



RIIL IT Business Management Operation Guide

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1 Introduction

Based on the IT service management concept of the IT Infrastructure Library (ITIL), RIIL IT Business Management (hereinafter referred to as RIIL) is developed by Ruijie Networks for the IT support and management departments of large- and medium-sized enterprises by integrating multiple technologies such as business services, resource management, and configuration management database (CMDB). RIIL aims to help users solve problems in the IT support and management process and improve the IT service level and efficiency.

RIIL6.2 is added with the data center, wireless management, and traffic analysis functional modules.

Data center

- 3D modeling, making management more refined and accurate and allowing you to know every detail of the data center;
- Added statistics of free space and energy consumption, allowing IT managers to make detailed statistical planning;
- Visualized management of devices, presenting every detail of each device precisely.

Wireless management

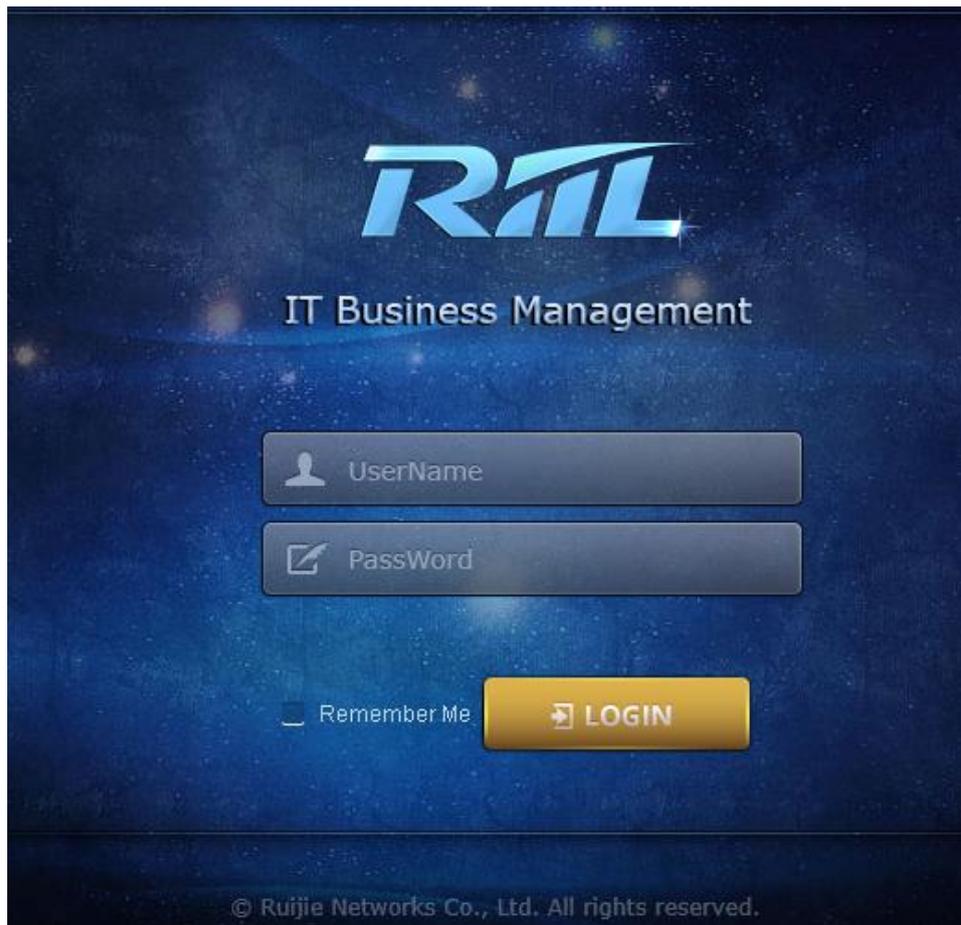
- Visual wireless heat map and intelligent calculation of signal attenuation by obstacles, giving an authentic reflection of wireless coverage;
- Unified management of wireless clients;
- Wizard-based configuration, simplifying wireless deployment;
- Multidimensional statistical report on wireless resources, giving an intuitive presentation of resource operations.

Traffic analysis

- Support of multiple traffic analysis protocols and mainstream traffic analyzers at markets;
- Traffic topology, giving a hierarchical presentation of network traffic occupied by each link;
- Traffic usage analysis in the interface, application, terminal, session, and IP address dimensions and provision of various types of reports.

2 Logging in to RIIL

1. After you install and start RIIL successfully, start a browser and enter `http://[server IP address]:[port number]` in the address bar. The default port is 80. You can leave it blank.
2. The RIIL login page is displayed. You can use the default administrator account (user name: **admin**; password: **riiladmin**) to log in to RIIL.



- 1) Change the password immediately after you log in for the first time.
- 2) If the Flash Player is not installed on your browser, the following page is displayed, prompting you to install the Flash Player.

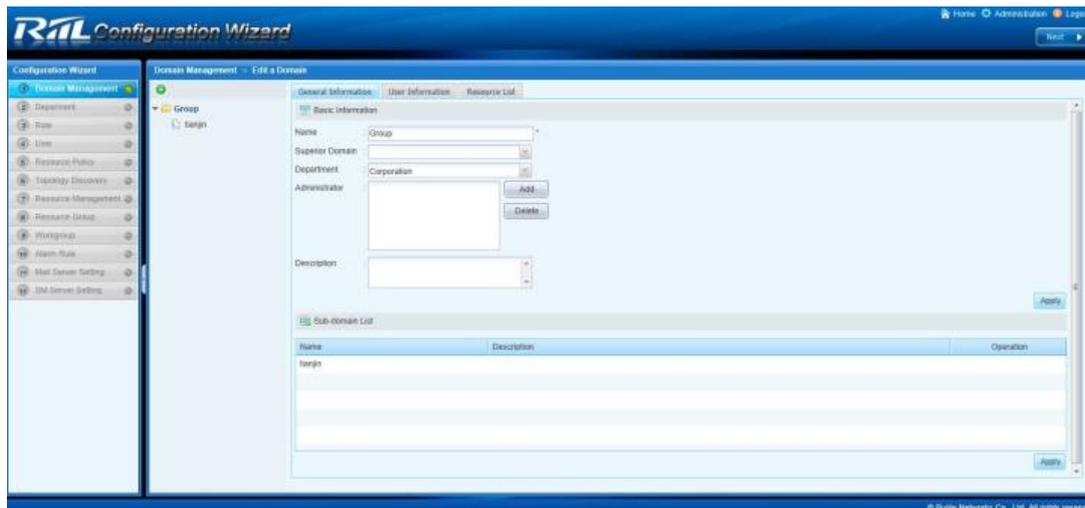


- 3) Although you may download the Flash Player from the local server, you are advised to download the latest Flash Player version from the official website of Adobe. After you install the Flash Player, re-start the browser and log in to RIIL.

3 Quick Start

3.1 Configuration Wizard

After you log in to RIIL for the first time, the **RIIL Configuration Wizard** page is displayed, which guides you through basic configurations in 12 steps quickly.



When you complete the configuration in each step, click **Next** to start configuration in the next step until all configurations are finished. The following sections describe the specific operations in each step.

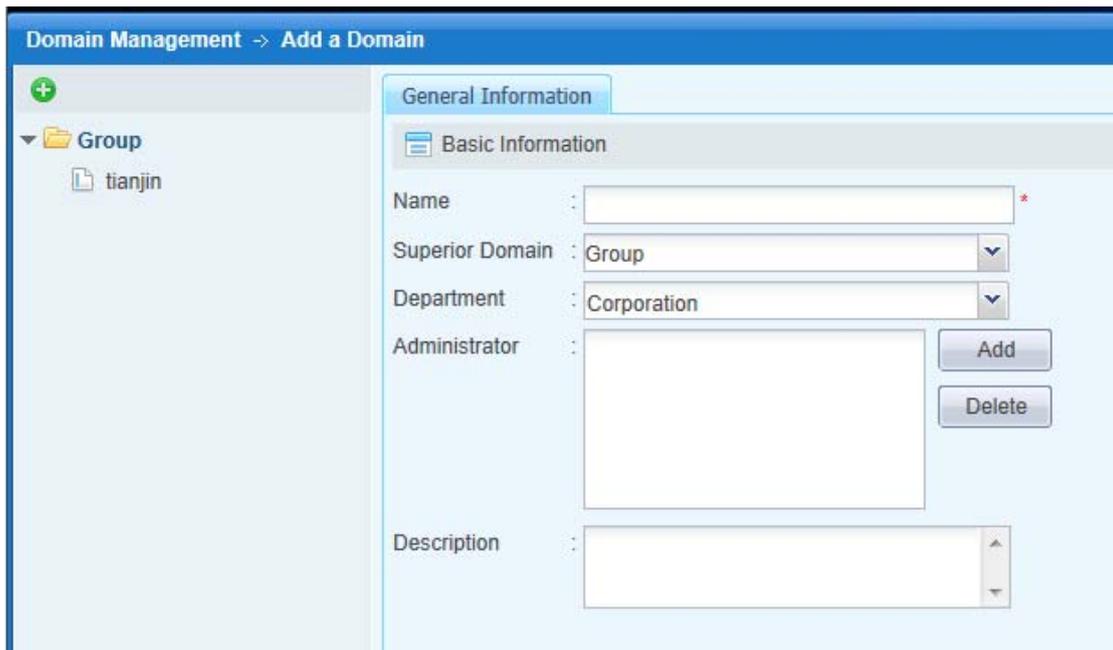
3.1.1 Domain Management

Concept of a domain: A domain is equivalent to a management unit, which is applicable in groups that have subsidiaries and need to manage their subsidiaries in a unified manner. A domain is a collection of resources and staff, which is available only in the RIIL Enterprise Edition. Users of the RIIL Standard Edition can skip this section and other domain-related sections.

Objective of a domain: To group resources and users based on domains, thereby facilitating distributed management and clarifying permission management.

1. Creating a domain

Click . The **Domain Management -> Add a Domain** page is displayed. On the **General Information** tab page, set the **Name**, **Superior Domain**, **Department**, **Administrator**, and **Description** fields.



Click . The **Select a User** dialog box is displayed. Select a domain administrator from the list.

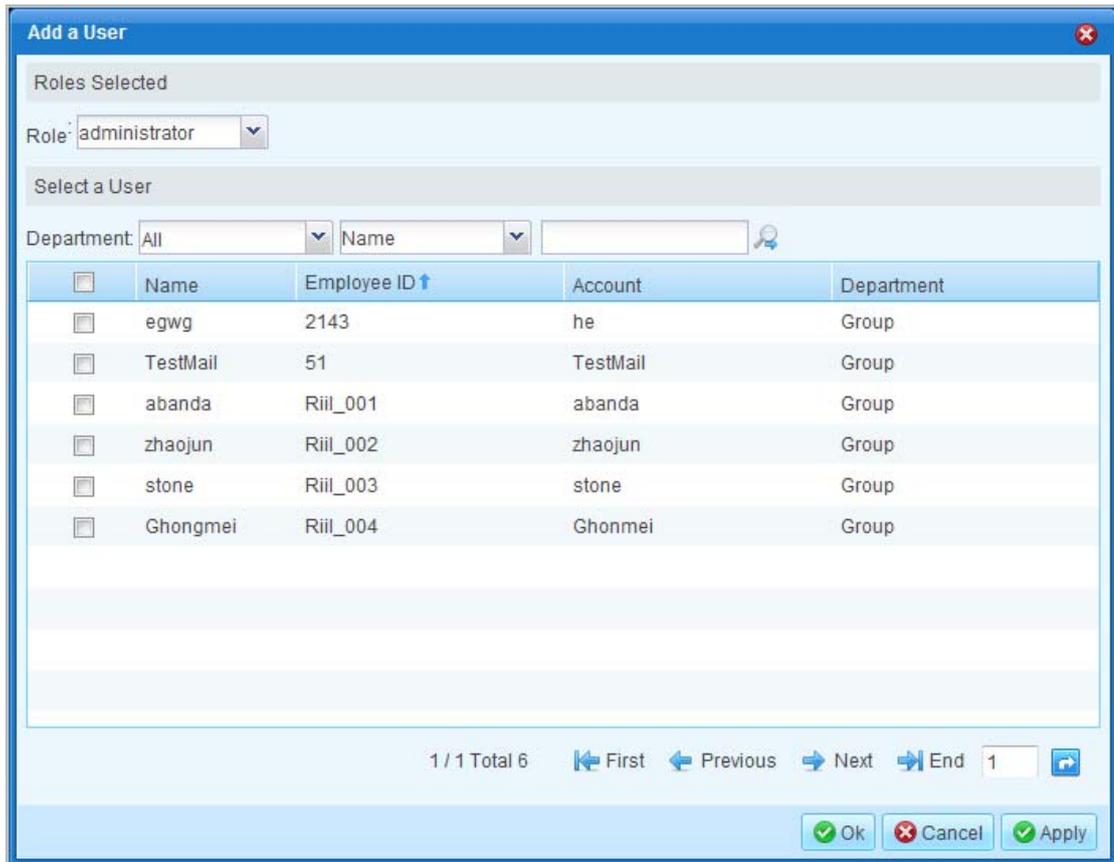
To delete a domain administrator, click .

2. Assigning domains to users

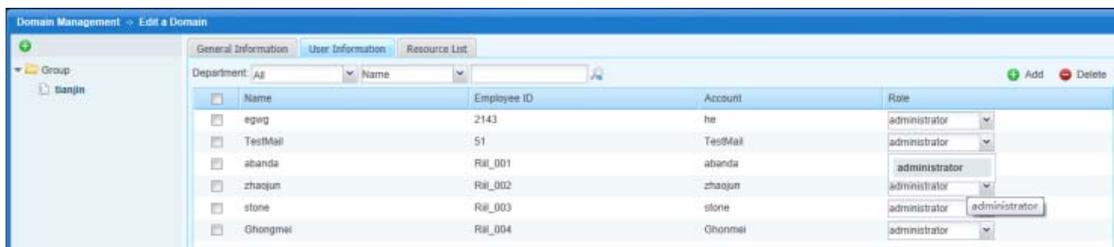
1) Adding a user: Select a domain and click the **User Information** tab to add a user to the domain.



Click . The **Add a User** dialog box is displayed. Select the role to be assigned and the users that are not assigned with the role. Role information will be automatically added to the **User Information** tab page. The Staff Organization–User Management module and Staff Organization–Role Management module are updated accordingly.



- 2) Canceling the domain–role relationship. Select the role of a user to be deleted and click  **Delete** . The role is deleted from the user.



3. Configuring domain resources

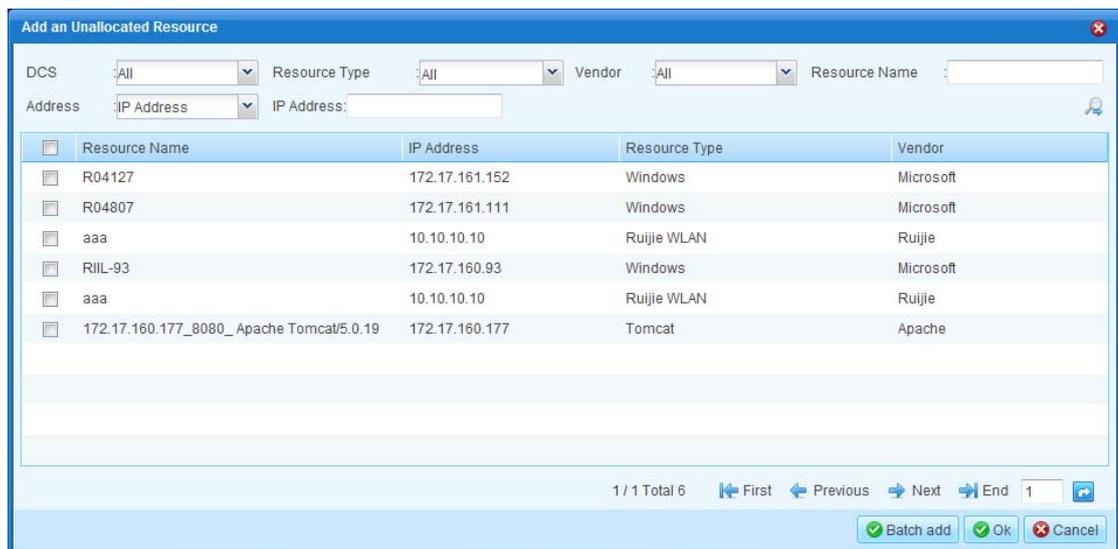
Select a domain and click the **Resource List** tab to add resources to the domain.

You can add resources to a domain manually or by configuring allocation rules.

- 1) Click  **Allocation Rule** . The **Resource Allocation Rule** dialog box is displayed. Define resource allocation rules in the **Rule List** area based on the **Note** below and click **Save**. After that, all resources that comply with the defined rules are automatically allocated to the current domain.



- 2) To add unallocated resources manually, click .

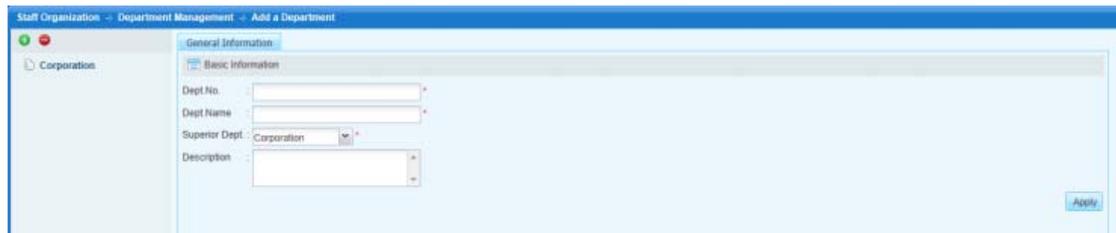


Note: When domain management configuration is completed, users in the domain can log in to RIIL and view functional modules and resources in the domain that they have permissions to on the foreground.

3.1.2 Department Management

1. Creating a department

- 1) Click . On the **General Information** tag page, set the **Dept.No.**, **Dept.Name**, **Superior Dept.**, and **Description** fields and click **Apply**. A department is created.



2) To modify department information, select a department and edit the information of the department.

2. Adding department staff

Select an existing department and add/delete staff to/from the department on the **Use Information** tab page.



3. Deleting a department

Select a department and click .

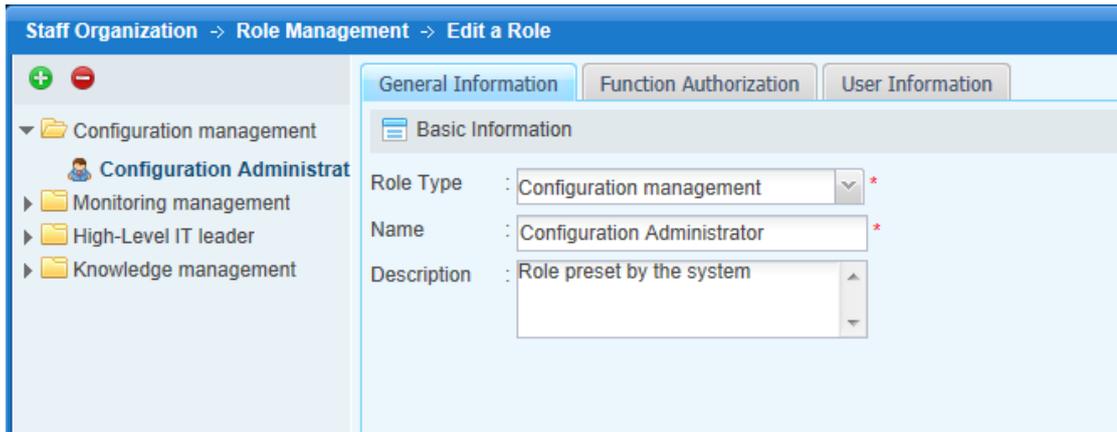
3.1.3 Role Management

Roles are used to organize the permissions to operate tabs. A user can have the permission to operate multiple tabs. After a user is assigned with a role, the user has access to the corresponding functional tabs.

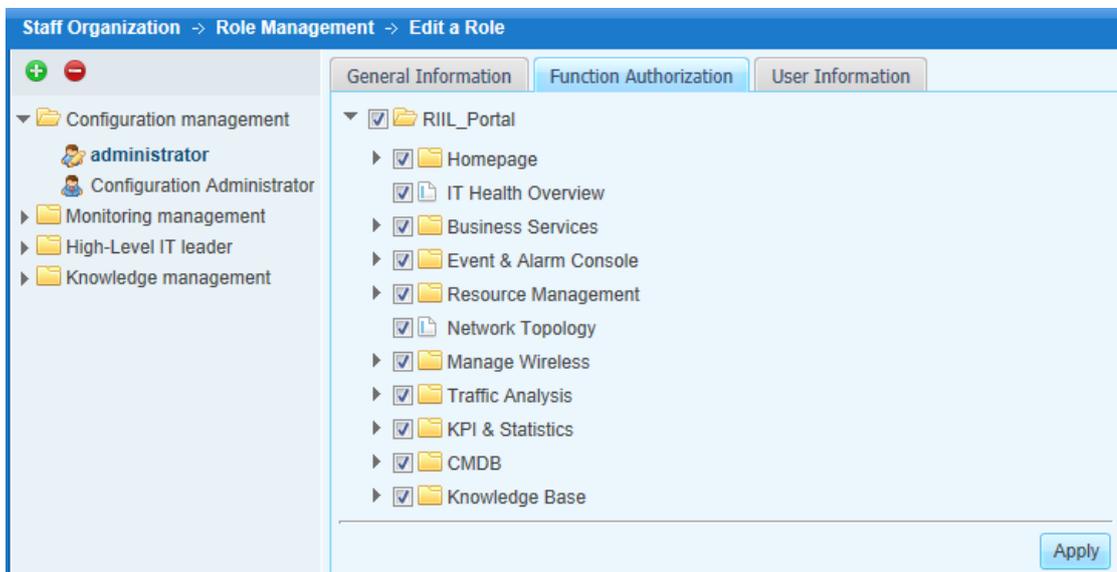
Five roles are predefined in RIIL: configuration administrator, monitoring administrator, equipment room administrator, IT department administrator, and knowledge base administrator. The predefined roles can meet general requirements.

1. Defining a role

1) Creating a role: Click . On the **General Information** tab page, set the **Role Type**, **Name**, and **Description** fields and click **Apply**. A role is created.



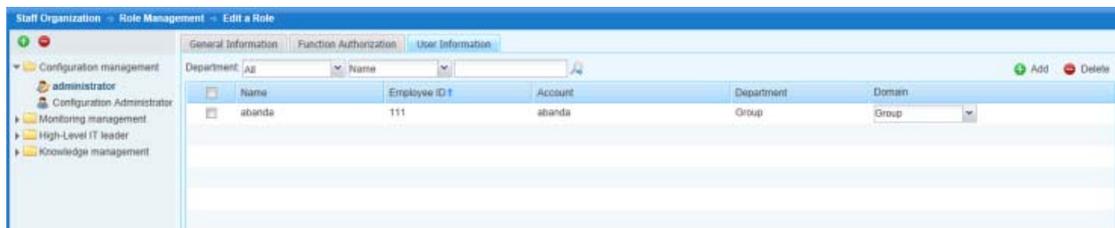
- 2) Configuring the functions that a role has the permission to use: Select a new role, click the **Function Authorization** tab, select the required functions listed below, and click **Apply**.



2. Assigning a role to a user

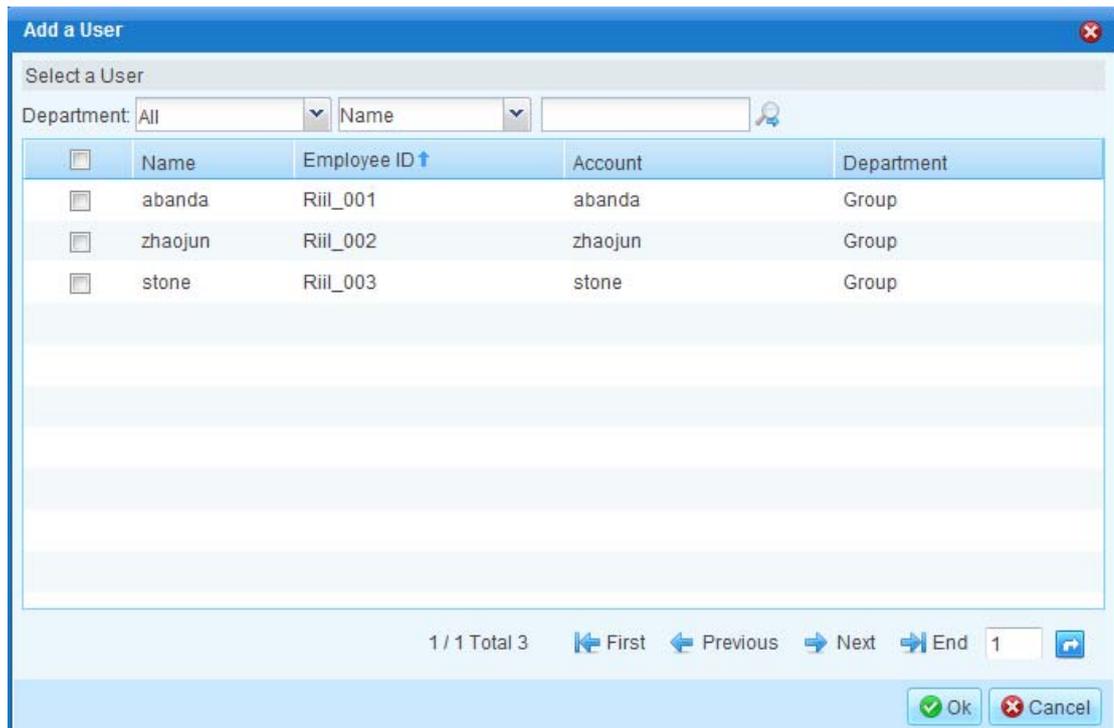
Select a role and click the **User Information** tab to add/delete staff to/from the role.

The following list displays all the records of users in the selected role.



- 1) Creating a role–staff relationship

Click . The **Add a User** dialog box is displayed. When you complete domain and user configurations, click **OK**.



2) Canceling a role–staff relationship

Select a user in the list and click . The current role is deleted from the user.

3.1.4 User Management

After a user is assigned with a role and a workgroup and added to RIIL, the user can access the resources of the workgroup under the functional module that the user has the permission to operate.

1. Viewing the user list

The user list contains the following information: name, employee ID, account, department, mobile phone, mailbox, and role. A user may have multiple roles.

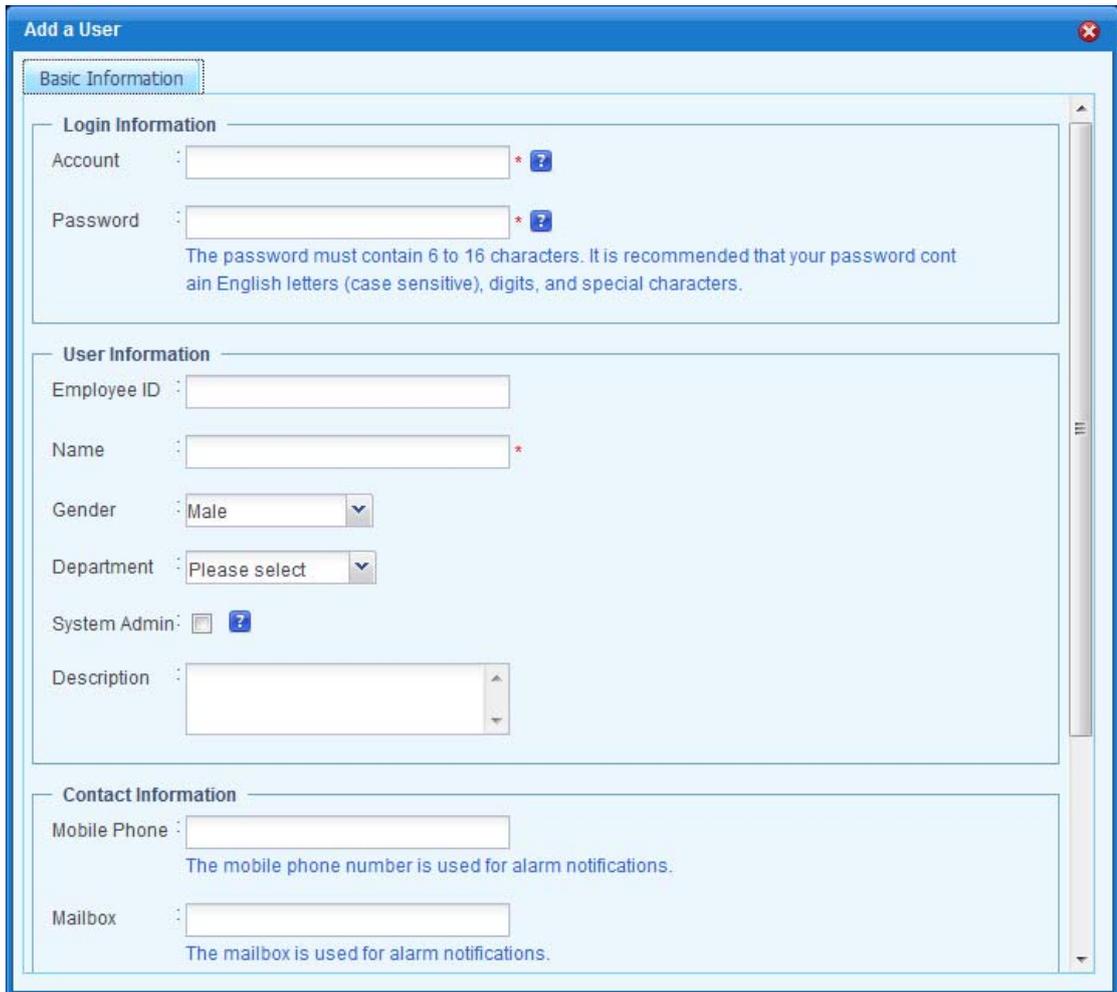


2. Configuring a user

Adding a user

Click . The **Add a User** dialog box is displayed. Set the fields in the **Login Information**, **User Information**, and **Contact Information** areas. You may save the settings in either of the following ways:

- ✚ Click **Apply**. The settings are saved but the **Add a User** Dialog box is not closed.
- ✚ Click **OK**. The settings are saved and the **Add a User** Dialog box is closed.



Add a User

Basic Information

Login Information

Account : *

Password : *

The password must contain 6 to 16 characters. It is recommended that your password contain English letters (case sensitive), digits, and special characters.

User Information

Employee ID :

Name : *

Gender : Male

Department : Please select

System Admin :

Description :

Contact Information

Mobile Phone :

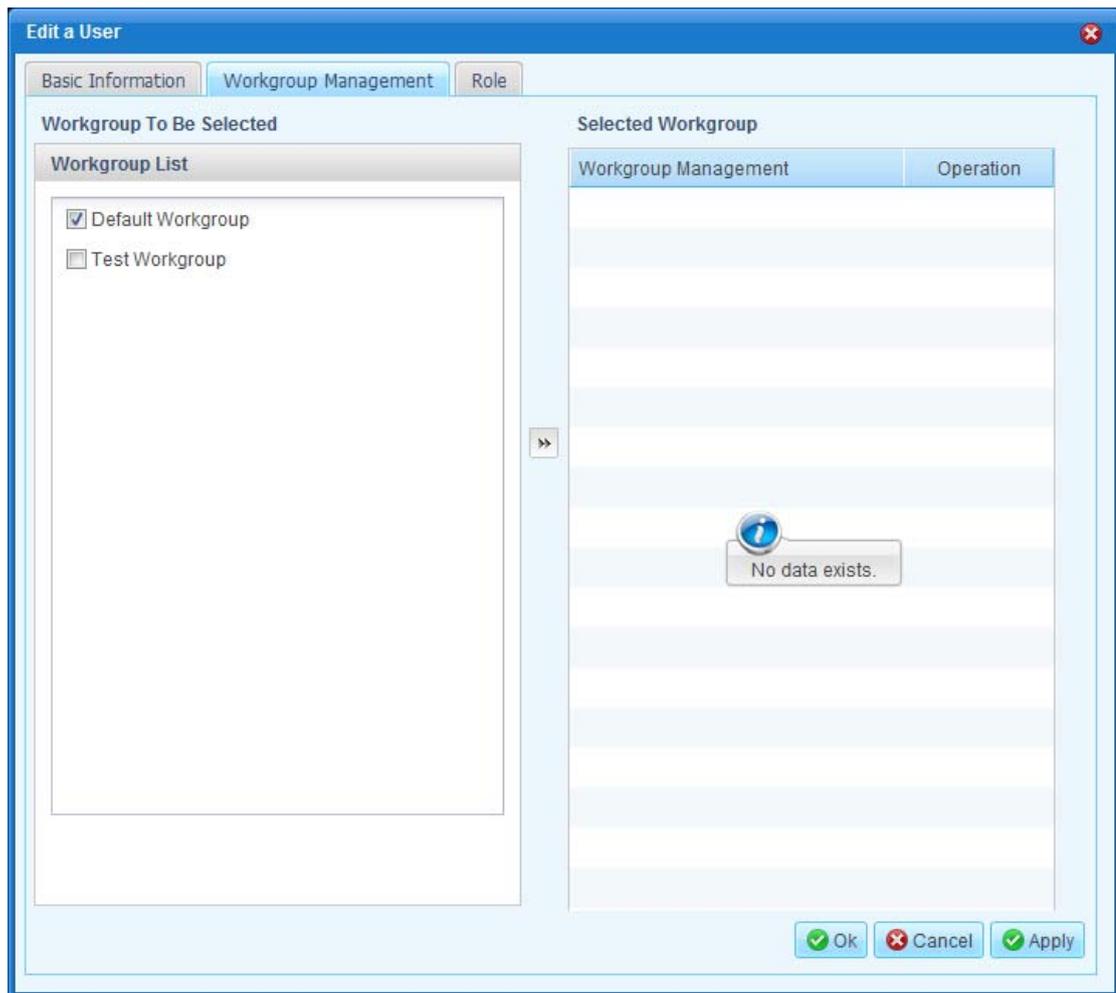
The mobile phone number is used for alarm notifications.

Mailbox :

The mailbox is used for alarm notifications.

- ✚ **Assigning a workgroup**

A default workgroup is available in RIIL. Users in the default workgroup can view all resources of RIIL, whereas users in a user-defined workgroup can view only the specified resources. Select workgroups based on your requirements.



✚ Assigning a role to a user

Selecting an application domain: **Group** is selected by default.

Selecting a role: The role list contains the default role and user-defined roles. Select roles based on your requirements.

4. Deleting a user

In the user list, select a user record and click  **Delete**. The selected record is deleted from RIIL.

3.1.5 Resource Policy

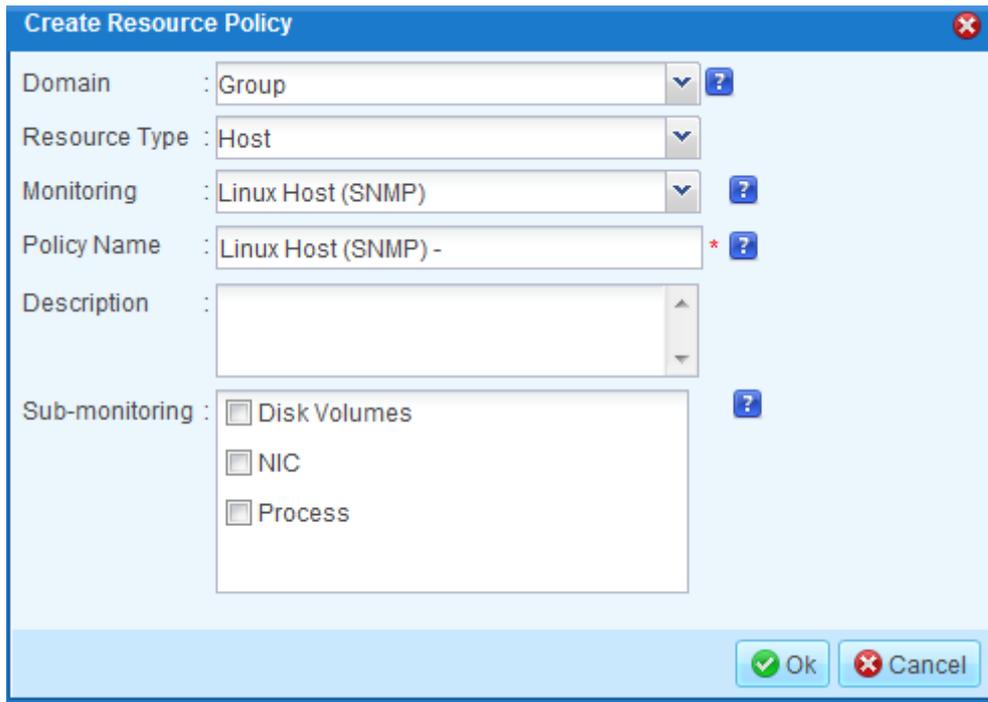
A resource policy defines the frequency, metric threshold, and event rule of resource monitoring. Only resources assigned with resource policies are monitored.

Resource policies include the default resource policy of RIIL and user-defined resource policies and are displayed in two modes: all policies mode and resource policies mode. You can click  in the toolbar to switch the policy display mode. The all policies mode is used by default.

To search for policies corresponding to a resource type, click  in the toolbar.

1. Creating a resource policy

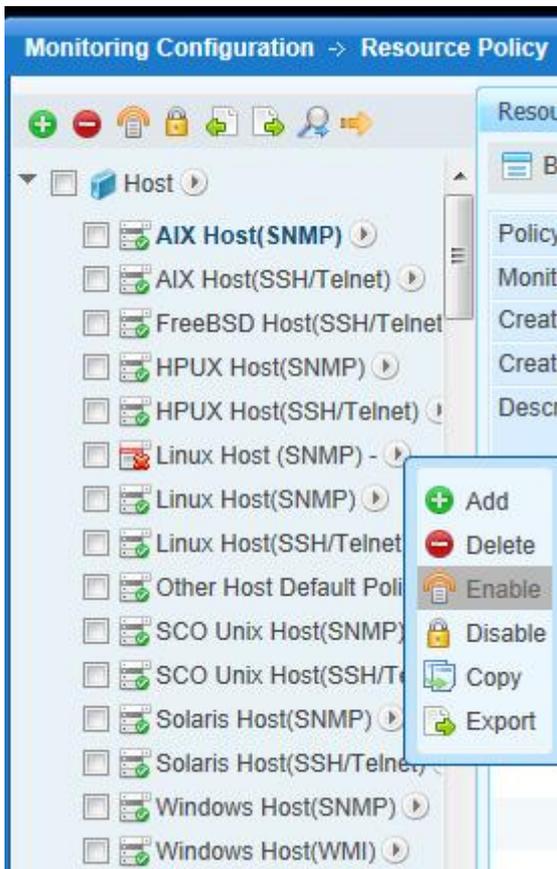
Click  in the toolbar. The **Create Resource Policy** dialog box is displayed. Set the **Domain**, **Resource Type**, **Monitoring**, **Policy Name**, **Description**, and **Sub-monitoring** fields and click **Ok**.



2. Enabling a resource policy

You may enable resource policies one by one or in batches.

- ✚ Enabling a single resource policy at a time



- ✚ Enabling multiple resource policies in batches



Select a user-defined resource policy and click . The resource policy is enabled and marked with . The default resource policy of RIIL is enabled by default and marked with .

After a resource policy is enabled, the resources in the policy are under monitoring.

3. Disabling a resource policy

For details, see Enabling a resource policy.

Select a user-defined resource policy and click . The resource policy is disabled and marked with . The default resource policy of RIIL is enabled by default and cannot be disabled.

After a resource policy is disabled, the resources in the policy are not monitored.

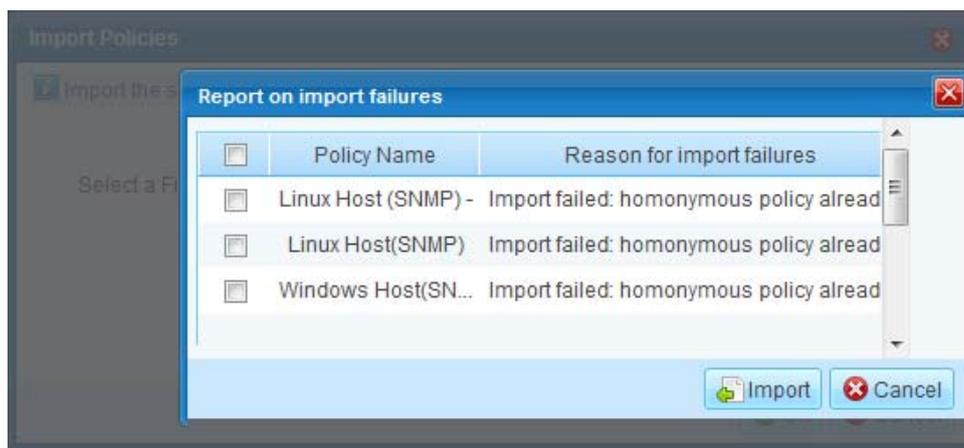
4. Importing a resource policy

The resource policy import function enables you to import backup resource policies into a new system.

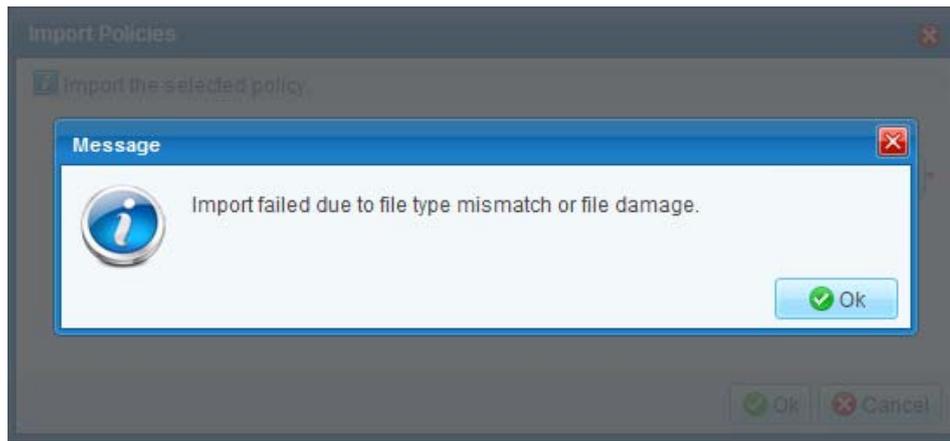
Click  in the toolbar. The **Import Policies** dialog box is displayed. Select a policy file and click **Import**.

An import failure occurs in the following conditions:

-  The resource policy to be imported has the same name as an existing resource policy in the system. The following dialog box is displayed.



-  The type of the file to be imported is not matching or the file is corrupted. The following dialog box is displayed.



5. Exporting a resource policy

The resource policy export function enables you to export resource policies for backup and import the backup resource policies into a new system later.

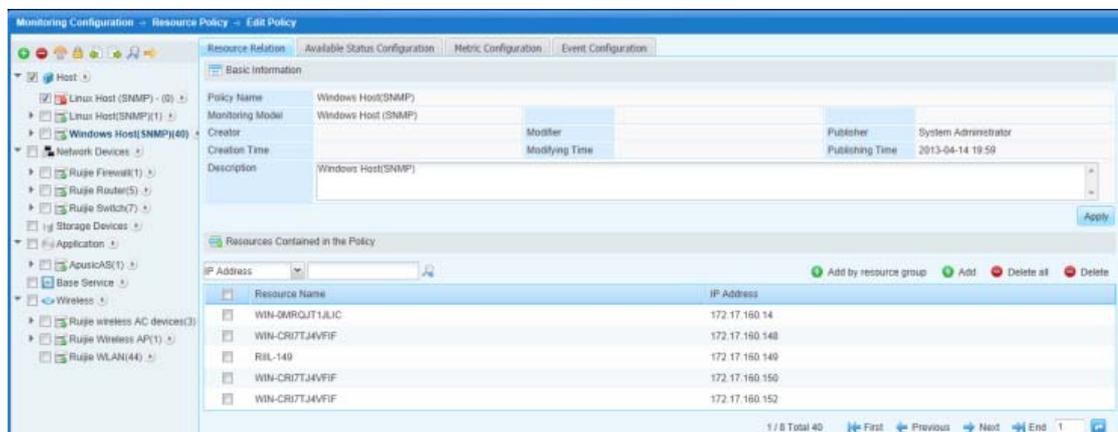
For details, see [Disabling a resource policy](#).

Click . The **File Download** dialog box is displayed. Click **Save**.

6. Configuring a resource policy

1) Resource Relation

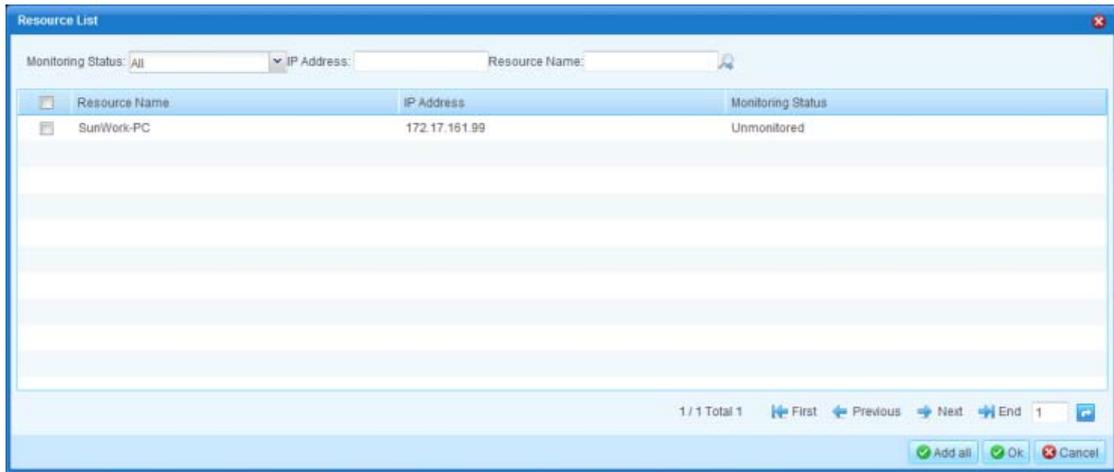
Select a resource policy and click the **Resource Relation** tab. The **Resource Relation** tab page is displayed.



i. Adding resources to a resource policy for monitoring

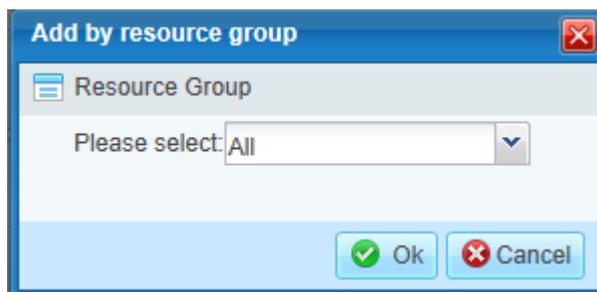
Adding resources by resource list

Click . The **Resource List** dialog box is displayed. Add resources that need to be monitored by the current resource policy and click **Ok**.



Adding resources by resource group

Click . The **Add by resource group** dialog box is displayed. Select a resource group and click **Ok**. The resources in the resource group that match the resource policy type are added to the **Resources Contained in the Policy** list.



ii. Removing resources from a resource policy

Select the resources to be removed from a resource policy and click .

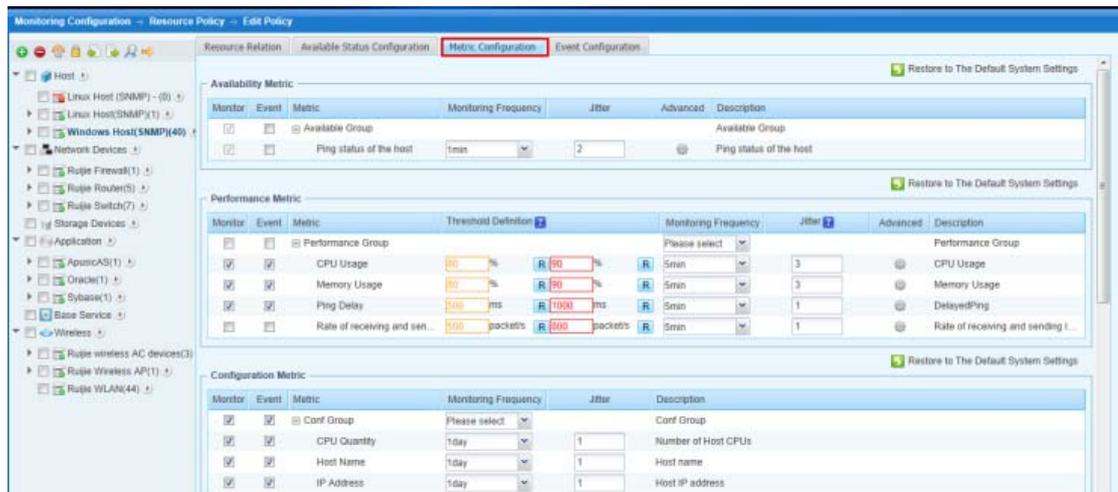
To remove all resources from a resource policy, click .



2) Metric Configuration

A resource policy includes the availability metric, performance metric, configuration metric, and information metric, which are used to test the attributes of resources. After you configure the metrics to be monitored, these metrics are displayed on the foreground.

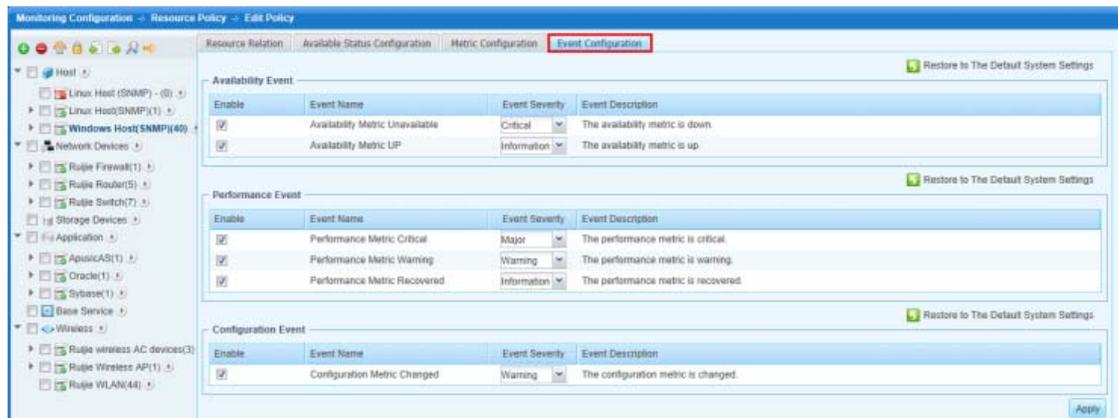
To restore factory defaults, click Restore to The Default System Settings



3) Event Configuration

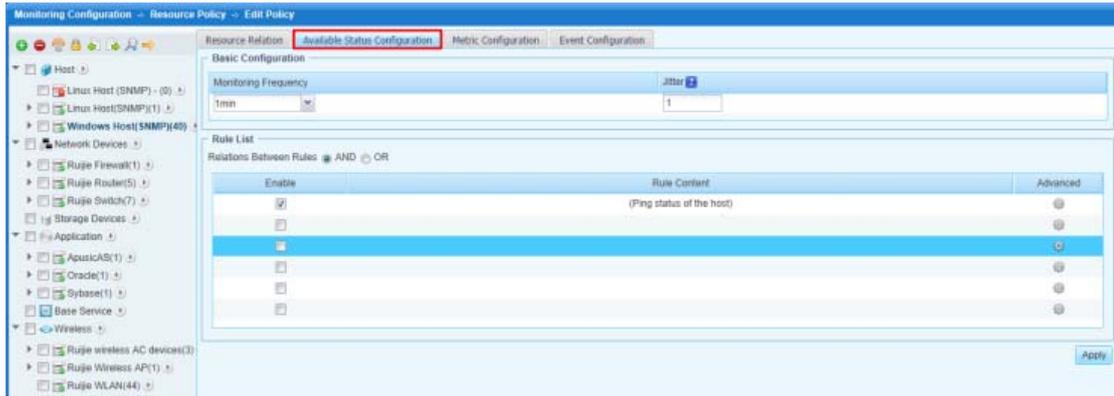
An event is generated when a metric of a resource exceeds the defined threshold. You can set the event type and event severity on the **Event Configuration** tab page.

To restore factory defaults, click Restore to The Default System Settings



4) Available Status Configuration

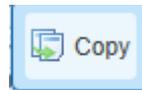
You can configure resource availability on the **Available Status Configuration** tab page. RIIL determines whether resources are available based on the configuration logic.



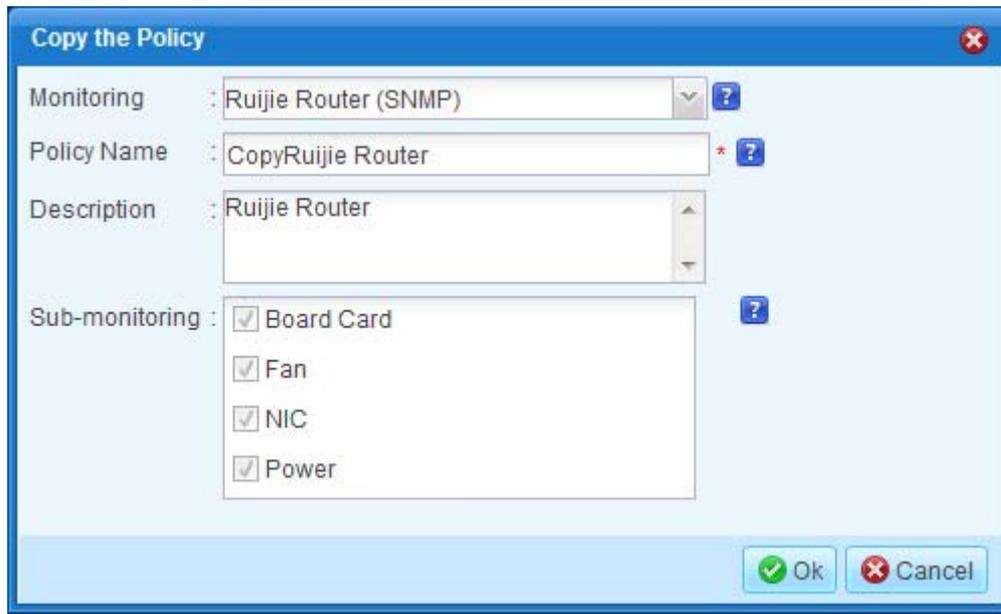
5) Trigger

You can configure a trigger on the **Trigger Configuration** tab page, which is available only for resource policies discovered through WMI, SSH, and Telnet.

