Show the screenshots of the playback window.
	The **Screenshot** tab can be displayed on the player attribute page only if you have performed the screenshot operation by clicking

Tab Name	Description
	Screenshot in the player list. For the internal video source, if the screenshot status in the player list is **Capturing**, the screenshot window shows the system default image. If the player status is **View screenshot**, the screenshot window shows the latest screenshot.
	For the external video source, the screenshot window shows the system default image.
	● **Player Name**: Indicates the player that current screenshot belongs to.
	● **Captured (*terminal player time zone*)**: Indicates the terminal player time when the screenshot was captured. The *terminal player time zone* is a variable and depends on the time zone of current terminal player, such as "GMT+08:00".
	● **Solution Source**: For the internal video source, the solution source shows the name of the system that publishes the video. For the external video source, the solution source only shows **External source**.
	● **Recapture**: Recapture a screenshot from the playback window.
	● **Emergency off**: Turn off the screen immediately.
Remote Control History	Show the execution history of remote control plans. Select filter criteria in the **Filter** on the left side of the page to quickly filter out the information you want.
	This tab appears only when players are bound on VNNOX Player or ViPlex. VNNOX Player must be V1.2.0 or above.
Position	Set the location of terminal players, including address, longitude and latitude. Baidu and Google maps are supported.
	Map settings:
	● Manual: Click a place on the map or drag 📍.
	● Auto: Click **Auto Position**. The player must be bound before operation.
	If the **Address Set** in weather widget attributes is set to **Follow the players**, weather information will be shown according to the location of terminal players.

Step 3   After the attributes are edited, click **Save** or **Save&Close**.

3.9.1.4 Deleting Players

Step 1   Choose ⊞ > **Players Management** > **Players**.

Step 2   Select one or more players and click **Delete**.

Step 3   Click **OK** in the pop-up dialog box.

3.9.1.5 Associating Solutions

After being bound by terminal players, players can associate solutions. After successful association, solutions will be distributed manually or automatically through

VNNOX. After being downloaded by terminal players, solutions will be played according to the play plan.

Step 1   Choose ⊞ > **Players Management** > **Players**.

Step 2   Enter player attribute page.

- For a single player: Select a player and click **Attribute**, or click the player name.
- For multiple players: Select the players and click **Bulk edit**.

Step 3   Choose a solution from the drop-down options of the parameter **associate solution**.

Step 4   Distribution type of the solution is **Manual** or not.

- Yes. Click **Save&Close** to return to the player list page. Select the target player and click **Update solution**.
- No. Click **Save** or **Save&Close**.

3.9.1.6 Remotely Controlling Terminals in Real Time

Real-time remote control can be used for controlling screens in real time. Terminal players need to bind players before operation. If the execution times of a real-time control plan and a remote control plan are the same, the real-time control plan will be executed first.

- Synchronous player: Screen rebooting, screen status control, synchronous playback and time zone obtaining
- Asynchronous player: Screen rebooting, screen status control, screen power control, dual-mode switching, volume control, brightness adjustment and time zone obtaining

Step 1   Choose ⊞ > **Players Management** > **Players**.

Step 2   Select the target player, click **Real-time control** and choose an operation from the drop-down options.

3.9.1.7 Capturing Screenshots

Users can capture playback screenshots, view the playback status, and check whether the playback content is normal. If needed, for example in an emergency, users can turn off the screen immediately.

This function has requirements for the terminal version, as described below. If the requirements are not met, please upgrade the terminal according to section 3.9.1.8 Upgrading Terminal Software.

- Synchronous player: VNNOX Player V1.9.0 or later
- Asynchronous player: Taurus V1.2.4 or later

After the player is unbound from the terminal player, the system will clear screenshots of the player.

Step 1   Choose ⊞ > **Players Management** > **Players**.

Step 2   Select one or multiple players and click **Screenshot**.

Step 3   Click **OK**.

The screenshot status in the **Configure** column displays **Capturing**. When the status displays **View screenshot**, the screenshot has been captured successfully.

Step 4 Perform one of the following operations to view the screenshot and related information.

- Click **View screenshot**.

- Click a player name to enter its attribute page and click the **Screenshot** tab.

For the internal video source, the screenshot window shows the latest screenshot. For the external video source, the screenshot window shows the system default image.

Parameter description:

- **Player Name**: Indicates the player that current screenshot belongs to.

- **Captured (*terminal player time zone*)**: Indicate the terminal player time when the screenshot was captured. The *terminal player time zone* is a variable and depends on the time zone of current terminal player, such as "GMT+08:00".

- **Solution Source**: For the internal video source, the solution source shows the name of the system that publishes the video. For the external video source, the solution source only shows **External source**.

Step 5 (Optional) If there are other screenshots of current player or other players, you can click the page turning button to view them.

Step 6 (Optional) Click **Recapture** to capture a screenshot again from the playback window.