7. Copying a resource policy



Right-click a resource policy and choose . The **Copy the Policy** dialog box is displayed. Set the **Monitoring**, **Policy Name**, **Description**, and **Sub-monitoring** fields and click **Ok**.



8. Deleting a resource policy

The default resource policy of RIIL cannot be deleted. When you attempt to delete it, a message is displayed, indicating that the deleting operation is not supported by the default resource policy of RIIL.

You can delete user-defined resource policies one by one or in batches.

For details, see Enabling a resource policy.

3.1.6 Topology Discovery

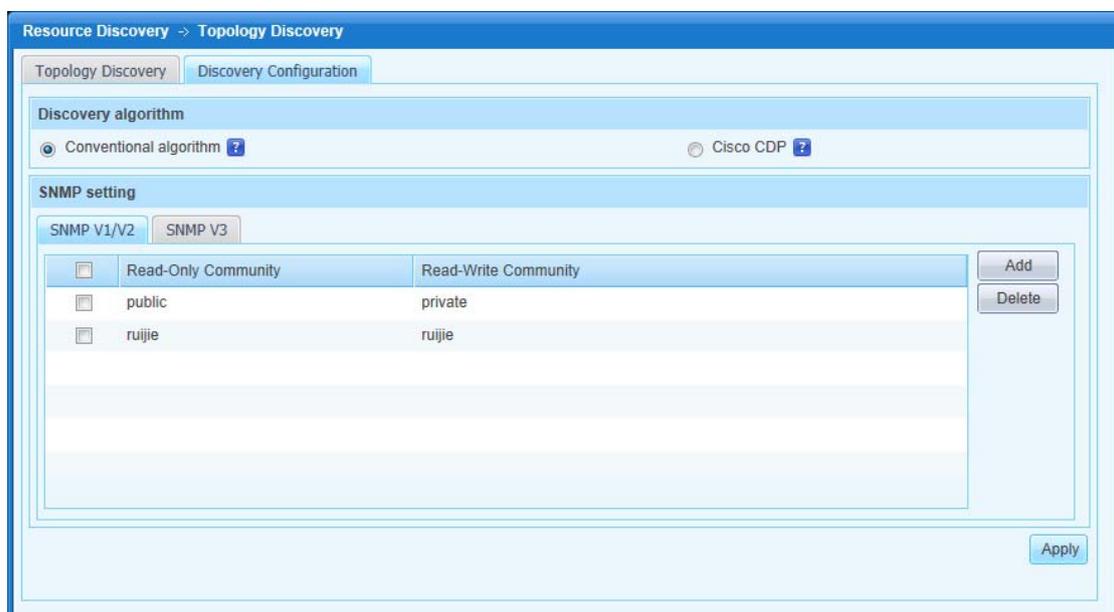
When RIIL is initialized, you can use the topology discovery function to discover relevant resources and add those resources to RIIL based on seed device setting and discovery depth.

1. Discovery Configuration

Topology discovery only supports discovery through SNMP. You need to configure a discovery algorithm and complete SNMP setting.

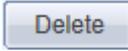
Two discovery algorithms are available: conventional algorithm (applicable to all network topologies) and Cisco CDP (applicable to the Cisco network environment). The conventional algorithm is selected by default.

SNMP setting includes SNMP V1, SNMP V2, and SNMP V3.



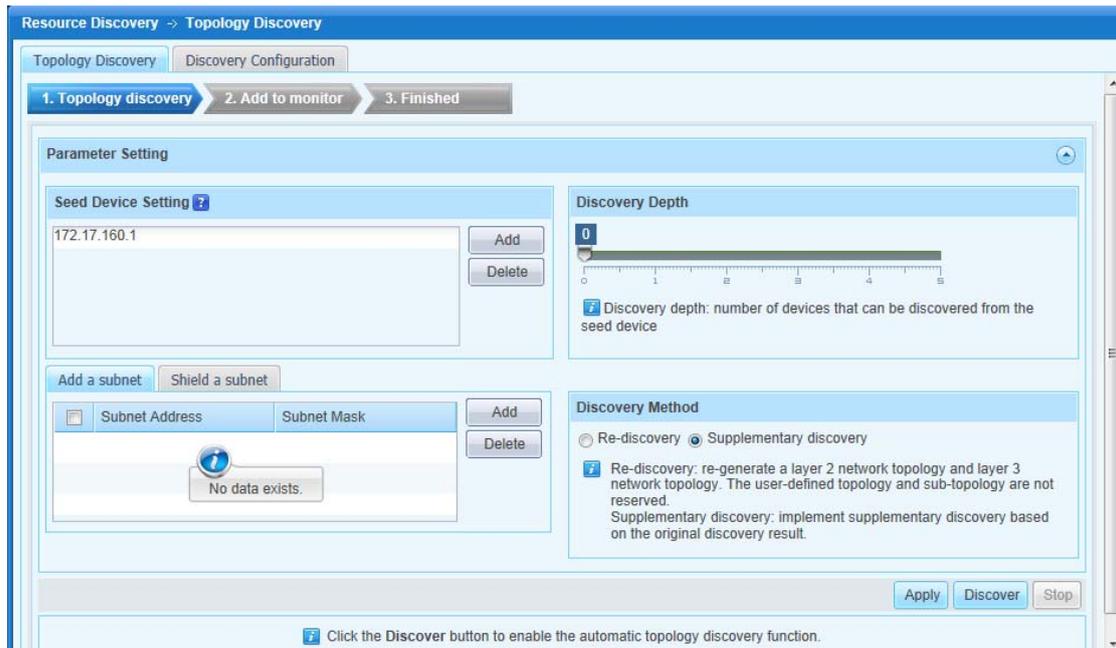
Click  and set discovery criteria.

For SNMP V1/V2, set the read-only community and read-write community. For SNMP V3, set the IP address, port number, security level, authentication protocol, proprietary protocol, and context.

To delete a set discovery criterion, select the criterion and click .

2. Topology Discovery

When the discovery configuration is completed, go to the **Topology Discovery** tab page, in which you can set the following items: **Seed Device Setting**, **Add a subnet/Shield a subnet**, **Discovery Depth**, and **Discovery Method**.



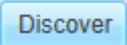
You can set the IP address of the seed device to the IP address of a core device on the network.

The discovery depth specifies the number of routes from the IP address of the seed device.

Select a discovery method based on the following principles:

- Click **Re-discovery** when topology discovery is performed for the first time.
- Click **Supplementary discovery** when supplementary discovery is performed based on the original discovery result.

Click  to save the settings on the **Topology Discovery** tab page.

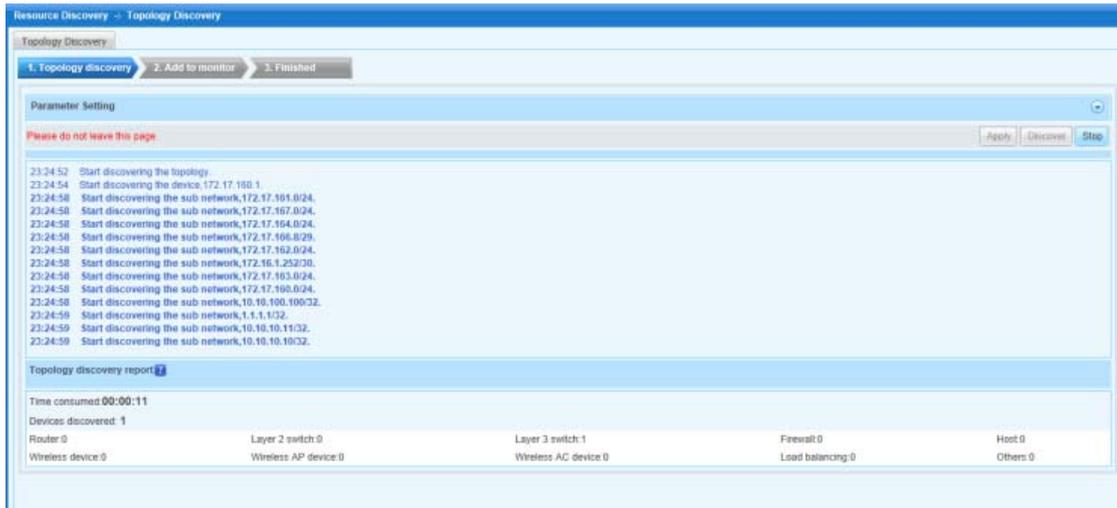
Click  to discover network topologies and resources.

Topology discovery is implemented in three steps.

i. Discovering a topology

Do not close the **Resource Discovery -> Topology Discovery** page during the discovery process; otherwise, when topology discovery is completed, you cannot access the **Resource Discovery -> Topology Discovery** page to perform post-discovery operations.

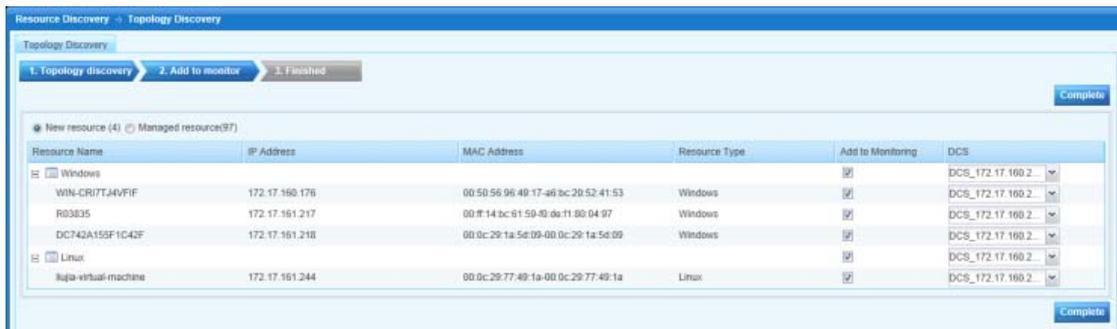
To stop the ongoing topology discovery, click .



ii. Adding resources to monitoring

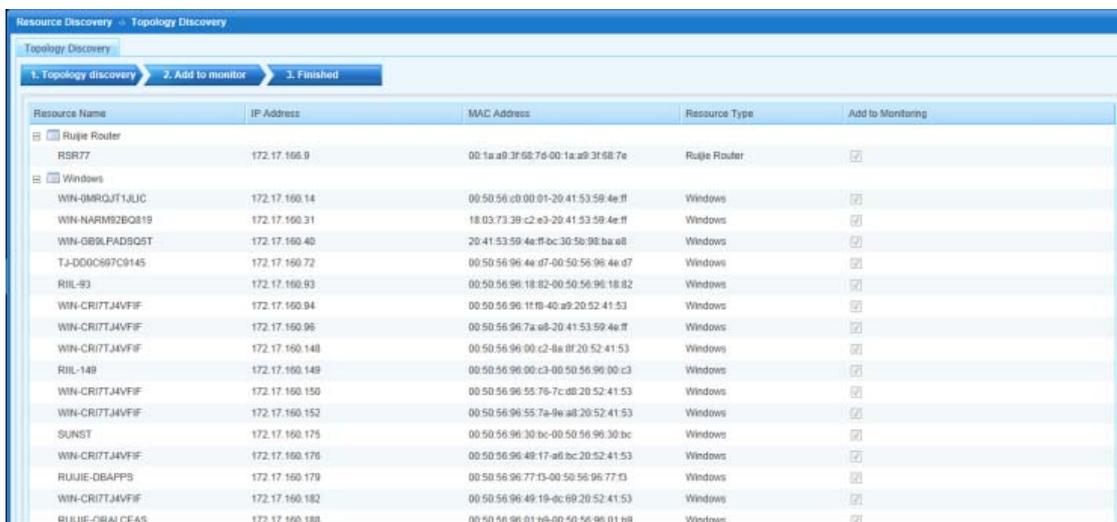
When batch discovery is completed, you can add discovered resources to monitoring and select the required collector (the number of resources that can be added to monitoring is limited by the license). Click **Apply** to save the settings.

Note: The **DCS Selection** area is available only in the environment where distributed deployment and multiple collectors are installed.



iii. Completing topology discovery

Check the list of discovered resources.



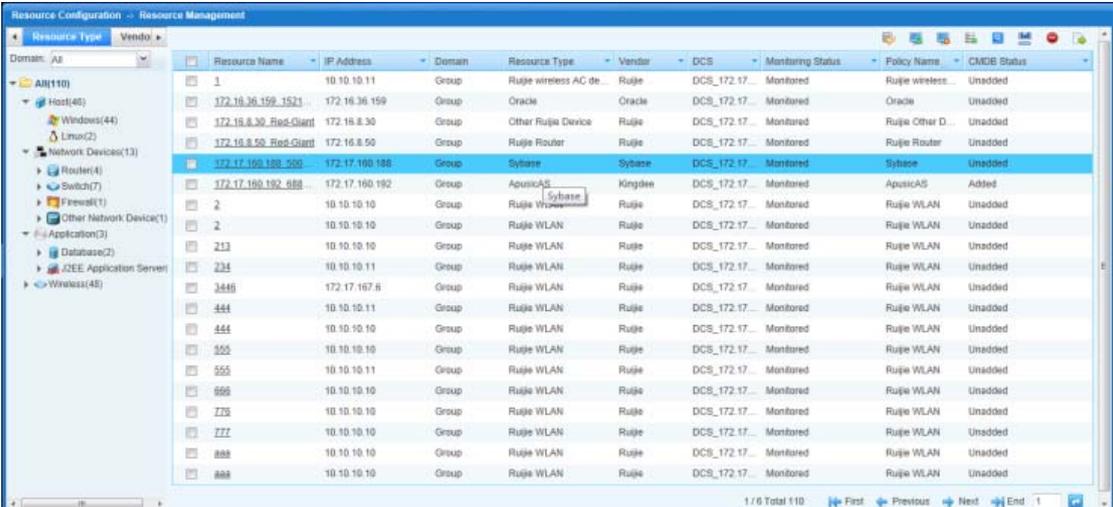
3.1.7 Resource Management

You can perform general operations (such as viewing, searching, sorting, exporting, and deleting) and special operations (such as domain translation, DCS translation, adding to a resource group, adding to monitoring, canceling monitoring, adding to the CMDB, resource discovery, and expected offline period) on discovered resources. The preceding operations are described in the following.

1. Viewing resources

You can view resources by resource type, vendor, and resource group. By default, resources are displayed by resource type.

Information in all columns of the resource list can be sorted in ascending or descending order.



Resource Name	IP Address	Domain	Resource Type	Vendor	DCS	Monitoring Status	Policy Name	CMDB Status
3	10.10.10.11	Group	Ruijie wireless AC de	Ruijie	DCS_172.17...	Monitored	Ruijie wireless...	Unadded
172.16.36.159-1521	172.16.36.159	Group	Oracle	Oracle	DCS_172.17...	Monitored	Oracle	Unadded
172.16.8.30_Red-Client	172.16.8.30	Group	Other Ruijie Device	Ruijie	DCS_172.17...	Monitored	Ruijie Other D...	Unadded
172.16.8.50_Red-Client	172.16.8.50	Group	Ruijie Router	Ruijie	DCS_172.17...	Monitored	Ruijie Router	Unadded
172.17.190.192-200	172.17.190.192	Group	Sybase	Sybase	DCS_172.17...	Monitored	Sybase	Unadded
172.17.190.192-688	172.17.190.192	Group	ApusicAS	Kingdee	DCS_172.17...	Monitored	ApusicAS	Added
2	10.10.10.10	Group	Ruijie Wireless	Ruijie	DCS_172.17...	Monitored	Ruijie WLAN	Unadded
2	10.10.10.10	Group	Ruijie WLAN	Ruijie	DCS_172.17...	Monitored	Ruijie WLAN	Unadded
213	10.10.10.10	Group	Ruijie WLAN	Ruijie	DCS_172.17...	Monitored	Ruijie WLAN	Unadded
234	10.10.10.11	Group	Ruijie WLAN	Ruijie	DCS_172.17...	Monitored	Ruijie WLAN	Unadded
3668	172.17.167.6	Group	Ruijie WLAN	Ruijie	DCS_172.17...	Monitored	Ruijie WLAN	Unadded
444	10.10.10.11	Group	Ruijie WLAN	Ruijie	DCS_172.17...	Monitored	Ruijie WLAN	Unadded
444	10.10.10.10	Group	Ruijie WLAN	Ruijie	DCS_172.17...	Monitored	Ruijie WLAN	Unadded
555	10.10.10.10	Group	Ruijie WLAN	Ruijie	DCS_172.17...	Monitored	Ruijie WLAN	Unadded
555	10.10.10.11	Group	Ruijie WLAN	Ruijie	DCS_172.17...	Monitored	Ruijie WLAN	Unadded
666	10.10.10.10	Group	Ruijie WLAN	Ruijie	DCS_172.17...	Monitored	Ruijie WLAN	Unadded
776	10.10.10.10	Group	Ruijie WLAN	Ruijie	DCS_172.17...	Monitored	Ruijie WLAN	Unadded
777	10.10.10.10	Group	Ruijie WLAN	Ruijie	DCS_172.17...	Monitored	Ruijie WLAN	Unadded
888	10.10.10.10	Group	Ruijie WLAN	Ruijie	DCS_172.17...	Monitored	Ruijie WLAN	Unadded
888	10.10.10.10	Group	Ruijie WLAN	Ruijie	DCS_172.17...	Monitored	Ruijie WLAN	Unadded

2. Searching resources

You can filter resources based on the columns of the resource list, including **Resource Name**, **IP Address**, **Domain**, **Resource Type**, **Vendor**, **Monitoring Status**, **Policy Name**, and **CMDB Status**.

3. Editing resources

Click a resource name in the resource list. The **Edit a Resource** dialog box is displayed, in which you can edit the basic resource information, discovery information, expected offline period, and sub-resource information.

4. Exporting all resources

Click . All resources in the resource list are exported to an EXCEL file.

5. Domain translation

Select a resource in the resource list and click . The domain corresponding to the resource is converted.

6. DCS translation

Select a resource in the resource list and click . The DCS corresponding to the resource is converted.

7. Adding to a resource group

Select a resource in the resource list and click  to add the resource to the required resource group.  is available only when you view resources of a specific domain because resources of different domains cannot be added to resource groups at the same time.

8. Adding to monitoring

Select a resource in the resource list and click  to add the resource to monitoring. The monitored resource is displayed on the foreground.

9. Canceling monitoring

Select a resource in the resource list and click  to cancel monitoring of the resource. The unmonitored resource is cleared from the foreground.

10. Adding to the CMDB

Select a resource in the resource list and click  to add the resource to the CMDB, through which you can manage the configuration and change of the resource. The resource is marked with **Added** in the CMDB column.

11. Resource discovery

Click . The **Resource Discovery** dialog box is displayed. Specify information in the **DCS Selection**, **Discovery Type**, and **Discovery Information** areas and click **Discover** to discover a single resource.

12. Expected offline period

Select a resource in the resource list and click . The **Expected Offline Period** dialog box is displayed, in which you can add an expected offline period.

13. Deleting resources

Select a resource in the resource list and click . The resource is deleted from RiIL.

3.1.8 Resource Group Management

You can divide resources into different resource groups based on the actual application requirements to facilitate application and management.

1. Creating a resource group

Click . On the **General Information** tab page, set the **Name** and **Description** fields and click .

2. Adding resources

Select a resource group. On the **Resource List** tab page, you can add/delete resources to/from the resource group.

3. Deleting a resource group

Select a resource group and click .



3.1.9 Workgroup Management

Workgroups are used to organize the permissions to operate resources. Users in a workgroup have access to the resources of the workgroup.

Workgroups include the default workgroup and user-defined workgroups.

1. Creating a workgroup

Click . On the **General Information** tab page, set the **Name** and **Description** fields and click .

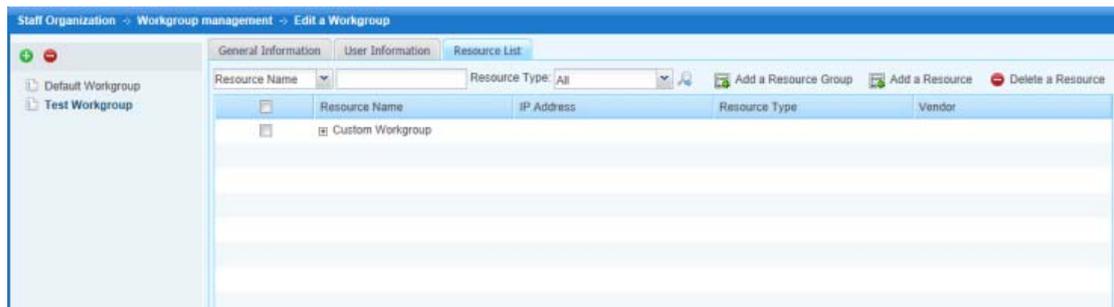
2. Adding a user to a workgroup

Select a workgroup. On the **User Information** tab page, you can add/delete a user to/from the workgroup.

3. Adding resources to a workgroup

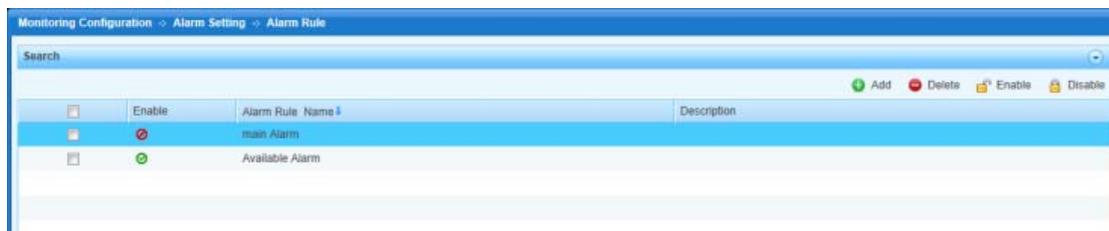
Users in the default workgroup can view all resources of RIIL. You do not need to add resources to the default workgroup manually.

Select a user-defined workgroup. On the **Resource List** tab page, you can add and delete resource groups and resources. Users in user-defined workgroups can only view the resources manually added.



3.1.10 Alarm Rule

An alarm rule is used to send events generated by concerned resources to corresponding users based on the defined filter criteria in different ways.



1. Adding an alarm rule

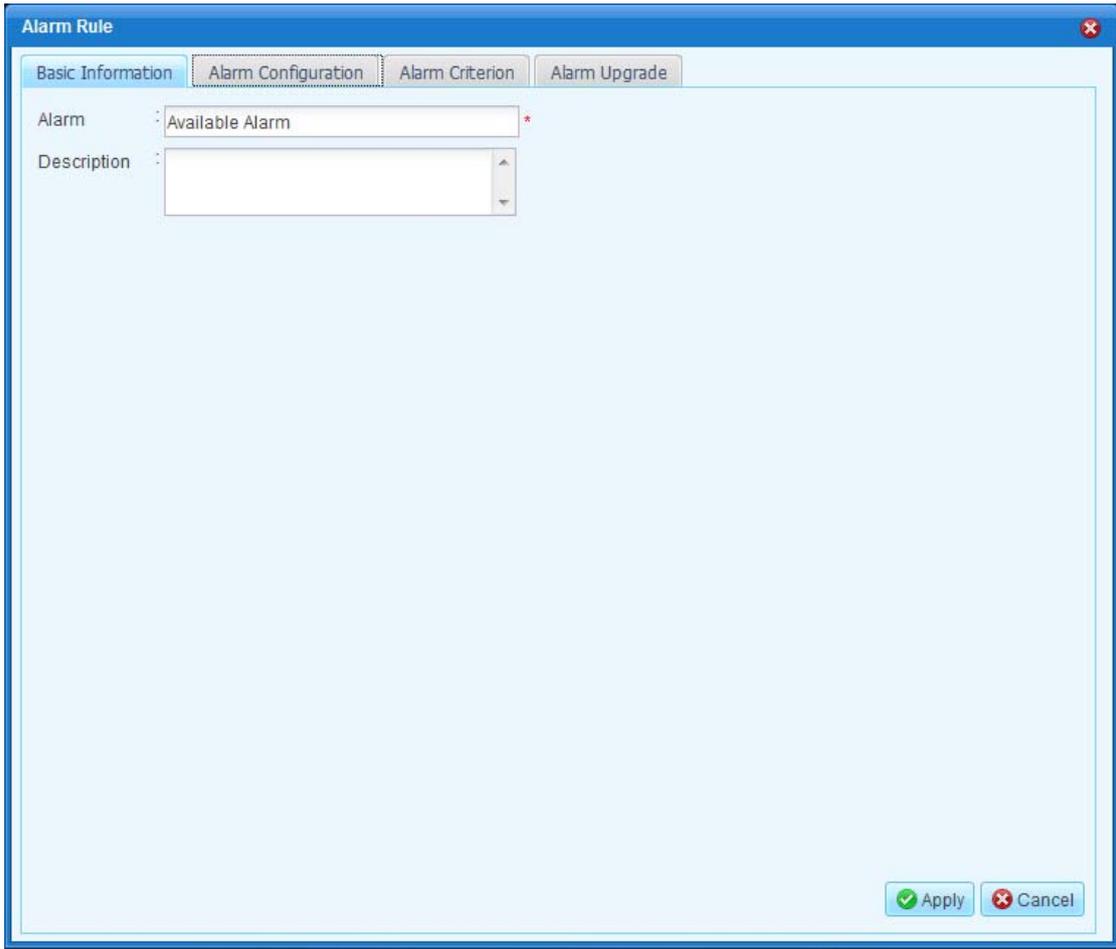
Click  **Add**. The **Alarm Rule** dialog box is displayed, in which you can configure an alarm rule by setting some basic information.

After an alarm rule is configured, the **Alarm Configuration**, **Alarm Criterion**, and **Alarm Upgrade** tab pages are displayed.

On the **Alarm Configuration** tag page, you can determine the events of resources for which alarms will be generated.

On the **Alarm Criterion** tab page, you can configure the alarm time, alarm criterion, alarm mode, and alarm receiver.

On the **Alarm Upgrade** tab page, you can configure the alarm upgrade criteria and alarm receiver.

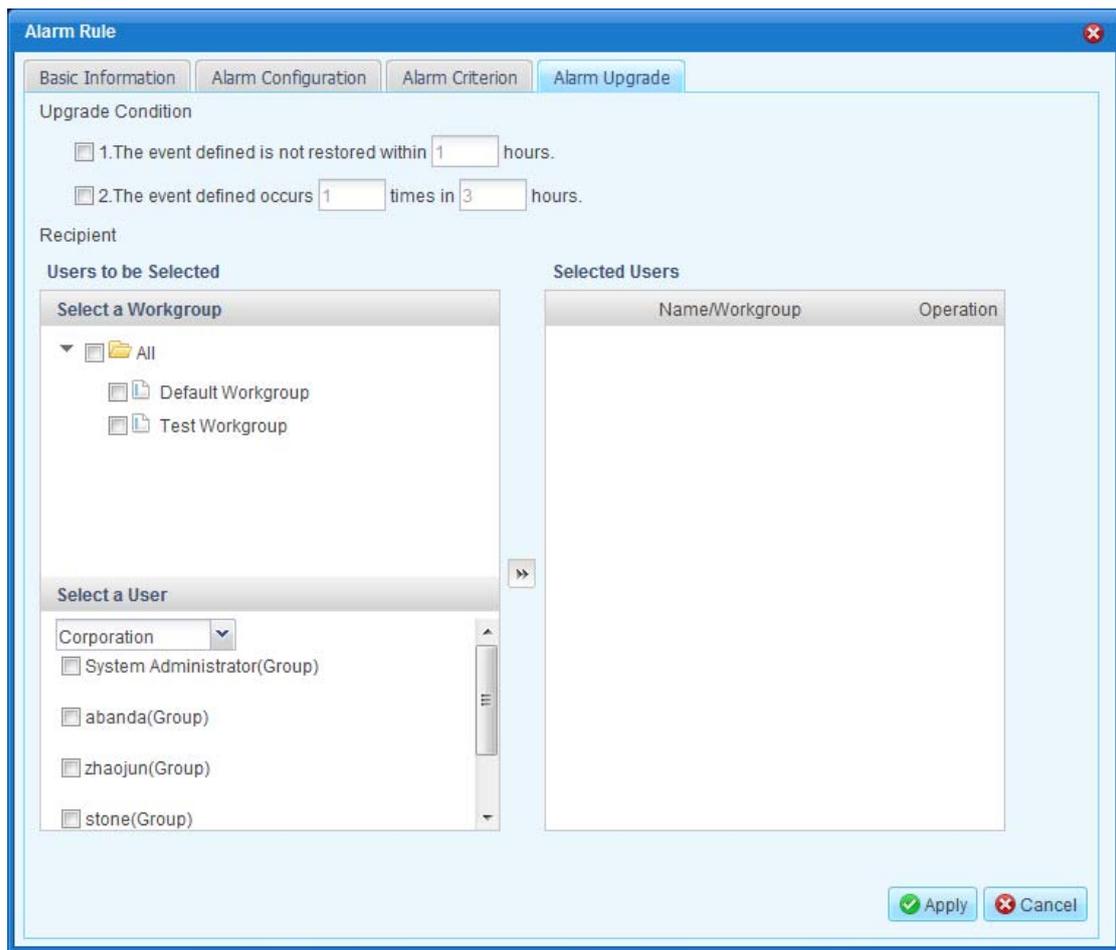


The screenshot shows the 'Alarm Rule' dialog box with the following elements:

- Title bar: Alarm Rule
- Navigation tabs: Basic Information (selected), Alarm Configuration, Alarm Criterion, Alarm Upgrade
- Fields:
 - Alarm: A dropdown menu with 'Available Alarm' selected and a red asterisk to its right.
 - Description: A text area.
- Buttons: Apply (with a green checkmark icon) and Cancel (with a red X icon) at the bottom right.

2. Editing an alarm rule

Click the name of an alarm rule in the alarm rule list. The **Alarm Rule** dialog box is displayed, in which you can edit information on the **Basic Information**, **Alarm Configuration**, **Alarm Criterion**, and **Alarm Upgrade** tab pages.



3. Enabling an alarm rule

Select an alarm rule and click  **Enable**. The alarm rule is enabled and marked with  and the alarm configuration of the alarm rule takes effect.

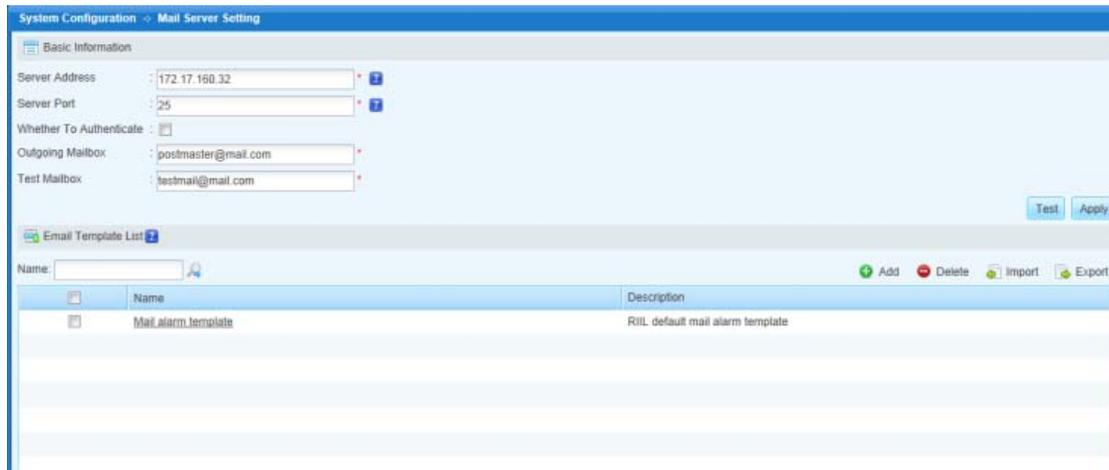
4. Disabling an alarm rule

Select an alarm rule and click  **Disable**. The alarm rule is disabled and marked with  and the alarm configuration of the alarm rule does not take effect.

5. Deleting an alarm rule

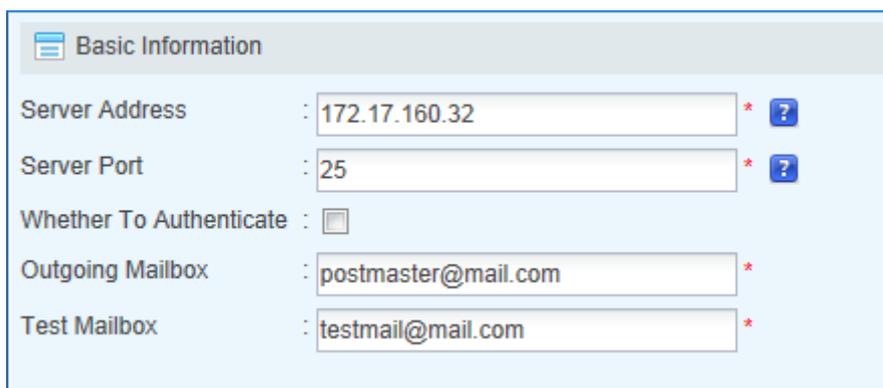
Select an alarm rule and click  **Delete**. The alarm rule is deleted from RIIL.

3.1.11 Mail Server Setting



1. Basic Information

In the Basic Information area, you can specify the following information for a mail server: **Server Address**, **Server Port**, **Whether to Authenticate**, **Outgoing Mailbox**, and **Text Mailbox**.

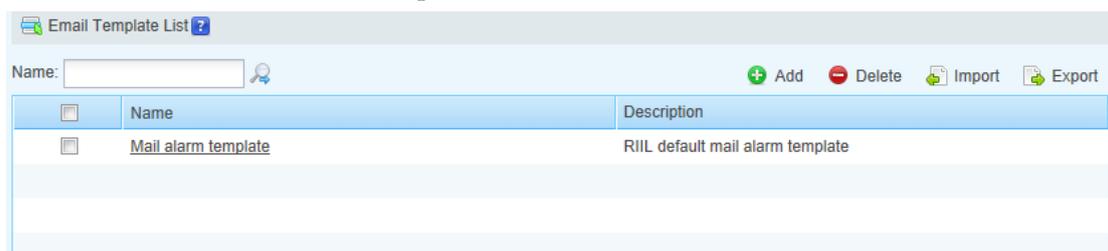


To send a test email to the test mailbox, click  .

To update the settings of the mail server, click  .

2. Email Template List

The **Email Template List** area provides you with a default mail alarm template. You can also define a different mail alarm template.



To create a mail template, click  .

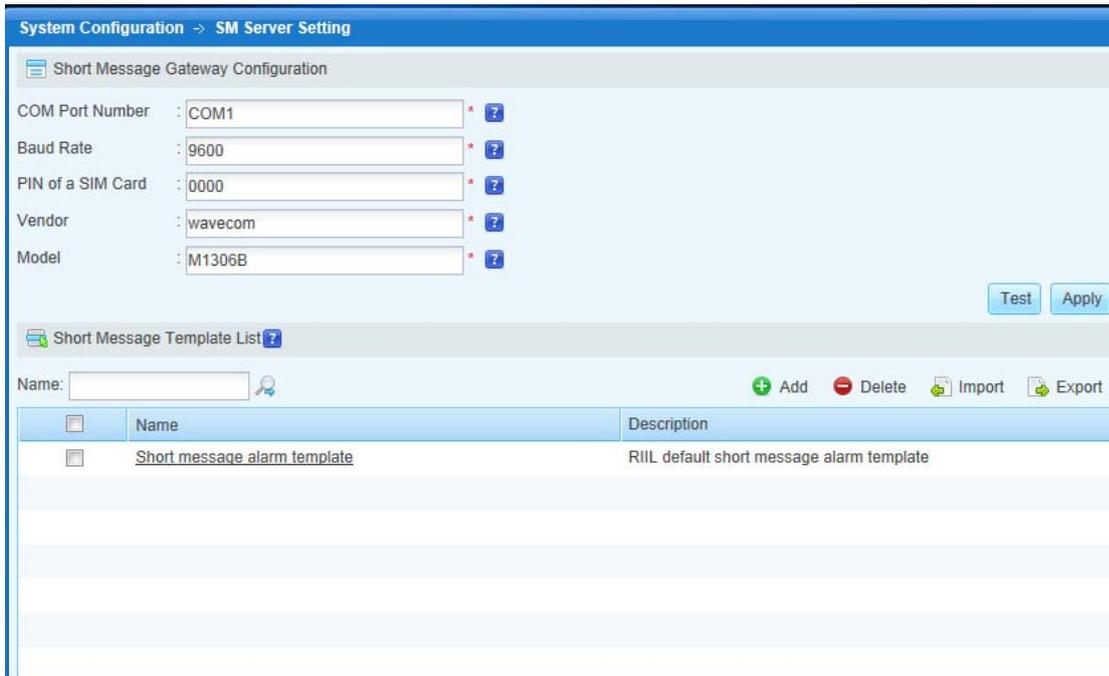
To delete a mail template, click  **Delete** .

To import a mail template, click  **Import** .

To export a mail template, click  **Export** .

You can click a mail alarm template and view or modify it. The default mail alarm template can only be viewed and cannot be modified.

3.1.12 Short Message Server Setting



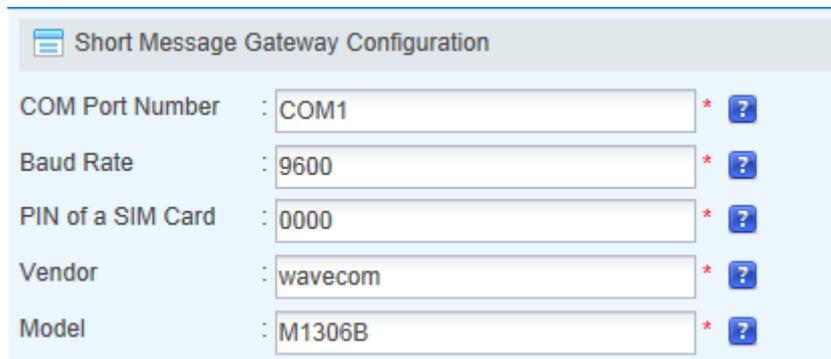
The screenshot shows the 'System Configuration -> SM Server Setting' interface. It is divided into two main sections:

- Short Message Gateway Configuration:** This section contains five input fields, each with a red asterisk and a help icon:
 - COM Port Number: COM1
 - Baud Rate: 9600
 - PIN of a SIM Card: 0000
 - Vendor: wavecom
 - Model: M1306B
 There are 'Test' and 'Apply' buttons at the bottom right of this section.
- Short Message Template List:** This section has a search bar labeled 'Name:' and a toolbar with 'Add', 'Delete', 'Import', and 'Export' icons. Below is a table with two columns: 'Name' and 'Description'.

Name	Description
Short message alarm template	RIIL default short message alarm template

1. Short Message Gateway Configuration

In the **Short Message Gateway Configuration** area, you can specify the following information for a short message server: **COM Port Number**, **Baud Rate**, **PIN of a SIM Card**, **Vendor**, and **Model**.



This is a close-up view of the 'Short Message Gateway Configuration' form. It shows the following fields and values:

- COM Port Number: COM1
- Baud Rate: 9600
- PIN of a SIM Card: 0000
- Vendor: wavecom
- Model: M1306B

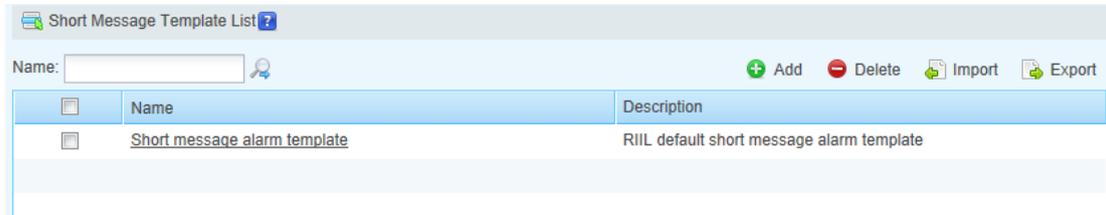
Each field has a red asterisk and a help icon to its right.

To send a test email to the test mailbox, click  .

To update the settings of the short message server, click  .

2. Short Message Template List

The **Short Message Template List** area provides you with a default short message alarm template. You can also define a different short message alarm template.



To create a short message template, click  .

To delete a short message template, click  .

To import a short message template, click  .

To export a short message template, click  .

You can click a short message alarm template and view or modify it.

4 Functional Details

4.1 System Management

System management is the basic configuration module of RIIL, which provides data support for foreground resources and topologies. The following modules need to be configured: Staff Organization, Domain Management, Resource Discovery & Configuration, Monitoring Configuration, and System Configuration. The following sections describe how to configure these modules.

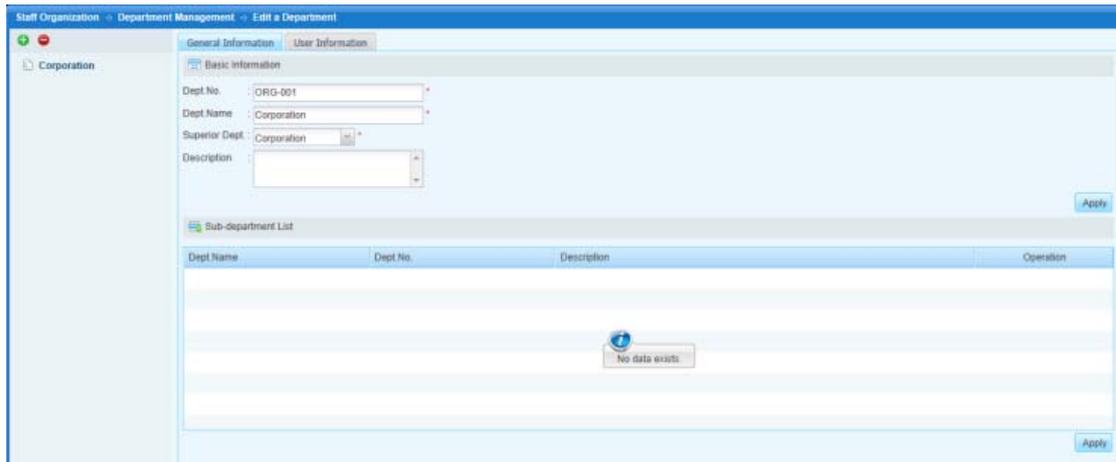
4.1.1 Staff Organization

4.1.1.1 Staff Organization

Staff organization is carried out in the department, user, role, and workgroup dimensions.

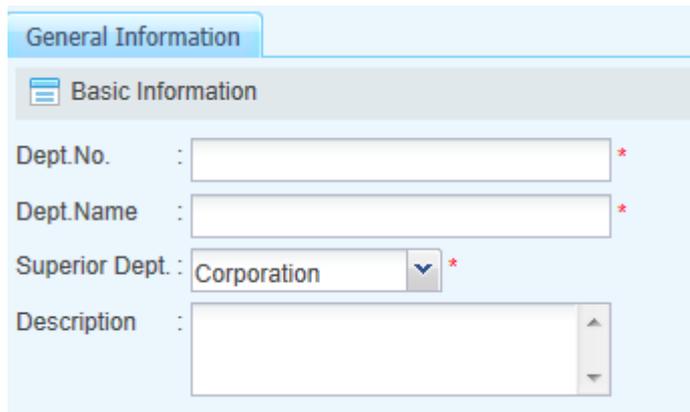
1. Department management

You can create a department, add staff to a department, and delete a department through department management.



1) Creating a department

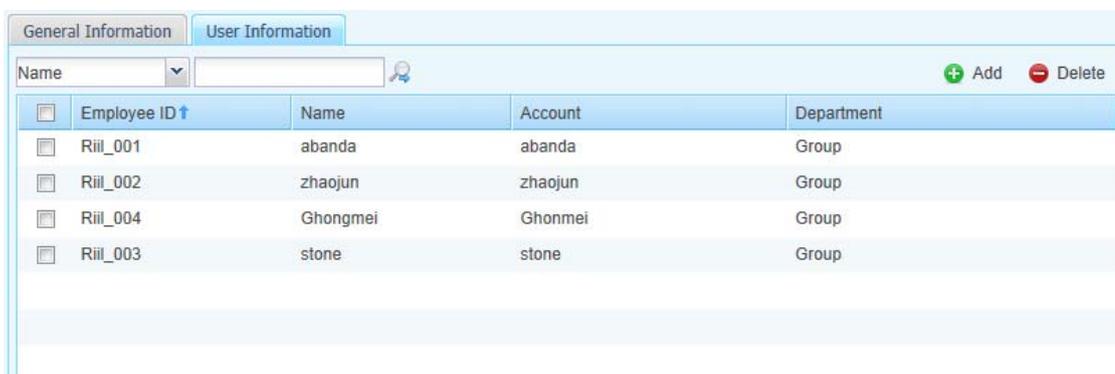
Click . On the **General Information** tab page, set the **Dept.No.**, **Dept.Name**, **Superior Dept.**, and **Description** fields.



2) Adding staff to a department

To add staff of the current system to the selected department, click **Add**.

To transfer staff out of the current department, click **Delete**.



3) Deleting a department

Select a department and click . The department is deleted from RIIL.

2. User management

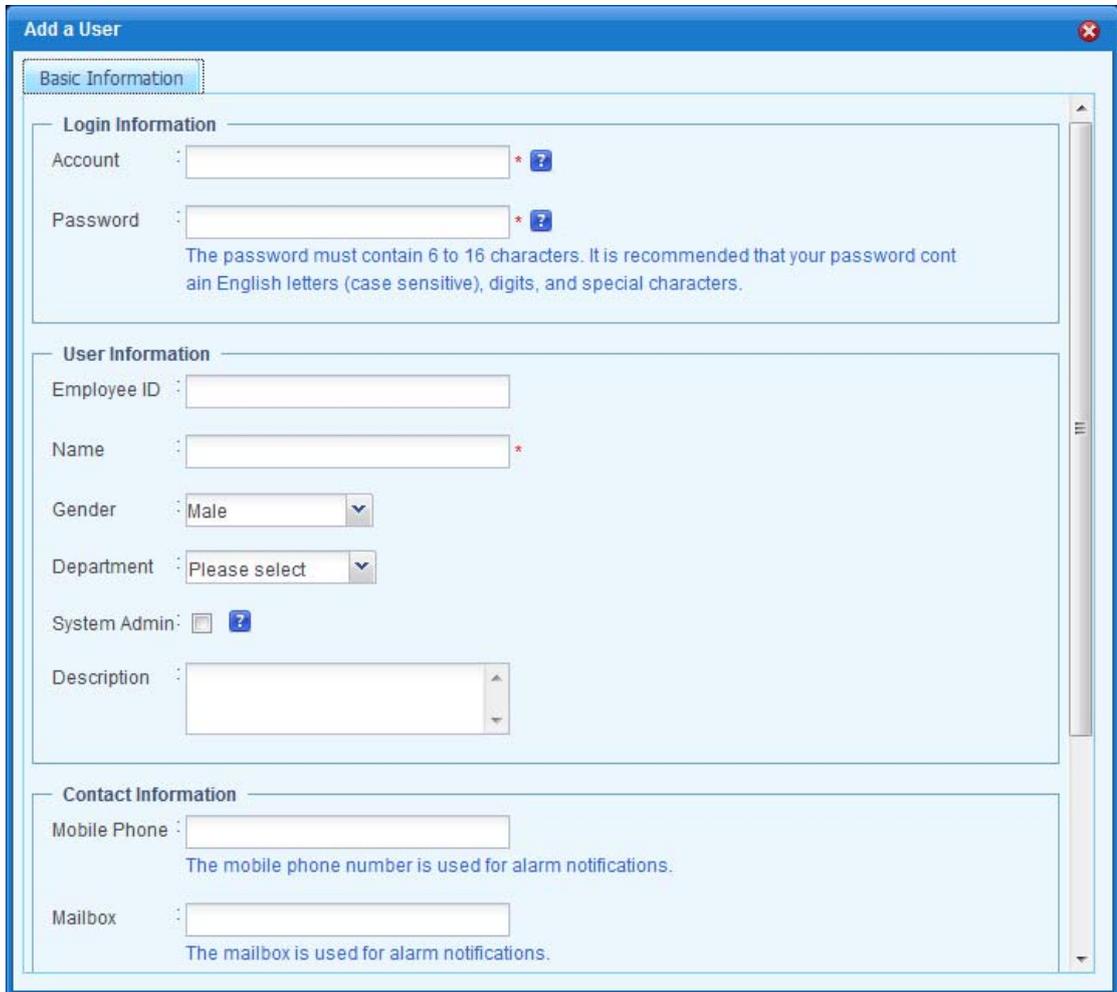
RIIL provides an entry for management of user account information. You can search and create users and assign workgroups and roles to users.

1) Searching for a user

You can search for a user by department, name, account, and employee ID. Users that meet the search criteria are displayed in the user list. By default, all users are displayed.

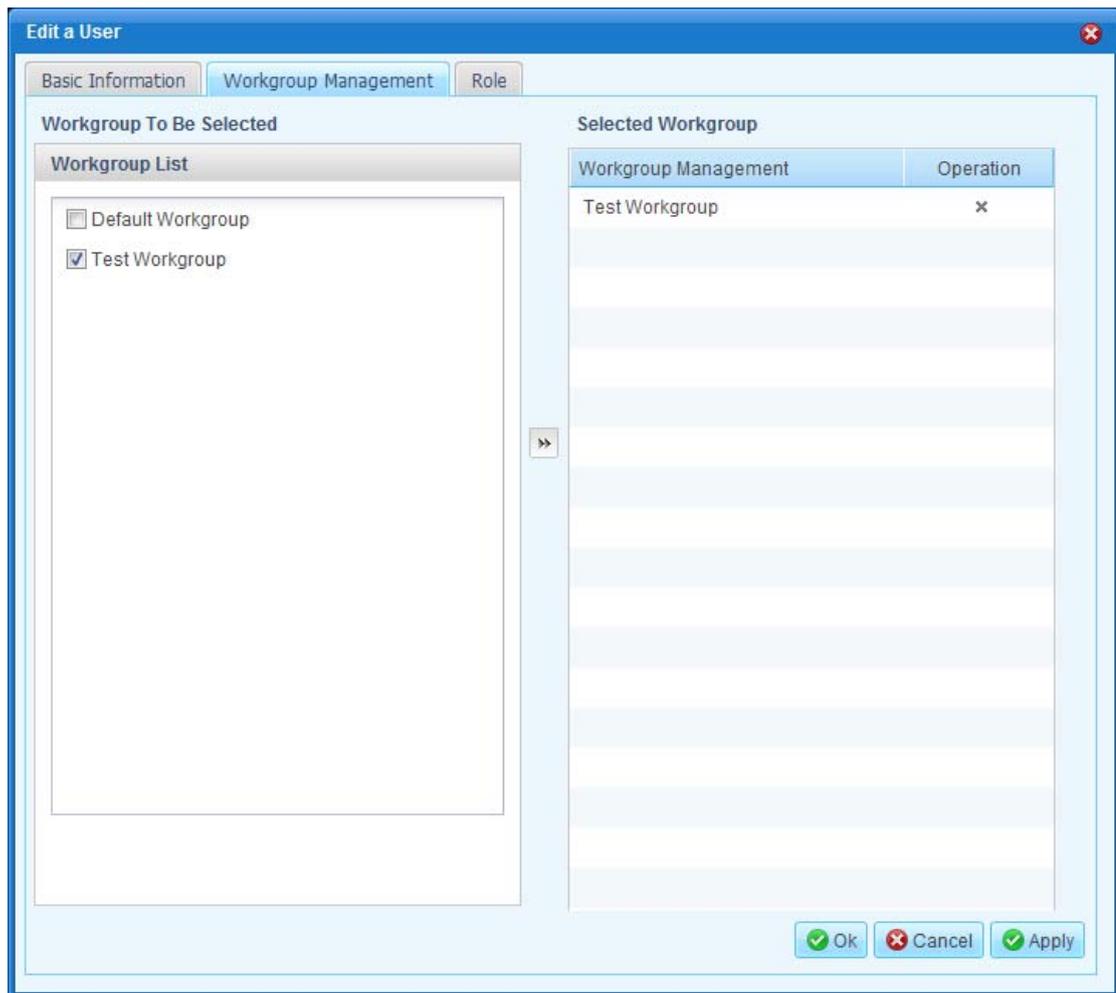
2) Creating a user

Click  **Add**. The **Add a User** dialog box is displayed. Specify information in the **Login Information**, **User Information**, and **Contact Information** areas and click **Apply**.



3) Assigning a workgroup

A default workgroup is available in RIIL. Users in the default workgroup can view all resources of RIIL, whereas users in a user-defined workgroup can view only the specified resources. Select workgroups based on your requirements.

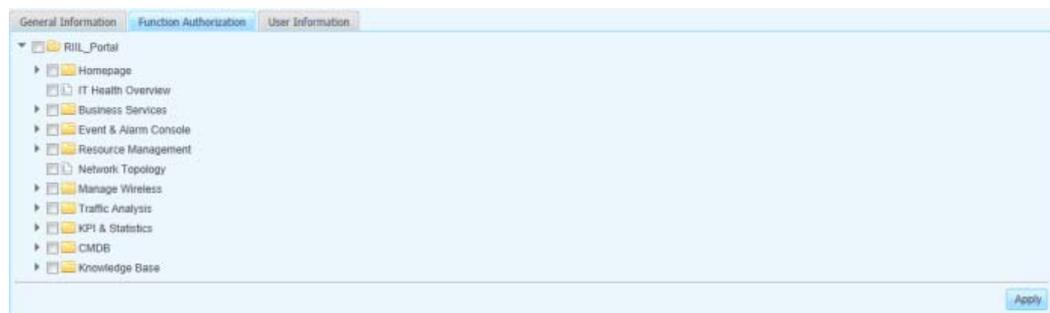


4) Assigning a role

Selecting an application domain: **Group** is selected by default.

Selecting a role: The role list contains the default role and user-defined roles. Select roles based on your requirements.