Step 7 (Optional) Click **Emergency off** to turn off the screen immediately.

3.9.1.8 Upgrading Terminal Software

The terminal player software version is displayed in the player list. Users can upgrade the software to a desired version.

For VNNOX Player, if the selected target version is earlier than current version, current version can be rolled back to the target version. For Taurus, version rollback is not supported.

Step 1 Choose ⊞ > **Players Management** > **Players**.

Step 2 Perform one of the following operations depending on the demand to upgrade the software.

- Upgrading a single player: Select a player, click **Upgrade** and select the target version, or click the **Please upgrade** link in the player list.

- Upgrading a batch of players: Select multiple players, click **Upgrade** and select the target version.

3.9.1.9 Authorizing Players

After authorized, players can be transferred to VNNOX Pro for use.

In the self-built system, this function is not supported.

Step 1 Choose ⊞ > **Players Management** > **Players**.

Step 2 Click **Authorize Player**.

Step 3 Select the players to be authorized. After finishing filling in the order, click **Submit Order**.

- If there are available licenses, the system will associate the licenses with players automatically. The players can be transferred after you submit the order.

- If there is no available license, NovaStar will contact you for the payment within two working days after you submit the order and you can make the payment and transfer the players.

3.9.2 Play Logs

Application Scenarios

Users view playback information related to players.

Related Information

Play logs record related playback information including general and detailed information.

System doesn't support viewing the play log of the current day.

If the function of hiding play log of a media item is turned on, the play log of this media cannot be found.

Viewing Play Logs

System administrator can view the play logs of all players. Sub-users can view the play logs of players only in the public workgroup, the workgroup the sub-user belongs to and its sub-workgroups, as well as the logs of players shared to the workgroup the sub-user belongs to.

Step 1 Choose ▦ > **Players Management** > **Play Log**.

Step 2 Set search criteria and click **Search**.

- Date Range: This is a required parameter. It is used for specifying a period of time. The date range cannot be more than 30 days and the date cannot be set to the current day.

- Players: This is a required parameter which is used to specify one or more players to be queried.

- Keyword: This is an optional parameter. It is used for specifying the keyword and searching range.

Step 3 (Optional) Click **Export** to save play logs to the local device.

3.9.3 Remote Control Plans

Application Scenarios

The preset plans here can be applied directly when you associate a player with remote control plans on the player attribute page.

Related Information

Remote control plans can enable non-real-time remote control of displays through VNNOX. After players are bound by terminal players, remote control plans can be

associated in attributes. After successful association, VNNOX will distribute the plans to the terminal players accordingly.

Operation types of remote control plan:

- Synchronous player: Screen rebooting and screen status control
- Asynchronous player: Screen rebooting, screen status control, screen power control, dual-mode switching, volume control and brightness adjustment

3.9.3.1 Viewing Remote Control Plans

System administrator and the sub-users of system administrator can view all the remote control plans.

Step 1 Choose ⊞ > **Players Management** > **Remote Control Plan**.

Step 2 View remote control plan list, or view a remote control plan by searching its name.

Step 3 (Optional) Click a plan name in the **Plan name** column to enter the attribute page of the remote control plan.

3.9.3.2 Creating Remote Control Plans

Step 1 Choose ⊞ > **Players Management** > **Remote Control Plan**.

Step 2 Perform any of the following operations to create a remote control plan.

- Click **New**. Enter a name for the plan and choose plan type, then click **OK**.
- Select a remote control plan and click **Copy**. Enter a name for the copied plan and click **OK**.

3.9.3.3 Modifying Remote Control Plans

If a remote control plan is already applied by a player, changing the plan here and changing the plan on the player attribute page will not affect each other.

Step 1 Choose ⊞ > **Players Management** > **Remote Control Plan**.

Step 2 Select a remote control plan and click **Attribute**, or click a plan name. The attributes of remote control plans are explained in Table 3-12.

Table 3-12 Remote control plan attributes

Tab Name	Description
Basic Info	Set the name and description of the remote control plan.
Command plan	Set the commands in remote control plans. • Add commands: Click **Add** to set command type and execution plan, and then click **OK**. The command type is according to the plan type you select while creating a plan. • Edit commands: Select a command and click **Edit**. Modify command type and execution plan, then click **OK**. • Delete commands: Select one or more commands and click **Delete**. Click **OK** in the pop-up dialog box. When adding auto control commands for brightness adjustment, you need to set auto brightness adjustment parameters, namely the

Tab Name	Description
	corresponding relationship between ambient brightness and screen brightness.

Step 3 After the attributes are edited, click **Save** or **Save&Close**.

3.9.3.4 Deleting Remote Control Plans

Step 1 Choose ⊞ > **Players Management** > **Remote Control Plan**.

Step 2 Select one or more remote control plans and click **Delete**.

Step 3 Click **OK** in the pop-up dialog box.