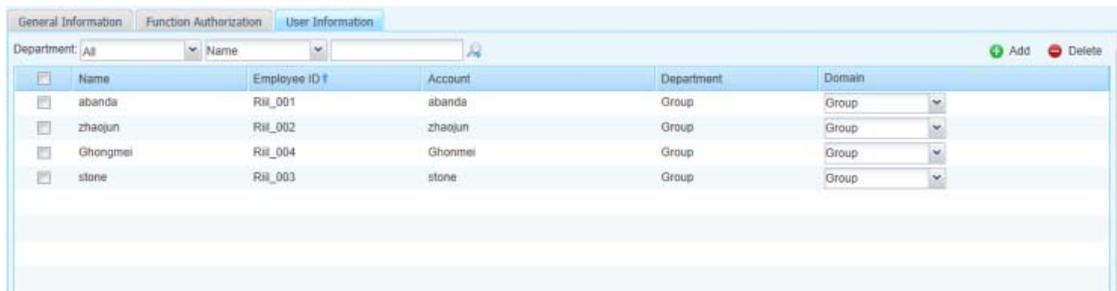
- ii. Configuring the functions that a role has the permission to operate: Select a new role, click the **Function Authorization** tab, select the required functions listed below, and click **Apply**.



- 2) Assigning a role to a user

Select a role and click the **User Information** tab to add/delete staff to/from the role.

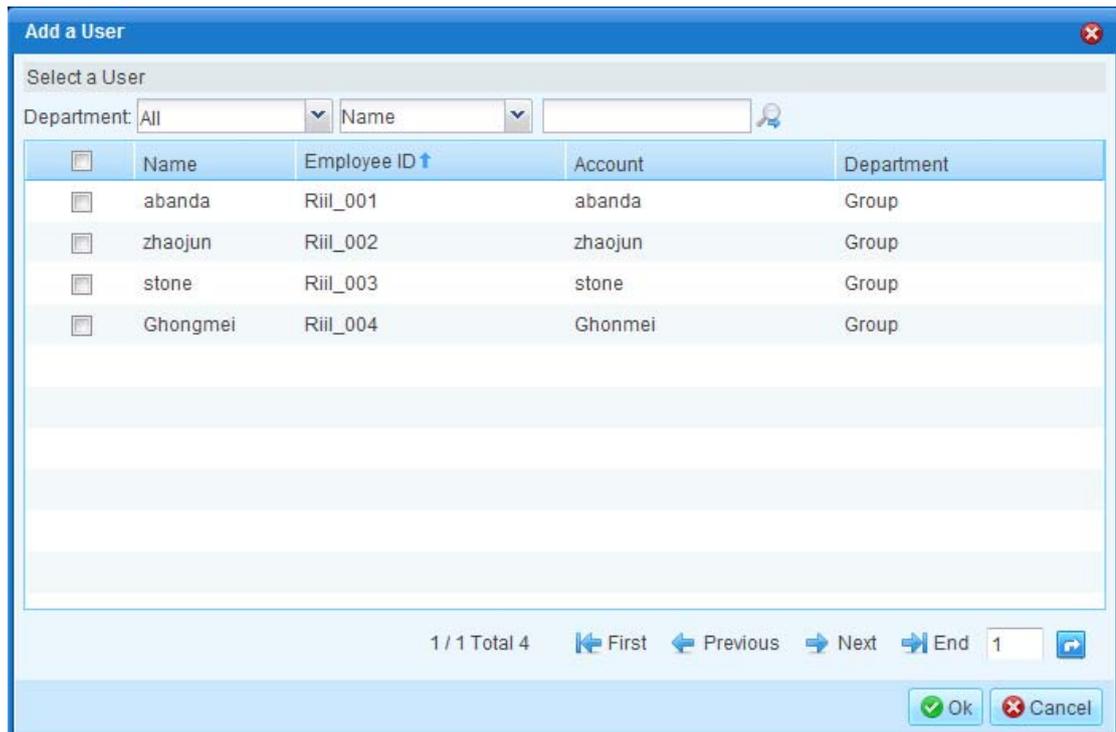
The following list displays all user records of the selected role.



<input type="checkbox"/>	Name	Employee ID ↑	Account	Department	Domain
<input type="checkbox"/>	abanda	RIIL_001	abanda	Group	Group
<input type="checkbox"/>	zhaojun	RIIL_002	zhaojun	Group	Group
<input type="checkbox"/>	Ghongmei	RIIL_004	Ghongmei	Group	Group
<input type="checkbox"/>	stone	RIIL_003	stone	Group	Group

- 3) Creating a role–staff relationship

Click . The **Add a User** dialog box is displayed. When you complete user configuration, click **OK**.



4) Canceling a role–staff relationship

Select a user in the list and click . The current role is deleted from the user.

4. Workgroup management

Workgroups are used to organize the permissions to operate resources. Users in a workgroup have access to the resources of the workgroup.

Workgroups include the default workgroup and user-defined workgroups.

1) Creating a workgroup

Click . On the **General Information** tab page, set the **Name** and **Description** fields and click .

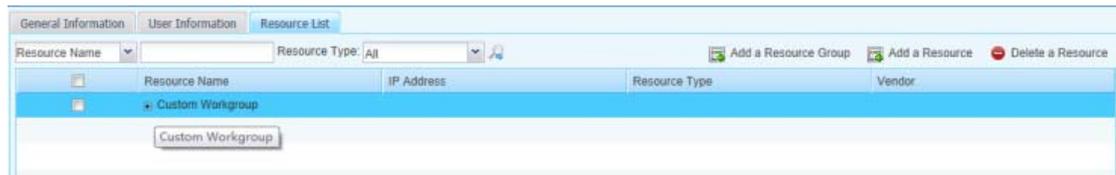
2) Adding a user to a workgroup

Select a workgroup. On the **User Information** tab page, you can add/delete a user to/from the workgroup.

3) Adding resources to a workgroup

Users in the default workgroup can view all resources of RIIL. You do not need to add resources to the default workgroup manually.

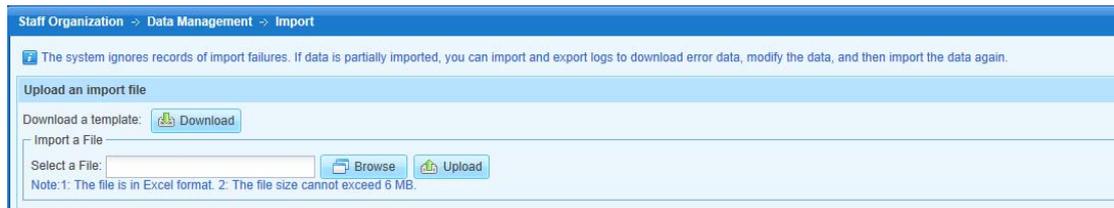
Select a user-defined workgroup. On the **Resource List** tab page, you can add and delete resource groups and resources. Users in user-defined workgroups can only view the resources manually added.



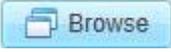
4.1.1.2 Data Management

You can import and export staff organization to manage staff more effectively.

1. Importing staff organization

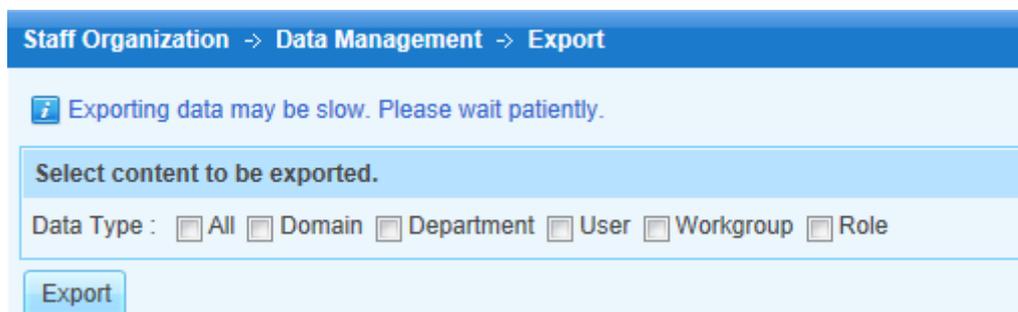


- 1) Download the import template based on the system prompt and input user information according to the template format. When the input is finished, save the user information.

- 2) Click  and select the file to be uploaded.

- 3) Click  to upload the selected file.

2. Exporting staff organization



- 1) Select the type of data to be exported. The options include **All**, **Domain**, **Department**, **User**, **Workgroup**, and **Role**.

- 2) Click  to export the selected content into an EXCEL file.

3. Importing/exporting logs

Staff Organization → Data Management → Import/Export Logs

If importing data succeeds, download the initially imported file. If only partial data is imported, download error files, modify them, and import the modified files.

Operating Time: To: Operator: Operation Types:   Delete  Clear

<input type="checkbox"/>	Operating Time	Operator	Operation Type	File Imported	Result	Operation
<input type="checkbox"/>	2013-04-15 00:43	System Admin...	Import	futemplate.xls	Importing data failed.	Download an imported file. Downl...
<input type="checkbox"/>	2013-04-15 00:43	System Admin...	Export		Exporting data succeed...	

1) Checking exported/imported logs

On the **Imported/Exported Logs** page, you can view the operating time, operator, operation type, name of the imported file, and operation result. You can also download imported files. If an import failure record exists, you can download the corresponding file and modify it for re-import.

2) Deleting exported/imported logs

To delete an existing log, select the corresponding log record and click .

3) Clearing all imported/exported log records

To clear all imported/exported log records from the log list, click .

4.1.2 Domain Management

For details, see section 3.1.1 "Domain Management."

4.1.3 Resource Discovery & Configuration

This section describes how to discover resources and configure discovered resources.

4.1.3.1 Resource Discovery

1. Single resource discovery

Resource Discovery → **Single Resource Discovery**

DCS Selection

DCS : DCS_172.17.160.239_65 * ?

Discovery Type

Resource Type : Host *

Protocols for Discovery : Windows Host (SNMP) * ?

Discovery Information

IP Address : * ?

SNMP Version : SNMP v2 * ?

Port : 161 * ?

Read-Only Community : * ?

Read-Write Community : ?

Discover

Click the **Discover** button to enable the single resource discovery function.

- ✚ Resources that can be discovered include hosts, network devices, storage devices, applications, and basic services.
- ✚ You can discover a single resource manually through SNMP, WMI, or SSH/Telnet.
- ✚ To enable the single resource discovery function, specify information in the **DCS Selection**, **Discovery Type**, and **Discovery Information** areas and click **Discover**.
- ✚ When resource discovery fails, check whether the prerequisites for resource discovery are met. Click  to view the help information.

Note: The **DCS Selection** area is available only in the environment where distributed deployment and multiple collectors are installed.

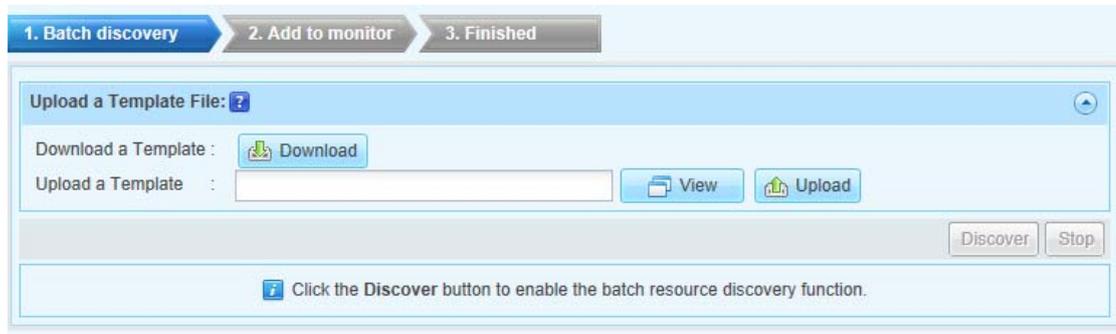
You can set resource information when resource discovery is successful. Different types of resources are added to the monitoring of corresponding types of default policies. The number of resources that can be added to monitoring is limited by the license. If the number

of resources in resource management exceeds the upper limit specified in the license, not all resources can be added to monitoring.

2. Batch resource discovery

Batch resource discovery is implemented in three steps.

1) Configuring batch discovery



2) Adding discovered resources to monitoring

When batch discovery is completed, you can add discovered resources to monitoring and select the required collector (the number of resources that can be added to monitoring is limited by the license).

Note: The **DCS Selection** area is available only in the environment where distributed deployment and multiple collectors are installed.



3) Completing resource discovery

You can view the list of discovered resources after those resources are added to monitoring.

1. Batch discovery 2. Add to monitor 3. Finished

Resource Name	IP Address	MAC Address	Resource Type	Add to Monitoring	DCS
Tomcat	172.17.160.173_8080_Apache...	172.17.160.173	Tomcat	<input checked="" type="checkbox"/>	DCS_172.17.160.239_65
	172.17.160.177_8080_Apache...	172.17.160.177	Tomcat	<input checked="" type="checkbox"/>	DCS_172.17.160.239_65
SQL Server	172.17.160.149_1433_RIIL-149	172.17.160.149	SQL Server	<input checked="" type="checkbox"/>	DCS_172.17.160.239_65
	172.17.160.224_1433_RIIL-224	172.17.160.224	SQL Server	<input checked="" type="checkbox"/>	DCS_172.17.160.239_65
PostgreSQL	172.17.160.179_5432_postgres	172.17.160.179	PostgreSQL	<input checked="" type="checkbox"/>	DCS_172.17.160.239_65
TongLink/Q	172.16.36.43_10240_Localtest...	172.16.36.43	TongLink/Q	<input checked="" type="checkbox"/>	DCS_172.17.160.239_65
IIS	172.17.160.238_IIS	172.17.160.238	IIS	<input checked="" type="checkbox"/>	DCS_172.17.160.239_65
JBoss AS	172.17.160.172_1099_default	172.17.160.172	JBoss AS	<input checked="" type="checkbox"/>	DCS_172.17.160.239_65
Tuxedo	172.16.36.52_6603_Oracle Tux...	172.16.36.52	Tuxedo	<input checked="" type="checkbox"/>	DCS_172.17.160.239_65

3. Topology discovery

For details, see section 3.1.6 "Topology Discovery."

4.1.3.2 Resource Configuration

1. Resource management

For details, see section 3.1.7 "Resource Management" [错误！未指定书签。](#)

2. Resource group management

For details, see section 3.1.8 "Resource Group Management" [错误！未指定书签。](#) [错误！未指定书签。](#)

4.1.4 Monitoring Configuration

4.1.4.1 Resource Policy

For details, see section 3.1.5 [错误！未指定书签。](#) "Resource Policy" [错误！未指定书签。](#) [错误！未指定书签。](#)

4.1.4.2 Log Policy

A log policy defines monitoring rules for logs generated by devices under monitoring. Those logs include Windows logs and syslogs.

Resource Relation Event Configuration

Basic Information

Policy Name: winlog

Creator: System Administrator Modifier: Publisher:

Creation Time: 2013-04-15 01:17 Modifying Time: Publishing Time:

Description:

Apply

Resources Contained in the Policy

IP Address: Vendor: All

+ Add - Delete all - Delete

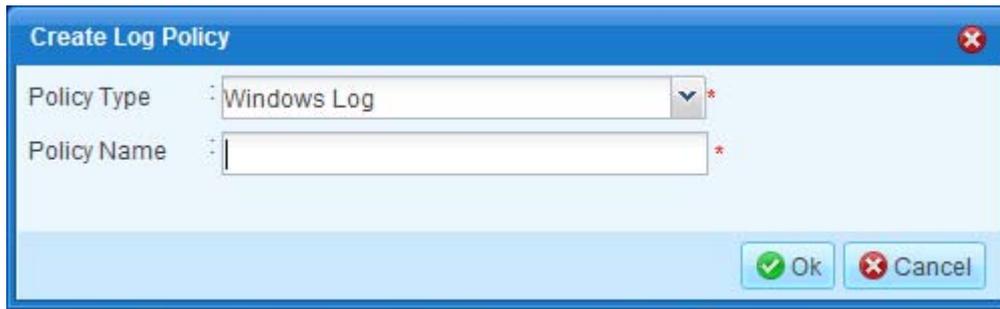
Resource Name	IP Address	Resource Type	Vendor
No data exists.			

- ✚ Windows log policy: defines monitoring rules for syslogs generated by Windows devices under monitoring.
- ✚ Syslog policy: defines monitoring rules for syslogs generated by Unix devices and network devices under monitoring.

Log policy-related operations are described in the following.

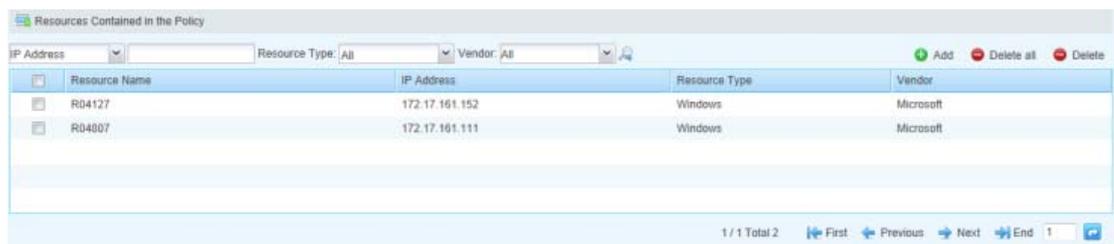
1. Creating a log policy

Click  on the **Resource Relation** tab page. The **Create Log Policy** dialog box is displayed. Set the **Policy Type** and **Policy Name** fields. Click **Ok**.



The dialog box titled "Create Log Policy" has a blue header and a close button (X) in the top right. It contains two input fields: "Policy Type" with a dropdown menu showing "Windows Log" and a red asterisk, and "Policy Name" with an empty text box and a red asterisk. At the bottom right, there are "Ok" and "Cancel" buttons.

1) Resource Relation



The table shows resources associated with a policy. It has columns for Resource Name, IP Address, Resource Type, and Vendor. There are two rows of data.

Resource Name	IP Address	Resource Type	Vendor
R04127	172.17.161.152	Windows	Microsoft
R04807	172.17.161.111	Windows	Microsoft

To establish a relation between log policies and resources, click  **Add** .

To cancel the relation between log policies and all resources, click  **Delete all** .

To cancel the relation between log policies and selected resources, click  **Delete** .

2) Event Configuration

You can set log events on the **Event Configuration** tab page. Log events take effect only after being enabled.



The table shows event configurations. It has columns for Enable, Event Name, Event Type, Event Severity, Keyword, and Description. There are four rows of data.

Enable	Event Name	Event Type	Event Severity	Keyword	Description
<input checked="" type="checkbox"/>	Error	Availability Event	Critical	system	
<input checked="" type="checkbox"/>	Critical	Availability Event	Critical		
<input checked="" type="checkbox"/>	Alert	Availability Event	Critical		
<input checked="" type="checkbox"/>	Emergency	Availability Event	Critical		

i. Adding an event

Select a log event, click **Add**, and set basic information and log rules.

ii. Enabling an event

Select a log event and click **Enable**. After being enabled, the event is marked with .

iii. Disabling an event

Select a log event and click **Disable**. After being disabled, the event is marked with  and does not take effect. Log events that match the settings of the selected event will not be generated.

iv. Deleting an event

Select a log event and click **Delete**.

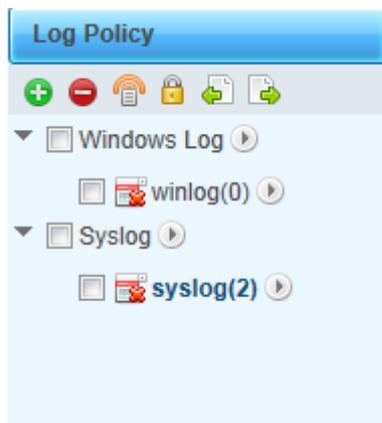
2. Enabling a log policy

Select a log policy and click . For details, see Enabling a resource policy.

3. Disabling a log policy

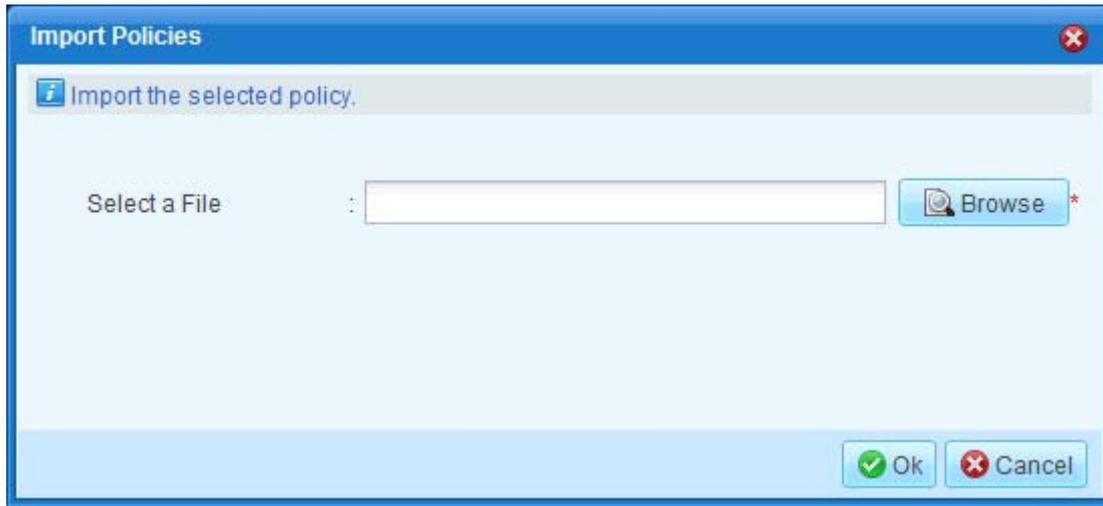
Select a log policy and click . The disabling mode is the same as the enabling mode.

4. Importing a log policy



Click . The **Import Policies** dialog box is displayed. Click  and select the file to be imported. Then, click **Ok**.

Note: If the policy to be imported has the same name as an existing policy of RIIL, the policy cannot be imported.



5. Exporting a log policy

Select a log policy and click . The policy will be exported for backup. The export mode is the same as the log enabling mode.

4.1.4.3 Script Policy

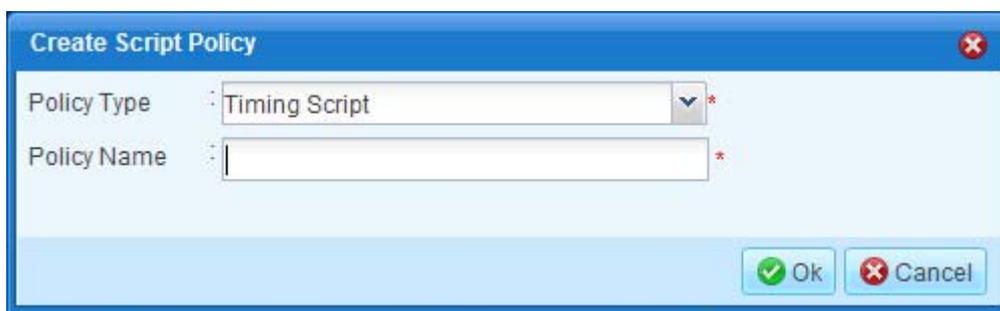
A script policy defines monitoring rules for script files generated by a device. Scripts are classified into timing scripts and advanced scripts.

Timing script policy: defines monitoring rules based on the values returned after script files are executed. You can set when to execute this policy.

Advanced script policy: defines script monitoring rules for support of secondary development.

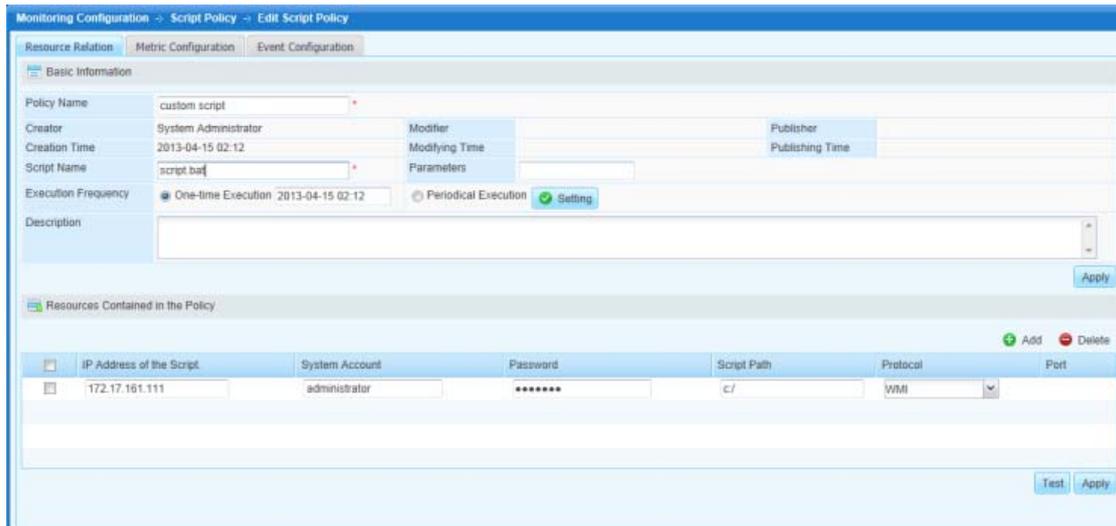
1. Creating a script policy

Click . The **Create Script Policy** dialog box is displayed. Set the **Policy Type** and **Policy Name** fields.



2. Resource Relation

You can set resources related with a script policy on the **Resource Relation** tab page.



Specify the following information on the **Resource Relation** tab page:

Script Name: name of the script to be executed

IP Address of the Script: IP address of the host that will execute the script

System Account: account of the host that will execute the script

Password: password of the account of the host that will execute the script

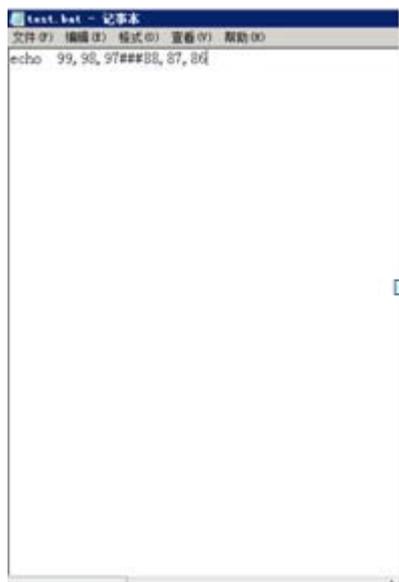
Script Path: location of the host that will execute the script

Protocol: SSH, Telnet, or WMI

The following is an example:

- The **test.bat** script in disk C is executed on the host with the IP address 172.17.160.222.

The script is as follows:

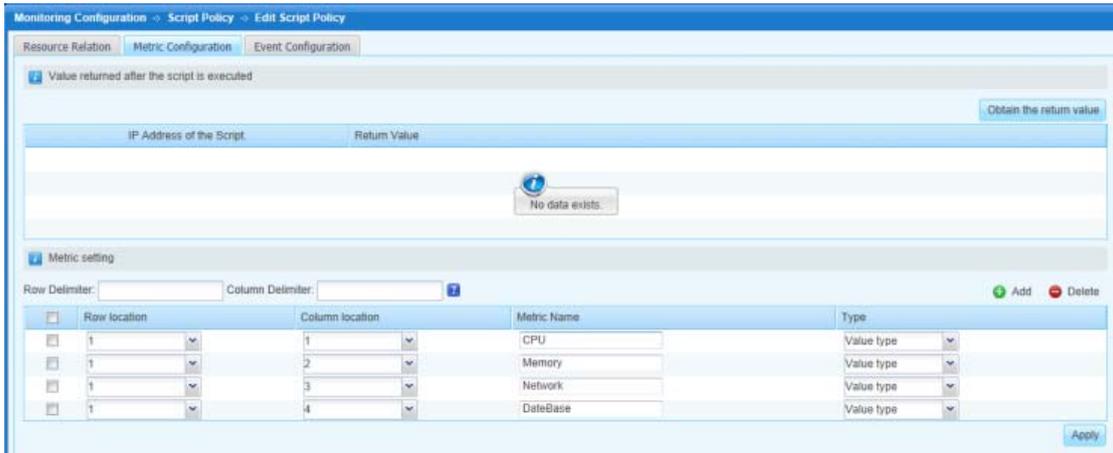


```
test.bat - 记事本
文件(F): 编辑(E): 格式(O): 查看(V): 帮助(H)
echo 99, 98, 97###88, 87, 86
```

- Click  and check whether the script is executed successfully.

3. Metric Configuration

You can set metrics for a script on the **Metric Configuration** tab page.



Monitoring Configuration -> Script Policy -> Edit Script Policy

Resource Relation | Metric Configuration | Event Configuration

Value returned after the script is executed

Obtain the return value

IP Address of the Script	Return Value
No data exists.	

Metric setting

Row Delimiter: Column Delimiter:

Row location	Column location	Metric Name	Type
1	1	CPU	Value type
1	2	Memory	Value type
1	3	Network	Value type
1	4	DateBase	Value type

Apply

4. Event Configuration

You can set events for a script on the **Event Configuration** tab page.



Monitoring Configuration -> Script Policy -> Edit Script Policy

Resource Relation | Metric Configuration | Event Configuration

Enable	Event Name	Event Type	Event Severity	Condition	Rule
<input type="checkbox"/>	Available	Availability Event	Critical	DateBase <= 90	Generate continu...

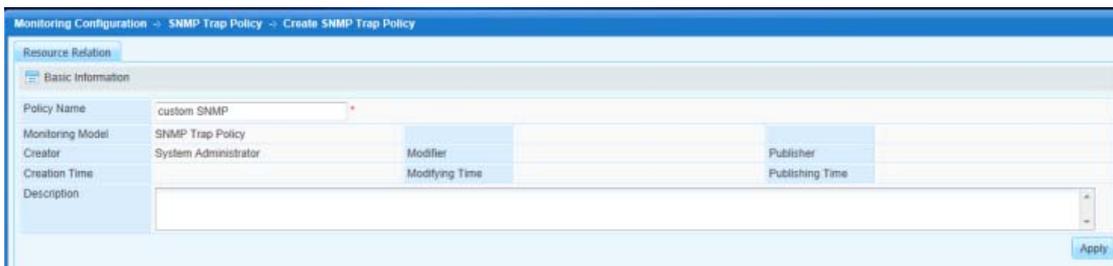
Apply

4.1.4.4 SNMP Trap Policy

An SNMP Trap policy defines monitoring rules for SNMP Trap of a device under monitoring.

1. Creating an SNMP Trap policy

Click . The **Create SNMP Trap Policy** dialog box is displayed. Set the **Policy Name** and **Description** fields.



Monitoring Configuration -> SNMP Trap Policy -> Create SNMP Trap Policy

Resource Relation

Basic Information

Policy Name: custom SNMP

Monitoring Model: SNMP Trap Policy

Creator: System Administrator

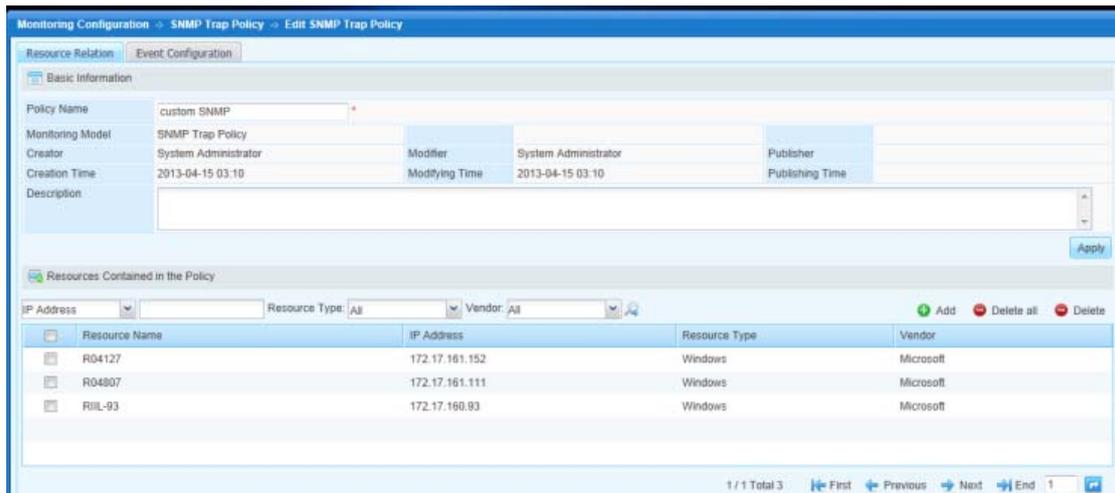
Creation Time: Modifying Time

Description:

Apply

2. Resource Relation

You can set resources related with an SNMP Trap policy on the **Resource Relation** tab page.



3. Metric Configuration
4. Event Configuration

4.1.4.5 Alarm Configuration

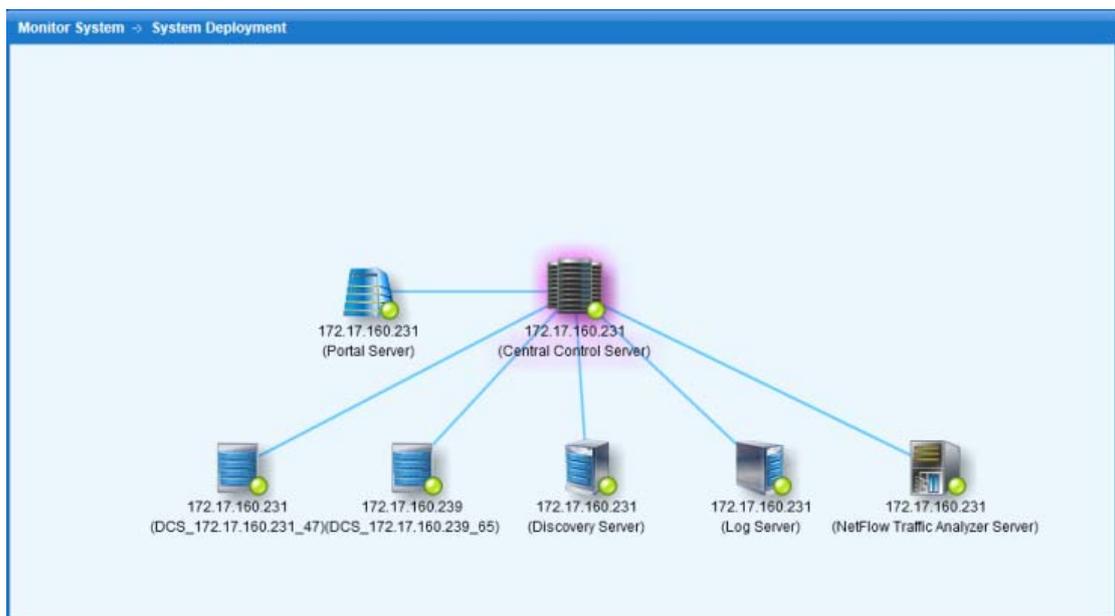
For details, see section 3.1.10 "Alarm Rule错误! 未指定书签。."

4.1.4.6 Monitor System Information

1. Overview of monitor system deployment

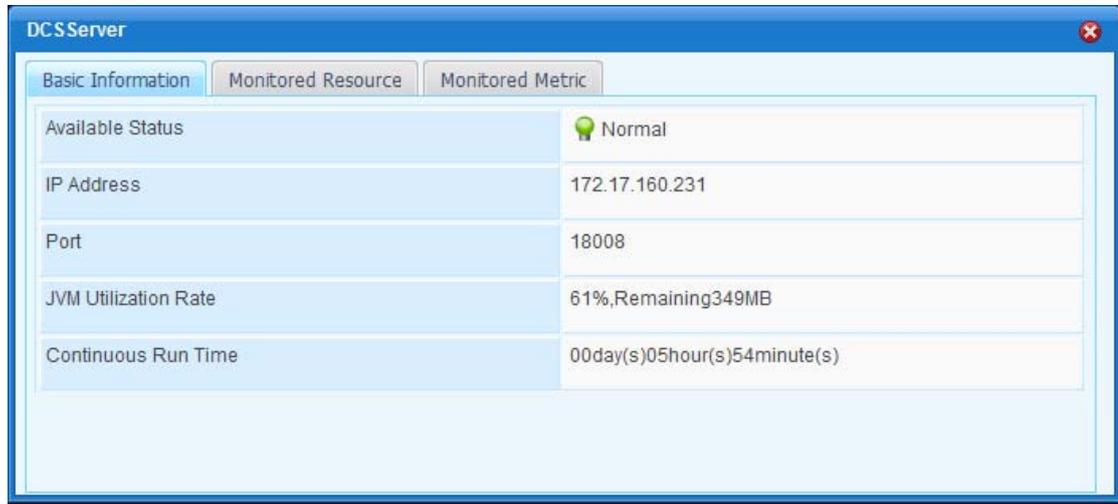
The following servers are involved in deploying a monitor system: DCSServer (data collection server), DisServer (discovery server), LogServer (log server), NFAServer (traffic analyzer server), CCSServer (central control server), and PortalServer (portal server).

The working principle is as follows: The discovery server discovers resources. The data collection server collects the discovered resources. The traffic analyzer server performs traffic analysis on the collected data and sends the analysis result to the central control server, which arranges and controls the analysis result. The portal server presents monitored resources.

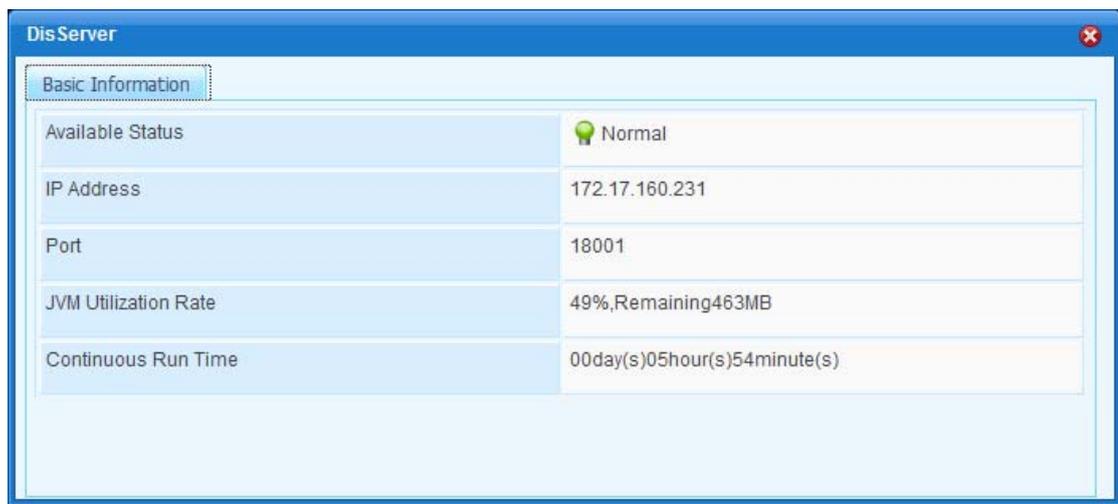


You can double-click a server icon to view the information of the server.

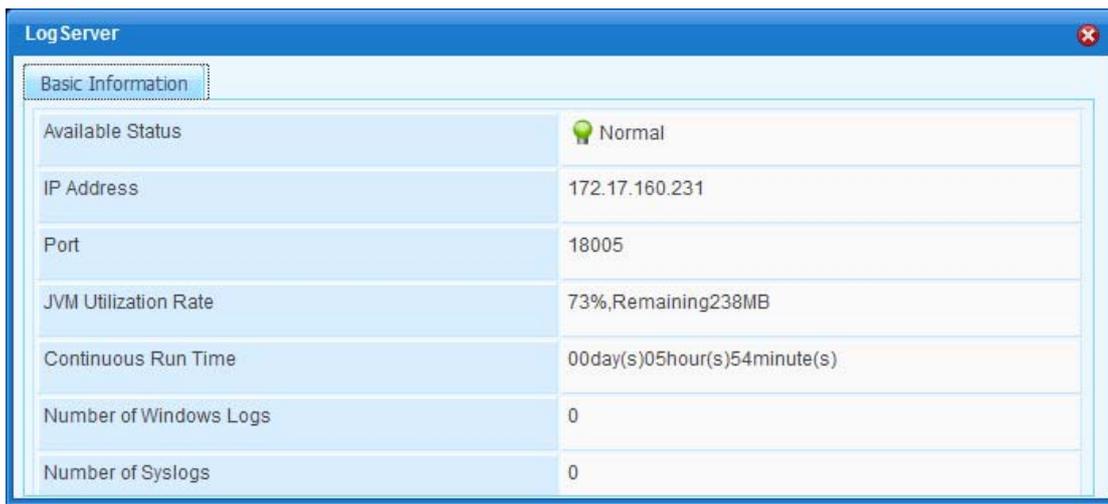
- 1) DCSServer (data collection server): You can view information of this server on the **Basic Information**, **Monitored Resource**, and **Monitored Metric** tab pages of the **DCS Server** window.



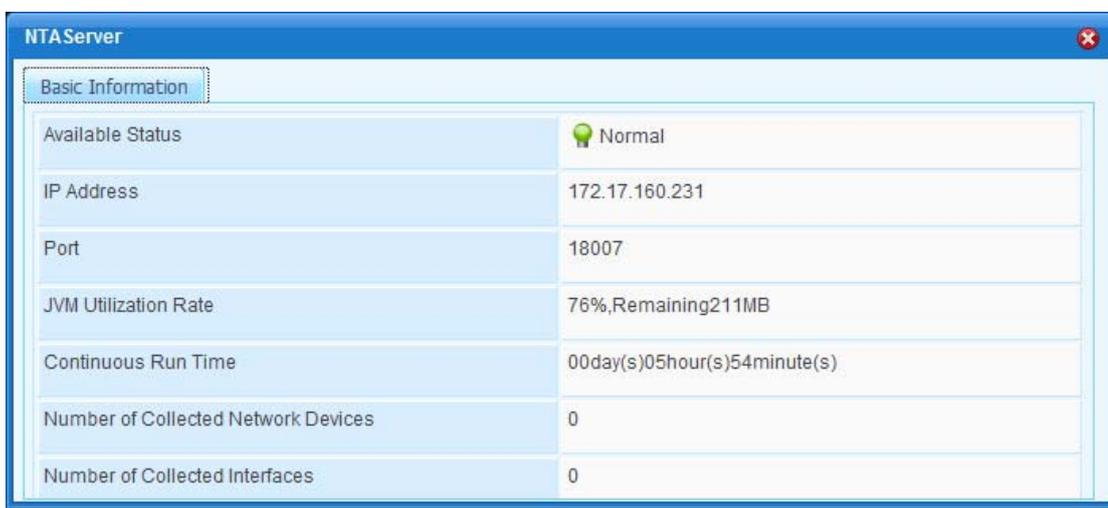
- 2) DisServer (discovery server): You can view information of this server on the **Basic Information** tab page of the **Dis Server** window.



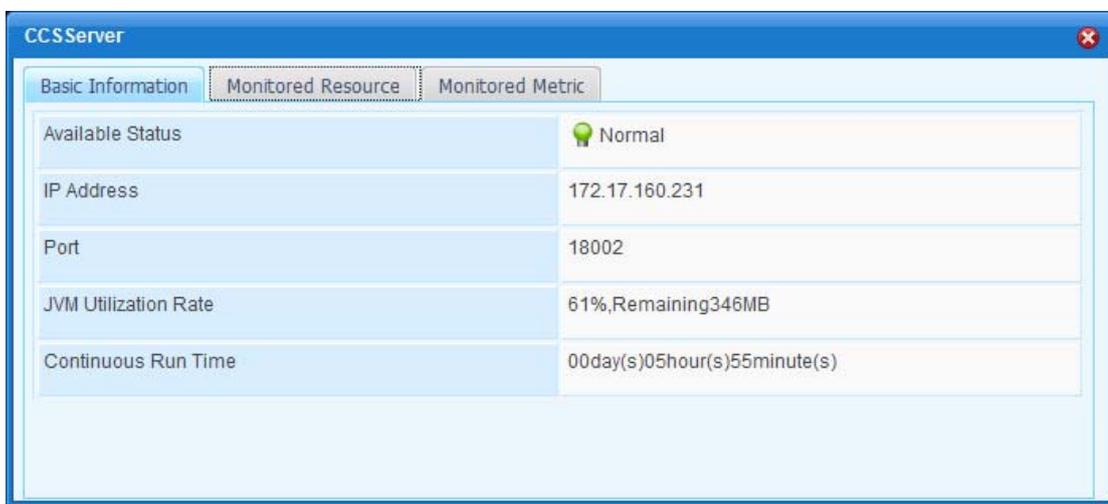
- 3) LogServer (log server): You can view information of this server on the **Basic Information** tab page of the **Log Server** window.



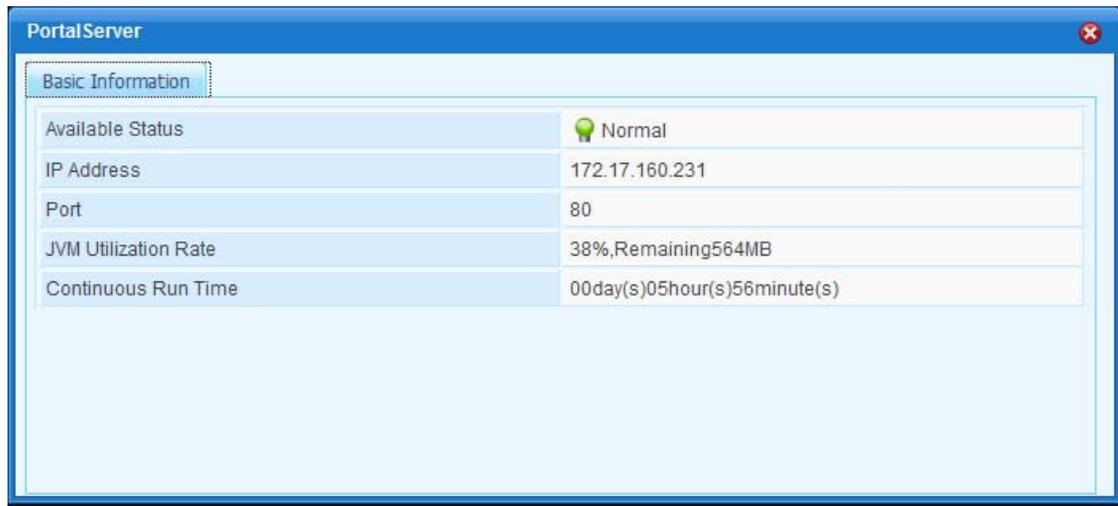
- 4) NFAServer (traffic analyzer server). You can view information of this server on the **NTA Server** tab page of the **Log Server** window.



- 5) CCSServer (central control server): You can view information of this server on the **Basic Information**, **Monitored Resource**, and **Monitored Metric** tab pages of the **CCS Server** window.

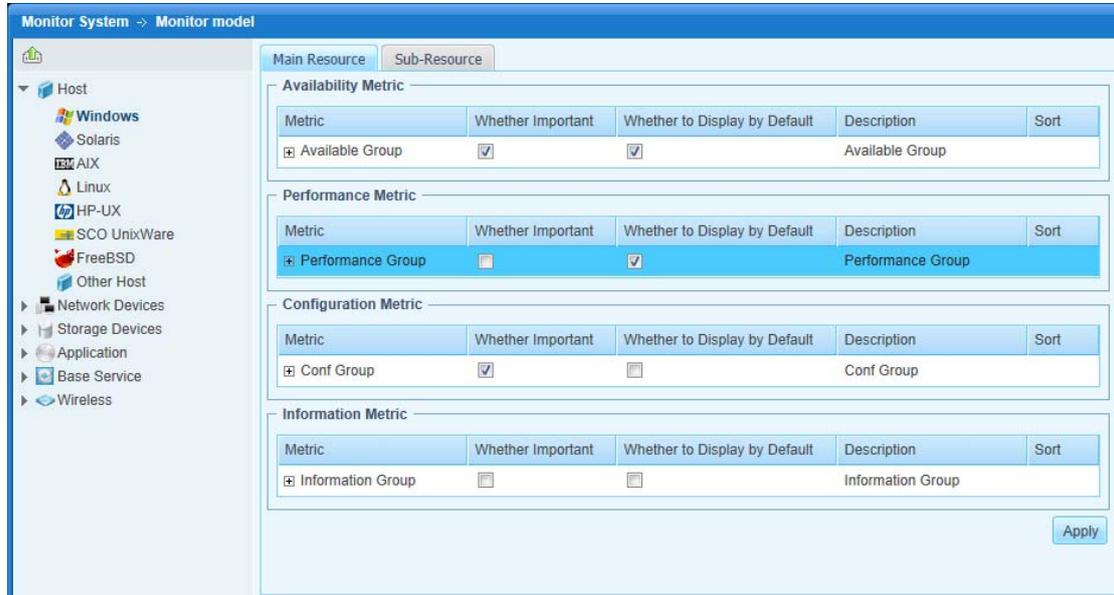


- 6) PortalServer (portal server): You can view information of this server on the **Basic Information** tab page of the **Portal Server** window.



2. Monitor model configuration

Go to **Monitor System** -> **Monitor model** and you can view the metrics of all resource types on the **Main Resource** and **Sub-Resource** tab pages. You can modify metrics based on requirements (in the **Whether Important**, **Whether to Display by Default**, and **Sort** columns). The modified metrics are synchronized to the foreground resource monitoring module.



4.1.5 System Configuration

1. Server Configuration
2. Mail server setting

For details, see section 3.1.11 "Mail Server Setting."

3. Short message server setting

For details, see section 3.1.12 **错误！未指定书签。** "Short Message Server Setting**错误！未指定书签。**"

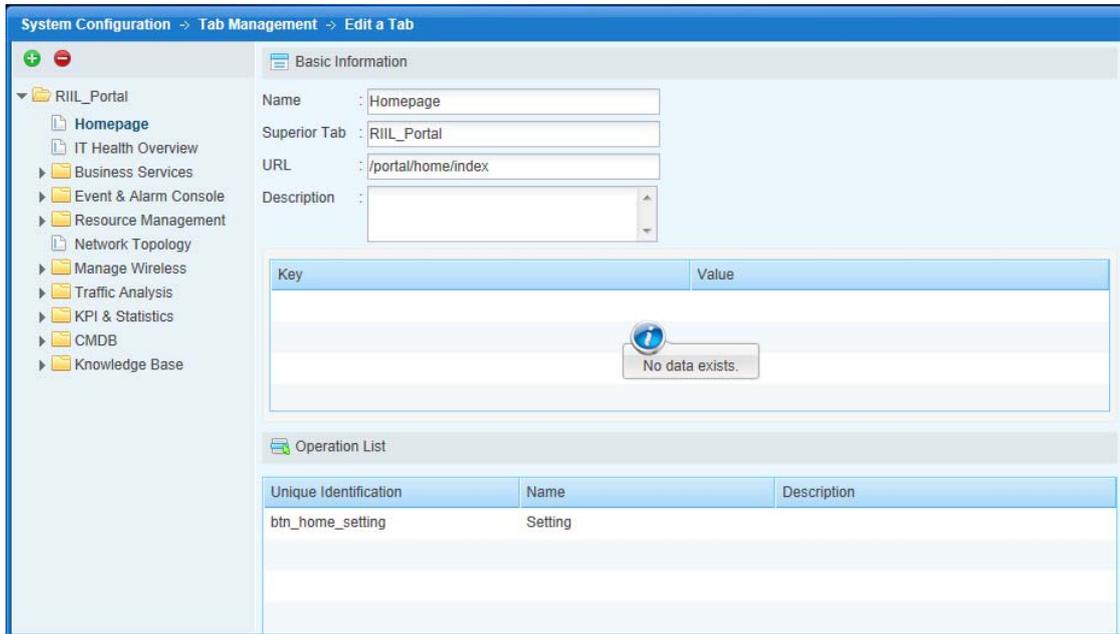
4.1.5.2 System Configuration

You can customize RIIL on the **Tab Management**, **Location Management**, **Picture and Text Management**, and **Login Page Setting** pages.

The following describes how to set information on these pages.

1. Tab Management

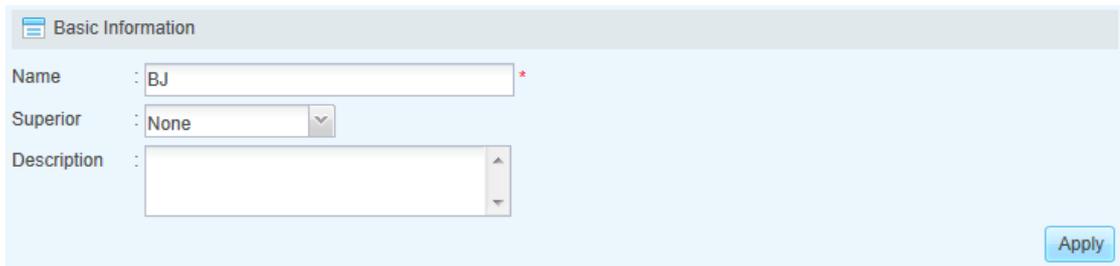
- 1) To create a tab, click .



- 2) To delete a tab, select the tab and click .
- 3) To modify an existing tab, click the tab and modify information in the **Basic Information** and **Operation List** areas.
- 4) When you modify a tab, the **Superior Tab** field in the **Basic Information** area cannot be modified.

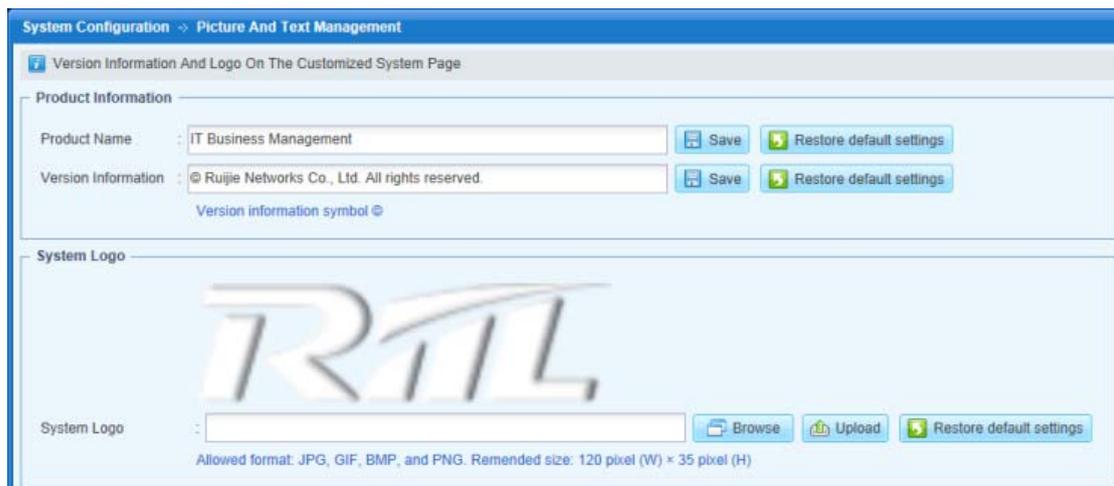
2. Location Management

- 1) To create a geological location, click .



- 2) To delete a geological location, select the geological location and click .
 - 3) To modify an existing geological location, click the geological location and modify its name and description.
 - 4) When you modify an existing geological location, the **Superior** field in the **Basic Information** area cannot be modified.
3. Picture And Text Management

Go to **System Configuration** -> **Picture And Text Management** and you can specify information in the **Product Information** and **System Logo** areas.

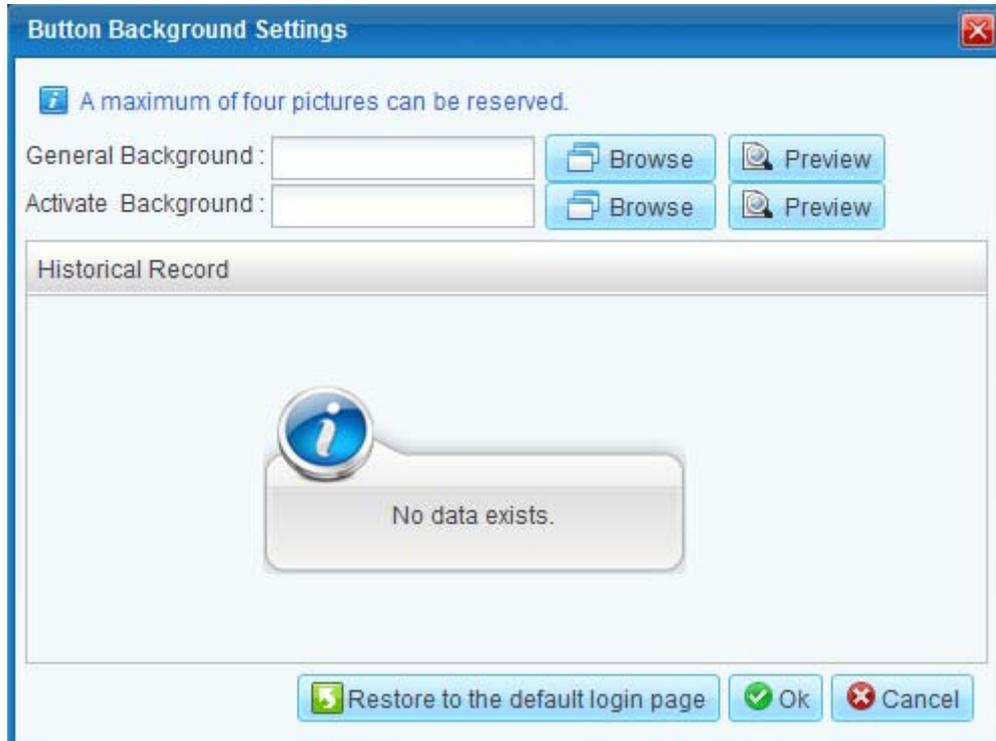


4. Login Page Setting

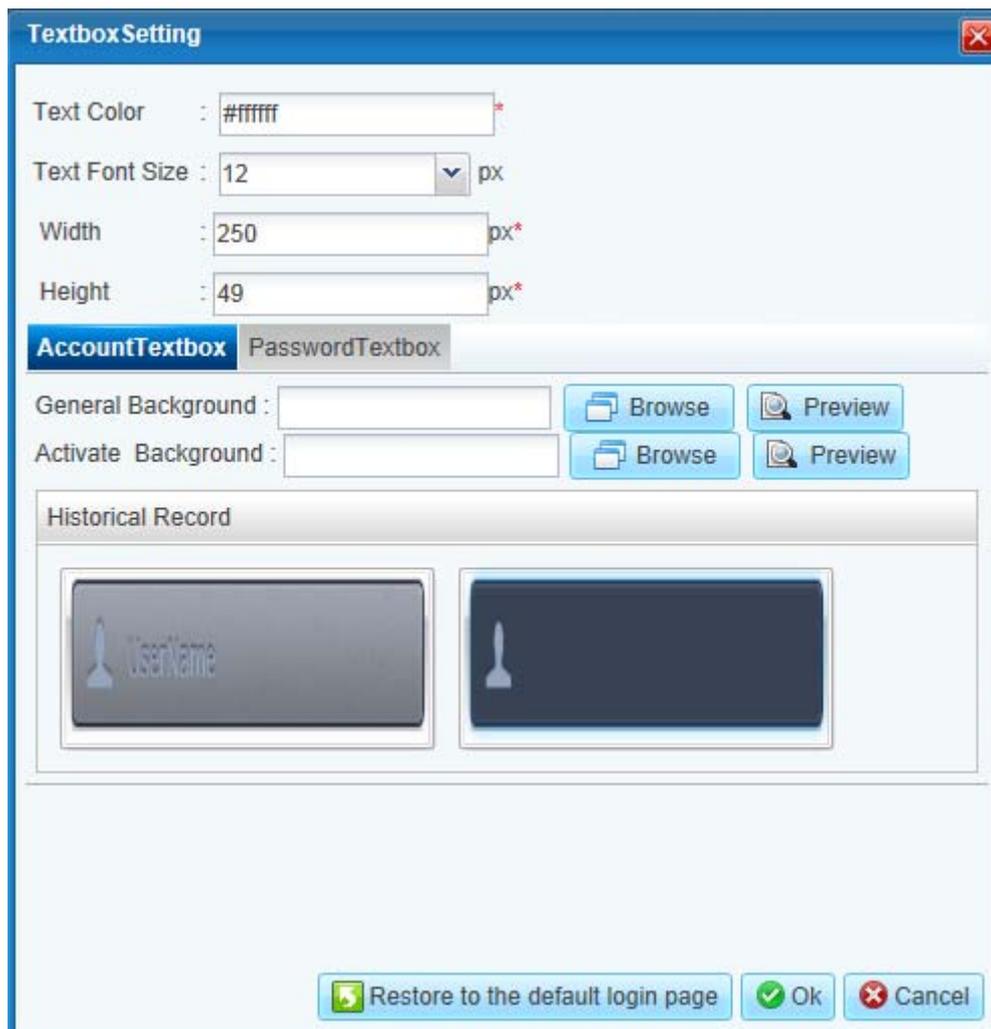
You can customize the login page style by modifying the button, text box, and page background.



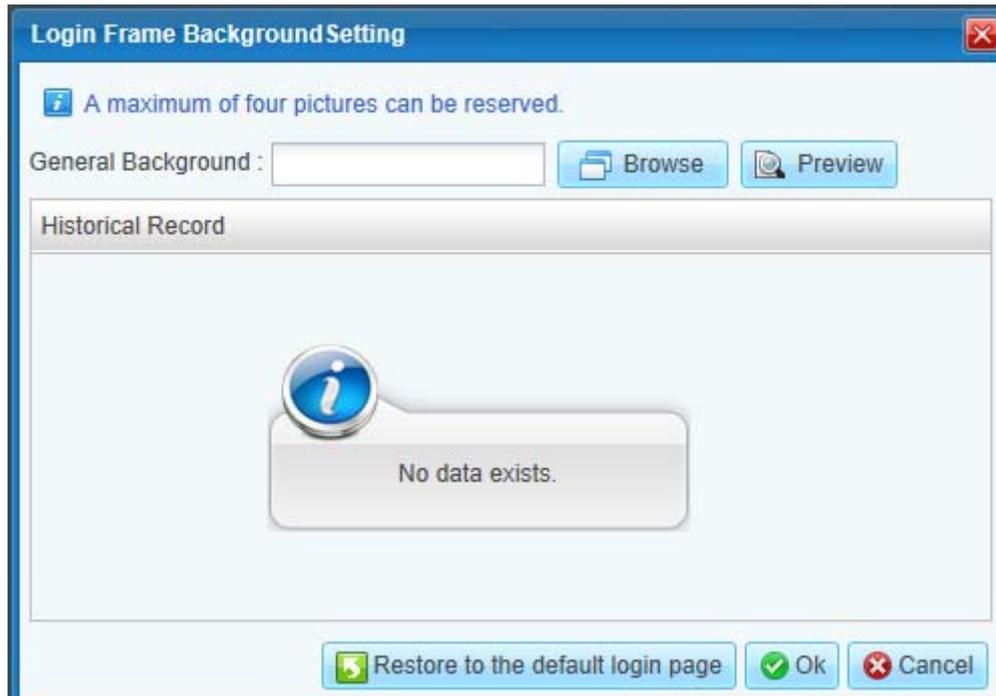
Click  above the upper right corner of the **LOGIN/CANCEL LOGIN** button. The **Button Background Settings** dialog box is displayed, in which you can set a background picture for the button. To restore the default style of the login page, click .



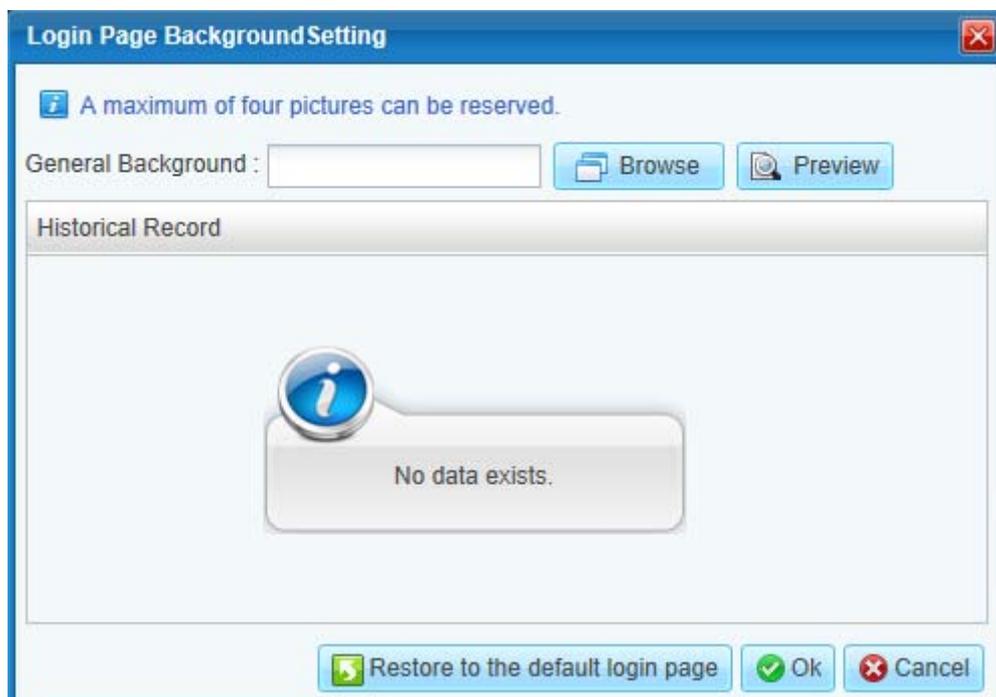
- 1) Click  above the upper right corner of the text box. The **Textbox Setting** dialog box is displayed, in which you can set the text color, font size, width, height, and background picture of the text box. To restore the default style of the login page, click .



- 2) Click  above the upper right corner of the login frame. The **Login Frame Background Setting** dialog box is displayed, in which you can set a background picture for the login frame. To restore the default style of the login page, click .



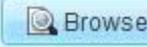
- 3) Click  above the upper right corner of the login page. The **Login Page Background Setting** dialog box is displayed, in which you can set a background picture for the login page. To restore the default style of the login page, click .

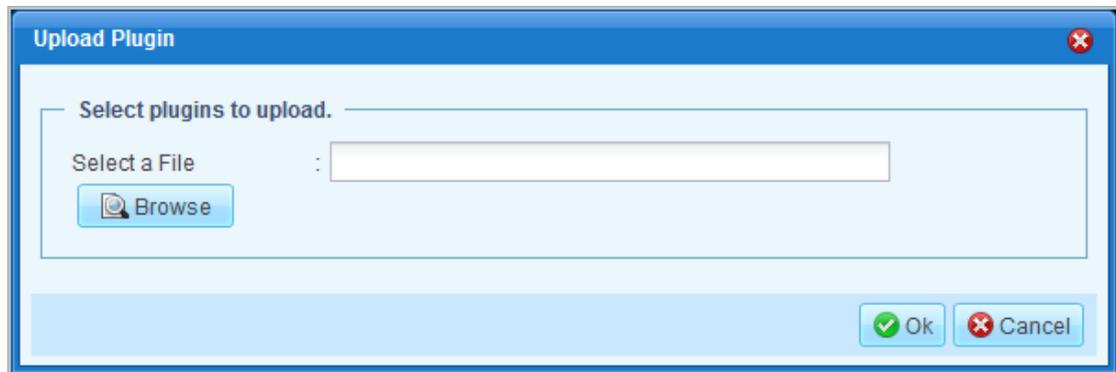


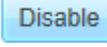
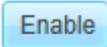
5. Plugin Management

Go to **System Configuration** -> **Plugin Management** and you can add, delete, enable, and disable plugins of RIIL. You can select plugins in business application to define a value collection policy.



- 1) Click . The **Upload Plugin** dialog box is displayed. Click  to select a local plugin and click **Ok** to upload the selected plugin. To cancel uploading, click .



- 2) After a plugin is added, it is enabled by default. To disable a plugin, click . To enable a plugin, click . To unload a plugin, click .

4.1.5.3 System Information

1. License Authorization

System Configuration -> License Authorization					
Module	Function Description	Expiry Time	Quantity	Remaining Qty	
RG-RIIL6.X-WIN platform of the enterprise edition	Automatic discovery function	2013-06-29 21:34:00	-	-	
	Network topology function	2013-06-29 21:34:00	-	-	
	Number of registered users	2013-06-29 21:34:00	99999	99994	
	Resource monitoring and management	2013-06-29 21:34:00	-	-	
	SNMP Trap monitoring function	2013-06-29 21:34:00	-	-	
	System administration function module	2013-06-29 21:34:00	-	-	
RG-RIIL6.X-DCS distributed collection component	Number of collection servers	2013-06-29 21:34:00	99999	99997	
RG-RIIL6.X-Domain	Domain management function	2013-06-29 21:34:00	-	-	
	Number of domains	2013-06-29 21:34:00	99999	99998	
RG-RIIL6.X-IMC network device quantity	Number of monitored resources - Network device	2013-06-29 21:34:00	99999	99986	
RG-RIIL6.X-BMC-Suit business service management component	Business service function	2013-06-29 21:34:00	-	-	
RG-RIIL6.X-BMC-LIC one application monitoring	Number of monitored resources - Application	2013-06-29 21:34:00	99999	99996	
RG-RIIL6.X-BMC-LIC-OS one host monitoring	Number of monitored devices - Host	2013-06-29 21:34:00	99999	99956	
RG-RIIL6.X-BMC-LIC-Stor	Number of monitored resources - Storage device	2013-06-29 21:34:00	99999	99999	
RG-RIIL6.X-Log log monitoring component	Log monitoring function	2013-06-29 21:34:00	-	-	
	Number of monitored resources - Log resource	2013-06-29 21:34:00	99999	99999	
RG-RIIL6.X-Script script monitoring component	Number of monitored resources - Script resource	2013-06-29 21:34:00	99999	99999	
	Script monitoring function	2013-06-29 21:34:00	-	-	
RIIL 6.X-Mobile mobile terminal component	Mobile terminal function	2013-06-29 21:34:00	-	-	
RIIL 6.X-Mobile-iPad mobile terminal	Number of mobile terminals	2013-06-29 21:34:00	99999	99999	
RG-RIIL6.X-NTA-Suit traffic analysis component	Traffic analysis function	2013-06-29 21:34:00	-	-	

2. Logs & Configuration

The **System Configuration -> Log & Configuration** page contains two columns: **Packet** and **Operation**.

You can set the log display level. Click an item in the **Operation** column and the corresponding log level is red, indicating that only logs above this log level are recorded.

System Configuration -> Log & Configuration	
Packet	Operation
Default	DEBUG INFO ERROR WARN FATAL OFF
com.riil.core	DEBUG INFO ERROR WARN FATAL OFF
com.riil.admin	DEBUG INFO ERROR WARN FATAL OFF
com.riil.portal	DEBUG INFO ERROR WARN FATAL OFF
com.riil.web	DEBUG INFO ERROR WARN FATAL OFF
com.riil.monitor	DEBUG INFO ERROR WARN FATAL OFF
com.riil.web.springframe	DEBUG INFO ERROR WARN FATAL OFF

3. User Sessions

System Configuration -> User Sessions						
Basic Information						
Session information of the user that is currently using the RIIL. Server time: 2013-04-15 19:32:17						
User List						
Account	IP Address	Login Times	Latest Login Time	Login Time	Operation	
admin	172.17.161.111	3	2013-04-15 10:56:32	2013-04-15 11:19:50	Logout	
admin	172.17.161.112	4	2013-04-15 11:59:35	2013-04-15 18:46:28	Logout	

1 / 1 Total 2 First Previous Next End 1

4. System

Category	Information Item Name	Information Item Content
System Information	Product version	RIIL v6.2.0 Enterprise Edition
	Build time	2013-04-12 14:44:58
	Home page URL	http://172.17.160.231
	Current working directory	C:/RuiJie/RIIL/RIIL_Portal_Server
	Run time	00day(s) 06 hour(s) 07 minute(s)
	User location	United States
	User timezone	GMT-08:00
	Application server container	Apache Tomcat/6.0.35
	System encoding	Cp1252
	Operating system	Windows Server 2008 R2
	Database type	MySQL
	Database URL	jdbc:mysql://172.17.160.239:3306/riil_product?useUnicode=true&characterEncoding=UTF-8&autoReconnect=true
	Database version	5.5.21
	Database driver	com.mysql.jdbc.Driver
Java Virtual Machine Information	Java version	1.6_0_31
	Java vendor	Sun Microsystems Inc.
	JVM parameter	-Dcatalina.base=C:/RuiJie/RIIL/RIIL_Portal_Server/tomcat -Dcatalina.home=C:/RuiJie/RIIL/RIIL_Portal_Server/tomcat -Djava.endorsed.dirs=C:/RuiJie/RIIL/RIIL_Portal_Server/tomcat/endorsed -Djava.io.tmpdir=C:/RuiJie/RIIL/RIIL_Portal_Server/tomcat/temp -Djava.util.logging.manager=org.apache.juli.ClassLoaderLogManager -Djava.util.logging.config.file=C:/RuiJie/RIIL/RIIL_Portal_Server/tomcat/conf/logging.properties -XX:PermSize=128m -XX:MaxPermSize=256m -file.encoding=UTF-8 -Dcom.sun.management.jmxremote -Dcom.sun.management.jmxremote.port=9090

4.1.5.4 External System Integration

1. RMC integration configuration

Basic Information

Integrate with RMC : * ?

RMC Address : * ?

Username : * ?

Password : * ?

When you click **Integrate with RMC**, the CMDB menu is hidden from the foreground.

- 1) To test configuration information, click .
- 2) To save configuration information, click .
- 3) To configure event synchronization, go to the **Event Synchronization Settings** page.

4) To save RMC synchronization information, click .

2. SNC integration configuration

4.2 Homepage

The homepage of RIIL displays the **Business Services**, **Event Console**, **Network Topology**, **Overall Business Services**, **Resource Management**, **Knowledge Base**, **Network Traffic Analysis Center**, and **Manage Wireless** panels using curtain wall snapshot.



- ✚ Setting the displayed content of the homepage

To show or hide panels on the homepage, click  in the upper right corner. RIIL requires that at least one panel be displayed.



- ✚ Up to 9 panels can be displayed on the homepage and the number of displayed panels must be an odd number (1, 3, 5, or 7).
- ✚ The homepage setting takes effect only for the user that logs in currently.
- ✚ After you access a panel, you can click  in the upper right corner to upload a picture. The uploaded picture is displayed in the corresponding panel on the homepage curtain wall. To restore the default picture, click . To return to the homepage curtain wall, click .

4.3 IT Health Index



You can perform health index setting, warning threshold setting, and health index analysis.

4.3.1 Health Index Setting

1. Setting the resources or business applications that will be added to health indexing
 - 1) Click . The **Health Index Setting** dialog box is displayed, in which you can add resources or business applications to health indexing.

The 'Health Index Setting' dialog box is shown. It has a title bar and a close button. Below the title bar, there's a text area with a help icon and the instruction: 'Drag the arrow or click the text to set the weight.' Below this is a search field for 'Resource N...' and a 'Total Weight:93' indicator. There are '+ Add' and '- Delete' buttons. The main area contains a table with the following columns: 'Resource Name', 'IP Address', 'Resourc...', 'Weight...', and 'Weight Setting'. The table lists various resources with their respective IP addresses, types (Host or Business), and weight settings.

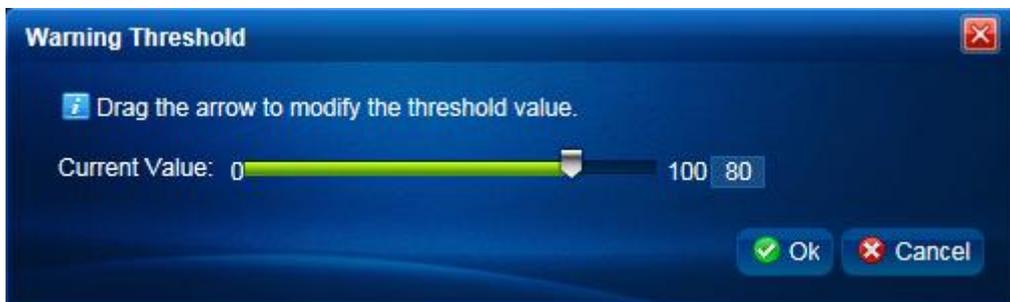
Resource Name	IP Address	Resourc...	Weight...	Weight Setting
WIN-CRI7TJ4VFIF	172.17.160.176	Host	RSI	0 100 7
WIN-CRI7TJ4VFIF	172.17.160.148	Host	RSI	0 100 7
R04364	172.17.161.154	Host	RSI	0 100 7
weiyi-OptiPlex-780	172.17.161.24	Host	RSI	0 100 7
R00756	172.17.161.110	Host	RSI	0 100 7
app01		Busines...	BSI	0 100 7
R04370	172.17.161.17	Host	RSI	0 100 7
172.16.36.159_15...	172.16.36.159	Applicati...	RSI	0 100 7
RUIJIE-DBAPPS	172.17.160.179	Host	RSI	0 100 7
172.17.160.179_5...	172.17.160.179	Applicati...	RSI	0 100 7
172.17.160.179_1...	172.17.160.179	Applicati...	RSI	0 100 8
Test001		Busines...	BSI	0 100 8
ubuntu	172.17.161.138	Host	RSI	0 100 7

At the bottom of the dialog, there are buttons for 'Average Value', 'Ok', and 'Cancel'.

- 2) Set the weights of resources or business applications. You can click  to set weights in batches.
2. Only the system administrator has the permission to add resources to health indexing and set the weights of the added resources.
3. The weight of a new device is 0 by default. For rule monitoring, see the weight rule setting of business applications.

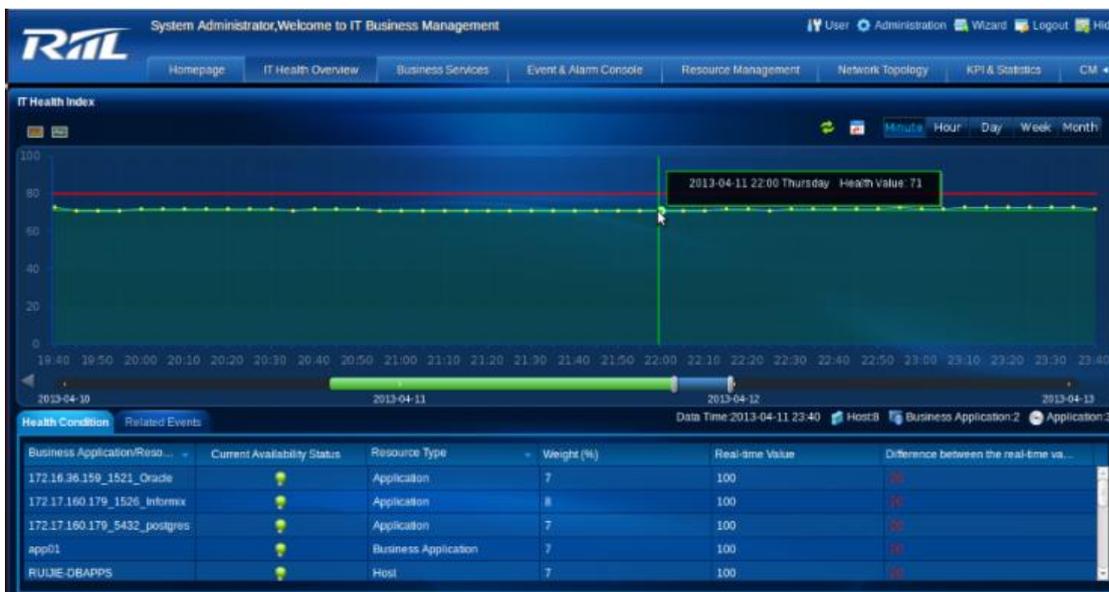
4.3.2 Warning Threshold Setting

1. Setting the warning threshold of health indexes
 - 1) Click . The **Warning Threshold** dialog box is displayed. Drag the arrow or click a point of the scale to change the threshold value.



- 2) This operation can only be performed by the system administrator.

4.3.3 Health Index Analysis



1. Prerequisites for the occurrence of a broken line in the health index analysis diagram:
 -  Resources or business applications have been added to health indexing. The corresponding button is .

 The warning threshold of health indexes has been set. The corresponding button is .

 The end time for analysis has been set. The corresponding button is .

2. Health diagram resetting

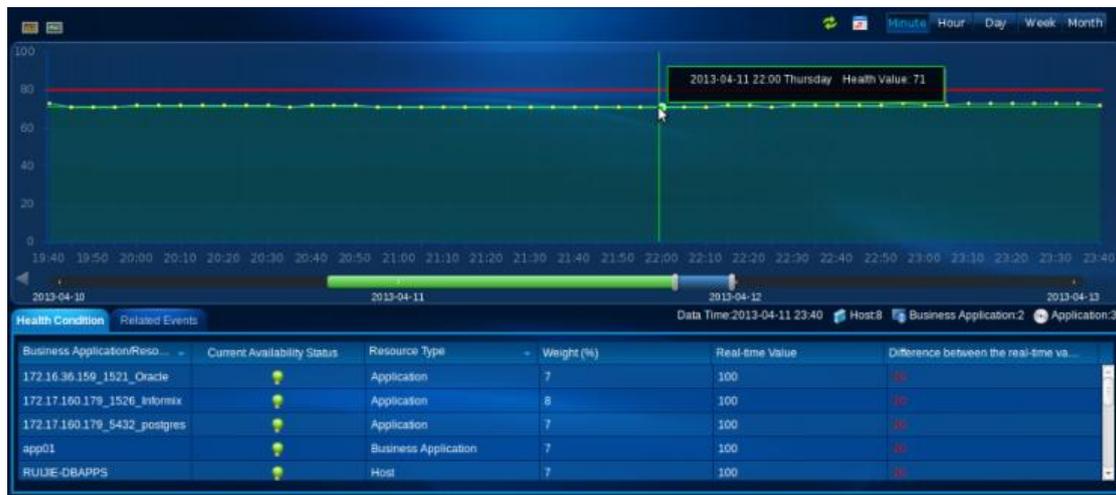
To reset the health diagram, click . The end time is the current time of the RIIL server.

3. Floating information at any point of the broken line chart

When you point the cursor to a point of the floating broken line chart, a floating message box is displayed, indicating the measurement time and value of the corresponding health index.



4. Relation between a point on the broken line chart and the health indexes and related events of the resources added to health indexing



When you click a point of the broken line chart, the **Health Condition** and **Related Events** tab pages below display the health indexes and related events of the resources added to health indexing at the corresponding time point.

1) Health Condition

 The **Health Condition** tab page contains the **Business Application/Resource Name**, **Current Availability Status**, **Resource Type**, **Weight**, **Real-time Value**, and **Difference between the real-time value of threshold value** columns.

 You can click  on the right of the **Business Application/Resource Name** and **Resource Type** columns to filter information.

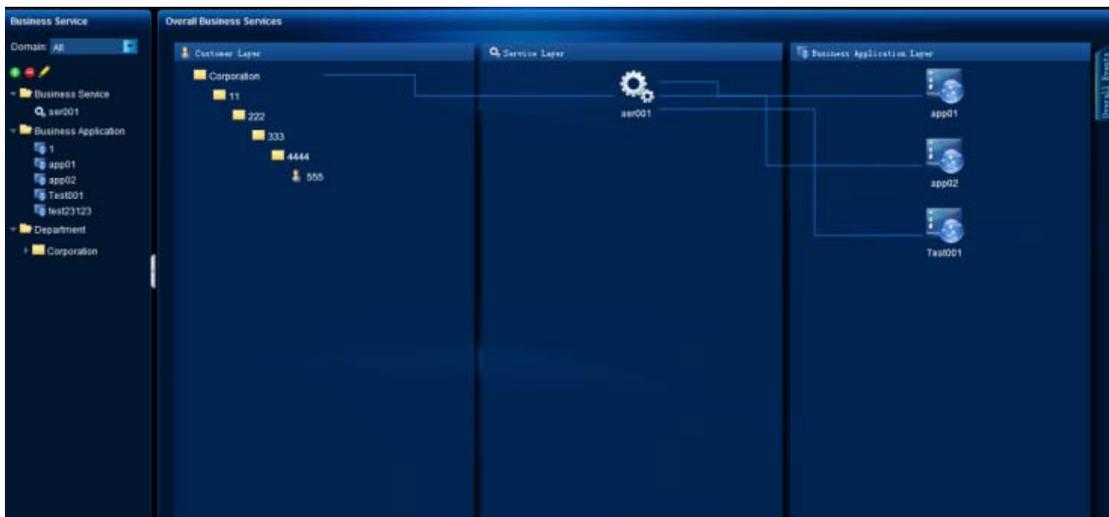
- ✚ You can sort information in the **Current Availability Status**, **Resource Type**, **Weight**, **Real-time Value**, and **Difference between the real-time value of threshold value** columns.
- ✚ You can click an item in the **Business Application/Resource Name** column and view the **Resource Details** page of the corresponding business application or resource. You need to have the appropriate permission to view resource details.

2) Related Events

The **Related Events** tab page displays the events related to the resources or business applications added to health indexing at the corresponding time point.

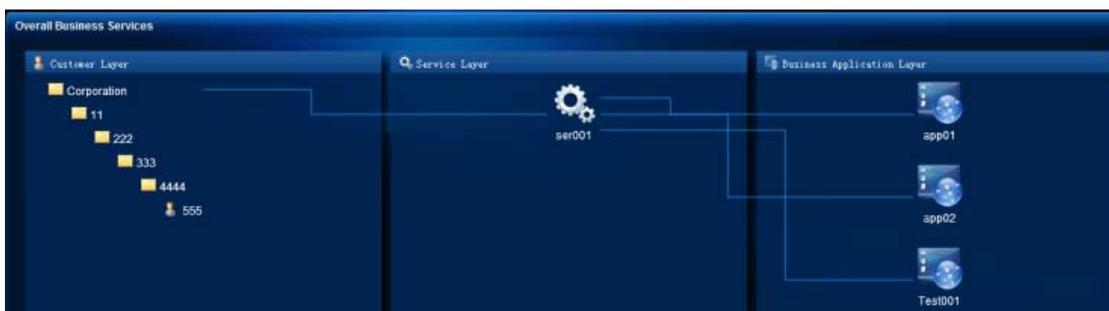
4.4 Business Service

4.4.1 Overall Business Services



Business services are a series of operations provided between customers and business applications, such as the manufacturing service, pre-sales service, after-sales service, consultation service, and marketing service. Business service is an abstract and advanced service concept. A business service may consist of multiple business applications, which support the normal running of the business service.

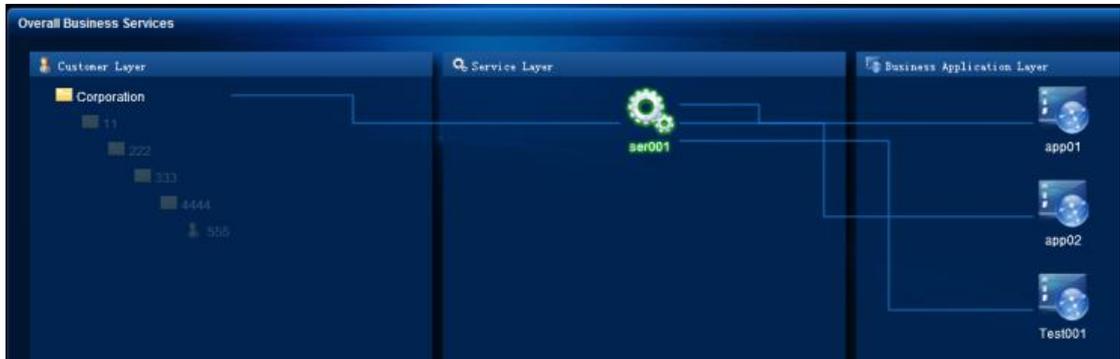
4.4.1.1 Overall Business Services



1. Overall Business Services page

When you access the **Overall Business Services** page, you can view the actual business relationships among the customer layer, service layer, and business application layer.

- 1) When you click an icon on the **Overall Business Services** page, you can view all lines and peer-end icons related to the icon. For example, when you click **ser001**, you can view the following figure.



- 2) When you point the cursor to the icon of a layer, you can view the floating information of the icon.

Floating information of the business application layer:



Floating information of the service layer:

Domain	: Group
Department	: Corporation
Person in Charge	: System Administrator
Phone	: -
Purpose	: -
Description	: -
Business Service Name	: ser001

Floating information of the customer layer:



2. Drill-down jump function of panel elements

When you click the business service and business application icons, you can view the structural view of each layer, for example, the structural view of the service layer, as shown in the following figure.



3. Overall Events

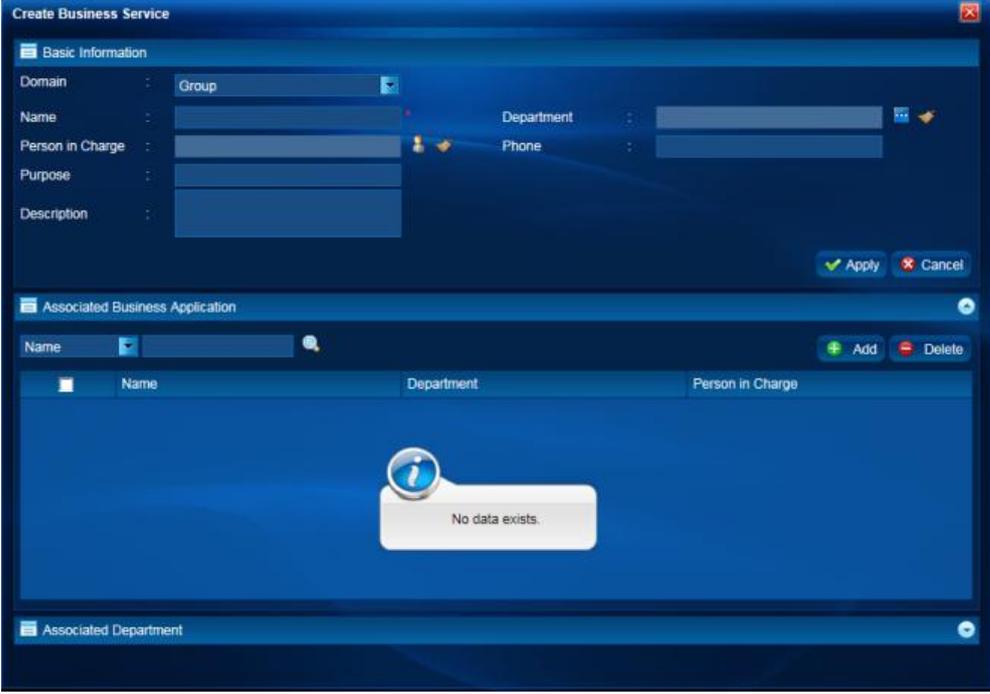


4.4.1.2 Business Service Operations

1. Creating a business service

Click . The **Create Business Service** dialog box is displayed, in which you can create a business service or business application. Create a business service here.

You can specify information in the **Basic Information** (including the **Name**, **Department**, **Person in Change**, **Phone**, **Purpose**, and **Description** fields), **Associated Business Application**, and **Associated Department** areas.



2. Editing a business service

Select a business service and click .

3. Deleting a business service

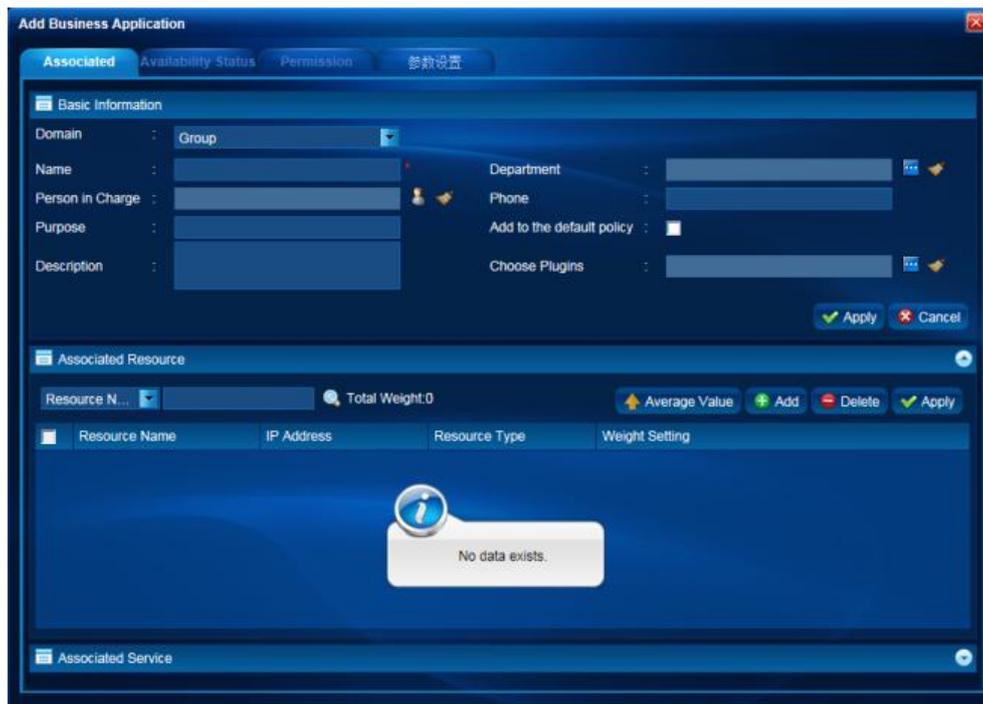
Select a business service and click .

4.4.1.3 Business Application Operations

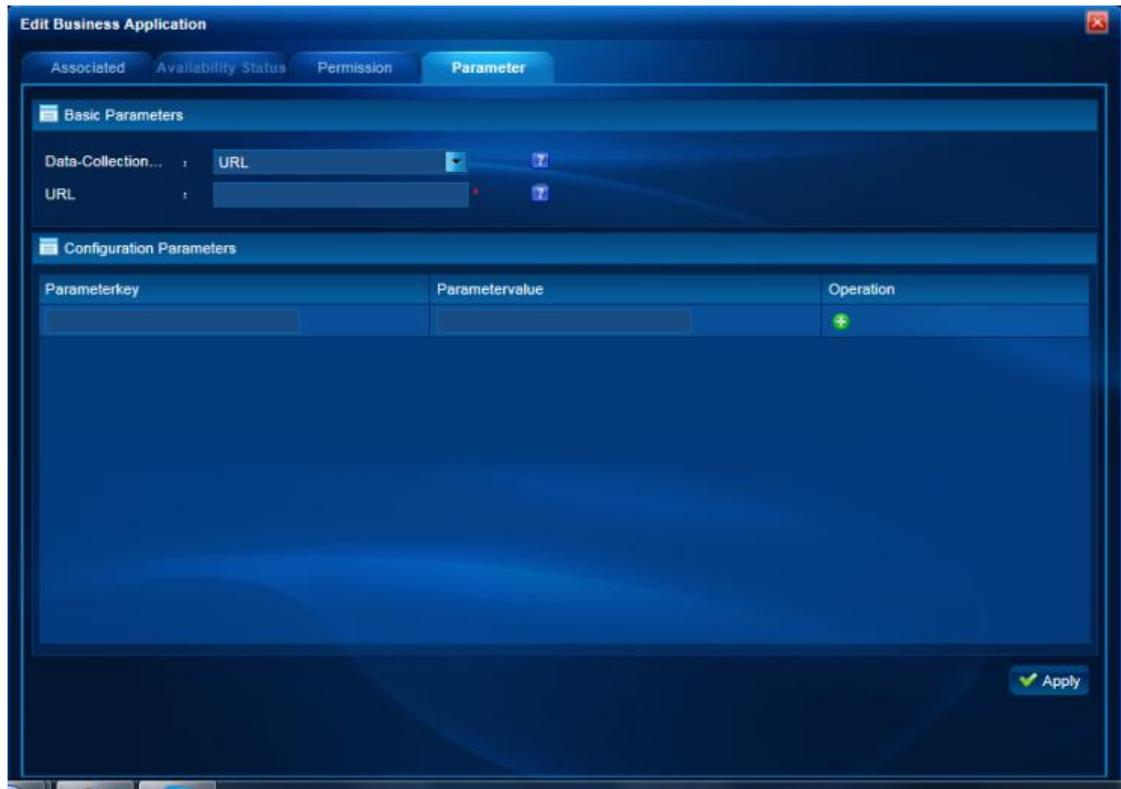
1. Creating a business application

- 1) Click . The **Create Business Application** dialog box is displayed, in which you can create a business service or business application. Create a business application here.

You can specify information in the **Basic Information** (including the **Name**, **Department**, **Person in Charge**, **Phone**, **Purpose**, and **Description** fields), **Associated Resource**, and **Associated Service** areas. When you finish the setting, click **Apply** to save the business application.



- 2) In the **Associated Resource** area, add resources, click **Average Value**, and then click **Apply**.
- 3) To delete a resource to be bound, select the resource and click **Delete**.
- 4) In the **Associated Service** area, add available business services.
- 5) When you select a plugin, the **Parameter** tab page is displayed. On this page, select **PORT** or **URL**, specify necessary information, and click **Apply**. You cannot perform operations on both the **Parameter** and **Availability Status** tab pages at the same time.



2. Editing a business application

Select a business application and click .

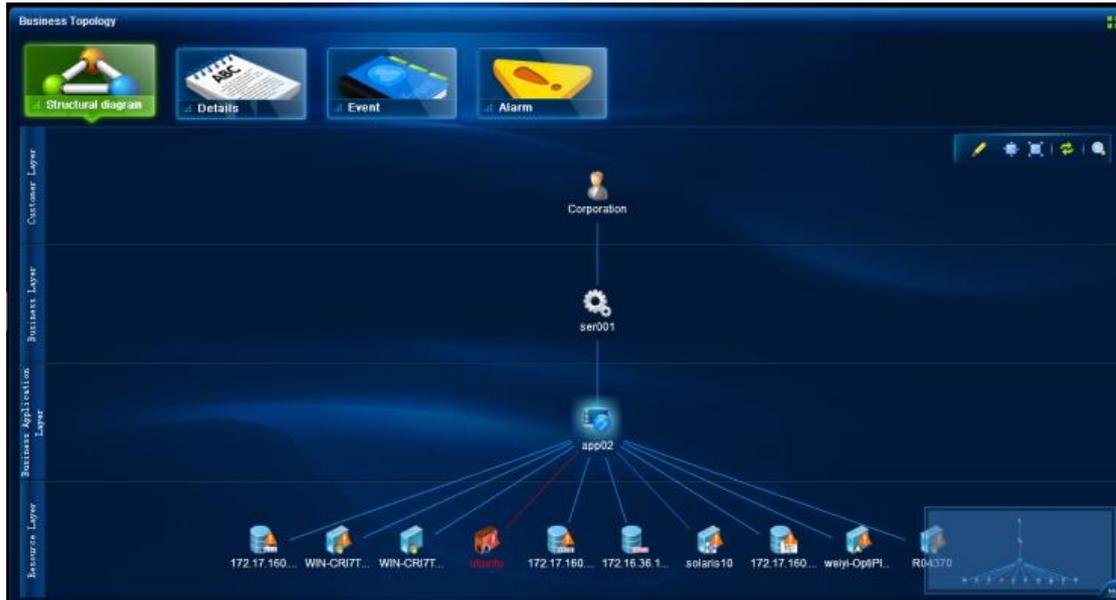
3. Deleting a business application

Select a business application and click .

4.4.1.4 Business Topology

1. Explorer view

The **Business Topology** pages of Business Service, Department, and Business Application provide similar operations. The **Business Topology** page of Business Application is used as an example here.



- 1) The **Business Topology** page of Business Application shows the logical relationship between Business Application and Department/Service/Resource.
- 2) Tabs: **Structural diagram**, **Details**, **Event**, and **Alarm**(which are not available for Business Service)
- 3) When you point the cursor to the icon of a node at a level, the corresponding floating information is displayed.

✚ Floating information of Business Application: Event, Domain, Business Application Name, Health Condition, Busy Degree, and Current Availability.

Event	: -
Domain	: Group
Business Application Name	: app02
Health Condition	: 96
Busy Degree	: 21
Current Availability	: -

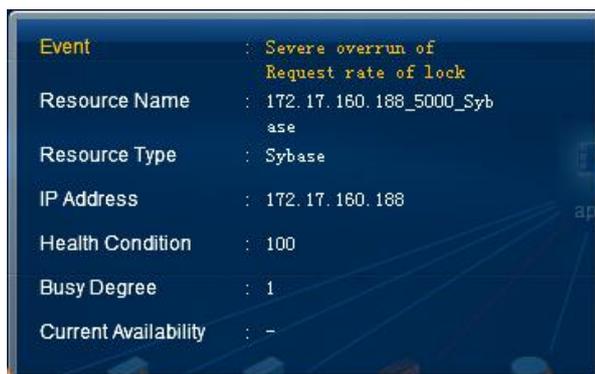
✚ Floating information of Business Service: Domain, Department, Person in Charge, Phone, Purpose, Description, and Business Service Name.

Domain	: Group
Department	: Corporation
Person in Charge	: System Administrator
Phone	: -
Purpose	: -
Description	: -
Business Service Name	: ser001

- Floating information of Department: Department Name, Department No, Superior Department Name, and Description.



- Floating information of Resource: Event, Resource Name, Resource Type, IP Address, Health Condition, Busy Degree, and Current Availability.



- The icon of the current business application (business service or department) is highlighted.
- The toolbar of the **Business Topology** page contains the **Edit View**, **Normal size**, **Fit window**, **Refresh**, and **Node search** buttons.



- Edit View:** used to switch to the edit view (this button is not available on the **Business Topology** page of Department)
 - Normal size:** used to display the structural diagram in its actual size
 - Fit window:** used to fit the structural diagram to the size of the window
 - Refresh:** used to refresh the structural diagram
 - Node search:** used to search for a node in the structural diagram
- Viewing availability configuration and weight rules: Right-click the business application topology. A short-cut menu is displayed, which contains the following options:
 - Availability configuration:** Select this option and you can view the resource relationship of the business application.
 - Weight rule:** Select this option and you can view the weight rule information of the business application.

2. Edit view

- The edit view is not available for Department, which has only the explorer view.

- 2) Only the system administrator and domain administrator have the permission to draw a structural diagram.
- 3) The node of the current business application is highlighted.
- 4) The toolbar of the **Business Topology** page contains the **Browsing View**, **Reset layout**, **Normal size**, **Fit window**, **Delete** and **Save** buttons.



- **Browsing View**: used to switch to the explorer view
- **Reset layout**: used to re-calculate node positions for re-displaying the structural diagram
- **Normal size**: used to display the structural diagram in its actual size
- **Fit window**: used to fit the structural diagram to the size of the window
- **Delete**: used to delete a leaf node. The current core node cannot be deleted.
- **Save**: used to save the nodes of the current topology and their positions

4.4.1.5 Application Details

The **Detailed Information** page contains the **Basic Information** and **Business Application** (or **Resource**) areas. By default, the **Basic Information** and **Business Application** areas are displayed, and the **Resource** area is hidden.



1. **Basic Information** area

The **Basic Information** area contains the following items: **Domain**, **Name**, **Department**, **Person in Charge**, **Phone**, **Purpose**, **Availability**, **Health Condition**, **Busy Degree**, **Current Availability**, and **Description**.



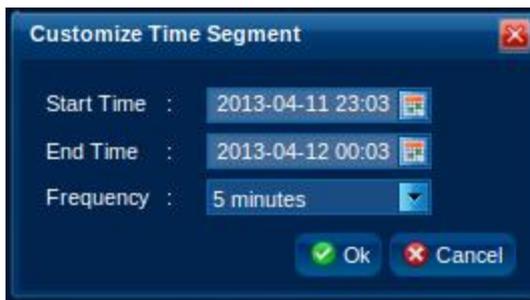
2. Business Application area



- 1) The index options include **Health Status**, **Busy Degree**, and **Availability Ratio** (data over the last one hour is displayed by default).



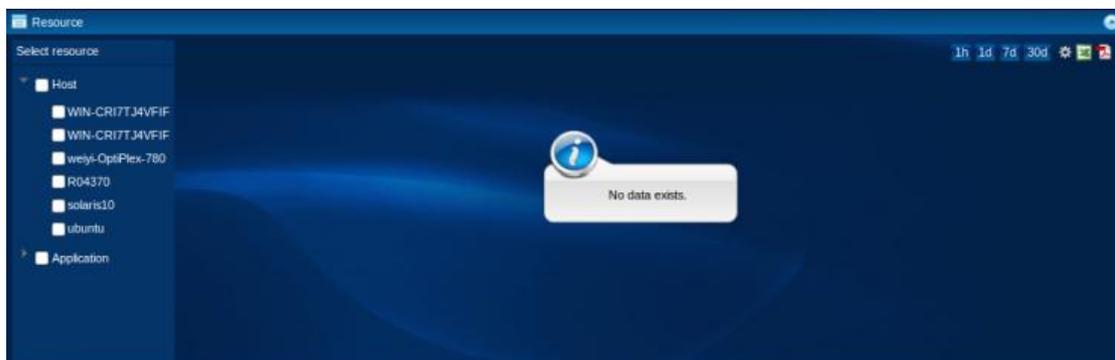
- 2) You can click  to set a time segment.



- 3) Data can be displayed by **1h**, **1d**, **7d**, or **30d** and exported into an Excel file or a PDF file.
- 4) When you click a data point on the curve, you can view information of the corresponding value.



3. Resource area



- 1) Click . The **Resource** area is displayed. No data exists in this area by default.

- To view analysis data, select a resource under **Select resource** on the left and click **1h**, **1d**, **7d**, or **30d**, or click to set a time segment.



- The index options include **Health Status**, **Busy Degree**, **Availability Ratio**, **Breakdown Times**, **Downtime (minutes)**, **MTTR**, and **MTBF**.



4.4.1.6 Application Event

The **Event** page provides an overview of event information of a business application and is similar to Overall Events And Alarms—Event Console. Only the events generated by the business application are displayed.

Event Name	Application Name	Event Type	Occurrence Time
(Business Application)Severe overrun of Busy or not	app-new	Performance event	04/22/2013 13:10:51
(Business Application)Severe overrun of Health condition	app-new	Performance event	04/22/2013 11:45:51

4.4.1.7 Application Alarm

The **Alarm** page provides an overview of alarm information of a business application and is similar to Overall Events And Alarms—Alarm Console. Only the alarms generated by the business application are displayed.



4.4.2 Business Application Analysis

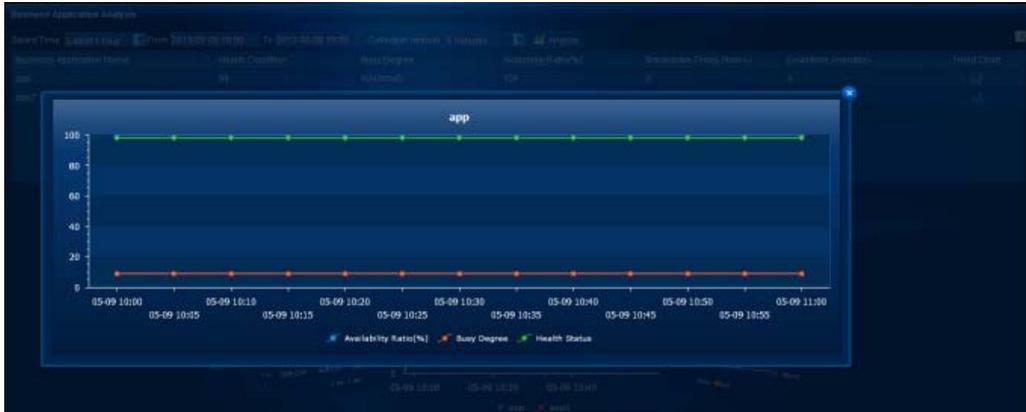
1. Select business applications (6 at most) to be analyzed, set a time segment, and click **Analyze**. The analysis results are divided into the **Health Condition**, **Busy Degree**, **Availability Ratio(%)**, **Breakdown Times (times)**, and **Downtime (minutes)** columns.



2. Diagram description:

Tables and diagrams showing the analysis results are displayed only after you select business applications to be analyzed, set a time segment, and click **Analyze**.

- To export diagrams and tables, click
- To enlarge a diagram, double-click the diagram.
- To view the analysis chart of a business application, click in the table.