3.9.4 Time Synchronization

Application Scenarios

Sync the time of terminal players.

Related Information

Time synchronization is to synchronize the time of terminal players. Users can choose NTP or Lora for time synchronization according to actual condition.

- NTP: Synchronize the time of terminal players according to NTP server. No hardware is needed. But the accuracy of time synchronization depends on the Internet speed and data will be needed if you use 4G network for time synchronization.
- Lora: Used by Taurus. It is required to set master and slave devices. The time of slave device is synchronized with the master device (reference device) via Lora network. According to actual needs, the time of master device can be synchronized via NTP server. It is needed to buy Lora devices. This is suitable for scenarios highly demanding time synchronization. No data will be needed. But the signal reception depends on environment and is limited by distance.

3.9.4.1 Viewing Time Synchronous Tasks

System administrator can view all the time synchronization tasks. Sub-users can view the tasks only in the public workgroup, the workgroup the sub-user belongs to and its sub-workgroups, as well as the tasks shared to the workgroup the sub-user belongs to.

Step 1 Choose ⊞ > **Players Management** > **Time Synchronization**.

Step 2 View all the time synchronization tasks created by the current user, or view a task by searching its name.

Step 3 (Optional) Click a time synchronous task name in the **Name** column to enter the attribute page of the task.

3.9.4.2 Creating Time Synchronous Tasks

Step 1 Choose ⊞ > **Players Management** > **Time Synchronization**.

Step 2 (Optional) Click **NTP server configuration** to configure the information of NTP server and then click **Save&Close**.

Step 3 Click **New**.

Step 4 Enter a name for the task, choose time synchronization mode and then click **Next**.

- NTP: Choose NTP server and click **OK**.
- LORA: Choose a reference device for time synchronization and click **OK**. Lora mode is only valid for asynchronous players.

3.9.4.3 Modifying Time Synchronization Task Attributes

Step 1 Choose ⊞ > **Players Management** > **Time Synchronization**.

Step 2 Select a time synchronization task and click **Attribute**, or click a task name. Time synchronization task attributes are explained in Table 3-13.

Table 3-13 Time synchronization task attributes

Tab Name	Description
Basic Info	Set the name and description of the time synchronization task.
Workgroups	Set the workgroup the time synchronization task belongs to.
Configure	- NTP: Choose NTP server. - Lora: Choose a reference device for time synchronization. If the time of the reference device is synchronized via NTP server, set **NTP** to **Yes** and choose NTP server.
Players	Add or delete the players contained in the time synchronization task.

Step 3 After the attributes are edited, click **Save** or **Save&Close**.

3.9.4.4 Deleting Time Synchronization Tasks

Step 1 Choose ⊞ > **Players Management** > **Time Synchronization**.

Step 2 Select one or more time synchronization tasks and click **Delete**.

Step 3 Click **OK** in the pop-up dialog box.

3.10 License Management

Application Scenarios

A player will be available after associating a license.

In the self-built system, functions related to licenses are not supported.

Related Information

Licenses are the permissions to use players. Users can renew the licenses before they are expired, or buy new licenses.

3.10.1 Viewing Licenses

System administrator and the sub-users of system administrator can view all the licenses.

Step 1 Choose 👤 admin ▾ > **My License**.

Step 2 View license list or view relevant licenses by searching key words.

Step 3 (Optional) Click a player name in the **Service Condition** column to enter the attribute page of the player that associates the license.

3.10.2 Buying Licenses

Step 1 Perform any of the following operations to enter the **Mall** page.

- Click 🛒 at the top right of the page.

- Choose 👤 admin ▾ > **My License**, and click **To Buy**.

Step 2 Click on any place in Figure 3-12 to enter the page for buying licenses.

Figure 3-12 Buying a license

Step 3 Select information related to the license and click **Buy It Now**.

Step 4 Enter contact information. Click **Submit Order** after the order is confirmed.

After successful operation, NovaStar will contact you for the payment within 2 working days.

Step 5 Perform any of the following operations according to your actual needs.

- Click **Return to mall** to return to the mall.
- Click **View orders** to enter the **Order History** page.

3.10.3 Renewing Licenses

Step 1 Choose 👤 admin ▾ > **My License**.

Step 2 Perform any of the following operations to enter the license renewal page.

- Select one or more licenses and click **Renew**.

- Click a license number.

Step 3 Set required information and click **Submit Order**.

After successful operation, our staff will contact you for the payment within 2 working days.

Step 4 Perform any of the following operations according to your actual needs.

- Click **Return to license list** to return to the **My License** page.
- Click **View orders** to enter the **Order History** page.

3.10.4 Viewing Order History

System administrator and the sub-users of system administrator can view all the order history.

Step 1 Choose 🔲 admin ▾ > **Order History**.

Step 2 Perform any of the following operations to view order details.

- Select an order and click **Detail**.
- Click an order number.