4.4.3 Overall Events and Alarms

4.4.3.1 Event Console

Event Name	Application Name	Event Type	Occurrence Time
(Business Application)Severe overrun of Busy or not	app-new	Performance event	04/21/2013 21:10:51
(Business Application)Severe overrun of Health condition	app-new	Performance event	04/21/2013 19:45:51
(Business Application)Available Status Unavailable	AA	Availability event	04/21/2013 19:30:51
(Business Application)Severe overrun of Busy or not	AA	Performance event	04/21/2013 17:35:51
(Business Application)Severe overrun of Health condition	app2	Performance event	04/21/2013 03:05:52
(Business Application)Severe overrun of Health condition	app3	Performance event	04/21/2013 03:05:52
(Business Application)Severe overrun of Health condition	app	Performance event	04/21/2013 03:05:52
(Business Application)Available Status Unavailable	testaaaaa	Availability event	04/20/2013 02:00:51
(Business Application)Severe overrun of Health condition	testaaaaa	Performance event	04/20/2013 02:00:51
(Business Application)Severe overrun of Health condition	testaaaaa	Performance event	04/20/2013 01:55:51
(Business Application)Available Status Unavailable	testaaaaa	Availability event	04/20/2013 01:55:51
(Business Application)Severe overrun of Busy or not	pppppppppp	Performance event	04/20/2013 01:40:51
(Business Application)Severe overrun of Health condition	pppppppppp	Performance event	04/20/2013 01:35:51
(Business Application)Severe overrun of Health condition	pppppppppp	Performance event	04/19/2013 19:20:51
(Business Application)Severe overrun of Busy or not	pppppppppp	Performance event	04/19/2013 19:20:51
(Business Application)Severe overrun of Health condition	pppppppppp	Performance event	04/19/2013 19:15:51

A record is generated when a metric of a business application exceeds the threshold defined in the corresponding business application policy. The **Event Console** page displays events related to a business application. The following section describes event-related operations.

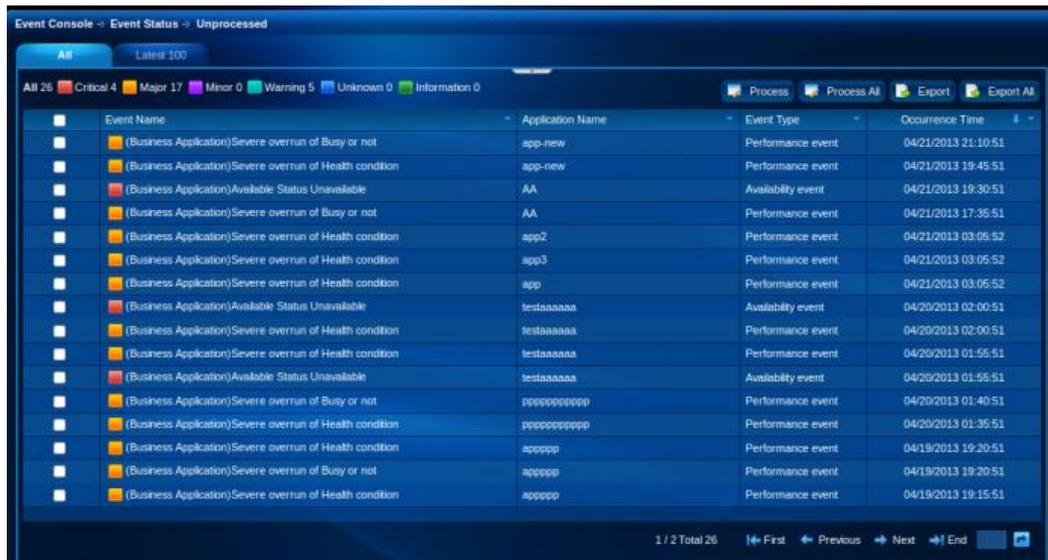
1. Viewing events

1) Viewing events through **Event Status**

- You can view events in the unprocessed, processed, and already recovered states.



- Event list



Event Name	Application Name	Event Type	Occurrence Time
(Business Application)Severe overrun of Busy or not	app-new	Performance event	04/21/2013 21:10:51
(Business Application)Severe overrun of Health condition	app-new	Performance event	04/21/2013 19:45:51
(Business Application)Available Status Unavailable	AA	Availability event	04/21/2013 19:30:51
(Business Application)Severe overrun of Busy or not	AA	Performance event	04/21/2013 17:35:51
(Business Application)Severe overrun of Health condition	app2	Performance event	04/21/2013 03:05:52
(Business Application)Severe overrun of Health condition	app3	Performance event	04/21/2013 03:05:52
(Business Application)Severe overrun of Health condition	app	Performance event	04/21/2013 03:05:52
(Business Application)Available Status Unavailable	testaaaaaa	Availability event	04/20/2013 02:00:51
(Business Application)Severe overrun of Health condition	testaaaaaa	Performance event	04/20/2013 02:00:51
(Business Application)Available Status Unavailable	testaaaaaa	Availability event	04/20/2013 01:55:51
(Business Application)Severe overrun of Busy or not	pppppppppp	Performance event	04/20/2013 01:40:51
(Business Application)Severe overrun of Health condition	pppppppppp	Performance event	04/20/2013 01:35:51
(Business Application)Severe overrun of Health condition	apppppp	Performance event	04/19/2013 19:20:51
(Business Application)Severe overrun of Busy or not	apppppp	Performance event	04/19/2013 19:20:51
(Business Application)Severe overrun of Health condition	apppppp	Performance event	04/19/2013 19:15:51

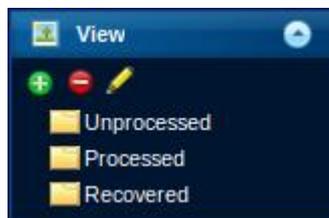
The event list consists of the Event Name, Application Name, Event Type, and Occurrence Time columns.

Click an event name to view event details.

You can view events by event severity, including critical, major, minor, warning, unknown, and information.

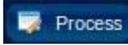
2) Viewing events in the **View** area

In the **View** area, you can filter events to obtain unprocessed, processed, or recovered events based on certain criteria.



2. Processing events

You can process one or all events.

To process an event, select the event and click . The processed event is added to the processed event list.

To process all events, click . After being processed, all events are added to the processed event list.

3. Exporting events

You can export one or all events.

Select an event and click . The selected event is exported into an EXCEL file.

To export all events, click .

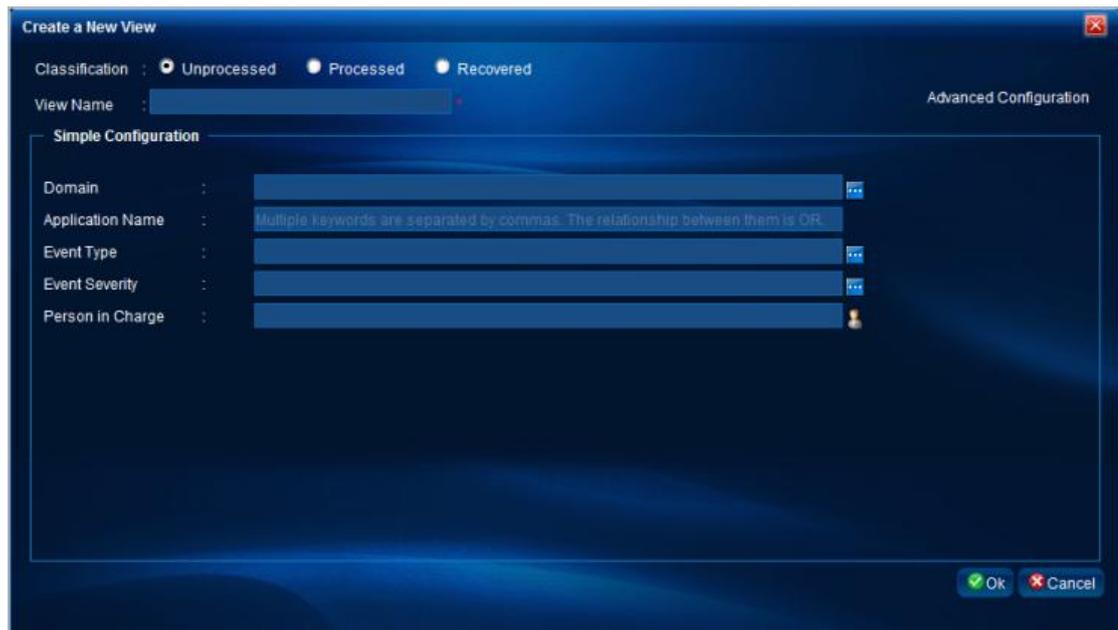
4. Defining an event view

You can define a view to filter events to obtain the required ones.

1) Creating an event view

Click  in the **View** area under **Event Console**.

The **Create a New View** dialog box is displayed. You can configure filter criteria in the **Simple Configuration** area or **Advanced Configuration** area.



2) Editing an event view

Select a user-defined event view and click  in the **View** area under **Event Console**.

3) Deleting an event view

Select a user-defined event view and click  in the **View** area under **Event Console**.

4.4.3.2 Alarm Console

When an event generated by a business application meets the preset alarm rules, an alarm is generated and sent to relevant personnel.

The following section describes alarm-related operations.

1. Viewing alarms

1) Viewing the alarm list

 You can view current alarms and historical alarms separately.



Alarm list

The alarm list consists of the **Alarm Contents**, **Application Name**, **Recipient**, **Sending Time**, and **Sending Result** columns.



Alarm Contents	Application Name	Recipient	Sending Time	Sending Result
(Business Application)AA Available Status Unavailable	AA	System Administrator	04/21/2013 19:30:53	
(Business Application)AA Available Status Unavailable	AA	System Administrator	04/21/2013 19:00:53	
(Business Application)AA Available Status Unavailable	AA	System Administrator	04/21/2013 18:35:57	
(Business Application)AA Busy or not 58(RedThreshold=>=2) Cause:RC-WALL...	AA	System Administrator	04/21/2013 17:35:54	
(Business Application)app Available Status Unavailable	app	System Administrator	04/21/2013 09:40:57	
(Business Application)app2 Available Status Unavailable	app2	System Administrator	04/21/2013 09:40:57	
(Business Application)app3 Available Status Unavailable	app3	System Administrator	04/21/2013 09:40:57	
(Business Application)app3 Available Status Unavailable	app3	System Administrator	04/21/2013 03:06:01	
(Business Application)app2 Health condition:78(RedThreshold<98)	app2	System Administrator	04/21/2013 03:06:01	
(Business Application)app3 Health condition:78(RedThreshold<98)	app3	System Administrator	04/21/2013 03:06:00	
(Business Application)app2 Available Status Unavailable	app2	System Administrator	04/21/2013 03:06:00	
(Business Application)app Health condition:78(RedThreshold<98)	app	System Administrator	04/21/2013 03:05:59	
(Business Application)app Available Status Unavailable	app	System Administrator	04/21/2013 03:05:59	

2) Viewing alarms in the **View** area

In the **View** area, you can filter alarms to obtain current and historical alarms based on certain criteria.



2. Exporting alarms

You can export one or all alarms.

Select an alarm and click . The selected alarm is exported into an EXCEL file.

To export all alarms, click .

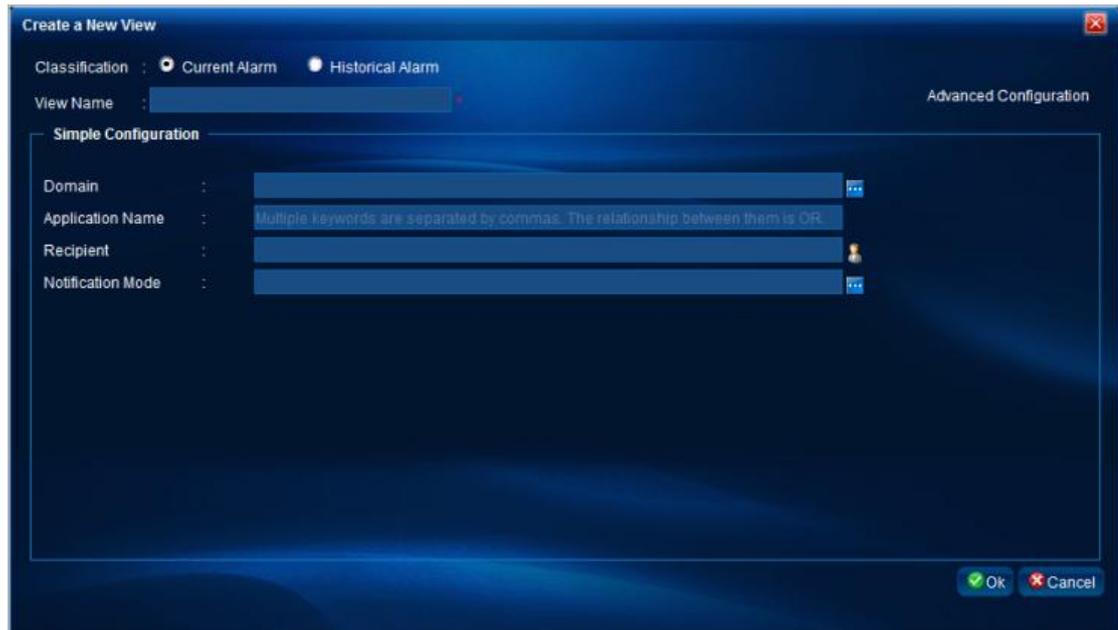
3. Defining an alarm view

You can define a view to filter alarms to obtain the required ones.

1) Creating an alarm view

Click  in the **View** area under **Alarm Console**.

The **Create a New View** dialog box is displayed. You can configure filter criteria in the **Simple Configuration** area or **Advanced Configuration** area.



2) Editing an alarm view

Select a user-defined alarm view and click  in the **View** area under **Alarm Console**.

3) Deleting a view

Select a user-defined alarm view and click  in the **View** area under **Alarm Console**.

4.4.4 Policy Configuration

4.4.4.1 Policy Setting

A business application policy defines the metrics, events, and alarms related to a business application. A business application can monitor its metrics and generate events and alarms only after it is assigned with a business application policy. RIIL provides a default business application policy.

1. Creating a policy

Click  and specify basic information in the dialog box displayed. After a policy is created, the **Resource Relation**, **Metric Configuration**, **Event Configuration**, and **Alarm Configuration** tab pages are displayed.



You can create a policy using either of the following methods:

Click  in the toolbar.

Click  on the right of a business application policy and choose .

2. Enabling a policy

Click  to enable a policy. After being enabled, the policy is used to monitor related business applications. The enabled policy is marked with .

You can enable a single policy at a time or enable multiple policies in batches.

Select a business application policy, click  on the right, and choose .



Select one or more business application policies and click  in the toolbar.



3. Disabling a policy

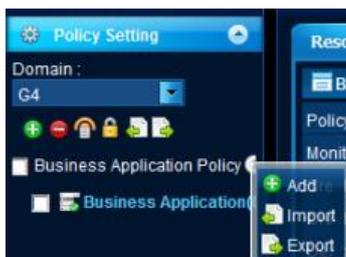
Click  to disable a policy. After being disabled, the policy is not used to monitor related business applications. The disabled policy is marked with .

4. Importing a policy

Click  to import a policy. This function allows you to import backup business application policies into the current system.

You can import a single policy at a time or import multiple policies in batches.

Select a business application policy, click  on the right, and choose .



Click  in the toolbar or choose  from the sub-menu on the right of a business application policy.

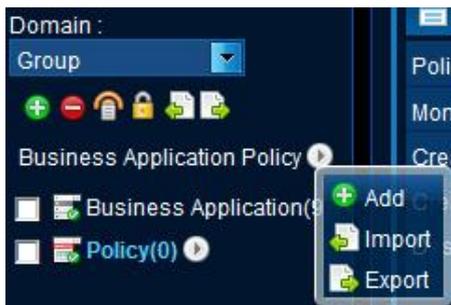


5. Exporting a policy

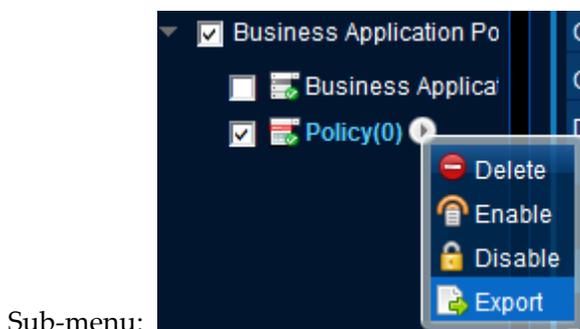
Click  to export a policy. This function allows you to back up business application policies in the current system.

You can export a single policy at a time or export multiple policies in batches.

Select a business application policy, click  on the right, and choose .



Select one or more business application policies and click  in the toolbar or choose  from the sub-menu on the right of the selected policy.



6. Deleting a policy

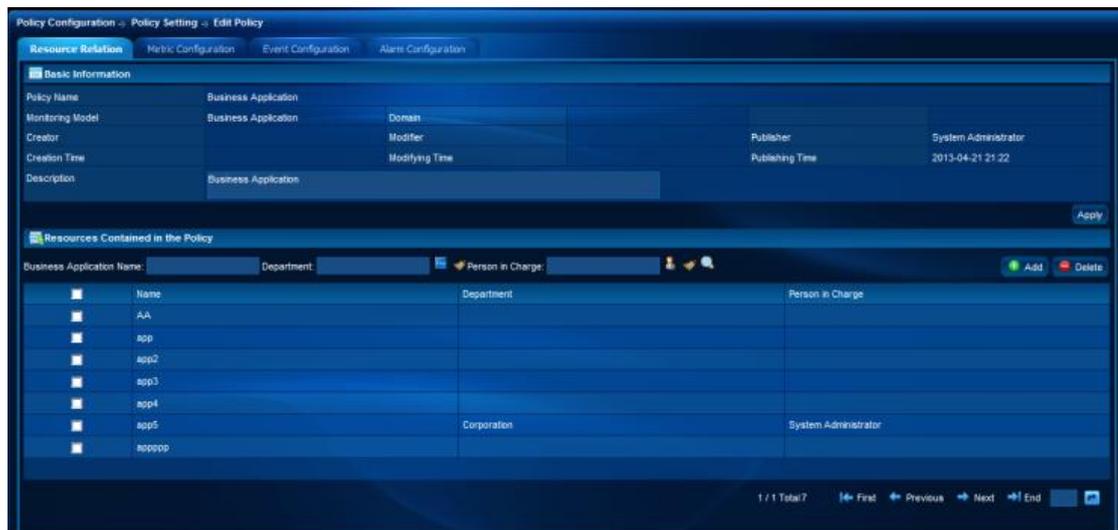
Click  to delete a policy. A prompt is displayed for your confirmation on the deletion. You cannot delete the default policy.

7. Editing a policy

Click the name of an existing policy to edit the policy. You can specify information on the **Resource Relation**, **Metric Configuration**, **Event Configuration**, and **Alarm Configuration** tab pages.

1) Resource Relation

On the **Resource Relation** tab page, you can set the resources to be monitored using a business application policy.



2) Metric Configuration

On the **Resource Configuration** tab page, you can set the resource metrics to be monitored using a business application policy.



3) Event Configuration

On the **Event Configuration** tab page, you can set the types of events generated by the resources monitored using a business application policy. Those events are classified into availability events and performance events.



4) Alarm Configuration



4.4.4.2 Permission Setting

Permission control is available for business applications. After a business application is added to a workgroup, only users in the workgroup have access to the business application.



1. Adding a business application to a workgroup

Click **Add**. The **Add Business Application** window is displayed, in which you can add a business application to a workgroup.

2. Deleting a business application from a workgroup

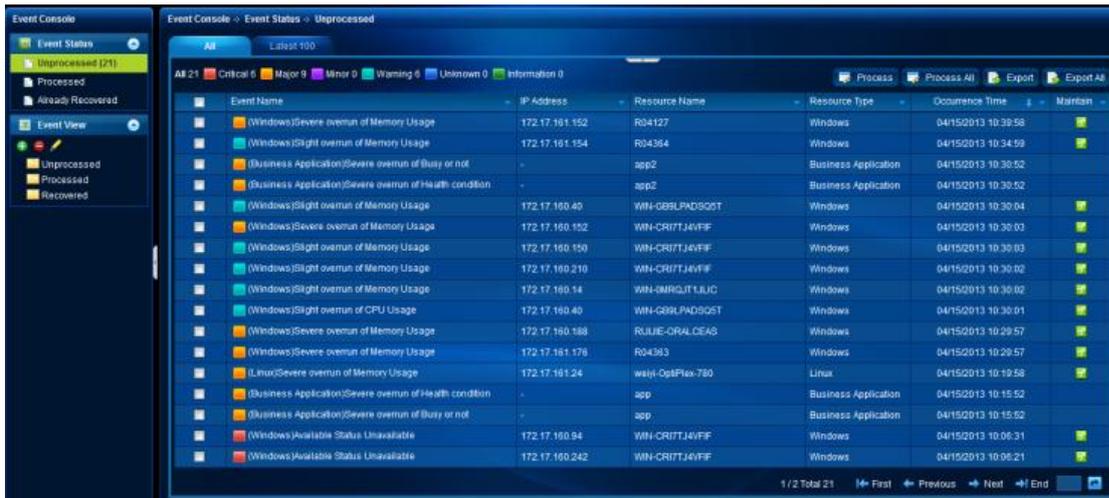
Select a business application and click **Delete**.

Note: The default workgroup does not support the adding or deleting operation.

4.5 Event and Alarm Center

4.5.1 Event Console

The **Event Console** page displays events related to various resources (including hosts, network devices, storage devices, business applications, links, and equipment room elements). When you access the event and alarm center, the **Unprocessed** page is displayed by default.



You can view, process, search, and export events. These operations are described in the following.

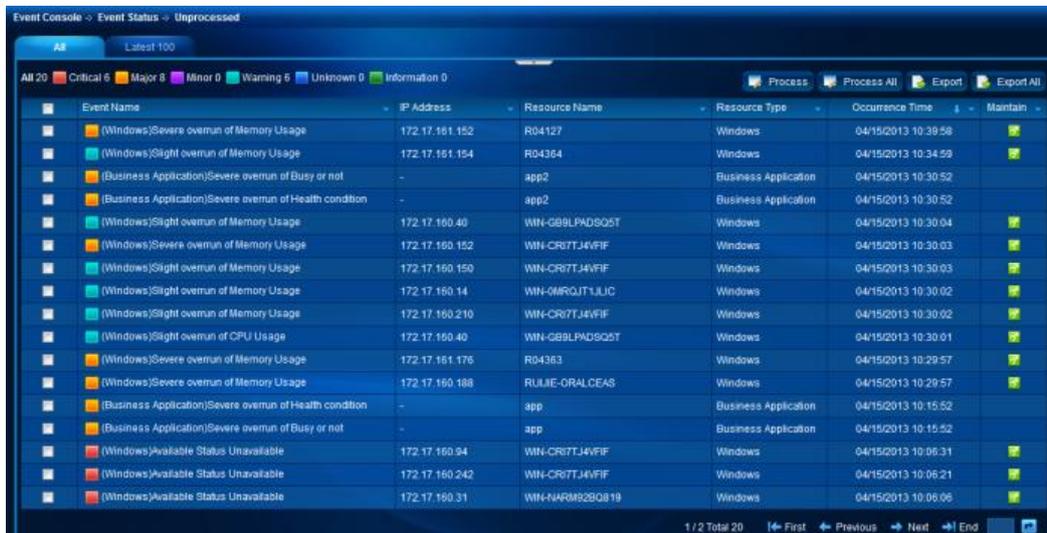
1. Viewing events

1) Viewing events in the **Event Status** area

You can view events in the unprocessed, processed, and already recovered states.



Event list



You can view events on the **All** tab page and **Latest 100** tab page separately.

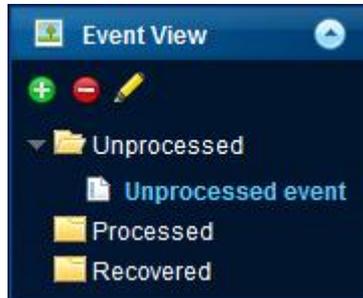
The event list displays event information in the **Event Name**, **IP Address**, **Resource Name**, **Resource Type**, **Occurrence Time**, and **Maintenance** columns.

Click an event name to view event details.

You can view events by event severity, including critical, major, minor, warning, unknown, and information.

You can view events in the unprocessed, processed, and already recovered states.

2) Viewing events in the **Event View** area



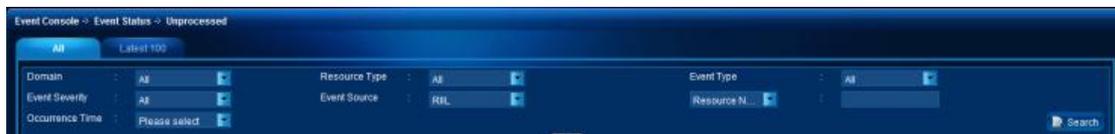
2. Processing events

You can process one or all events.

To process an event, select the event and click . The processed event is added to the processed event list.

To process all events, click . After being processed, all events are added to the processed event list.

3. Searching events



You can configure search criteria by specifying the following fields on the **All** tab page: **Domain**, **Resource Type**, **Event Type**, **Event Severity**, **Event Source**, **Resource Name**, **IP Address**, and **Occurrence Time**.

4. Exporting events

You can export one or all events.

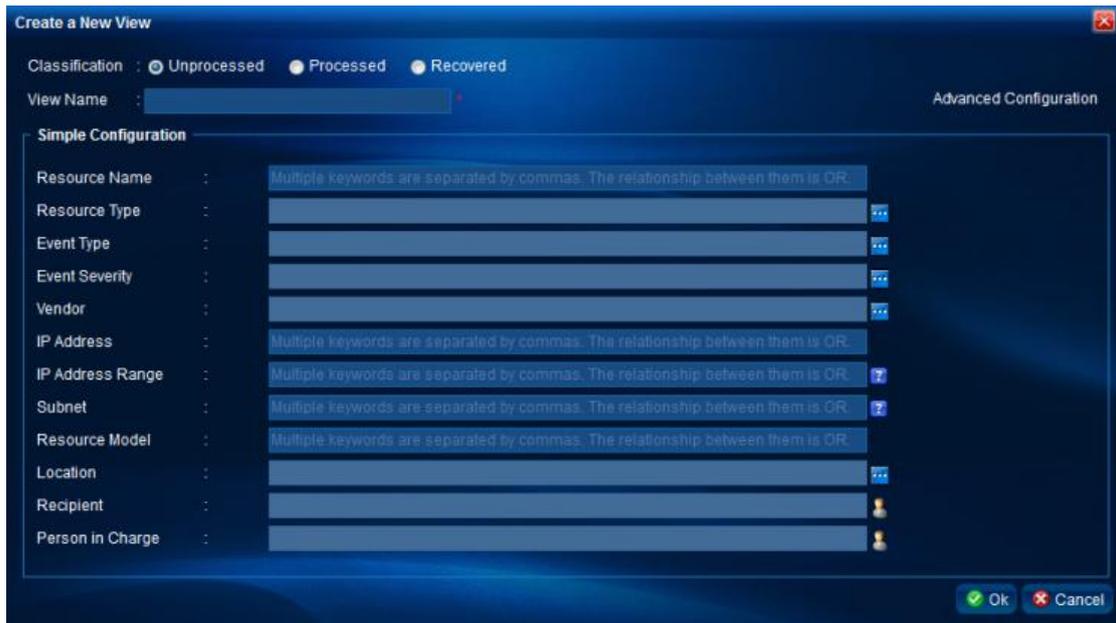
Select an event and click . The selected event is exported into an EXCEL file.

To export all events, click .

5. Defining an event view

Click  in the **Event View** area under **Event Console**.

The **Create a New View** dialog box is displayed. You can configure filter criteria in the **Simple Configuration** area or **Advanced Configuration** area.



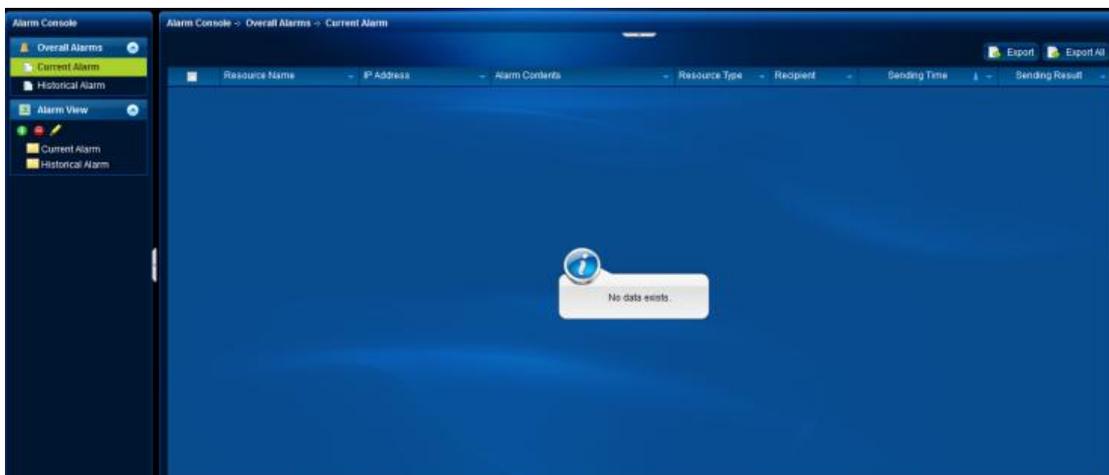
1) Editing an event view

Click  in the **Event View** area under **Event Console**.

2) Deleting an event view

Click  in the **Event View** area under **Event Console**.

4.5.2 Alarm Console



When an event generated by a business application meets the preset alarm rules, an alarm is generated and sent to relevant personnel. The following section describes alarm-related operations.

1. Viewing alarms

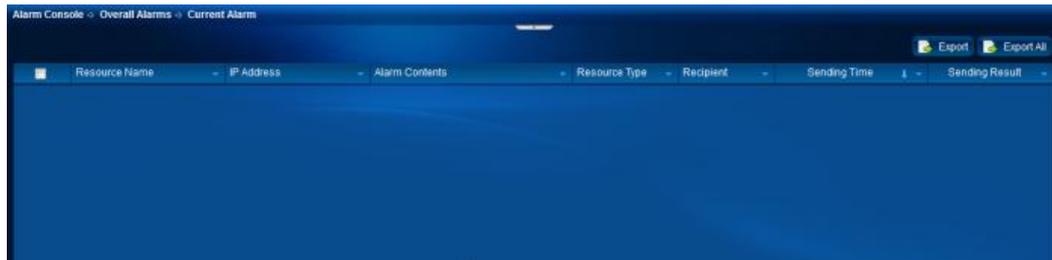
1) Viewing the alarm list

 You can view current alarms and historical alarms separately.



Alarm list

The alarm list displays alarm information in the **Resource Name**, **IP Address**, **Alarm Contents**, **Resource Type**, **Recipient**, **Sending Time**, and **Sending Result** columns.



2) Viewing alarms in the **Alarm View** area

In the **Alarm View** area, you can filter alarms to obtain current and historical alarms based on certain criteria.



2. Exporting alarms

You can export one or all alarms.

Select an alarm and click . The selected alarm is exported into an EXCEL file.

To export all alarms, click .

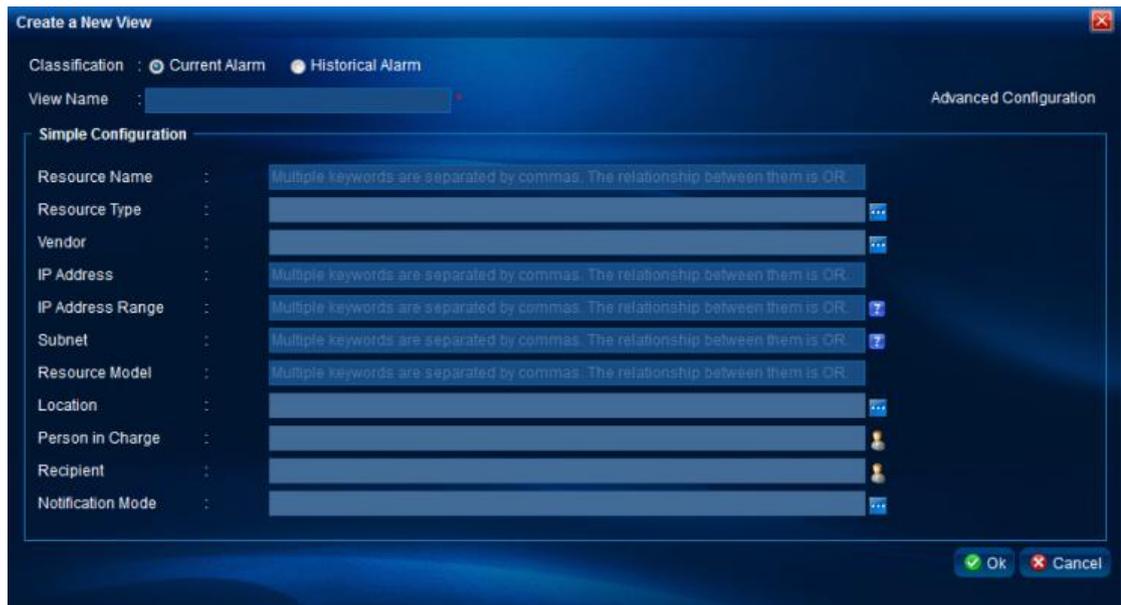
3. Defining an alarm view

You can define a view to filter alarms to obtain the required ones.

1) Creating an alarm view

Click  in the **Alarm View** area under **Alarm Console**.

The **Create a New View** dialog box is displayed. You can configure filter criteria in the **Simple Configuration** area or **Advanced Configuration** area.



2) Editing an alarm view

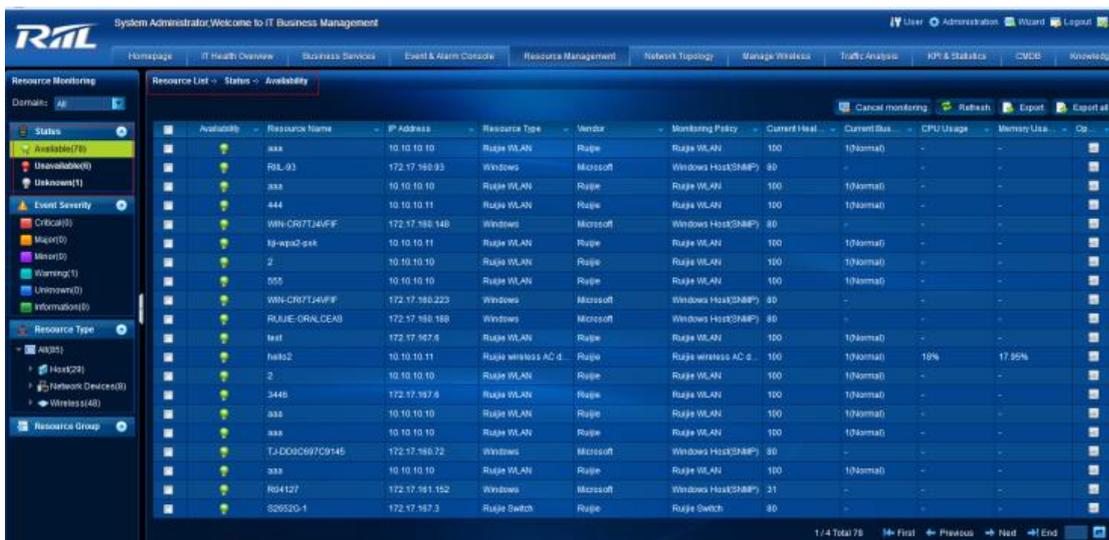
Click  in the **Alarm View** area under **Alarm Console**.

3) Deleting an alarm view

Click  in the **Alarm View** area under **Alarm Console**.

4.6 Resource Management

4.6.1 Resource Monitoring



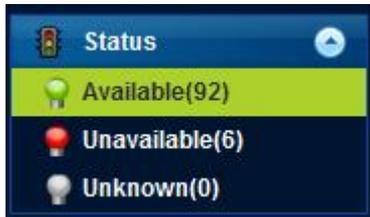
Availability	Resource Name	IP Address	Resource Type	Vendor	Monitoring Policy	Current Heat	Current Bus	CPU Usage	Memory Usage
Available(77)	axx	10.10.10.10	Ruaje WLAN	Ruaje	Ruaje WLAN	100	10Normal	-	-
Unavailable(0)	RIL-03	172.17.160.93	Windows	Microsoft	Windows Host(SMB)	80	-	-	-
Unknown(1)	axx	10.10.10.10	Ruaje WLAN	Ruaje	Ruaje WLAN	100	10Normal	-	-
Critical(3)	444	10.10.10.11	Ruaje WLAN	Ruaje	Ruaje WLAN	100	10Normal	-	-
Major(0)	WIN-CR7TJ4VFF	172.17.160.148	Windows	Microsoft	Windows Host(SMB)	80	-	-	-
Minor(0)	IS-wpa2-pak	10.10.10.11	Ruaje WLAN	Ruaje	Ruaje WLAN	100	10Normal	-	-
Warning(1)	2	10.10.10.10	Ruaje WLAN	Ruaje	Ruaje WLAN	100	10Normal	-	-
Unknown(0)	555	10.10.10.10	Ruaje WLAN	Ruaje	Ruaje WLAN	100	10Normal	-	-
Information(8)	WIN-CR7TJ4VFF	172.17.160.225	Windows	Microsoft	Windows Host(SMB)	80	-	-	-
Resource Type	RAJIE-ORALCEA8	172.17.160.168	Windows	Microsoft	Windows Host(SMB)	80	-	-	-
Host(29)	test	172.17.167.6	Ruaje WLAN	Ruaje	Ruaje WLAN	100	10Normal	-	-
Network Devices(6)	h882	10.10.10.11	Ruaje wireless AC s.	Ruaje	Ruaje wireless AC s.	100	10Normal	19%	17.95%
Wireless(148)	2	10.10.10.10	Ruaje WLAN	Ruaje	Ruaje WLAN	100	10Normal	-	-
	3446	172.17.167.6	Ruaje WLAN	Ruaje	Ruaje WLAN	100	10Normal	-	-
	aaa	10.10.10.10	Ruaje WLAN	Ruaje	Ruaje WLAN	100	10Normal	-	-
	aaa	10.10.10.10	Ruaje WLAN	Ruaje	Ruaje WLAN	100	10Normal	-	-
	aaa	10.10.10.10	Ruaje WLAN	Ruaje	Ruaje WLAN	100	10Normal	-	-
	TJ-DO9C997C9145	172.17.160.72	Windows	Microsoft	Windows Host(SMB)	80	-	-	-
	aaa	10.10.10.10	Ruaje WLAN	Ruaje	Ruaje WLAN	100	10Normal	-	-
	R04127	172.17.161.152	Windows	Microsoft	Windows Host(SMB)	31	-	-	-
	S205D-1	172.17.167.3	Ruaje Switch	Ruaje	Ruaje Switch	80	-	-	-

RIIL monitors resources as required by users. You can view monitored resources by resource status, event severity, resource type, or resource group. The following describes how RIIL monitors resources.

1. Viewing resources

1) By status

You can view monitored resources by status, including available, unavailable, and unknown.



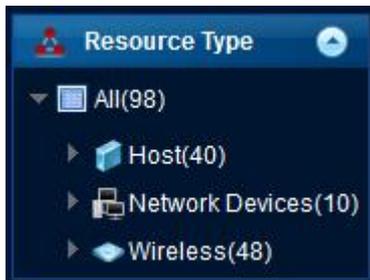
2) By event severity

You can view resources by event severity. Event severities include critical, major, minor, warning, unknown, and information.



3) By resource type

You can view resources by resource type.



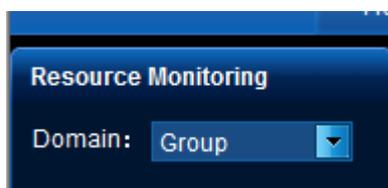
4) By resource group

You can view resources by resource group.

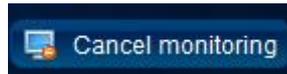
2. Add to a resource group

To facilitate resource management, you can add resources to resource groups.

The  button is available only after you select a domain in



3. Cancel monitoring



Select a resource and click **Cancel monitoring** to cancel the monitoring on the resource. A resource not in monitoring is no longer displayed in the monitored resource list.

4. Refresh

You can click **Refresh** to obtain the latest status of all resources in the resource list.

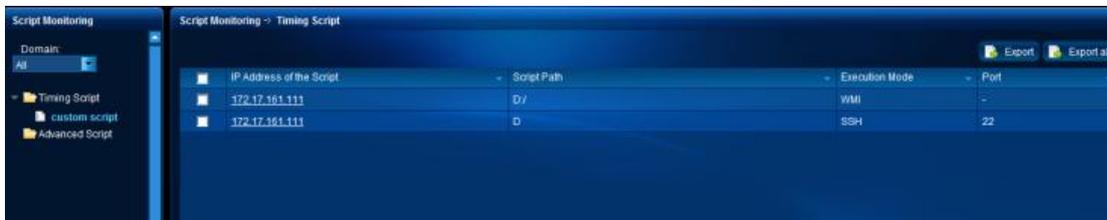
5. Export

You can click **Export** to export information of the selected resources an Excel file.

6. Export all

You can click **Export all** to export information of all resources to an Excel file.

4.6.2 Script Monitoring



You can monitor the execution results of the scripts deployed on the device. Scripts are classified into timing scripts and advanced scripts.

The following describes operations related to script monitoring.

1. Viewing script monitoring information

Viewing the list

The list displays IP Address of the Script, Script Path, Execution Mode, and Port.

Filtering records by column

You can filter records by column.

2. Exporting script monitoring records

Click  or .

4.6.3 Log Monitoring



You can monitor the logs generated by the monitored device. Logs include Windows logs and Syslog logs.

The following describes operations related to log monitoring.

1. Viewing log monitoring information

- ✚ Viewing the list

The list displays Resource Name, Monitoring Policy, IP Address, and Resource Type.

- ✚ Filtering records by column

You can filter records by column.

2. Exporting log monitoring records

Click  or .

4.6.4 Automatic Inspection



Inspection T...	Equipment...	Equipment...	Task Creator	Task Creating Time	Inspection Type	Description
one time-win	222	222	System Administr...	04/11/2013 11:34:23	One time	4-11 11:37
one time-window	222	222	System Administr...	04/11/2013 11:34:08	One time	4-11 11:37
one time-linx	111	111	System Administr...	04/11/2013 11:31:11	One time	4-10 19:35

You can add an inspection task and specify the inspected items and inspection mode. After the inspection finishes, an inspection report is generated and sent to the specified recipient.

4.6.4.1 Inspection Task List

You can view, add, execute, and export inspection tasks. The following describes the specific operations.

1. Viewing an inspection task

The list displays Inspection Task Name, Equipment Room Name, Equipment Room Administrator, Task Creator, Task Creating Time, Inspection Type, and Description.

2. Adding an inspection task

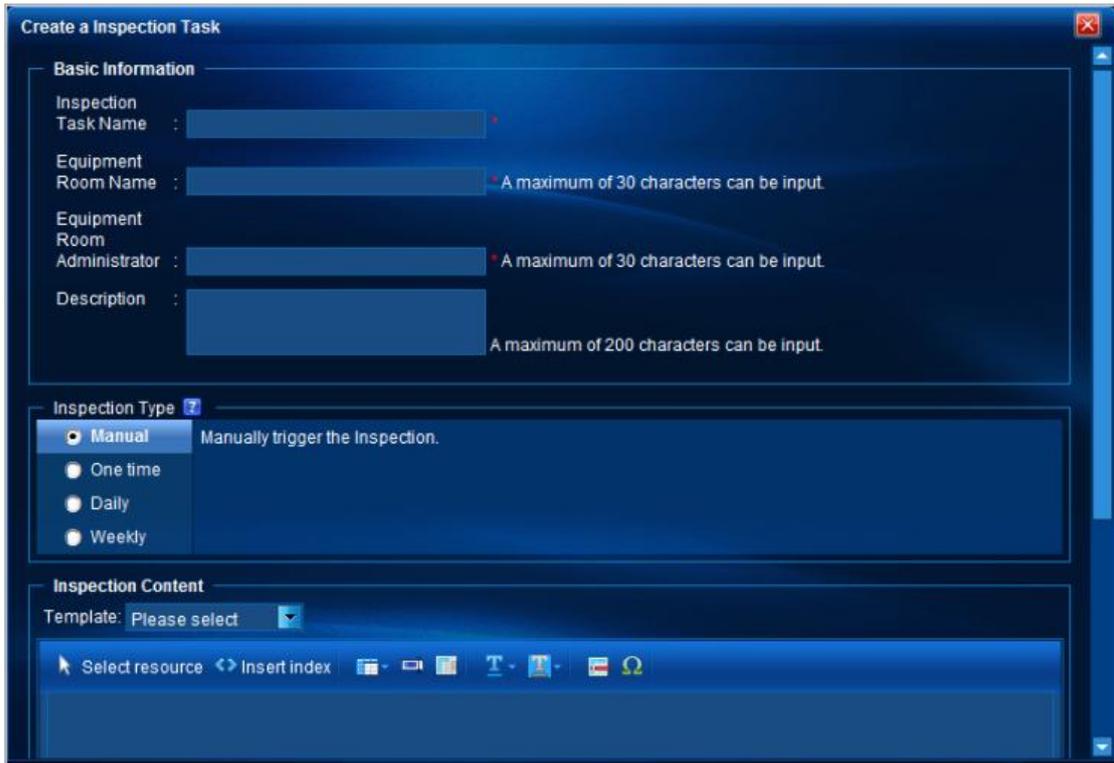
Click . The **Create a Inspection Task** page is displayed, in which you can set **Basic Information**, **Inspection Type**, and **Inspection Content**.

Basic Information includes **Inspection Task Name**, **Equipment Room Name**, **Equipment Room Administrator**, and **Description**.

Inspection Type includes **Manual**, **One time**, **Daily**, and **Weekly**.

Inspection Content can be set according to the default template.

Note: A maximum of 20 inspection tasks can be created.



Create a Inspection Task

Basic Information

Inspection Task Name :

Equipment Room Name : A maximum of 30 characters can be input.

Equipment Room Administrator : A maximum of 30 characters can be input.

Description : A maximum of 200 characters can be input.

Inspection Type

Manual Manually trigger the Inspection.

One time

Daily

Weekly

Inspection Content

Template: Please select

Select resource ↔ Insert index

3. Executing an inspection task

Select a task and click  to execute the task. After the inspection finishes, an inspection report is generated.

4. Exporting inspection tasks

Select one or more tasks and click  or  to export task information to an Excel file.

5. Searching for an inspection task

You can search for the desired task by search condition.

Search conditions include **Report Name**, **Inspection Person**, **Report Recipient**, **Report Editing Person**, **Current Status**, and **Inspection Time**.



Inspection Task Name	Equipment Room Administrator	Equipment Room Name	Inspection Type	Task Creator	Task Creating Time	From	To
one time-win	222	222	All	System Administrator	04/11/2013 11:34:23	One time	4-11 11:37
one time-window	222	222	All	System Administrator	04/11/2013 11:34:08	One time	4-11 11:37
one time-linux	111	111	All	System Administrator	04/11/2013 11:31:11	One time	4-10 19:35

6. Deleting an inspection task

Select a task and click  to delete the selected task.

4.6.4.2 Inspection Report List

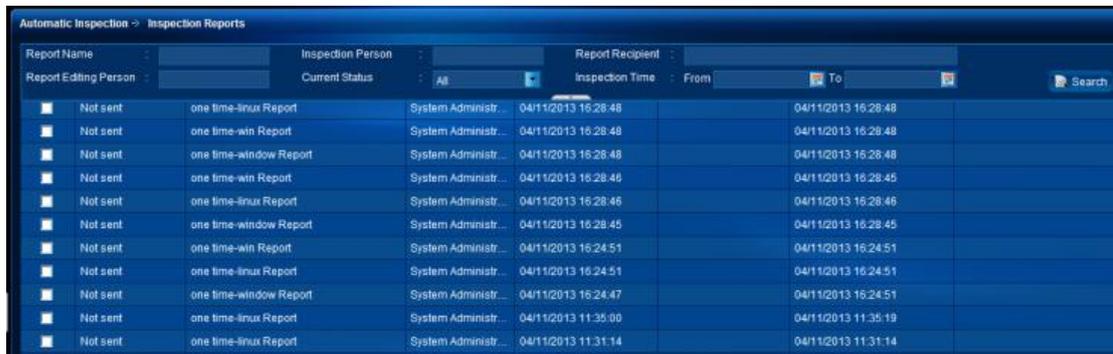


Current Status	Report Name	Inspection P...	Inspection Time	Report Editing P...	Report Editing Time	Report Recipient
Not sent	one time-linux Report	System Administr...	04/11/2013 16:28:48		04/11/2013 16:28:48	
Not sent	one time-win Report	System Administr...	04/11/2013 16:28:48		04/11/2013 16:28:48	
Not sent	one time-window Report	System Administr...	04/11/2013 16:28:48		04/11/2013 16:28:48	
Not sent	one time-win Report	System Administr...	04/11/2013 16:28:46		04/11/2013 16:28:45	
Not sent	one time-linux Report	System Administr...	04/11/2013 16:28:46		04/11/2013 16:28:46	
Not sent	one time-window Report	System Administr...	04/11/2013 16:28:46		04/11/2013 16:28:45	
Not sent	one time-win Report	System Administr...	04/11/2013 16:24:51		04/11/2013 16:24:51	
Not sent	one time-linux Report	System Administr...	04/11/2013 16:24:51		04/11/2013 16:24:51	
Not sent	one time-window Report	System Administr...	04/11/2013 16:24:47		04/11/2013 16:24:51	
Not sent	one time-linux Report	System Administr...	04/11/2013 11:35:00		04/11/2013 11:35:19	
Not sent	one time-linux Report	System Administr...	04/11/2013 11:31:14		04/11/2013 11:31:14	

1. Searching for an inspection report

You can search for the desired report by search condition.

Search conditions include **Report Name**, **Inspection Person**, **Report Recipient**, **Report Editing Person**, **Current Status**, and **Inspection Time**.

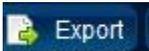


Report Name	Inspection Person	Report Recipient	Report Editing Person	Current Status	Inspection Time	From	To
Not sent	one time-linux Report	System Administr...	04/11/2013 16:28:48	All	04/11/2013 16:28:48		
Not sent	one time-win Report	System Administr...	04/11/2013 16:28:48		04/11/2013 16:28:48		
Not sent	one time-window Report	System Administr...	04/11/2013 16:28:48		04/11/2013 16:28:48		
Not sent	one time-win Report	System Administr...	04/11/2013 16:28:46		04/11/2013 16:28:45		
Not sent	one time-linux Report	System Administr...	04/11/2013 16:28:46		04/11/2013 16:28:46		
Not sent	one time-window Report	System Administr...	04/11/2013 16:28:45		04/11/2013 16:28:45		
Not sent	one time-win Report	System Administr...	04/11/2013 16:24:51		04/11/2013 16:24:51		
Not sent	one time-linux Report	System Administr...	04/11/2013 16:24:51		04/11/2013 16:24:51		
Not sent	one time-window Report	System Administr...	04/11/2013 16:24:47		04/11/2013 16:24:51		
Not sent	one time-linux Report	System Administr...	04/11/2013 11:35:00		04/11/2013 11:35:19		
Not sent	one time-linux Report	System Administr...	04/11/2013 11:31:14		04/11/2013 11:31:14		

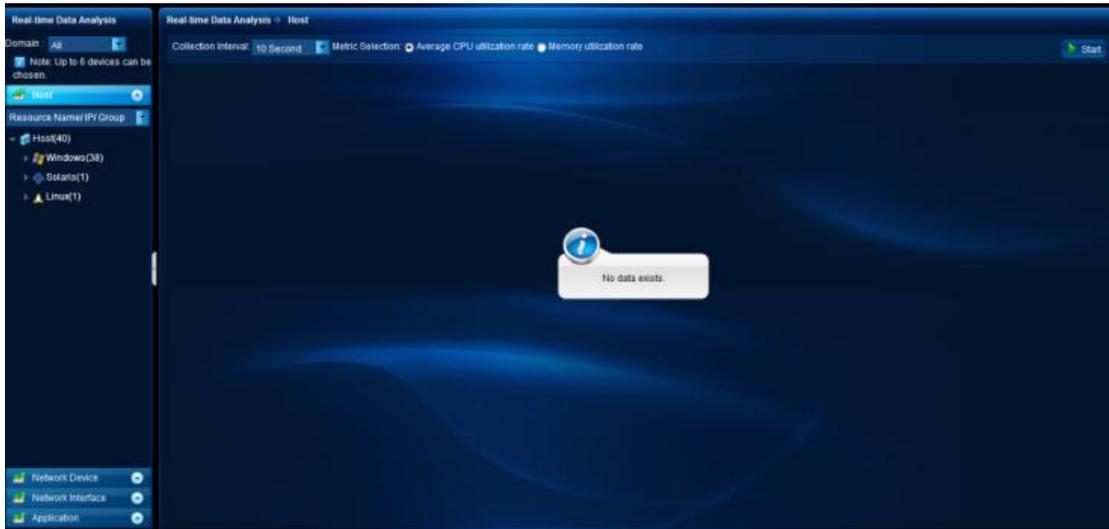
2. Deleting an inspection report

Select a report and click  **Delete** to delete the selected report.

3. Exporting an inspection report

Select one or more reports and click  **Export** or  **Export all** to exported the selected report(s) to an Excel file.

4.6.5 Real-time Data Analysis



You can analyze the data of hosts, network devices, network interfaces, and applications in real time.

1. Real-time host analysis

You can set the following parameters:

Collection Interval: 5 Seconds, 10 Seconds, 30 Seconds, and 60 Seconds

Metric Selection: Average CPU utilization rate and Memory utilization rate

Click  to start real-time analysis on the selected host. Click  to stop the analysis.



2. Real-time network device analysis

You can set the following parameters:

Collection Interval: 5 Seconds, 10 Seconds, 30 Seconds, and 60 Seconds

Metric Selection: Average CPU utilization rate, Memory utilization rate, Ping delay, Throughput, and Number of broadcast packets in a time unit

Click  to start real-time analysis on the selected network device. Click  to stop the analysis.



3. Real-time network interface analysis

You can set the following parameters:

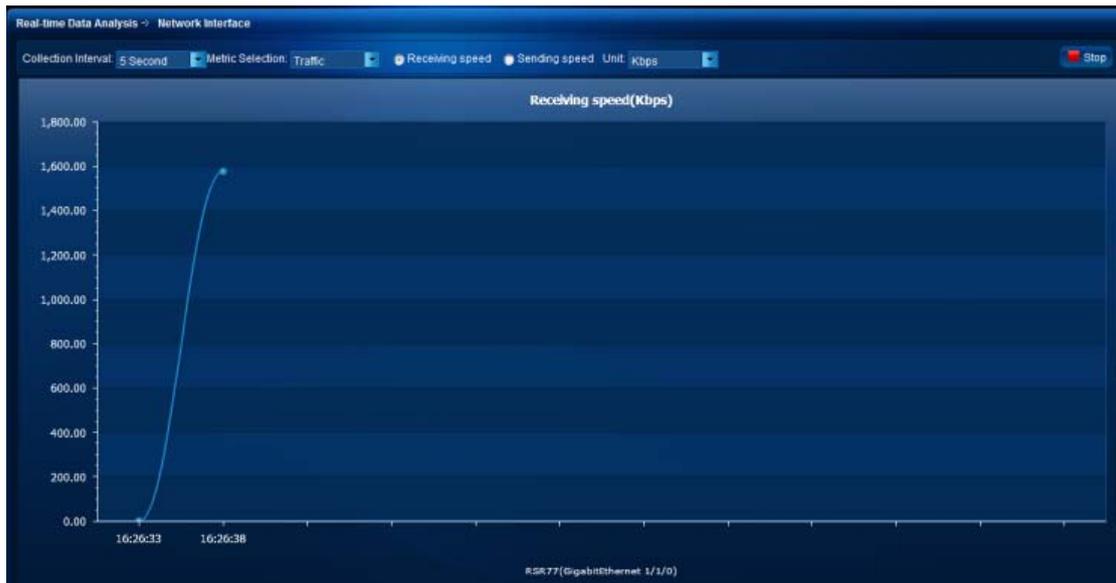
Collection Interval: 5 Seconds, 10 Seconds, 30 Seconds, and 60 Seconds

Metric Selection: Traffic and Packet

Traffic: Receiving speed and Sending speed

Packet: Packet loss ratio, Number of unicast packets in a time unit, and Number of broadcast packets in a time unit

Click  to start real-time analysis on the selected network interface. Click  to stop the analysis.



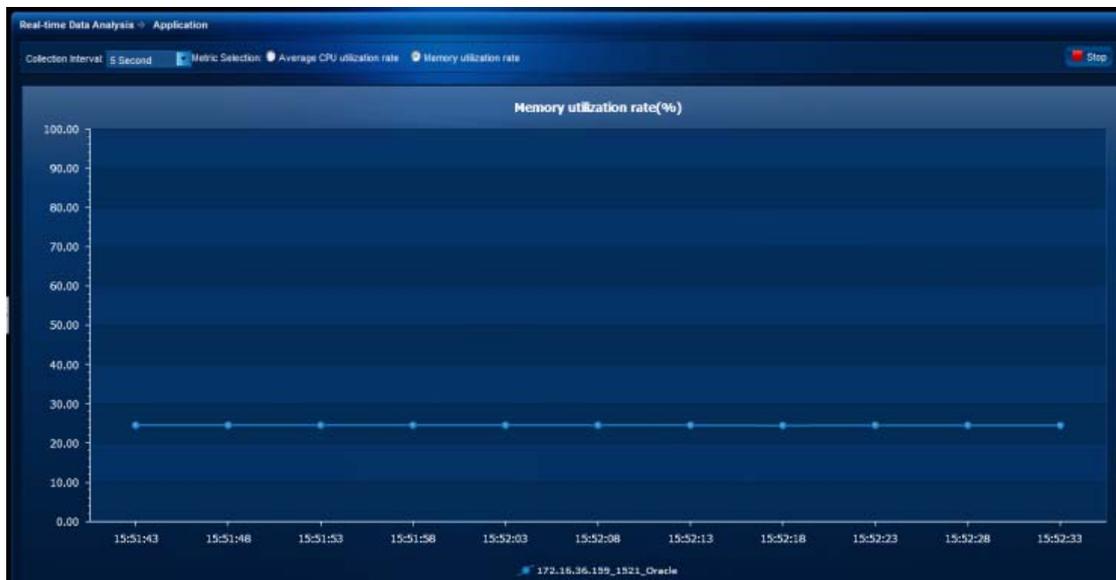
4. Real-time application analysis

You can set the following parameters:

Collection Interval: 5 Seconds, 10 Seconds, 30 Seconds, and 60 Seconds

Metric Selection: Average CPU utilization rate and Memory utilization rate

Click  to start real-time analysis on the selected application. Click  to stop the analysis.



4.6.6 TOPN



1. Click . The **Settings** page is displayed.

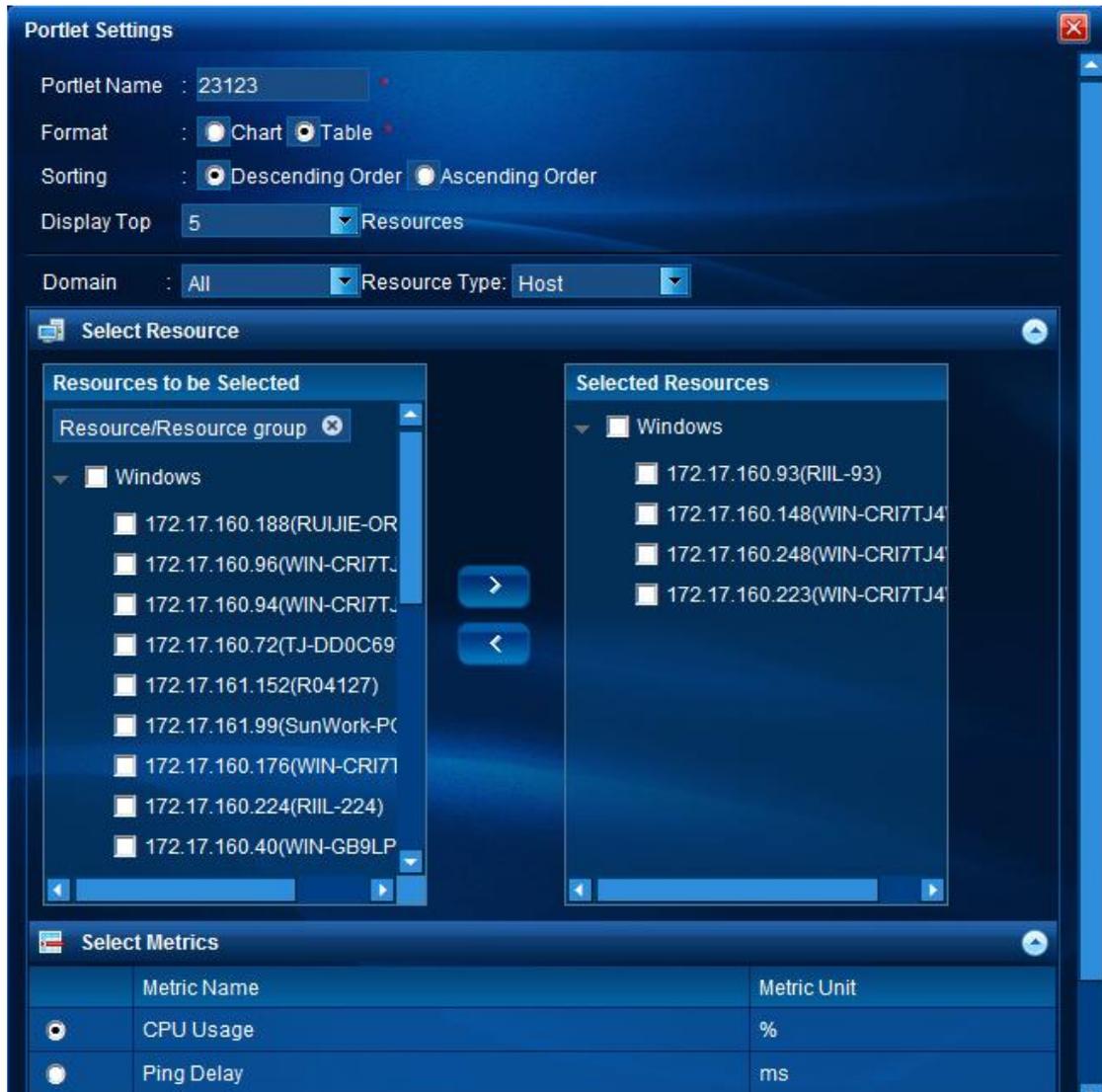


- 1) Select the refresh frequency in

- 2) Enable or disable automatic paging in

2. Click to refresh data.

3. Click . The **Portlet Settings** page is displayed.



- 1) Select the view format in 
- 2) Select the sorting order of resources in 
- 3) Select the number of resources to be displayed in the view in 

4.7 Network Topology

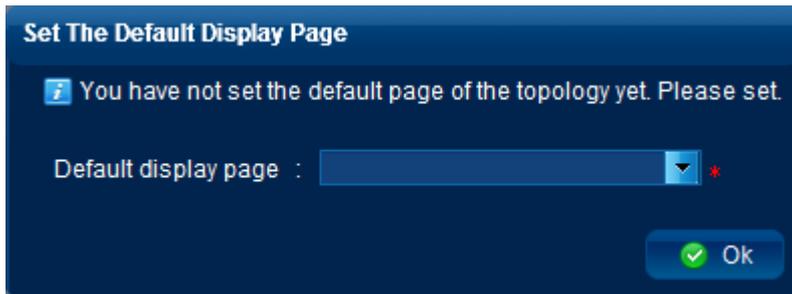
4.7.1 Access Conditions and Display

1. Access conditions

- ✚ The user is assigned a role having access to the network topology tab and has the permission to access network topologies (including layer 2 network topology, layer 3 network topology, and user-defined topology).
- ✚ There is at least one operable or read-only topology diagram.

2. Display

- ✚ Except for the system administrator, all other users must set the default display page when they access the network topology tab for the first time; otherwise, the following prompt is displayed.



The drop-down list box lists all topologies that the current login user has permission to read or operate. The window cannot be closed unless **Default display page** is set.

- ✚ The default display page for the system administrator is the layer 2 network topology.
- ✚ The network topology displays only the resources discovered using SNMP.

4.7.2 GUI

You can use the topology discovery function to generate both layer 2 network topology and layer 3 network topology. Layer 2 network topology is a physical connection diagram of resources.



No.	Name	Function Requirement
1	Statistics area	For details, see section 4.7.3 "Statistics Area."
2	Operation toolbar	For details, see section 4.7.4 "Operation Toolbar."
3	Shortcut area	For details, see section 4.7.9 "Shortcut Button Area."

No.	Name	Function Requirement
4	Topology area	For details, see section 4.7.8 "Topology Area."
5	Topology switching	For details, see section 4.7.10 "Topology Switching."
6	Resource panel	For details, see section 4.7.11 "Resource Panel."
7	Thumbnail image	For details, see section 4.7.5.2 "Thumbnail Image Panel."
8	Marquee view	For details, see section 4.7.7 "Marquee."

4.7.3 Statistics Area

The statistics area displays "Topology management -> XXX (Number of nodes: [number] Number of physical links: [number] Not monitored: [number])."

XXX indicates the name of the displayed network topology.

Number of nodes indicates the number of devices in the current topology view.

Number of physical links indicates the number of physical links of the current device.

Not monitored indicates the number of unmonitored physical devices in the current topology view.

4.7.4 Operation Toolbar

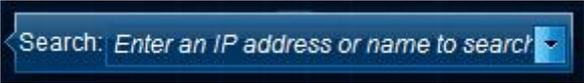


Unfolded



Folded

From top down, the toolbar contains the following icons: back, play, search node, zoom, fit to window, normal size, full screen, auto layout, show grid, display hidden nodes, not display hidden nodes, refresh, undo, redo, delete, and save.

- Click  to display or hide the toolbar.
- Click  to return to the main topology. The icon is displayed as  when there is no main topology.
- Click  to play the events on the current topology. The icon is displayed as  when there is no event on the current topology.
- Click  to search for a node. 
- Click  to display the move & zoom panel.
- Click  to fit the topology to the window according to node positions, so that all devices are displayed in the window.
- Click  to display the topology in the original size.
- Click  to display the topology in full screen.
- Click  to display the topology by topology structure.



Layout types

- Click  to show grids. Click the icon again to hide the grids. The icon is displayed as  when grids are shown.

- Click  to show hidden nodes. The icon is displayed as  when hidden nodes are shown.
- Click  to hide the hidden nodes. The icon is displayed as  when hidden nodes are not displayed.
- Click  to refresh the topology.
- Click  to undo a maximum of the latest five position changes.
- Click  to redo a maximum of the latest five undone changes.
- Click  to delete a node. This button is unavailable in the layer 3 network topology, and the icon is displayed as .
- Click  to save the topology.

4.7.5 Navigation

4.7.5.1 Move & Zoom Panel



- Click  to display the move & zoom panel.



Click the up, down, left, or right arrow in  to move the topology up, down, left, or right.

Select  and drag the topology.

Directly select the zoom size in  to zoom in or out the topology.



Alternatively, you can adjust the scale  to change the zoom size .

4.7.5.2 Thumbnail Image Panel



When some elements cannot be displayed on the topology as the topology zooms in, a thumbnail image appears.

You can use the thumbnail image to locate the part to be displayed.

You can click  to display or hide the thumbnail image.

4.7.6 Layout Types

4.7.6.1 Star Layout

Click the auto layout button and select **Star Layout**.



4.7.6.2 Star Layout (with range limited)

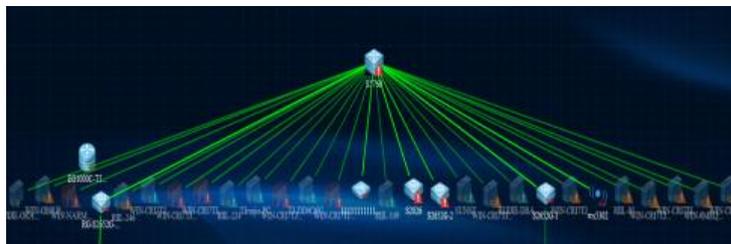
Click the auto layout button and select **Star Layout (with range limited)**.



4.7.6.3 Tree Layout

Select a root node.

Click the auto layout button and select **Tree Layout**.



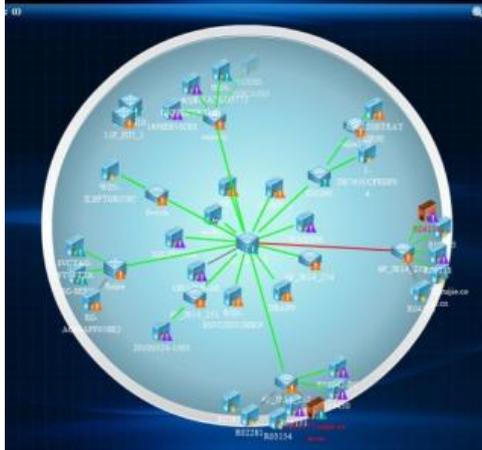
4.7.6.4 Circular Layout with Parent in The Middle

Select a root node.

Click the auto layout button and select **Circular Layout with Parent in The Middle**.

4.7.6.7 Eagle-eye Layout

Click the auto layout button and select **Eagle-eye Layout**.



4.7.7 Marquee



1. Click  to display or hide the marquee view.
2. Click an event name. The device generating the event is automatically located.
3. Double-click any event name. The **Overall Events** page is displayed.

Overall Events			
All 12 ■ Critical 7 ■ Major 3 ■ Minor 0 ■ Warning 2 ■ Unknown 0 ■ Information 0			
Event Name	Resource Name	IP Address	Occurrence Time
■ Severe overrun of Memory Usa.	R04764	172.17.161.112	2013-04-15 05:00:44
■ Slight overrun of Memory Usage	R04787	172.17.161.175	2013-04-15 04:45:01
■ Severe overrun of Memory Usa.	R04364	172.17.161.154	2013-04-15 04:05:36
■ Available Status Unavailable	1	10.10.10.11	2013-04-15 03:58:33
■ Severe overrun of Memory Usa.	WIN-CRI7TJ4VFIF	172.17.160.152	2013-04-15 10:30:03
■ Slight overrun of Memory Usage	WIN-CRI7TJ4VFIF	172.17.160.210	2013-04-15 10:30:02
■ Available Status Unavailable	WIN-CRI7TJ4VFIF	172.17.160.94	2013-04-15 10:06:31
■ Available Status Unavailable	WIN-CRI7TJ4VFIF	172.17.160.242	2013-04-15 10:06:21
■ Available Status Unavailable	WIN-NARM92BQ819	172.17.160.31	2013-04-15 10:06:06
■ Available Status Unavailable	WIN-CRI7TJ4VFIF	172.17.160.248	2013-04-15 10:05:51
■ Available Status Unavailable	WIN-CRI7TJ4VFIF	172.17.160.96	2013-04-15 10:05:37
■ Available Status Unavailable	SunWork-PC	172.17.161.99	2013-04-15 10:05:28

The list displays the latest one event of each device.

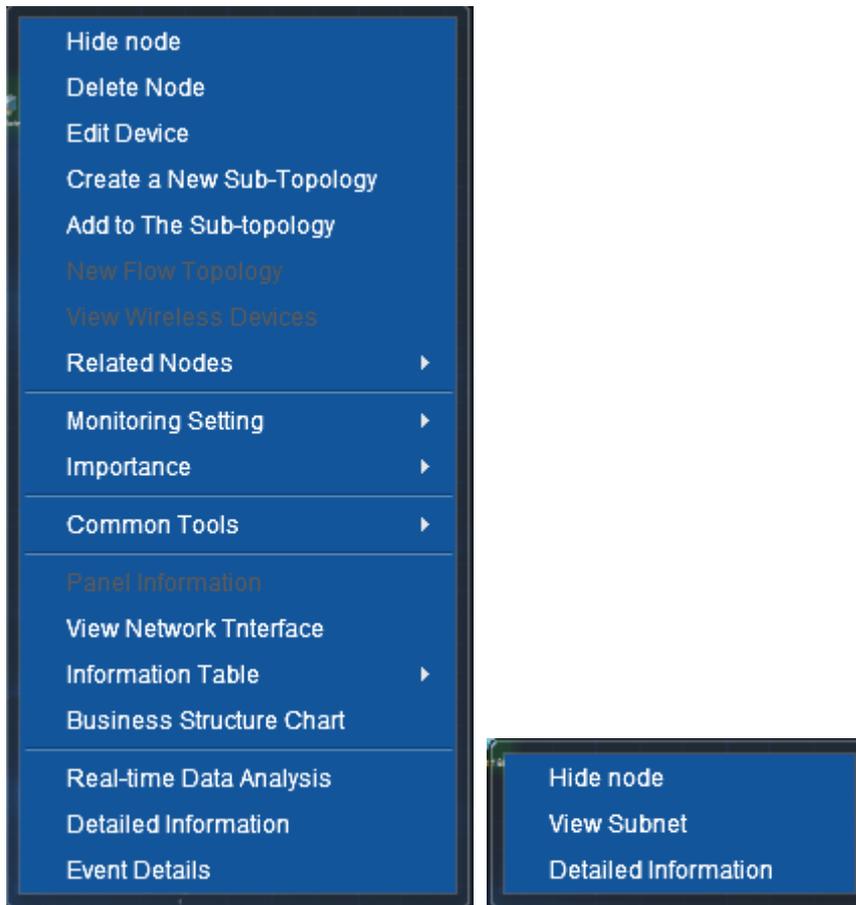
4.7.8 Topology Area

1. The layer 2 network topology area displays only physical nodes, virtual nodes, physical links, virtual links, and interconnection links.
2. The layer 3 network topology area displays only physical nodes, subnets, and logical links.

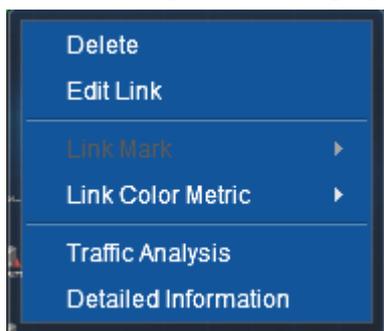
3. The sub-topology area for layer 2 network topology can display physical nodes, virtual nodes, physical links, virtual links, interconnection links, picture nodes, and shape nodes. In addition, a background can be added.
4. The sub-topology area for layer 3 network topology can display physical nodes, subnets, logical links, picture nodes, and shape nodes. In addition, a background can be added.
5. The user-defined topology area can display physical nodes, virtual nodes, physical links, virtual links, interconnection links, picture nodes, shape nodes, and regions. In addition, a background can be added.

4.7.8.1 Shortcut Menus

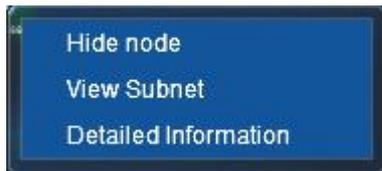
1. The following menu is displayed after you right-click a physical or virtual node.



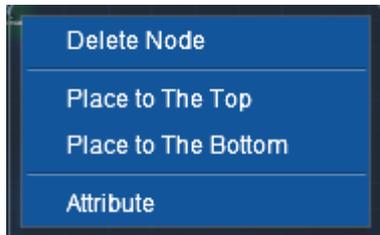
2. The following menu is displayed after you right-click a physical or virtual link.



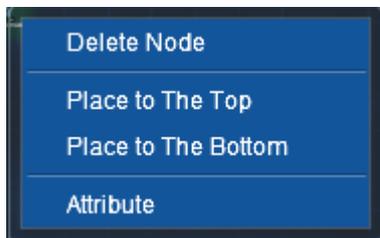
3. The following menu is displayed after you right-click a subnet.



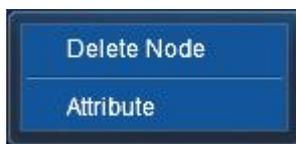
4. The following menu is displayed after you right-click a picture node.



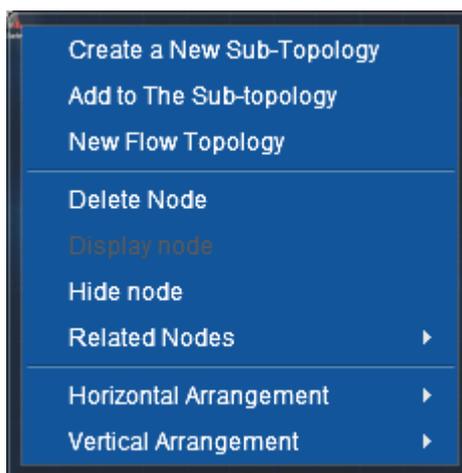
5. The following menu is displayed after you right-click a shape node.



6. The following menu is displayed after you right-click a region.



7. The following menu is displayed after you select multiple nodes and right-click them.



Note:

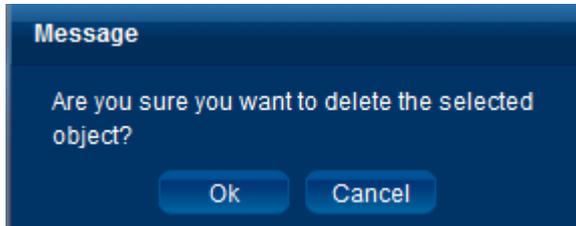
-  Menu displayed after you right-click a device:

- 1) Display/Hide node

Displaying or hiding a node will change the display status of the node on the topology. Select **Hide node** to hide the device on the topology. Select **Display node** to display the device on the topology.

2) Delete Node

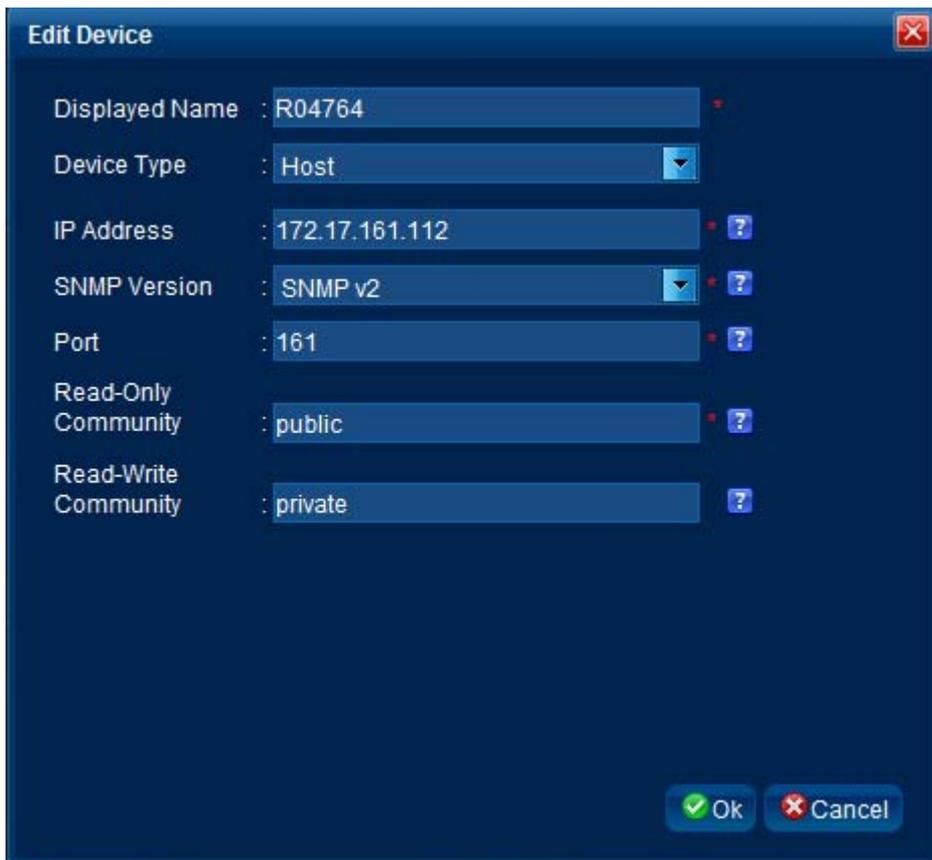
Select **Delete Node**. The following prompt box is displayed.



Click **Ok**. The node is deleted and the topology is automatically saved.

3) Edit Device

Select **Edit Device**. The **Edit Device** page is displayed, where you can set **Displayed Name**, **IP Address**, **Device Type**, and **SNMP Version**. The settings take effect immediately and are saved automatically.



The "Edit Device" dialog box contains the following fields:

Displayed Name	: R04764	*
Device Type	: Host	▼
IP Address	: 172.17.161.112	* ?
SNMP Version	: SNMP v2	* ?
Port	: 161	* ?
Read-Only Community	: public	* ?
Read-Write Community	: private	* ?

At the bottom right, there are two buttons: "Ok" (with a green checkmark) and "Cancel" (with a red X).

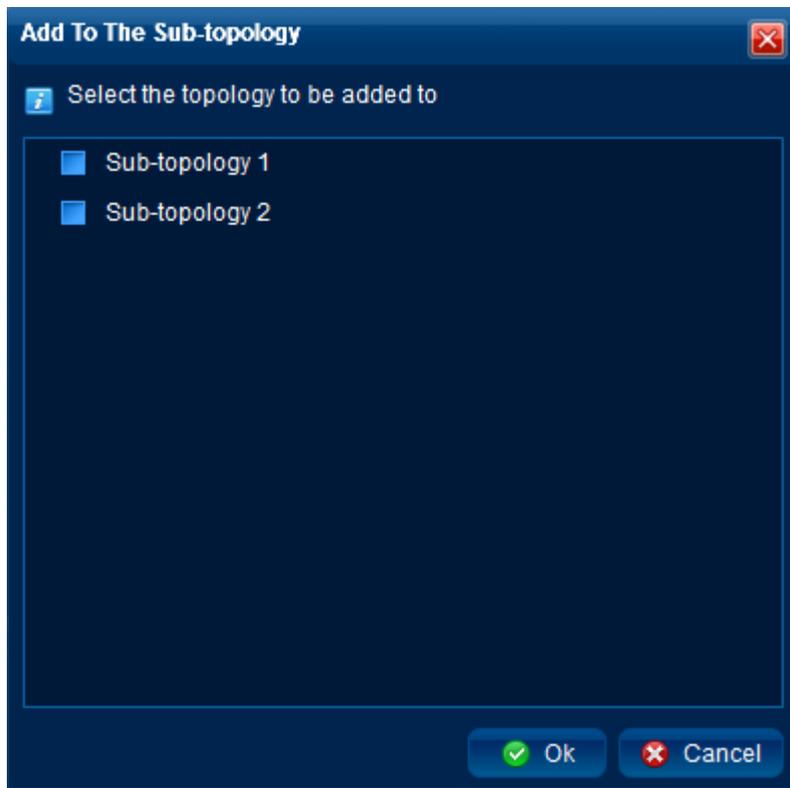
4) Create a New Sub-Topology

Sub-topologies can be added to layer 2 network topology, layer 3 network topology, and level 1 sub-topologies of layer 2 and 3 network topologies.



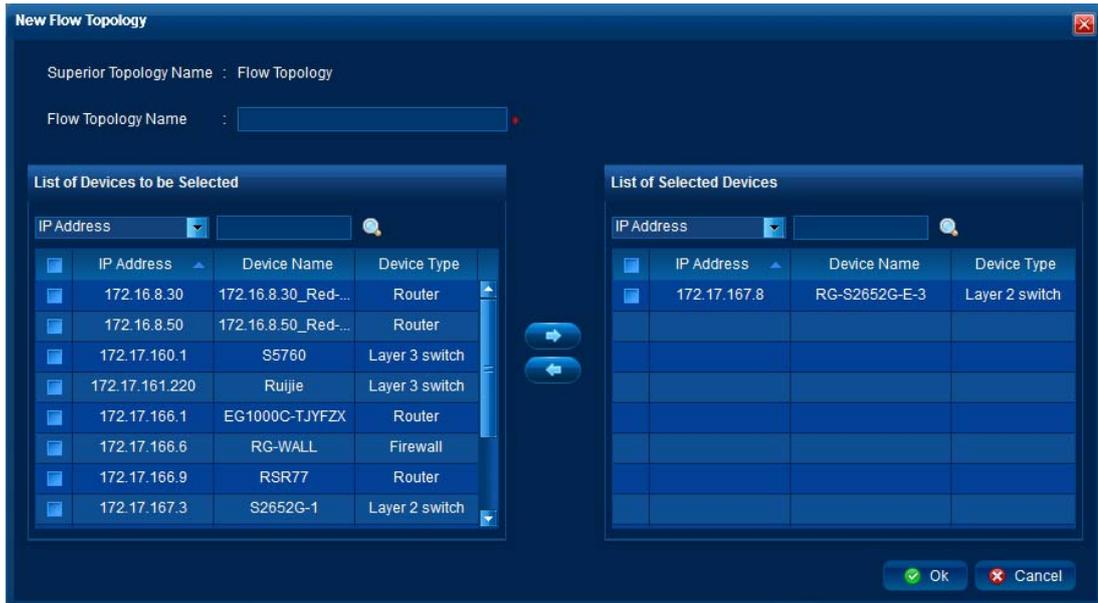
5) Add to The Sub-topology

1. When a node is on the layer 2 network topology, layer 3 network topology, or level 1 sub-topology, **Add to The Sub-topology** is available.
2. To add a sub-topology to layer 2 or 3 network topology, you must add it to the level 1 sub-topology of the layer 2 or 3 network topology. You cannot add a sub-topology to another sub-topology.



6) New Flow Topology

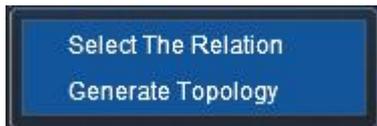
You can create traffic topology for routers, switches, and firewalls.



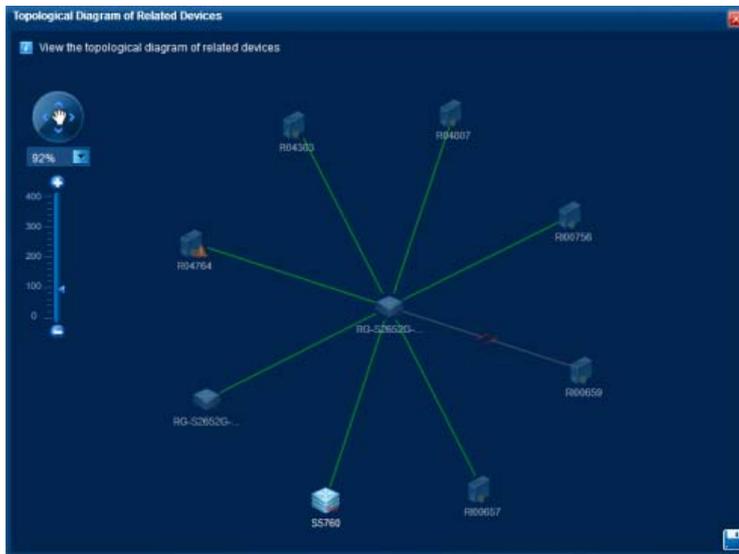
7) View Wireless Devices

For a switch connected with wireless APs, you can view the list of wireless devices.

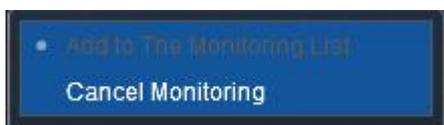
8) Related Nodes



The following topology is generated. Click the save button. Then, you can create a sub-topology or add to sub-topology.

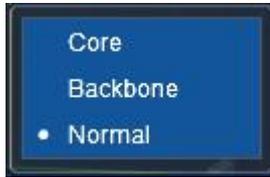


9) Monitoring Setting



After you select **Cancel Monitoring**, the options **Panel Information**, **View Network Interface**, **Business Structure Chart**, **Real-time Data Analysis**, and **Detailed Information** are unavailable.

10) Importance



The importance can be reflected by node size. It can be set on the **Global Settings** page of the shortcut area.

11) Common Tools

For details, see section 4.7.9.4 "Common Tools."

12) Panel Information



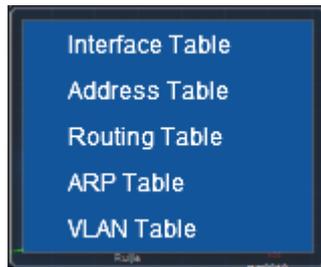
The default panel is displayed if available. If a panel has been defined on **Panel Management**, the user-defined panel is displayed. You can click the restore to default button to restore the default panel.

13) View Network Interface

The network interfaces of the device are listed.



- 14) **Information Table** has such submenu options as **Interface Table**, **Address Table**, **Routing Table**, **ARP Table**, and **VLAN Table**.

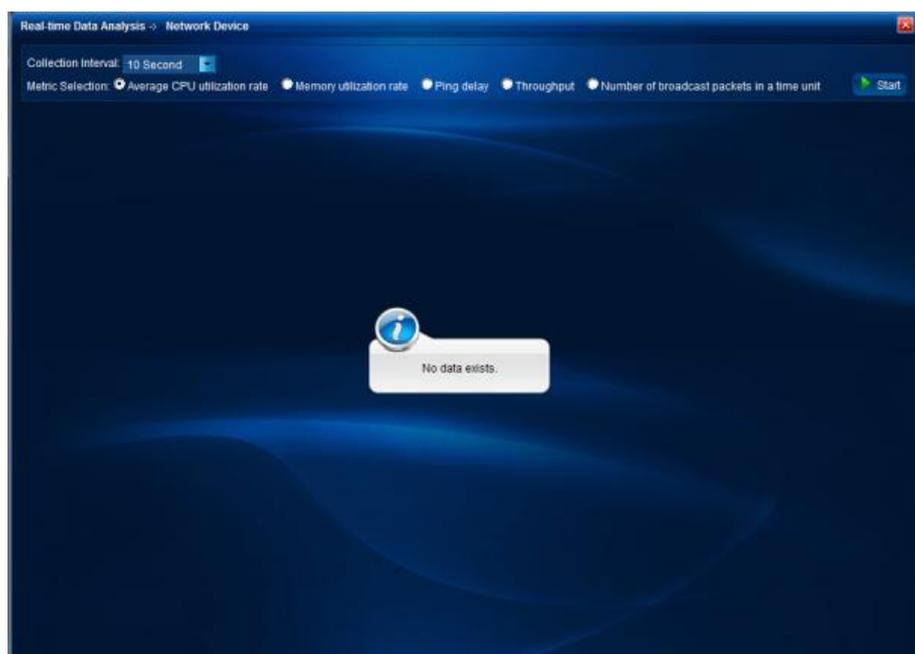


- 15) **Business Structure Chart**

If the user who has permission to manage a resource selects **Business Structure Chart**, the business structure chart page for the resource is displayed.

- 16) **Real-time Data Analysis**

If the user has permission to manage a resource, and the resource is under monitoring and available, the **Real-time Data Analysis** page for the resource is displayed when the user selects **Real-time Data Analysis**.



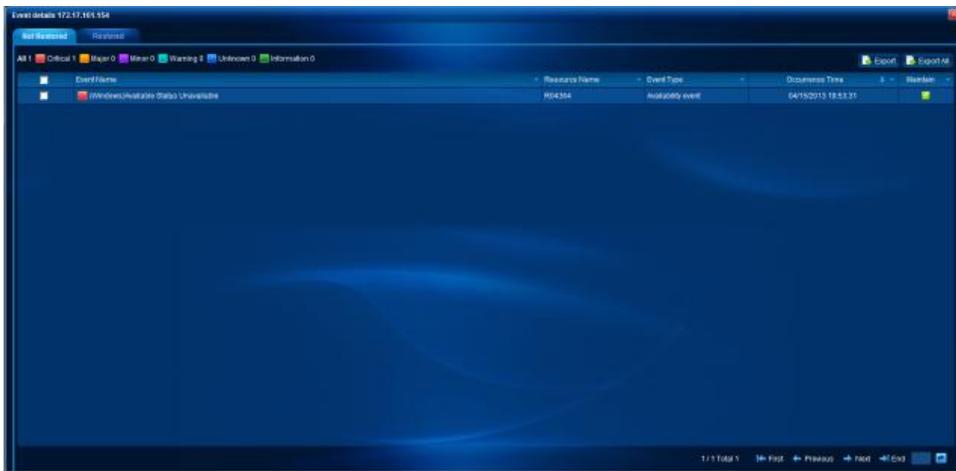
- 17) **Detailed Information**

If the user has permission to manage a resource and the resource is under monitoring, the **Detailed Information** page for the resource is displayed when the user selects **Detailed Information**.



18) Event Details

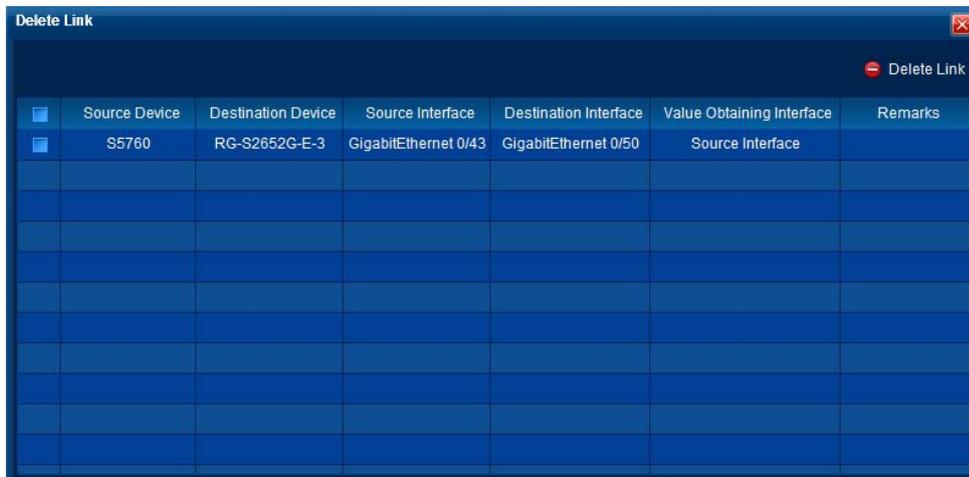
The events of the current device are displayed.



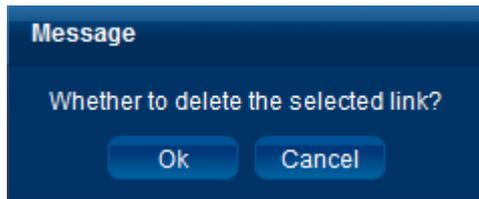
Menu displayed after you right-click a link

1) Delete

1. If only one link is displayed, the **Delete Link** page is as follows.



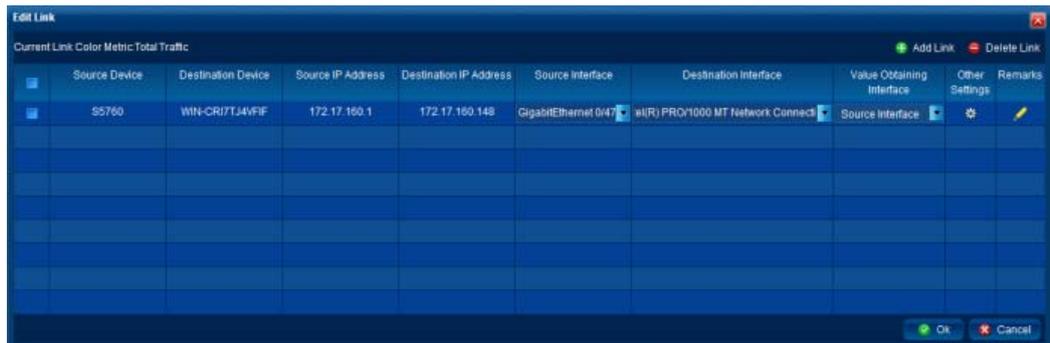
2. If multiple links are displayed, a prompt box is displayed, prompting you to confirm the deletion.



2) Edit Link

Editing a link will update the link information in all topologies. The modifications take effect immediately and are saved automatically. The editing rules are as follows:

1. When only one link is displayed, the **Edit Link** page is as follows.



2. When multiple links are displayed, the **Edit Link** page is as follows.

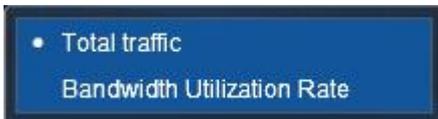


3) Link Mark

When multiple links are displayed, you can select the link mark type.

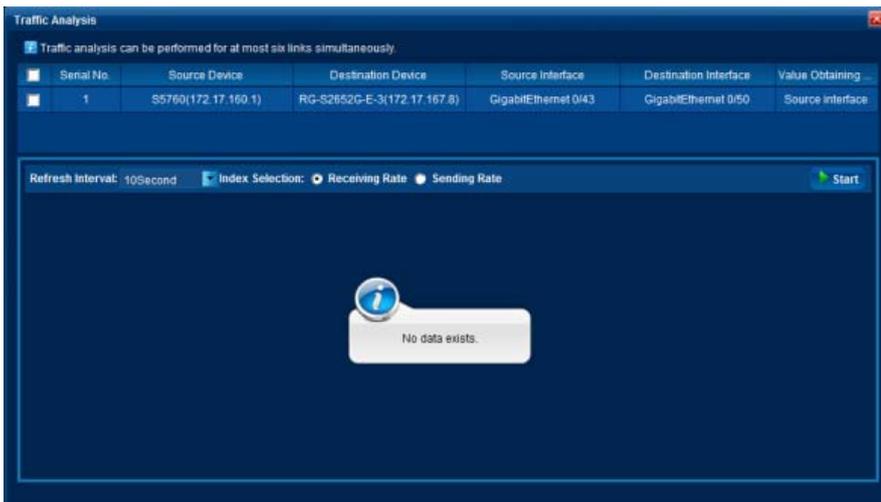


4) Link Color Metric



5) Traffic Analysis

Traffic analysis can be performed on a maximum of six links.



6) Detailed Information

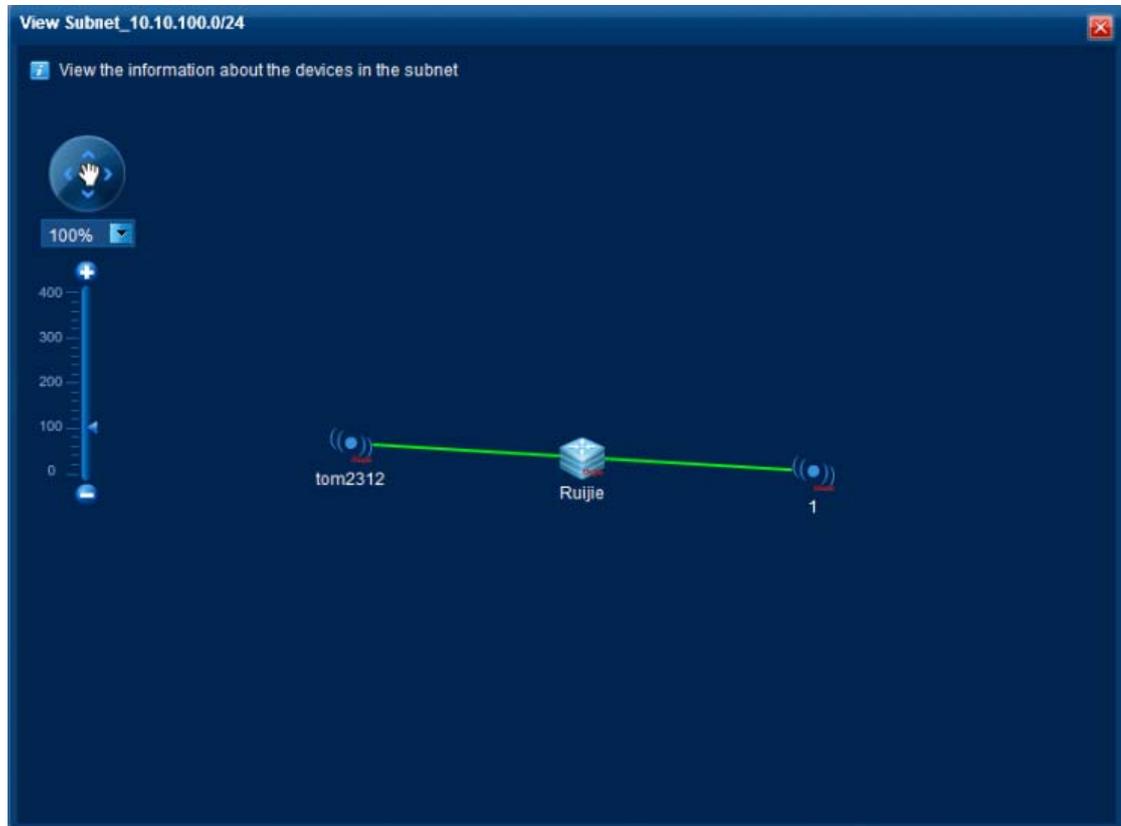


Menu displayed after you right-click a subnet

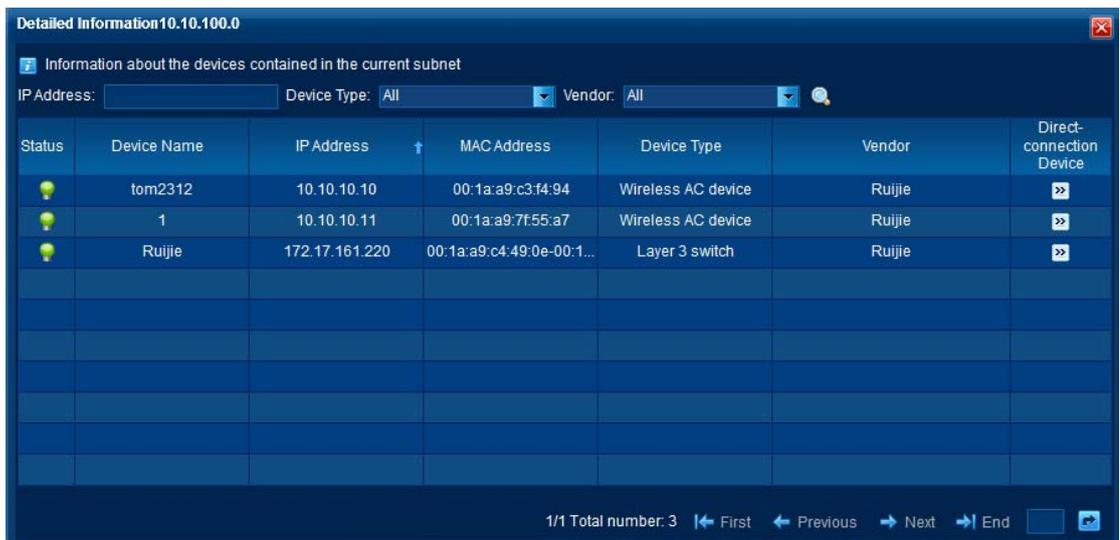
1) Display/Hide node

Displaying or hiding a node will change the display status of the node on a specific topological diagram. Select **Hide node** to hide the device on the topology. Select **Display node** to display the device on the topology.

2) View Subnet



3) Detailed Information



Status	Device Name	IP Address	MAC Address	Device Type	Vendor	Direct-connection Device
	tom2312	10.10.10.10	00:1a:a9:c3:f4:94	Wireless AC device	Ruijie	
	1	10.10.10.11	00:1a:a9:7f:55:a7	Wireless AC device	Ruijie	
	Ruijie	172.17.161.220	00:1a:a9:c4:49:0e-00:1...	Layer 3 switch	Ruijie	

Click  to view the information of the device directly connected to the selected device.

 Menu displayed after you right-click a picture node

1) Delete Node

2) Place to The Top

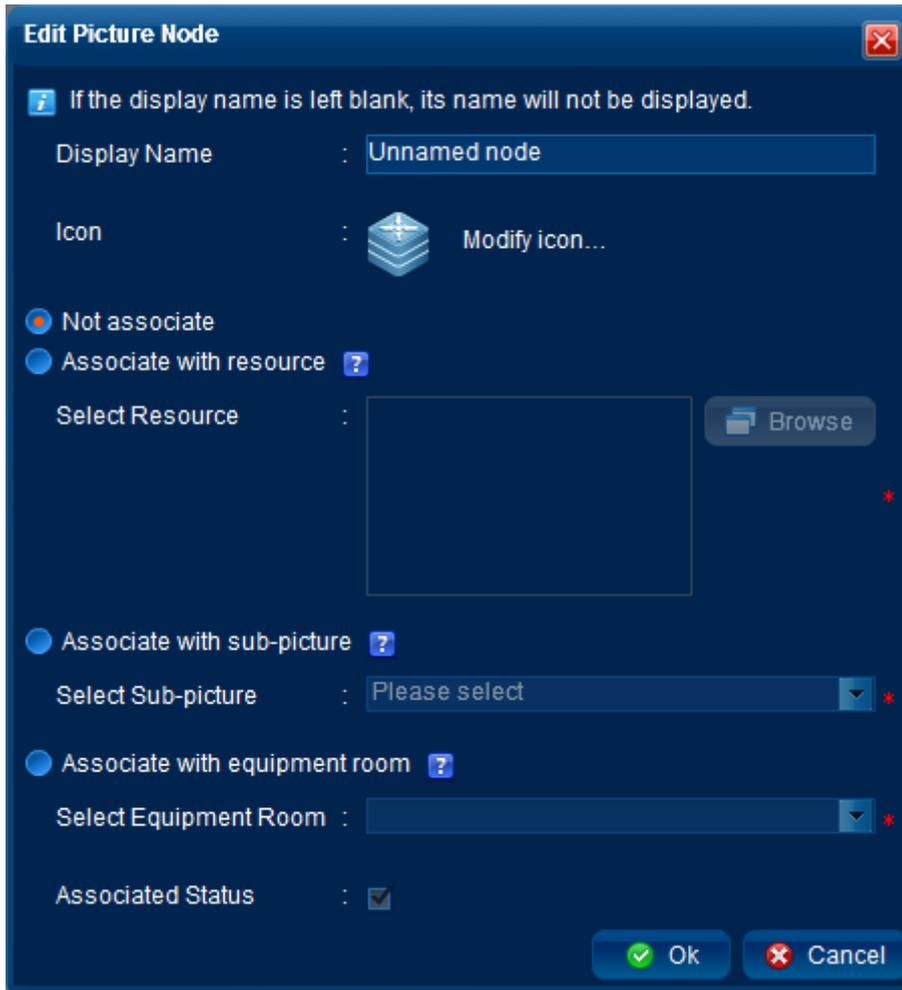
This operation takes effect immediately. The modification must be manually saved.

3) Place to The Bottom

This operation takes effect immediately. The modification must be manually saved.

4) Attribute

You can edit attributes of a picture node and associate the picture node with other resources. After association, double-click the picture node on the topology. The associated resource, equipment room, or topology will be displayed.



Edit Picture Node

f If the display name is left blank, its name will not be displayed.

Display Name : Unnamed node

Icon :  Modify icon...

Not associate

Associate with resource ?

Select Resource : Browse

Associate with sub-picture ?

Select Sub-picture : Please select *

Associate with equipment room ?

Select Equipment Room : *

Associated Status :

Ok Cancel

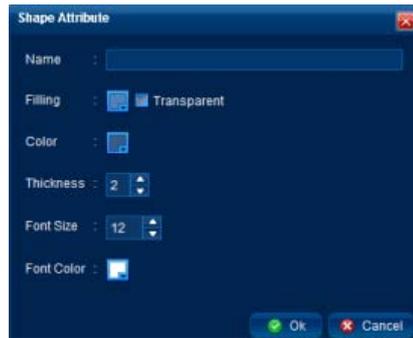
 Menu displayed after you right-click a shape node

1) Delete Node

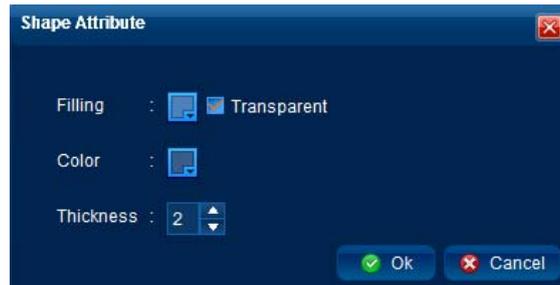
2) Place to The Top

3) Place to The Bottom

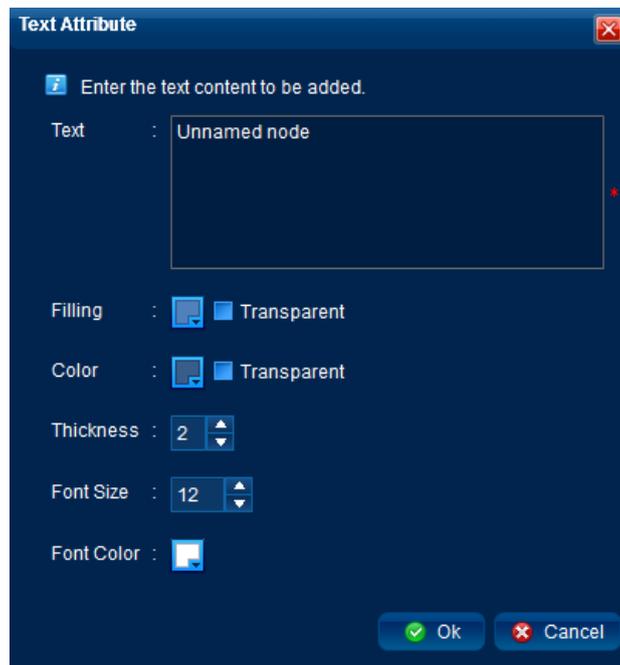
4) Attribute



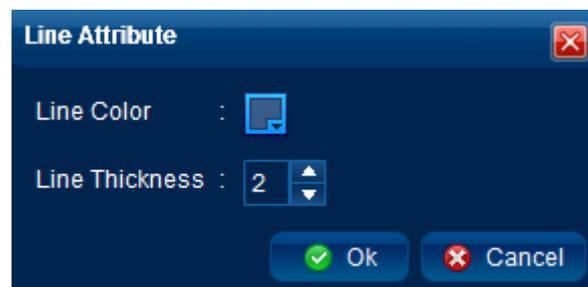
Square attributes:



Circle attributes:



Text attributes:

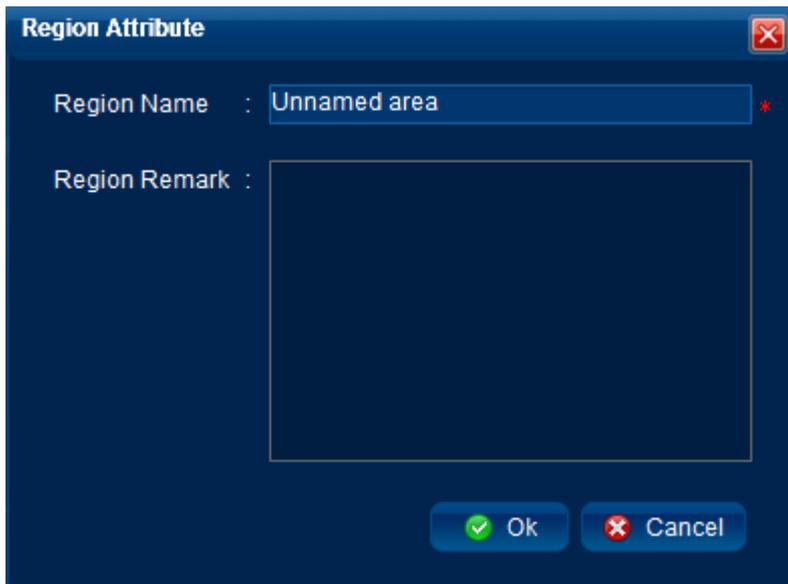


Line attributes:

Menu displayed after you right-click a region

- 1) Delete Node

2) Attribute



The image shows a dialog box titled "Region Attribute" with a close button in the top right corner. It contains two fields: "Region Name" with the text "Unnamed area" and a red asterisk to its right, and "Region Remark" with an empty text area. At the bottom, there are two buttons: "Ok" with a green checkmark icon and "Cancel" with a red X icon.

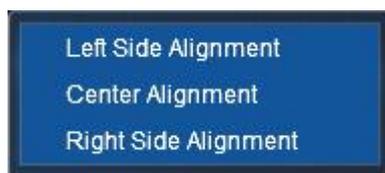
 Menu displayed after you select multiple nodes and right-click them

- 1) Create a New Sub-Topology
- 2) Add to The Sub-topology
- 3) New Flow Topology
- 4) Delete Node
- 5) Display node
This option is unavailable when the selected nodes are all displayed.
- 6) Hide node
This option is unavailable when the selected nodes are all hidden.
- 7) Related Nodes
- 8) Horizontal Arrangement



You can undo the operation by clicking the undo icon on the toolbar.

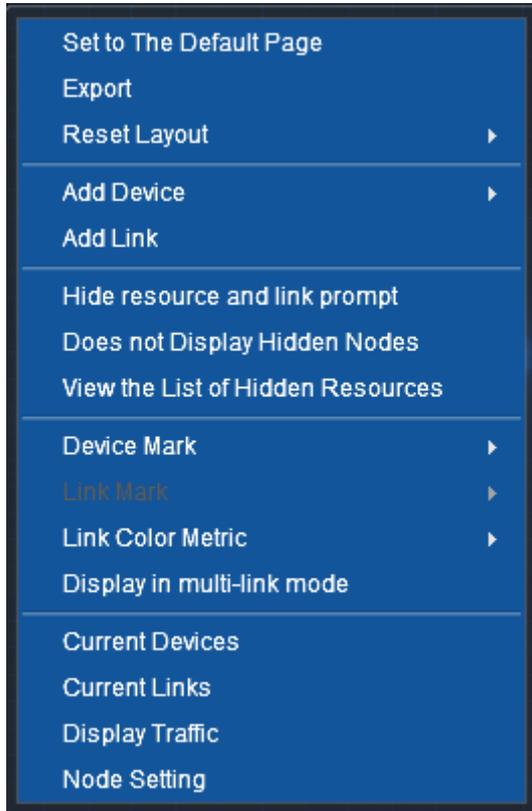
9) Vertical Arrangement



You can undo the operation by clicking the undo icon on the toolbar.

4.7.8.2 Right-Clicking in Blank Area

1. Layer 2 network topology



- 1) Set to The Default Page: used to set the default page displayed when a user accesses the network topology tab.
- 2) Export: used to export topology information and generates image files.
- 3) Reset Layout: The menu options are the same as those of layout types.
- 4) Add Device

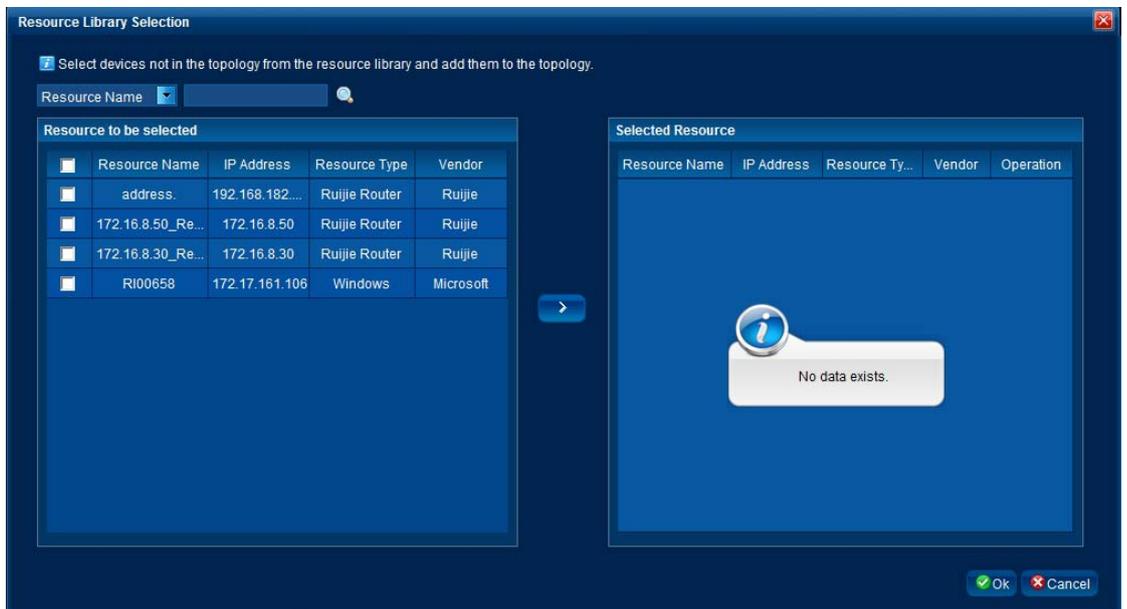
You can directly add a device or add a device from the resource pool.



 Adding a new device:



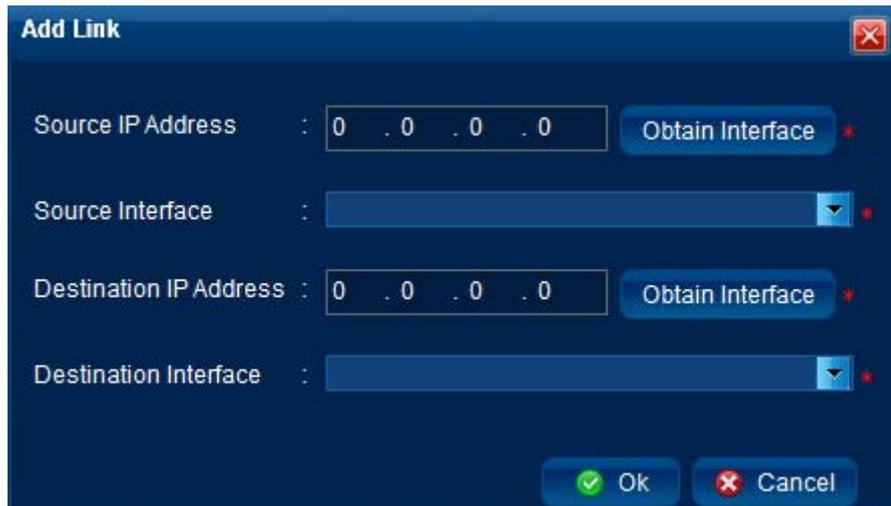
 Adding a device from the resource pool:



Resource Name	IP Address	Resource Type	Vendor
address.	192.168.182...	Ruijie Router	Ruijie
172.16.8.50_Re...	172.16.8.50	Ruijie Router	Ruijie
172.16.8.30_Re...	172.16.8.30	Ruijie Router	Ruijie
RI00658	172.17.161.106	Windows	Microsoft

5) Add Link

To add a link between two devices, you need to add the link to all topologies where the two devices are deployed (except layer 3 network topology). The modifications are saved automatically, and the links are monitored automatically. If the link to be added already exists (that is, a link with the same source and destination IP address, source interface, destination IP address, and destination interface exists), the link is not added.



6) Hide resource or link prompt (or Display resource or link prompt)

You can hide or display prompts of resources or links on the current topology. This operation takes effect immediately. The modification must be saved manually.

✚ If **Hide resource or link prompt** is selected, the link or resource information is not displayed when you move the cursor upon a link or resource.

✚ If **Display resource or link prompt** is selected, the link or resource information is displayed when you move the cursor upon a link or resource.

7) Display Hidden Nodes (or Does not Display Hidden Nodes)

You can select whether to display the hidden nodes on the current topology. This operation takes effect immediately. The modification must be saved manually.

(Note: The hidden state of the resources is not changed.)

✚ If **Display Hidden Nodes** is selected, the hidden nodes are displayed on the topology.

✚ If **Does not Display Hidden Nodes** is selected, the hidden nodes are not displayed on the topology.

8) View the List of Hidden Resources

You can display the hidden resources on the current topology and change the hidden state of the resources.



9) Device Mark

You can change the device mark on the current topology. You can select one from the available options: **IP Address**, **SysOID**, **Display Name**, and **Device Type**. This operation takes effect immediately. The modification must be saved manually. You can set the device mark only in non-global mode.

10) Link Mark

You can change the mark of all links on the current topology. You can select one from the available options: **No Mark**, **Link Remark**, **Link Type**, **Uplink Traffic**, and **Downlink Traffic**. This operation takes effect immediately. The modification must be saved manually. You can set the link mark only in non-global mode.

Uplink: For the source interface, uplink indicates the direction from the source interface to the destination interface; for the destination interface, uplink indicates the direction from the destination interface to the source interface.

Downlink: For the source interface, downlink indicates the direction from the destination interface to the source interface; for the destination interface, downlink indicates the direction from the source interface to the destination interface.

11) Link Color Metric

You can change the color of all links on the current topology. Only one option can be selected. This operation takes effect immediately. The modification must be saved manually. You can set the link color only in non-global mode.

When only one link is displayed, the color of one link is selected. The link selection rules are as follows:

- i. By link state. Select the color of the unavailable link. If there is more than one unavailable link, the color of the link added earliest is selected.
- ii. By metric performance. If there is more than one link with the poorest performance, the color of the link added earliest is selected.

12) Display in single-/multi-link mode

You can change the display mode of links on the current topology. This operation takes effect immediately. The modification must be saved manually. This option cannot be selected if it conflicts with the global settings.

-  If **Display in Single-link mode** is selected, only one link is displayed on the topology.
-  If **Display in Multi-link mode** is selected, multiple links are displayed on the topology.

13) Current Devices

All devices on the current topology are displayed, including hidden devices. You can click  to view resource details of a device.

Status	IP Address	Device Name	Device Type	Vendor	CPU Utilization	Memory Utilization	Running Duration	View
	10.10.10.10	tom2312	Wireless AC ...	Ruijie	38%	17.28%	5Days16Hours07Minute...	
	10.10.10.11	1	Wireless AC ...	Ruijie	19%	18.01%	3Days17Hours52Minute...	
	172.17.160.1	S5760	Layer 3 switch	Ruijie	22%	49%	6Days3Hours21Minutes...	
	172.17.160.14	WIN-0MRQJT1JLIC	Host	Microsoft	8%	97.98%	38Days21Hours41Minut...	
	172.17.160.148	WIN-CRI7TJ4VFIF	Host	Microsoft	8.5%	36.73%	38Days17Hours12Minut...	
	172.17.160.149	RIIL-149	Host	Microsoft	2%	43.4%	38Days19Hours28Minut...	
	172.17.160.150	WIN-CRI7TJ4VFIF	Host	Microsoft	56.5%	84.15%	38Days1Hours06Minute...	
	172.17.160.152	WIN-CRI7TJ4VFIF	Host	Microsoft	8.5%	97.64%	4Days23Hours43Minute...	
	172.17.160.175	SUNST	Host	Microsoft	0%	24.49%	6Days19Hours51Minute...	
	172.17.160.179	RUIJIE-DBAPPS	Host	Microsoft	1.25%	27.66%	4Days09Minutes33Seco...	

1/6 Total number: 55     

14) Current Links

All links on the current topology are displayed. Click  to edit information of a link.

Current Links

Source IP: Overload Alert load Normal load Unknown Disconnected

Source IP Address	Destination IP Address	Source Interface	Destination Interface	Status	Value Obtaining Interface	Traffic(bps)		Bandwidth Utilization Rate(%)		Bandwidth Capacity (Mbps)	Operation
						Uplink	Downlink	Uplink	Downlink		
172.17.167.8	172.17.161...	FastEthernet 0/1	Intel(R) 825...	■	Source Int...	3.08K	17.92K	0%	0.02%	100	
172.17.167.4	172.17.161.8	FastEthernet 0...	Qualcomm ...	■	Source Int...	108.89K	143.87K	0.11%	0.15%	100	
172.17.160.1	172.17.160...	GigabitEthern...	Intel(R) PR...	■	Source Int...	3.89M	2.28M	0.41%	0.24%	1000	
172.17.167.7	172.17.161...	FastEthernet 0/3	eth0	■	Source Int...	71.95K	107.17K	0.07%	0.11%	100	
172.17.160.1	172.17.160...	GigabitEthern...	Intel(R) 825...	■	Source Int...	3.90M	2.29M	0.41%	0.24%	1000	
172.17.160.1	172.17.160...	GigabitEthern...	Intel(R) PR...	■	Source Int...	3.90M	2.29M	0.41%	0.24%	1000	
172.17.160.1	172.17.167.3	GigabitEthern...	GigabitEther...	■	Source Int...	837.72K	1.79M	0.09%	0.19%	1000	
172.17.160.1	172.17.160...	GigabitEthern...	Intel(R) PR...	■	Source Int...	3.90M	2.29M	0.41%	0.24%	1000	
172.17.160.1	172.17.160...	GigabitEthern...	Intel(R) PR...	■	Source Int...	3.90M	2.29M	0.41%	0.24%	1000	
172.17.160.1	172.17.160...	GigabitEthern...	Intel(R) PR...	■	Source Int...	3.90M	2.29M	0.41%	0.24%	1000	

1/5 Total number: 48 First Previous Next End

Physical Location Information

Start Physical Location : - End Physical Location : -
 Link Type : - Remarks : -

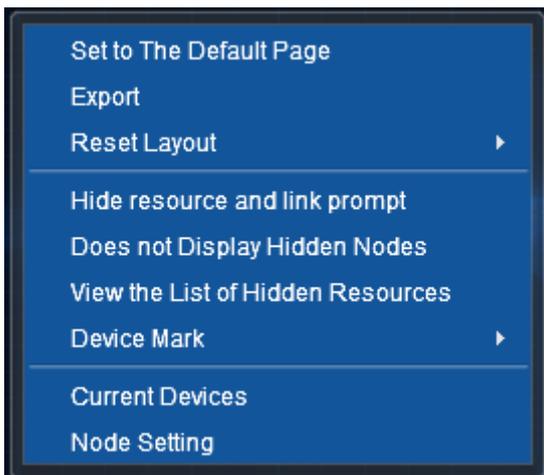
15) Display Traffic

After you select **Display Traffic**, the topology switches to multi-link mode and the total traffic of all links is displayed. You can display the traffic only in non-global mode.

16) Node Setting

You can set the font size (the setting applies to **Device Mark**, **Link Mark**, **Picture Node Name**, **Region Name**, and **Virtual Device Name**) and font color (the setting applies to **Device Mark**, **Picture Node Name**, and **Virtual Device Name**). You can perform node setting only in non-global mode.

2. Layer 3 network topology



- 1) Set to The Default Page: used to set the default page displayed when a user accesses the network topology tab.
- 2) Export: used to export topology information and generates image files.
- 3) Reset Layout: The menu options are the same as those of layout types.

- 4) Hide resource or link prompt (or Display resource or link prompt)

You can hide or display prompts of resources or links on the current topology. This operation takes effect immediately. The modification must be saved manually.

 -  If **Hide resource or link prompt** is selected, the link or resource information is not displayed when you move the cursor upon a link or resource.
 -  If **Display resource or link prompt** is selected, the link or resource information is displayed when you move the cursor upon a link or resource.
 - 5) Display Hidden Nodes (or Does not Display Hidden Nodes)

You can select whether to display the hidden nodes on the current topology. This operation takes effect immediately. The modification must be saved manually.

(Note: The hidden state of the resources is not changed.)

 -  If **Display Hidden Nodes** is selected, the hidden nodes are displayed on the topology.
 -  If **Does not Display Hidden Nodes** is selected, the hidden nodes are not displayed on the topology.
 - 6) View the List of Hidden Resources: used to display the hidden resources on the current topology.
 - 7) Device Mark

You can change the device mark on the current topology. Only one option can be selected. This operation takes effect immediately. The modification must be manually saved. The setting cannot be saved if it conflicts with the global settings.
 - 8) Current Devices: used to display all devices on the current topology, including hidden devices.
 - 9) Node Setting

You can set the font size (the setting applies to **Device Mark, Link Mark, Picture Node Name, Region Name, and Virtual Device Name**) and font color (the setting applies to **Device Mark, Picture Node Name, and Virtual Device Name**).
3. Sub-topology
 - 1) Sub-topology diagram of layer 2 network topology

The shortcut menu does not have the **Add Device** option. Other menu options are the same as those in the shortcut menu for layer 2 network topology.
 - 2) Sub-topology diagram of layer 3 network topology

The sub-topology of the layer 3 network topology is the same as the layer 3 network topology. For the shortcut menu of the sub-topology, see the shortcut menu of the layer 3 network topology.
 4. User-defined topology

The shortcut menu for the user-defined topology does not have the **Reset Layout** option. Other menu options are the same as those of the shortcut menu for the layer 2 network sub-topology.

4.7.9 Shortcut Button Area

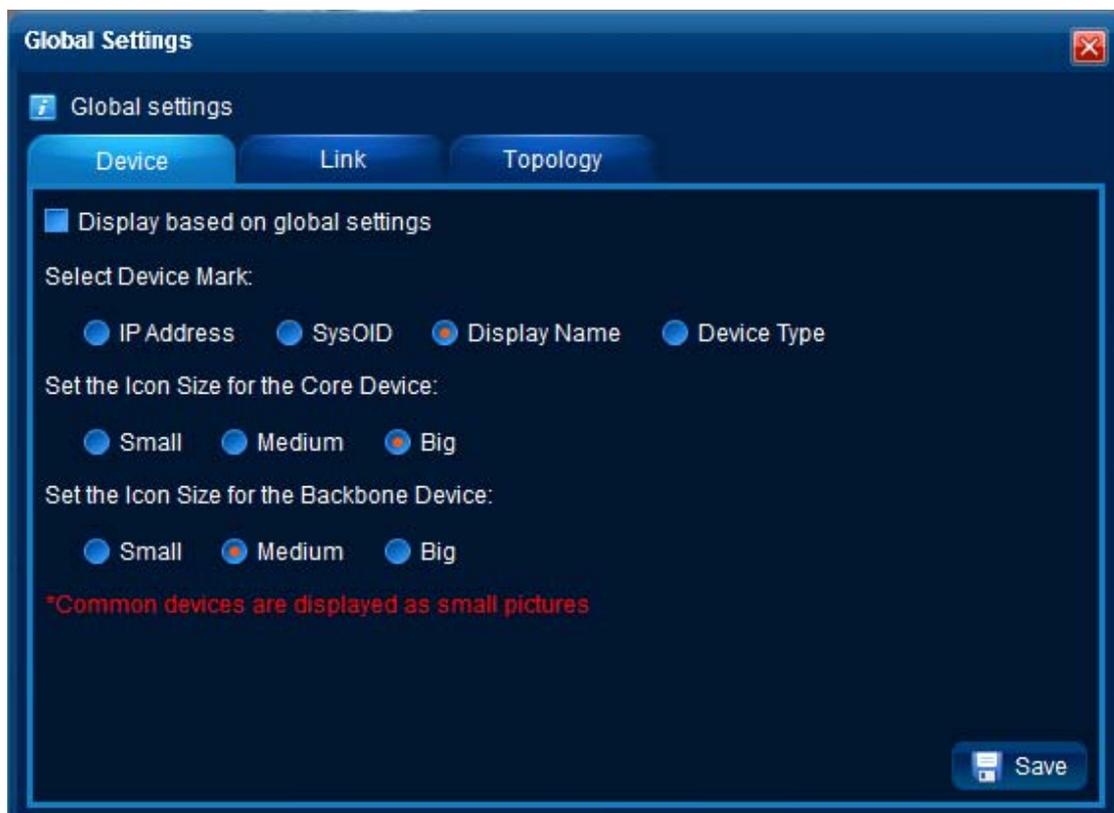


4.7.9.1 Global Setting

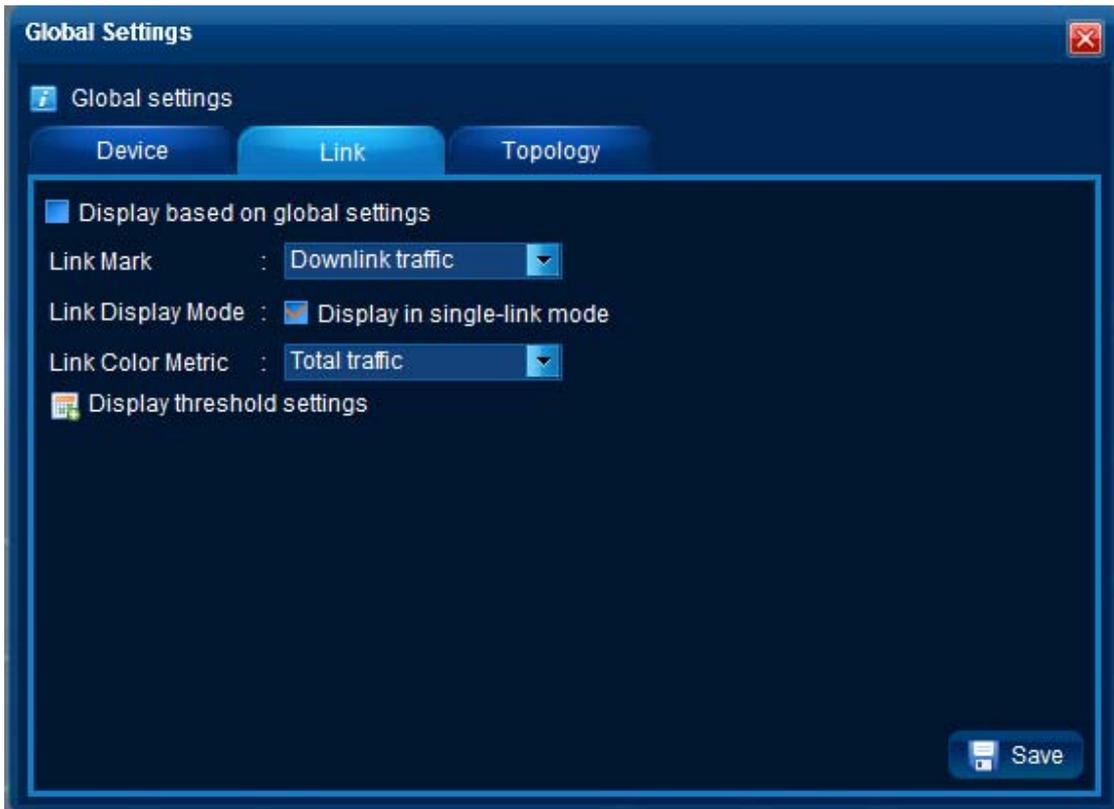
Only the system administrator can set devices, links, and topologies globally.

When **Display based on global settings** is selected, relevant functions on the topology are restricted.

1. Device

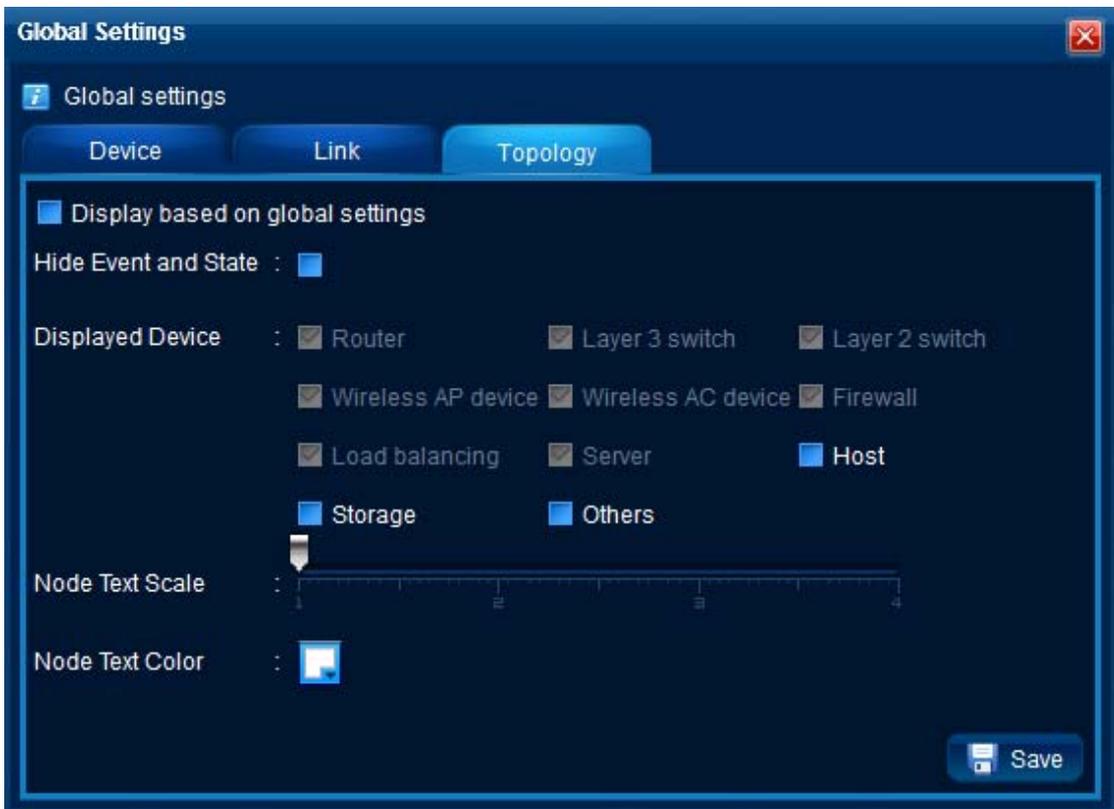


2. Link

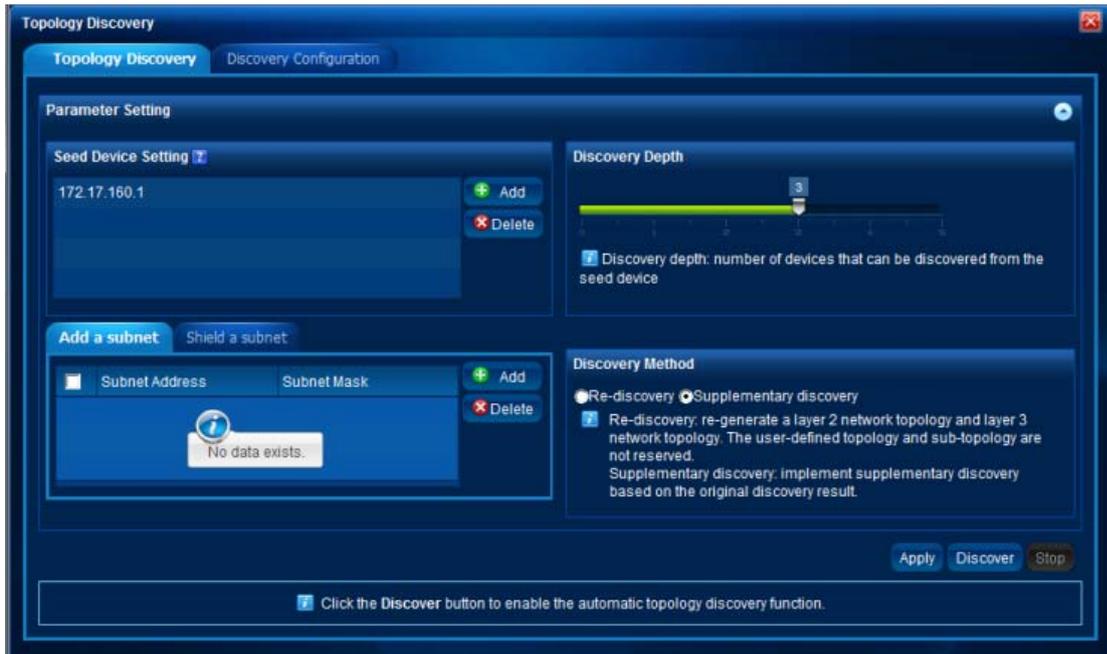


Metric Threshold Setting page

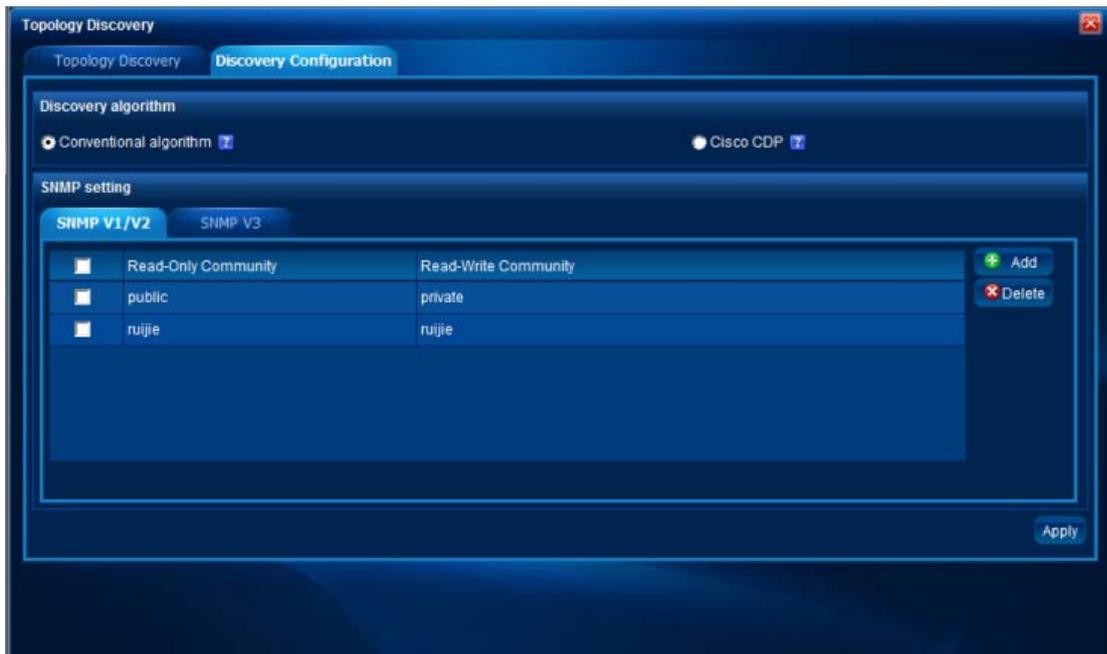
3. Topology



4.7.9.2 Topology Discovery

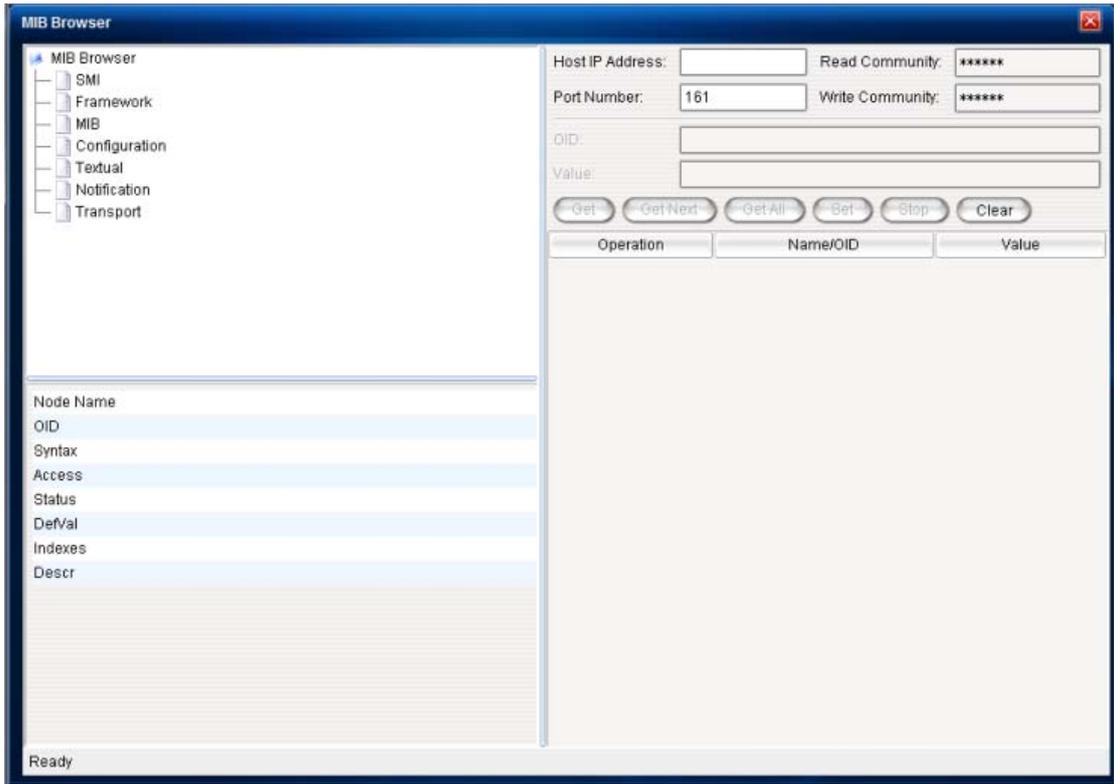


Only the system administrator can use the topology discovery function. The discovery algorithm can be selected and SNMP can be set on the **Discovery Configuration** tab page.



4.7.9.3 Permission Management

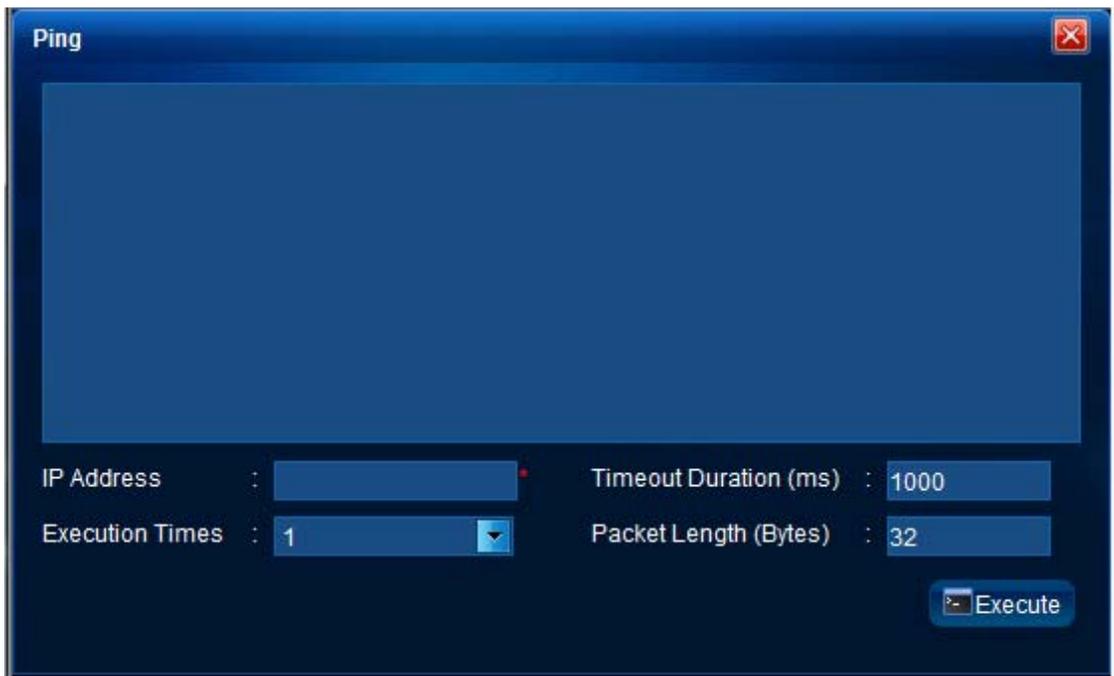
Users other than the system administrator can access the **Permission Management** page only for the topology they have permission to operate.



Invoke the MIB Browser.

- ✚ Access the **MIB Browser** page by right-clicking a node on the topology and selecting **MIB** from the shortcut menu. **Host IP Address** is set to the device's IP address by default.
- ✚ Access the **MIB Browser** page by clicking **MIB** in the shortcut area. **Host IP Address** is left blank.

2. Ping

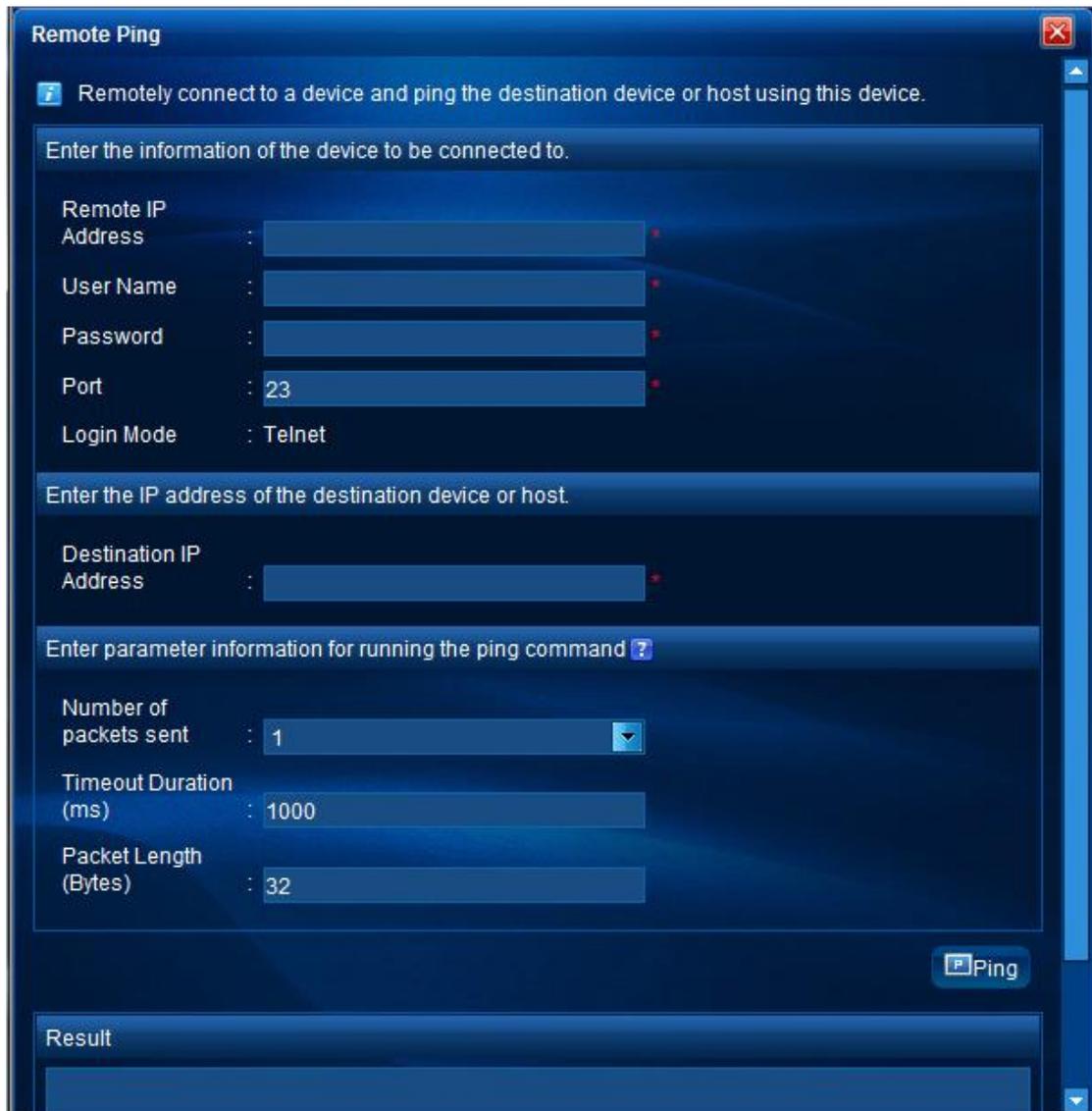


- ✚ Access the **Ping** page by right-clicking a node on the topology and selecting **Ping** from the shortcut menu. **IP Address** is set to the device's IP address by default.

Access the **Ping** page by clicking **Ping** in the shortcut area. **IP Address** is left blank and must be set.

- ✚ Function: Perform the ping operation after verifying that the inputs are correct. The ping operation result is displayed in the text box.

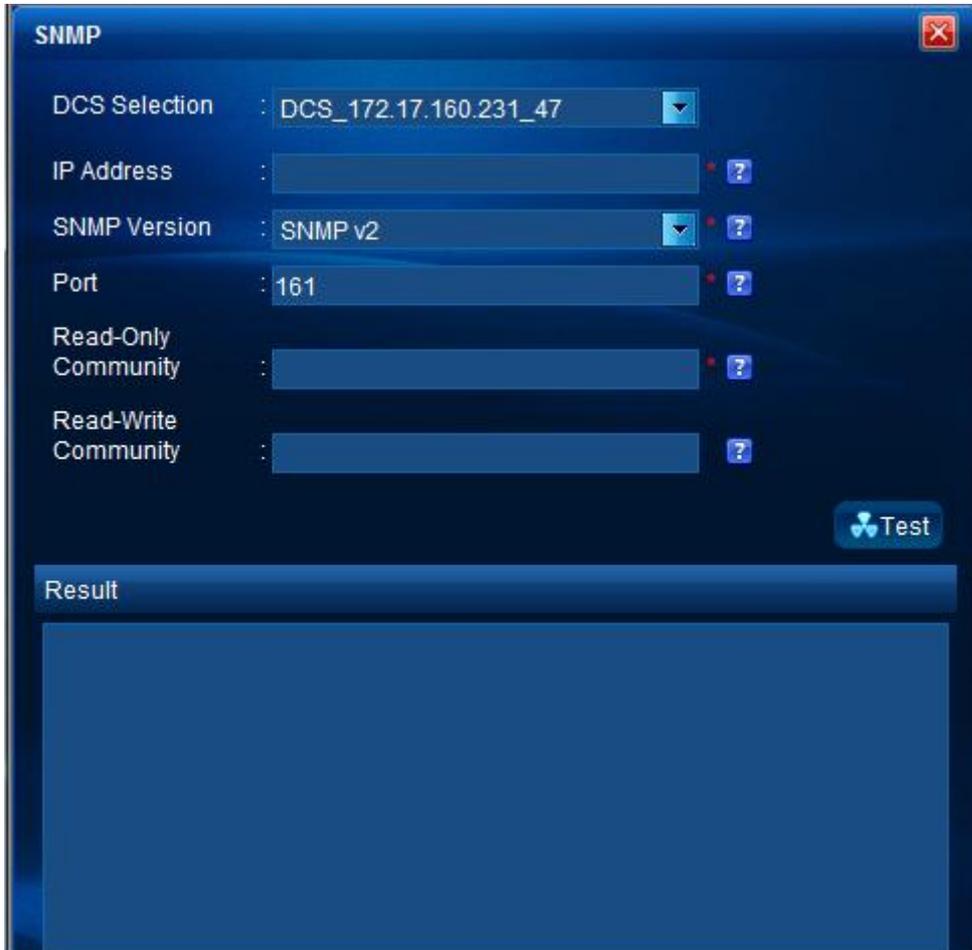
3. Remote Ping



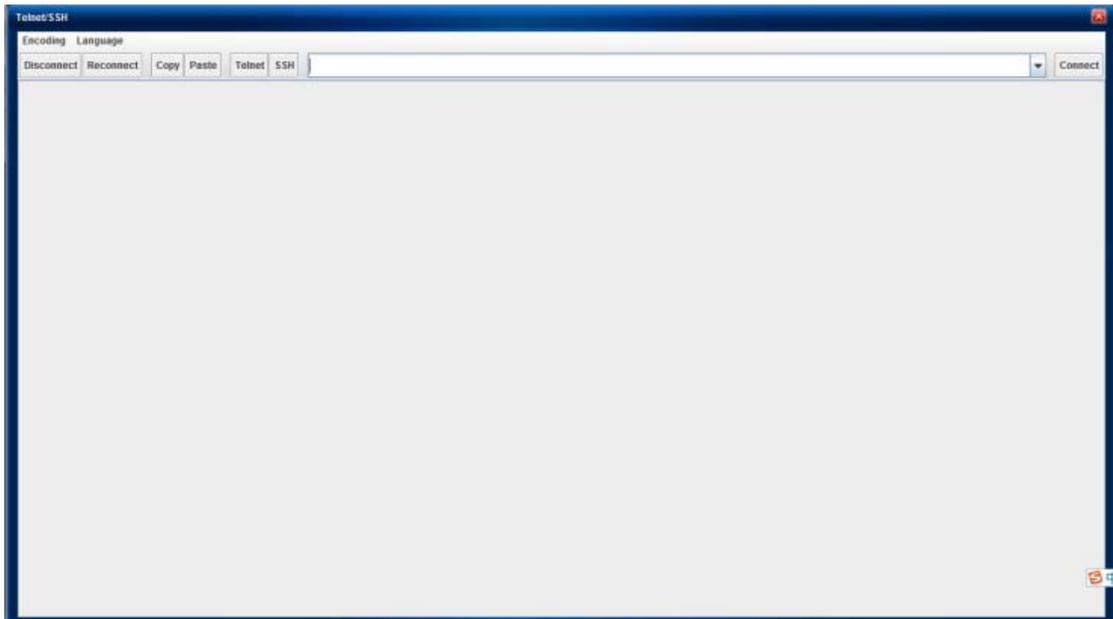
- ✚ Access the **Remote Ping** page by right-clicking a node on the topology and selecting **Remote Ping** from the shortcut menu. **Destination IP Address** is set to the device's IP address by default.

Access the **Remote Ping** page by clicking **Remote Ping** in the shortcut area. **Destination IP Address** is left blank and must be set.

- ✚ Click **Ping** to perform the remote ping operation. The operation result is displayed in the **Result** box.
4. SNC
If the system is integrated with SNC, the **SNC** page is displayed.
 5. SNMP Test



- ✚ Access the **SNMP** page by right-clicking a node on the topology and selecting **SNMP Test** from the shortcut menu. **IP Address** is set to the device's IP address by default and cannot be changed.
Access the **SNMP** page by clicking **SNMP Test** in the shortcut area. **IP Address** is left blank and must be set. The predictive text input function is available.
 - ✚ After setting required information correctly, click **Test**. The test information is displayed in the **Result** box.
6. Telnet/SSH

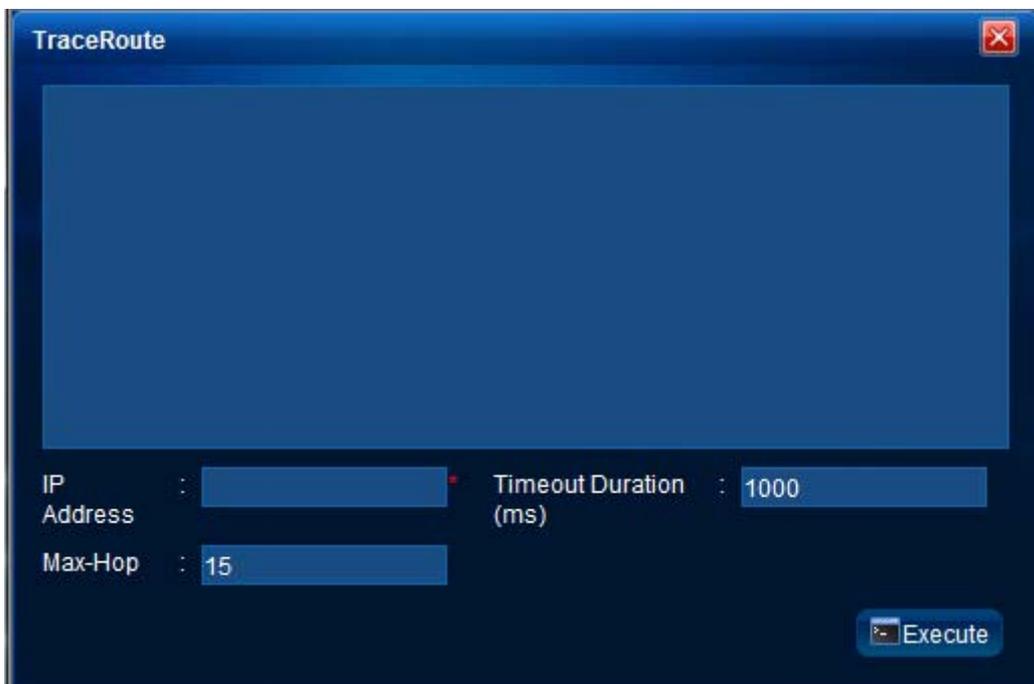


- Access the **Telnet/SSH** page by right-clicking a node on the topology and selecting **Telnet/SSH** from the shortcut menu. **IP Address** is set to the device's IP address by default.

Access the **Telnet/SSH** page by clicking **Telnet/SSH** in the shortcut area. **IP Address** is left blank and must be set.

- Click **Connect**. You can enter information in the operation area.

7. TraceRoute



- Access the **TraceRoute** page by right-clicking a node on the topology and selecting **TraceRoute** from the shortcut menu. **IP Address** is set to the device's IP address by default.

Access the **TraceRoute** page by clicking **TraceRoute** in the shortcut area. **IP Address** is left blank and must be set.

8. Web

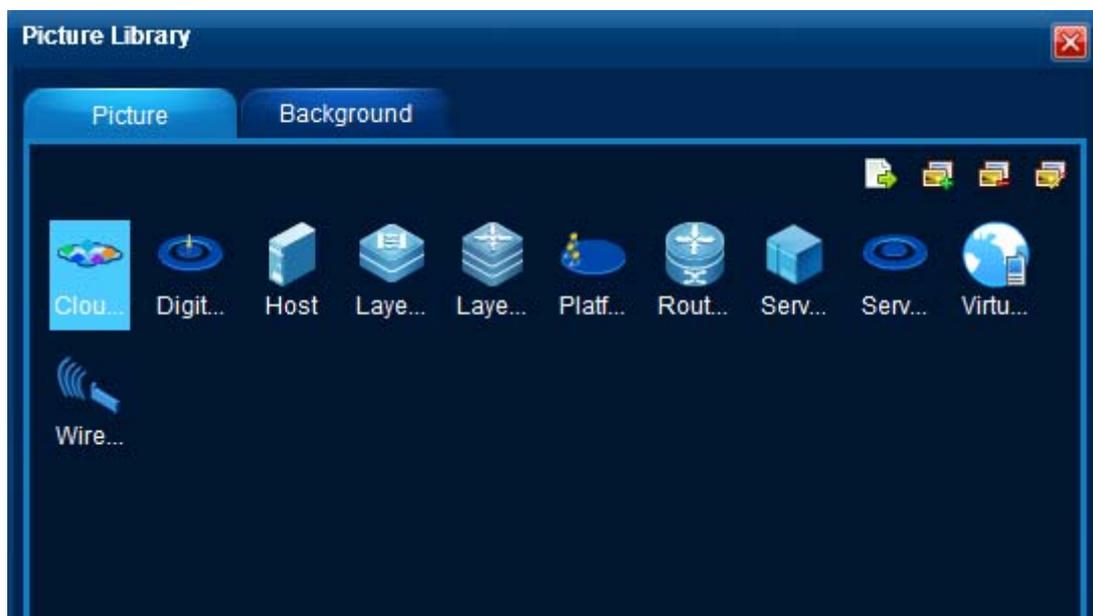


- Access the **Web Management Tool** page by right-clicking a node on the topology and selecting **Web** from the shortcut menu. **URL** is `http://device's IP address` and can be changed.

Access the **Web Management Tool** page by clicking **Web** in the shortcut area. **URL** is left blank and must be set.

4.7.9.5 Picture Library

The background operations are the same as picture operations. The following describes picture operations.



1. Adding a picture

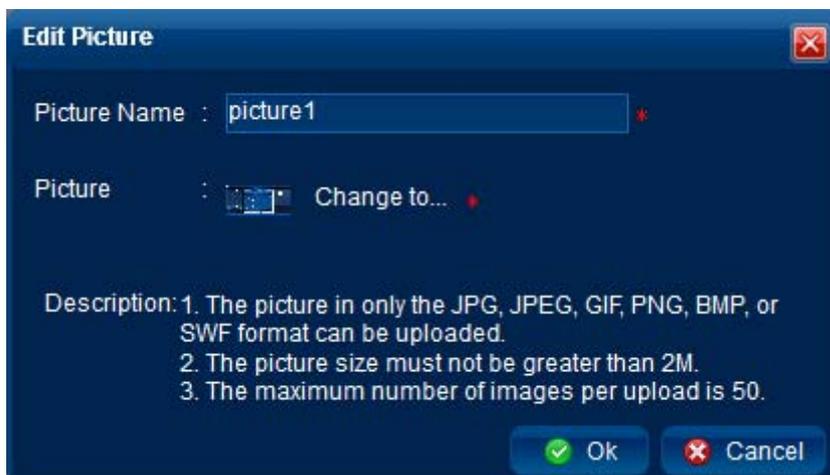


2. Deleting a picture

Select a picture and click **Delete**. A preset picture or a picture in use cannot be deleted.

3. Editing a picture

Select a picture and click **Edit**. A preset picture cannot be edited. The following figure shows the **Edit Picture** page.



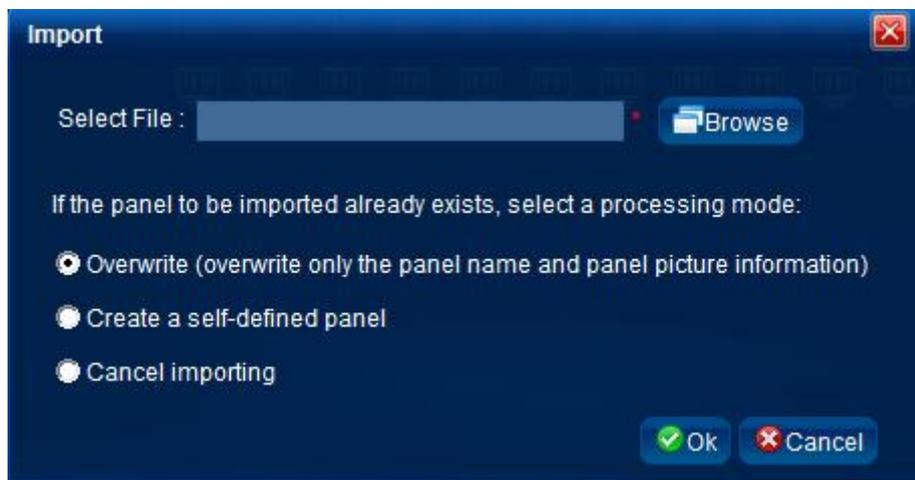
4.7.9.6 Panel Management



1. Panel tree

The panel tree consists of device types and network device series. Device series are under the device type. The number of devices of the same device type is displayed next to a device type.

1) Import



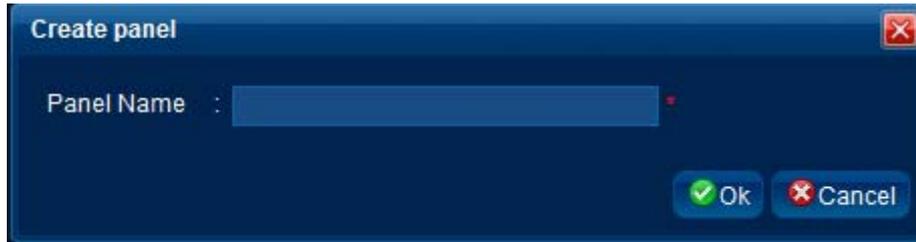
2) Export

Export panel information. Only panel configurations are exported.

3) Device types can be added and exported.



(1) Create



Panel Name: The panel name must be specified. The panel names for devices of the same series cannot be identical.

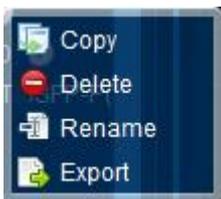
(2) Export: Export panel configurations.

2. Panel-related operations

1) System panel



2) Non-system panel



3. Panel Configuration

✚ Displaying panel information

Panel information includes Panel Name, Device Type, Device Vendor, and Device Series.

✚ Editing the panel



: used to preview the panel

: used to display the panel in full screen

: used to open the panel tool page

: used to automatically obtain an interface

: used to display the attributes of the selected object

: used to align the selected object to the top

: used to align the selected object to the center

: used to align the selected object to the bottom

: used to align the selected object to left

: used to align the selected object to the middle

: used to align the selected object to right

: used to distribute the selected objects horizontally

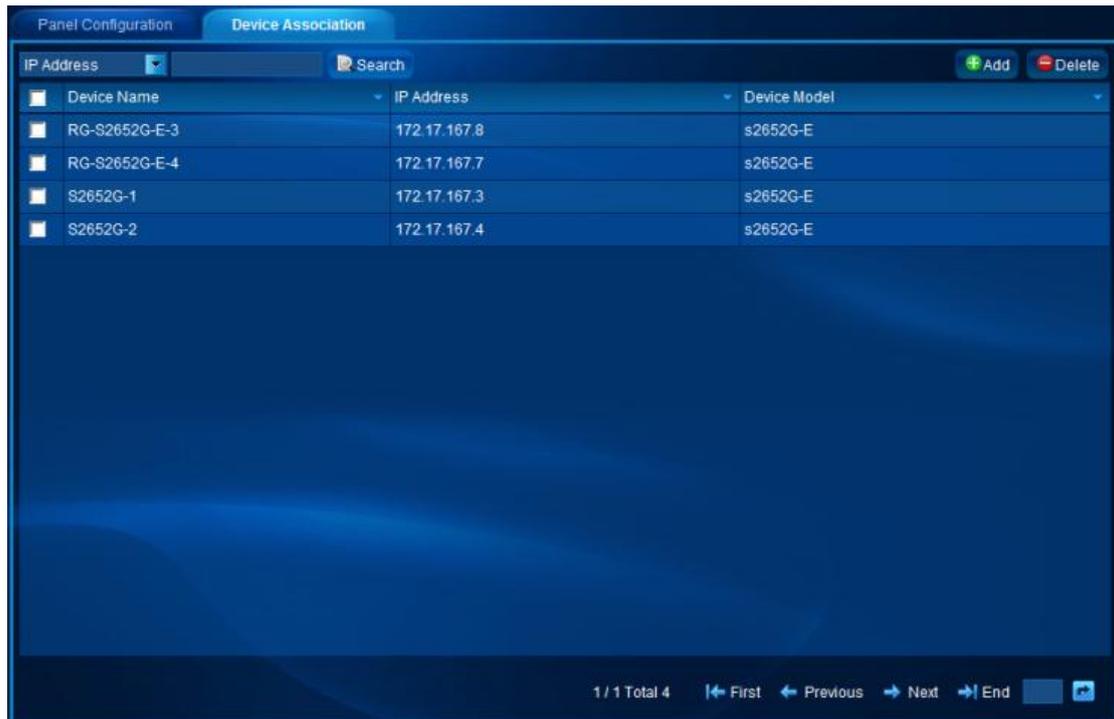
: used to distribute the selected objects vertically

: used to restore the panel configurations to the last saved ones

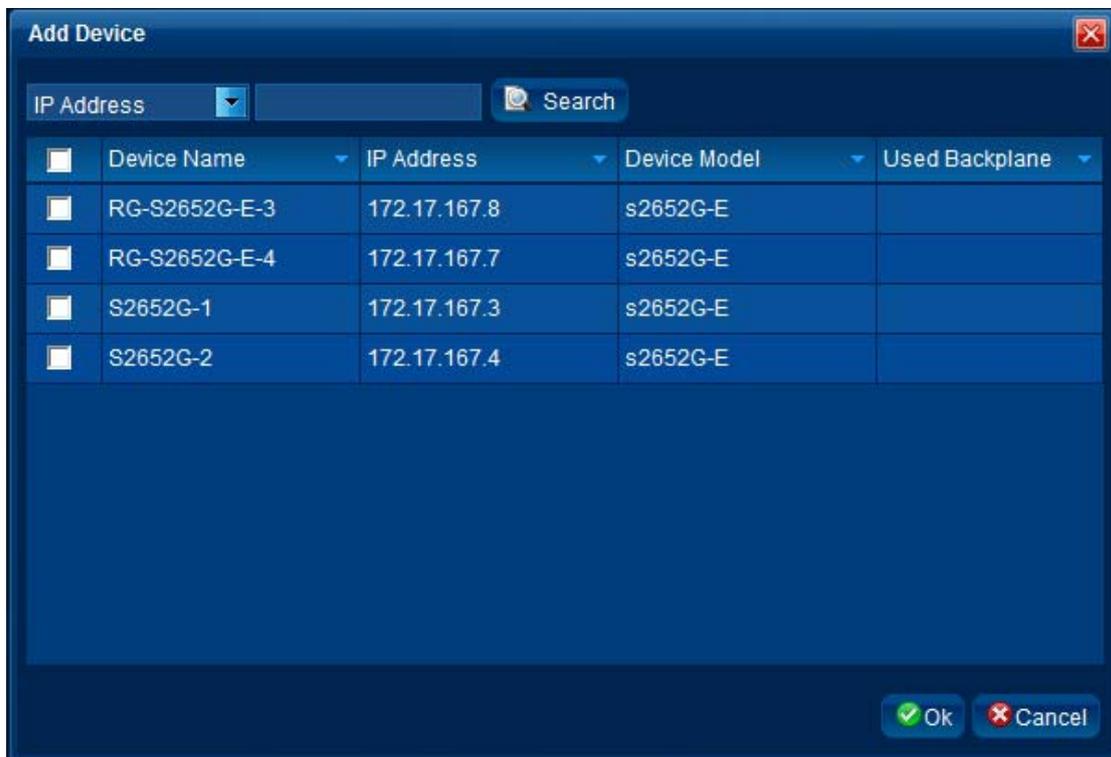
: used to delete the selected object

: used to save panel configuration

4. Device Association



- 1) List of associated devices
You can add or delete associated devices.
- 2) Adding an associated device



4.7.9.7 Automatic Inspection

Only users assigned a role having access to the **Automatic Inspection** page can use the automatic inspection function.



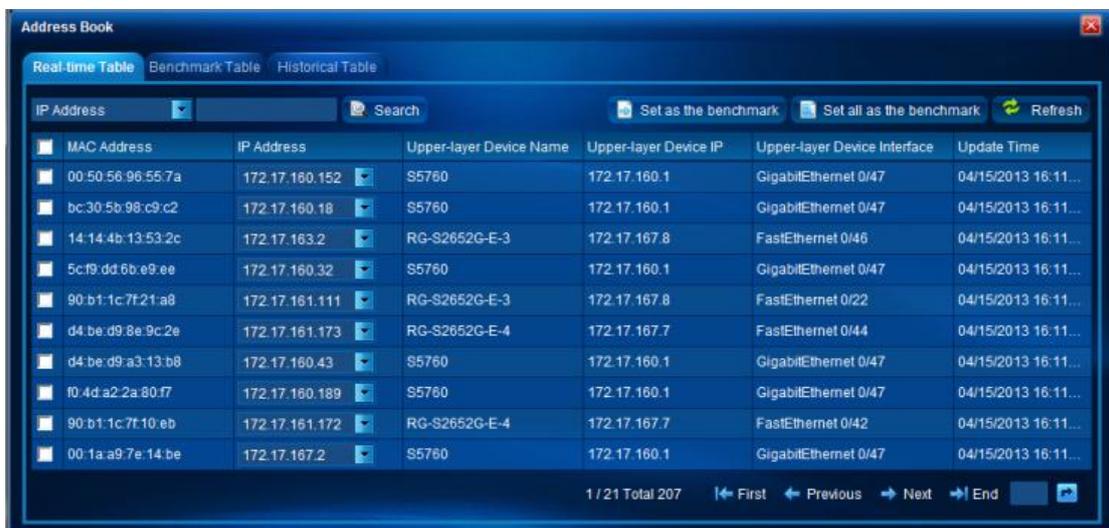
1. Device and Location List
 - 1) This tab page displays the physical locations of devices.
 - 2) Search: You can search for devices by IP address, MAC address, device name, device type, or device location.
 - 3) You can export the data of the selected device or all devices.
2. Inspection Tasks

For details, see the function description of automatic inspection.
3. Inspection Reports

For details, see the function description of automatic inspection.

4.7.9.8 Address Book

An event is automatically generated in the case of IP address change or network interface location change.



1. Real-time Table

- 1) The real-time table is obtained according to the devices on the topology.
- 2) Search: You can search devices by IP address, MAC address or upper-layer device name.
- 3) You can set the selected device or all devices as the benchmark.

Select information and click **Set as the benchmark**. The selected information is added to the benchmark table according to the following rules:

- i. When the MAC addresses are the same

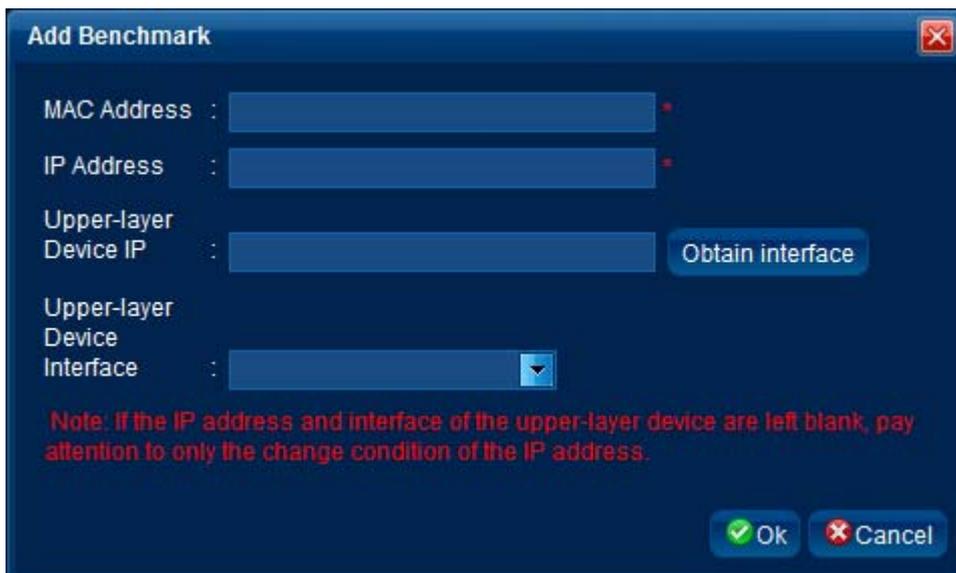
Check whether the upper-layer device name, upper-layer device IP, and upper-layer device port are the same. If they are the same, the IP addresses are merged; if they are different, the information cannot be added.

- ii. When the MAC addresses are different

Check whether the IP address exists in the benchmark table. If the IP address exists in the benchmark table, the information cannot be added; if the IP address does not exist in the benchmark table, the information can be added.

2. Benchmark Table

- i. Adding a benchmark



Add Benchmark

MAC Address :

IP Address :

Upper-layer Device IP : Obtain interface

Upper-layer Device Interface :

Note: if the IP address and interface of the upper-layer device are left blank, pay attention to only the change condition of the IP address.

Ok Cancel

- ii. Deleting a benchmark

Select a benchmark and click **Delete** to delete the selected benchmark from the benchmark table. If the deleted benchmark is from the historical table, the historical information can be operable.

- iii. Importing benchmarks

The rules for importing information to the benchmark table are as follows:

- i. When the MAC addresses are the same

Check whether the upper-layer device name, upper-layer device IP, and upper-layer device port are the same. If they are the same, the IP addresses are merged; if they are different, the information cannot be added.

- ✚ When the MAC addresses are different

Check whether the IP addresses are the same. If the IP addresses are the same, the information cannot be added; if the IP addresses are different, the information can be added.

iv. Exporting benchmarks

You can export the information from the benchmark table.

3. Historical Table

- 1) If the MAC address in the real-time table exists in the benchmark table, check whether the corresponding IP address and upper-layer device name are changed. If so, the information is displayed in the historical table.
- 2) Search: You can search for information by MAC address or change time. The change time is the latest 24 hours by default.
- 3) Buttons: Set as the benchmark, Delete

4.7.10 Topology Switching

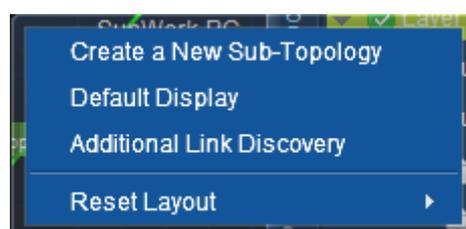
✚ The topology tree lists topologies that the current user has permission to access. For layer 2 or 3 network topologies, if the user has permission to read or operate sub-topologies but no permission to read or operate upper-level topologies, all upper-level topologies are listed in the topology tree, but the user can neither view nor invoke the shortcut menu for these topologies. For user-defined topologies, if the user does not have permission to read or operate user-defined topology, but has the permission to operate the layer 2 network topology, the category **User-Defined Network Topology** is displayed, and a right-click menu can be invoked.

✚ When the topology is displayed by default, the icon changes accordingly. Initial status: Layer 2 network topology is displayed by default.

✚ If the user who has the permission to operate the current topology changes the current topology and attempts to switch to another topology, a message prompting the user to save the modifications is displayed.

✚ If the user has permission (read-only or operation) over the topology diagram, the user can double-click to access the topology and invoke the shortcut menu for related operations.

4.7.10.1 Operations on Layer 2 or 3 Network Topologies



1. Create a New Sub-Topology

A sub-topology cannot be added for a level 2 sub-topology. In this case, **Create a New Sub-Topology** is unavailable.

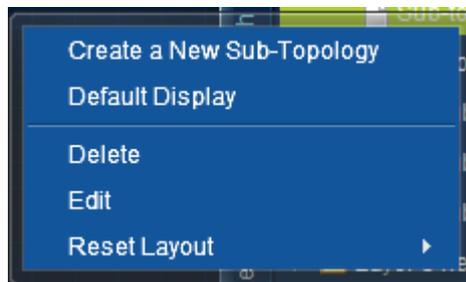
2. Default Display

If the default page of the topology is displayed, the icon changes accordingly. The operation takes effect immediately and is saved automatically.

3. Reset Layout

You can reset the layout according to different modes. If the currently operated topology is not displayed, you need to manually save the modification. This operation takes effect immediately. The modification must be saved manually.

4.7.10.2 Operations on Sub-topologies



1. Create a New Sub-Topology

A sub-topology cannot be added for a level 2 sub-topology. In this case, **Create a New Sub-Topology** is unavailable.

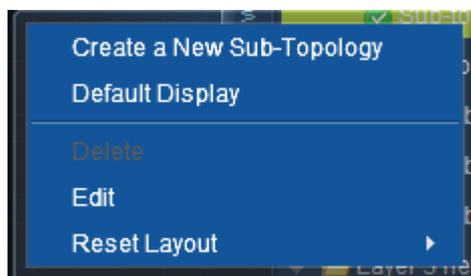
2. Default Display

The function is the same as that for layer 2 network topology. For details, see the default display function of layer 2 network topology.

3. Delete

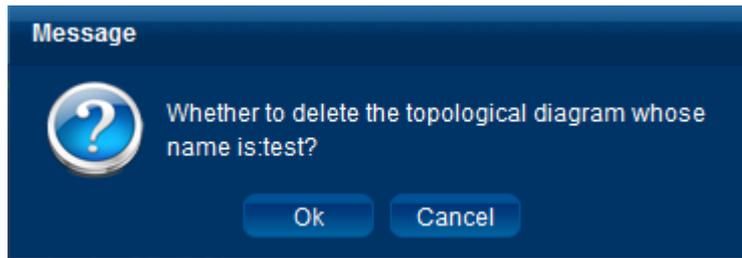
The system performs the following judgments before deletion:

- 1) If the topology is the default display topology, makes the **Delete** option unavailable.



- 2) Checks whether any sub-topology exists under the topology. If yes, makes the **Delete** option unavailable;

- 3) if no, displays the following message.



- 4) If the deleted topology is the currently opened topology, displays the default topology after the current topology is deleted.

4. Edit

Select **Edit**. The **Edit Sub-topology** page is displayed.

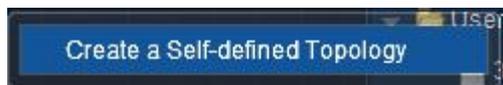


5. Reset Layout: The function is the same as that for layer 2 network topology. For details, see the reset layout function of layer 2 network topology.

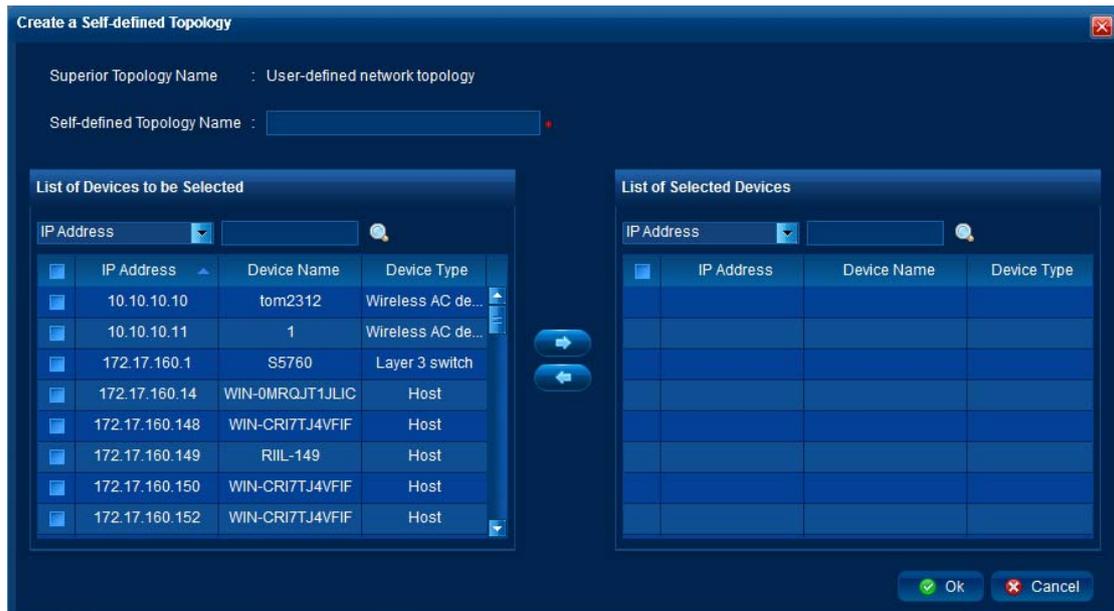
4.7.10.3 Self-defined Topology

1. Self-defined topology

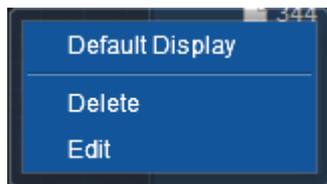
When the user has permission to operate the self-defined topology,



is available. The user is automatically assigned permission to operate the self-defined topology.



2. Operations on the self-defined topology



1) Default Display

If the currently operated topology is not opened, **Default Display** is unavailable. If the default page of the topology is displayed, the icon changes accordingly. The operation takes effect immediately and is saved automatically.

2) Delete

For details, see "Delete" in 4.7.10.2 "Operations on Sub-topologies."

3) Edit

Select **Edit**. The **Edit the Self-defined Topology** page is displayed.



4.7.11 Resource Panel

Only users who have permission to operate the current topology can use the resource panel to add resources. Resources include devices/links, pictures, regions, backgrounds, and shapes. Topological diagrams of different types support different types of resources.

4.7.11.1 Device/Link



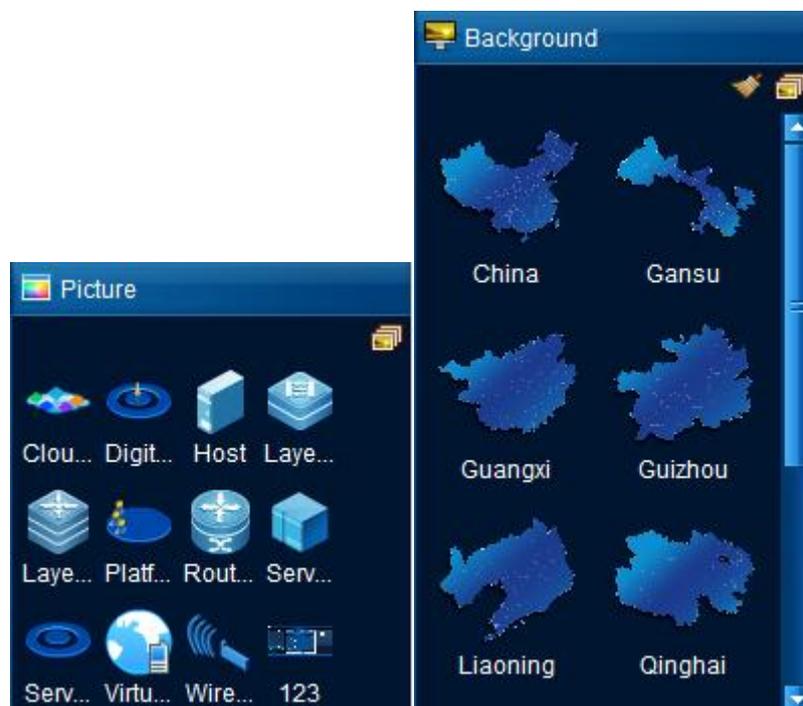
1. Menu description:

- ✚ Layer 3 network topologies do not have the **Device/Link** tab.
- ✚ For a layer 2 network topology, the **Device/Link** tab includes **Device**, **Link**, **Virtual Link**, **Interconnection Link**, and **Virtual Device**.
- ✚ For sub-topologies of a layer 2 network topology, the **Device/Link** tab includes only **Link**, **Virtual Link**, **Interconnection Link**, and **Virtual Device**.
- ✚ Sub-topologies of a layer 3 network topology does not have the **Device/Link** tab.
- ✚ For self-defined topologies, the **Device/Link** tab includes only **Link**, **Virtual Link**, **Interconnection Link**, and **Virtual Device**.

2. Operation buttons:

- ✚ Drag  to the topological diagram. Then, the **Add Device** page is displayed. The operations are the same as those on a layer 2 network topology.
- ✚ Select , and drag one node to another node. Then, the **Add Link** page is displayed. If the node is a physical node, its source IP address or the destination IP address is the IP address of the device you drag.
- ✚ Select , and drag one node to another node (either the source node or the destination node must be a virtual device). Then, the **Add Virtual Link** page is displayed, where you can view the source device name and destination device name. If the device is a physical device, click **Obtain Interface**, and an interface is automatically allocated. If the device is a virtual device, a virtual interface is allocated by default.
- ✚ Select , and drag one node to another node (source and destination nodes must be picture nodes). Then, the **Add Interconnection Link** page is displayed. Select the source and destination pictures, and click **Search**. If there are links, select one from them.
- ✚ Drag  to the topological diagram. Then, the virtual device attribute page is displayed, where you need to specify the virtual device name and IP address.

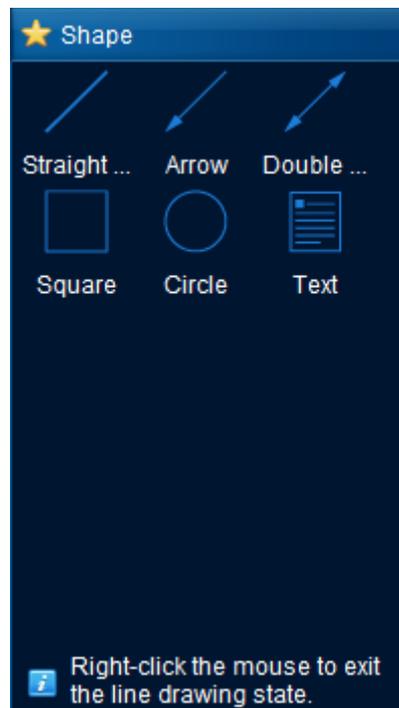
4.7.11.2 Picture and Background



- ✚ Sub-topologies and user-defined topologies have the **Picture** and **Background** menus.
- ✚ Click  to access the **Picture Library** page.

- ✚ Drag a picture node to the topological diagram. Then, the picture attribute page is displayed.
- ✚ Click a background picture to change the background of the current topology.
- ✚ Click  to delete the current background.

4.7.11.3 Shape



- ✚ Sub-topologies and user-defined topologies have the **Shape** menu.
- ✚ The **Shape** menu includes **Straight Line**, **Arrow**, **Double Arrows**, **Square**, **Circle**, and **Text**.
- ✚ Right-click the mouse to exit the line drawing state.

4.7.11.4 Area



- ✚ User-defined topologies have the **Area** menu.
- ✚ Drag the area node to the topological diagram to generate an area.

4.8.1.2 Shortcut Button Area



1. Global Settings

Only the system administrator can set devices, links, and topologies globally.

- 1) Access the **Global Settings** page, as shown in the following figure.



- 2) Select **Link Color Metric**, including **Velocity** and **BandwidthRate**, as shown in the following figure.



- 3) If **Link Color Metric** is set to **BandwidthRate**, four options are available: **Bandwidth≤10M**, **Bandwidth≤100M**, **Bandwidth≤1G**, and **Bandwidth>1G**, as shown in the following figure.



- 4) Enter the threshold for each color, as shown in the following figure.



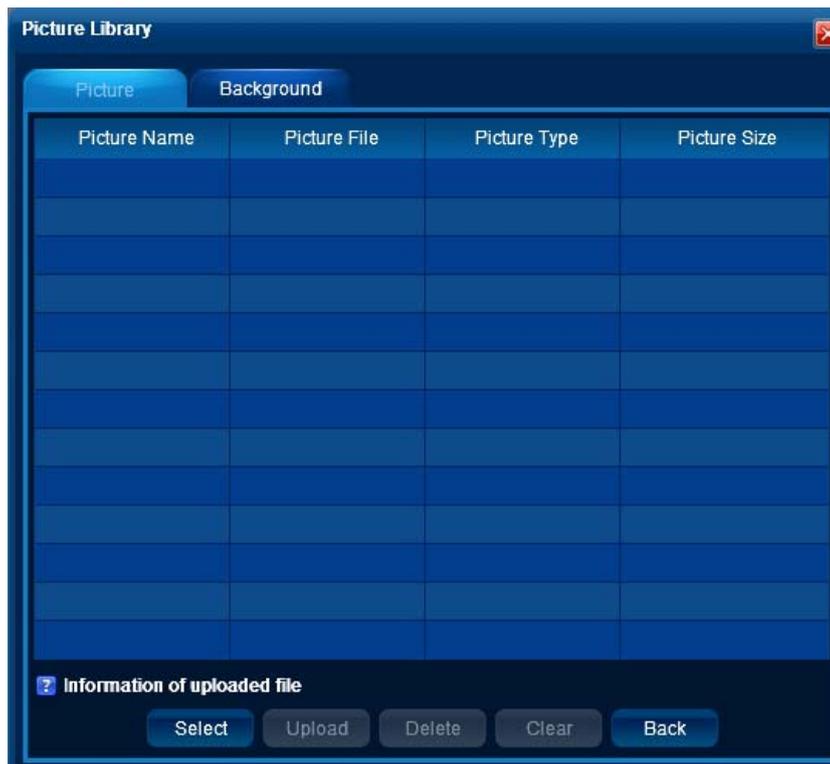
5) Click  to save the global settings. In the topological diagram, each link is displayed in the corresponding color according to the velocity threshold setting.

6) Click  to restore the bandwidth threshold settings to the default settings.

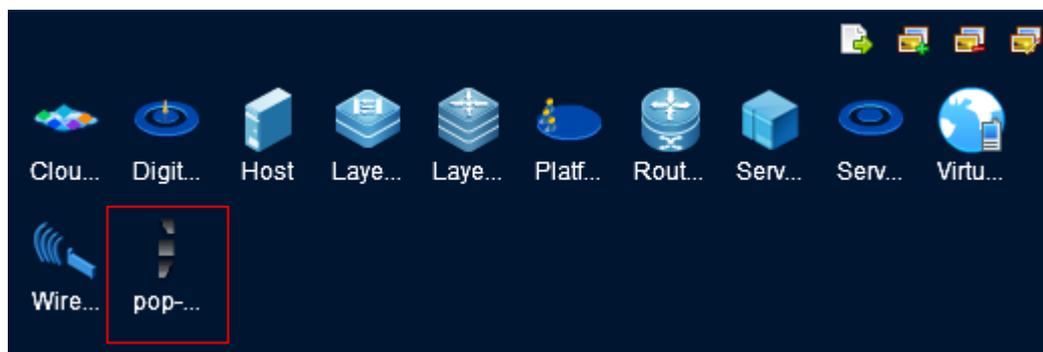
2. Picture Library

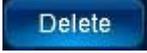


1) Click  and add a self-defined picture, as shown in the following figure.



- a) Click  and select a picture from the system.
- b) Click  to upload the selected picture to RIIL. The picture is displayed in the picture library, as shown in the following figure.



- c) Select a picture and click  to delete the picture from the list, as shown in the following figure.

- 4) Click  to export self-defined pictures. If there are no self-defined pictures, a prompt message is displayed.

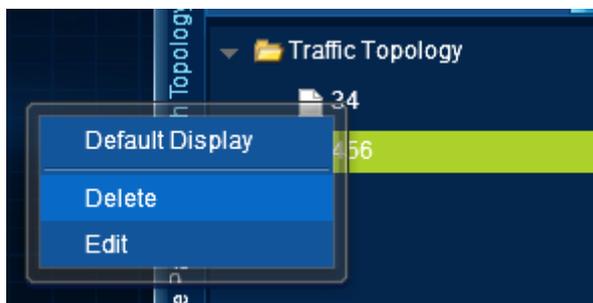
Note: The functions provided on the **Background** tab page are similar to those provided on the **Picture** tab page. The following describes the functions provided on the **Picture** tab page. See the following figure.



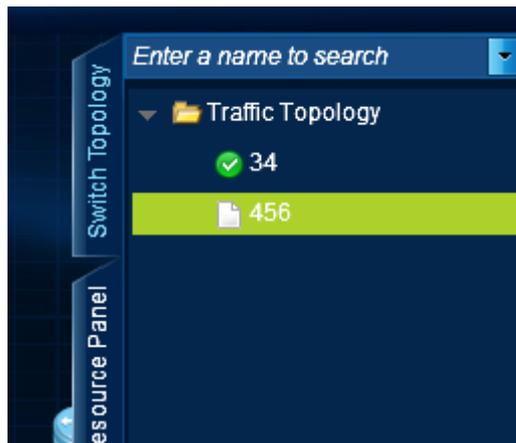
4.8.1.3 Topology-related Operations

1. Setting to The Default Page

Right-click in the blank area and select **Set to The Default Page** from the shortcut menu. Alternatively, right-click a traffic topology and select **Default Display** from the shortcut menu, as shown in the following figure.



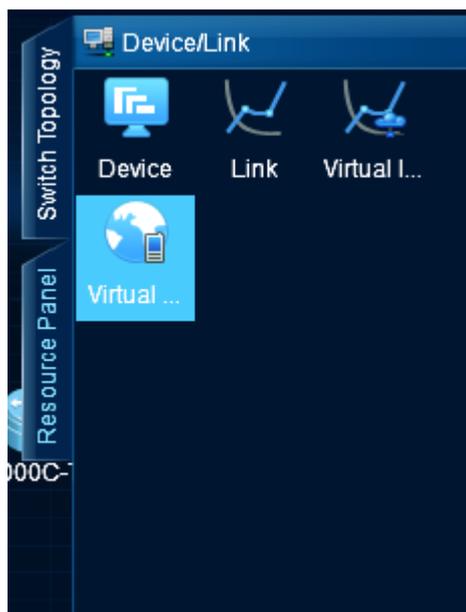
The current topology is set as the default page. View the default page, as shown in the following figure.



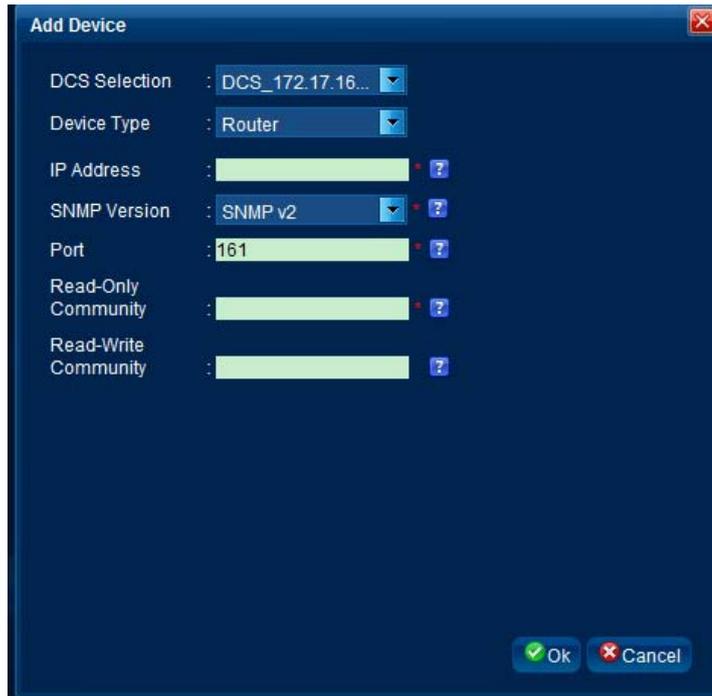
2. Resource Panel

1) Adding a device

Right-click the blank area and select **Add Device** from the shortcut menu. Alternatively, click the **Resource Panel** tab on the drawing panel, and drag  from the **Device/Link** area to the topology, as shown in the following figure.

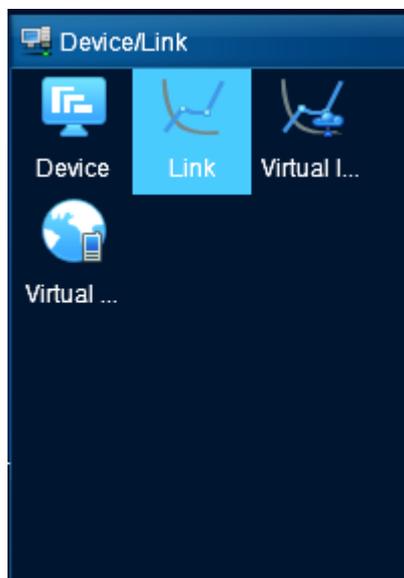


The **Add Device** dialog box is displayed, as shown in the following figure. Enter required information and save it.

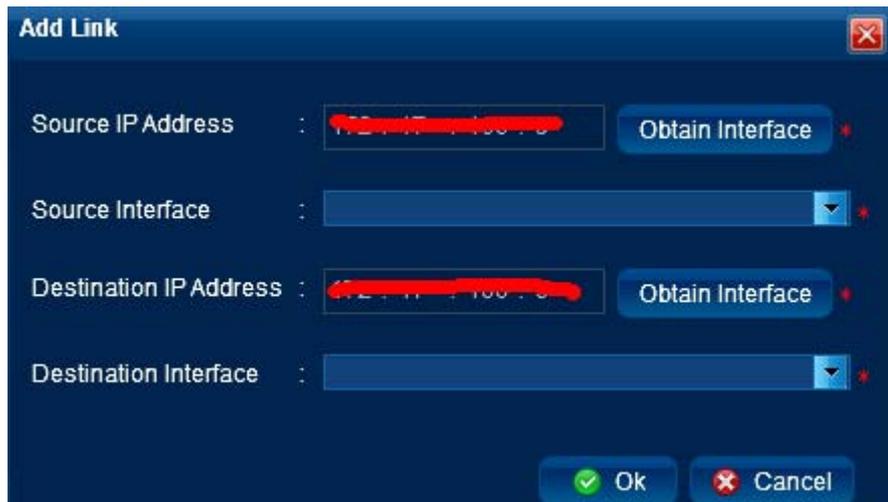


2) Adding a link

Right-click the blank area and select **Add Link** from the shortcut menu. Alternatively, click the **Resource Panel** tab on the drawing panel, and drag  from the **Device/Link** area to somewhere between two nodes on the topology, as shown in the following figure.

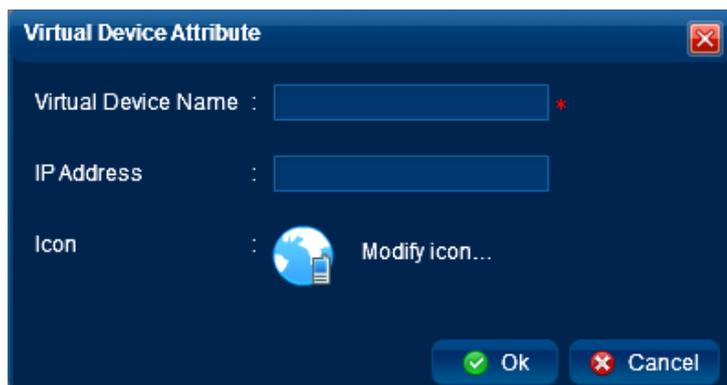


The **Add Link** dialog box is displayed. Set **Source (Destination) IP Address** and **Source (Destination) Interface** and save the settings, as shown in the following figure.



3) Adding a virtual device

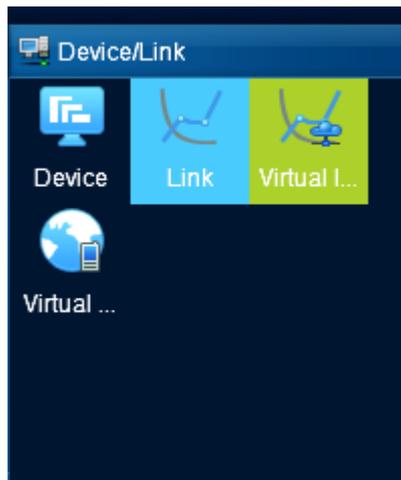
Click the **Resource Panel** tab on the drawing panel, and drag  from the **Device/Link** area to the topology, as shown in the following figure.



Set **Virtual Device Name** (mandatory) and **IP Address** and click **Ok**. The added virtual device is displayed on the topology.

4) Adding a virtual link

Click the **Resource Panel** tab on the drawing panel, and drag  from the **Device/Link** area to somewhere between two nodes on the topology (a virtual link can be added only between a virtual device and a physical device), as shown in the following figure.



5) Adding a picture

On the drawing panel, click the **Resource Panel** tab, drag a picture from the **Picture** area to the topology, and then save the modification, as shown in the following figure.



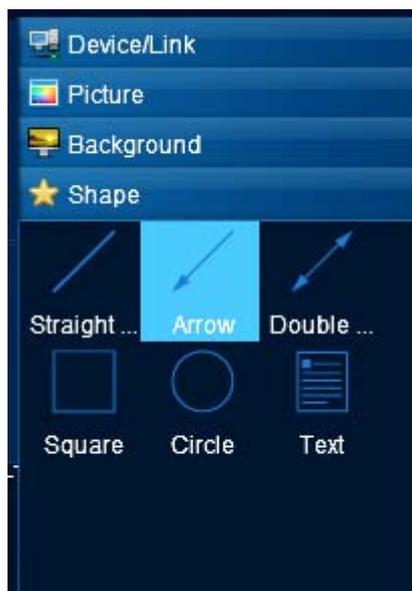
6) Adding a background

On the drawing panel, click the **Resource Panel** tab, drag a picture from the **Background** area to the topology, and then save the modification, as shown in the following figure.



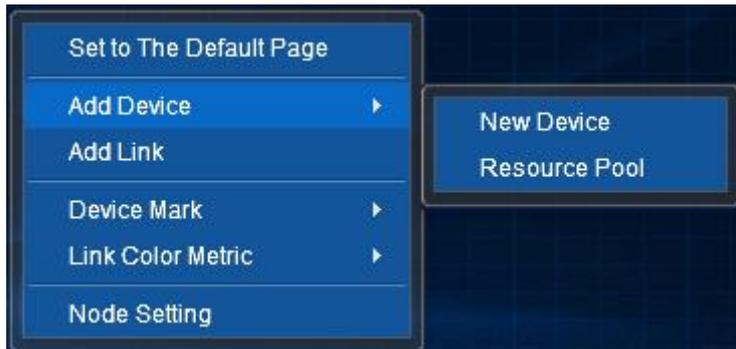
7) Adding a shape

On the drawing panel, click the **Resource Panel** tab, drag a shape from the **Shape** area to somewhere between two picture nodes on the topology, and then save the modification, as shown in the following figure.

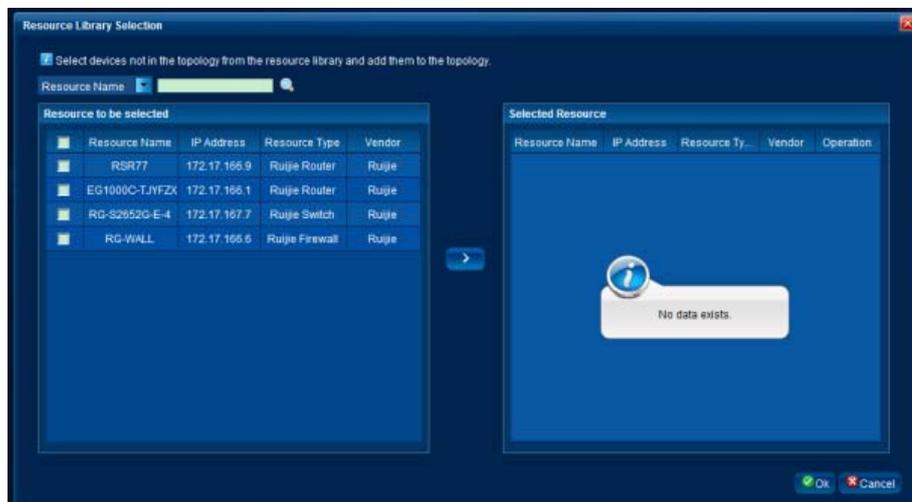


3. Adding a resource

Right-click in the blank area and select **Add Resource** from the shortcut menu. You can add a new device directly or add a device from the resource pool, as shown in the following figure.



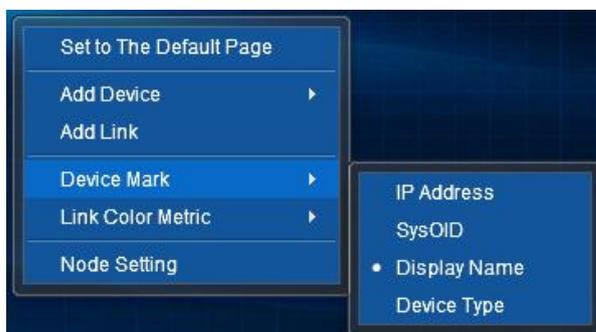
- i. If you select **New Device**, add a device according to the procedure for adding a device on the resource panel.
- ii. If you select **Resource Pool**, select a device that is not displayed on the topology from the resource pool. The **Resource Library Selection** window is displayed, as shown in the following figure.



Select your desired resource and click **Ok**. The added resource is displayed on the topology.

4. Adding a device mark

Right-click in the blank area and select **Device Mark** from the shortcut menu. You can view the node information by device mark, as shown in the following figure.



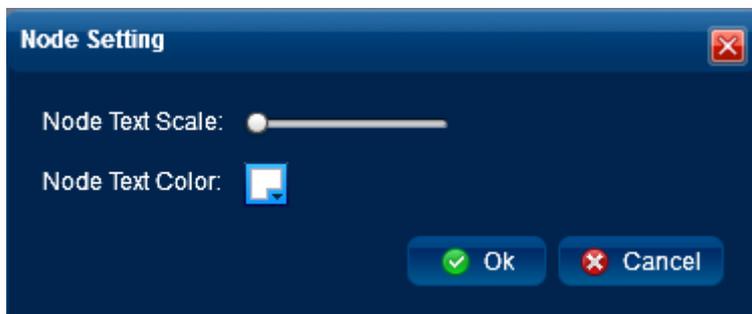
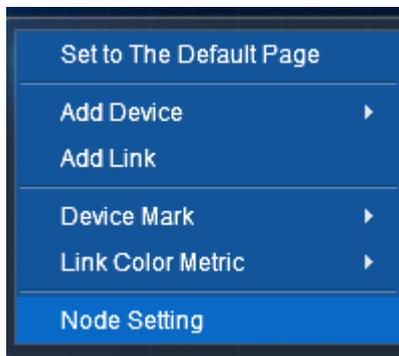
5. Setting link color metric

You can view link traffic information by **Velocity** or **BandwidthRate** and set different colors for links according to the traffic level, as shown in the following figure.



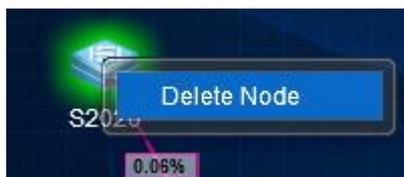
6. Performing node setting

Right-click in the blank area and select **Node Setting** from the shortcut menu. You can set node text display, as shown in the following figure.



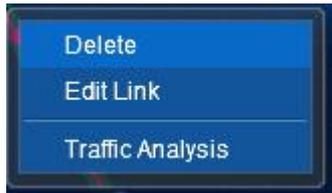
7. Deleting a node

Right-click a node on the topology and select **Delete Node** from the shortcut menu to delete the node and the associated link and shape, as shown in the following figure.



8. Link-related operations

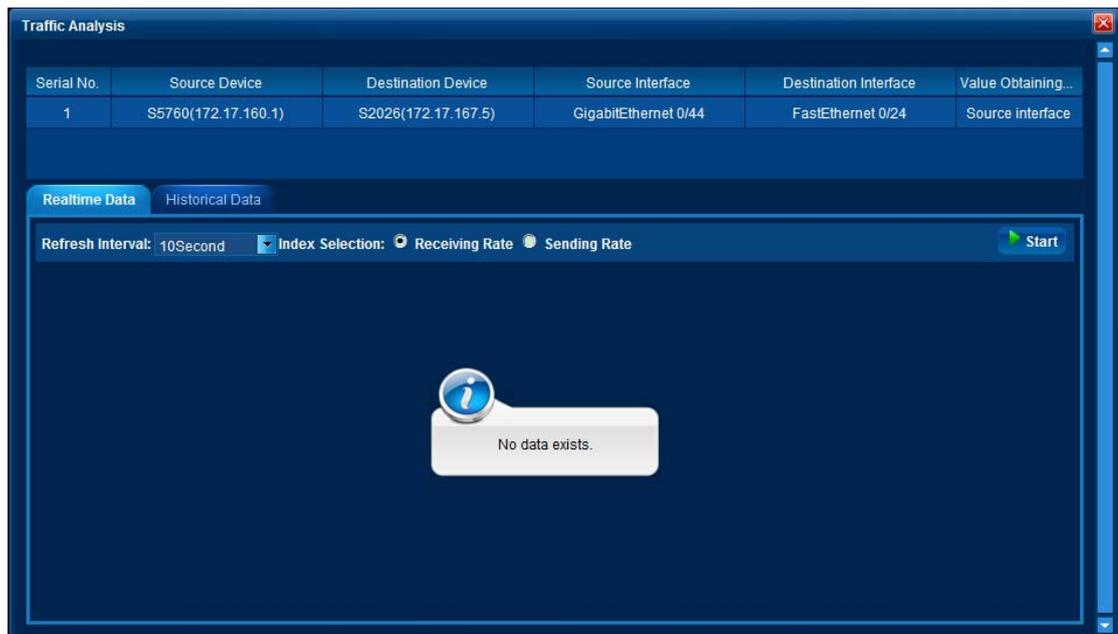
Right-click a link on the topology. A shortcut menu is displayed, as shown in the following figure.



- 1) Select **Delete** to delete the link.
- 2) Select **Edit Link**. The **Edit Link** window is displayed, as shown in the following figure.



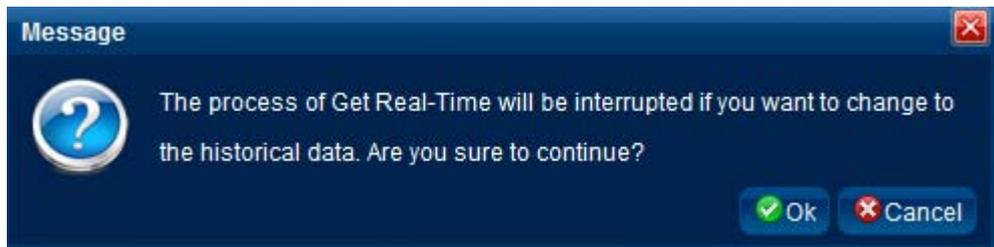
- 3) Select **Traffic Analysis**. The **Traffic Analysis** window is displayed, as shown in the following figure.



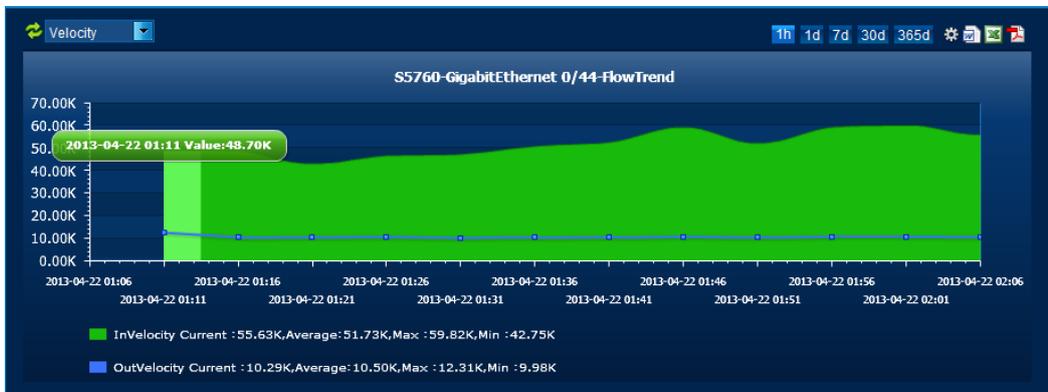
- a) Click the **Realtime Data** tab, specify **Refresh Interval**, select **Receiving Rate** or **Sending Rate**, and then click **Start**, as shown in the following figure.



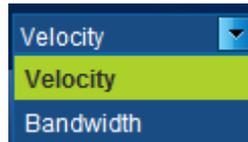
Note: In the process of real-time data analysis, **Refresh Interval** and **Index Selection** are locked. Click the **Historical Data** tab. A prompt box is displayed, as shown in the following figure.

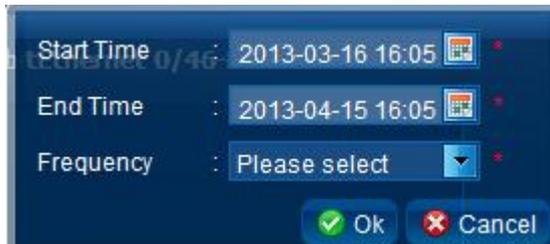


- Click to switch to the **Historical Data** tab page, or click to continue real-time data analysis.
 - Click to stop the real-time data analysis.
- b) The **Historical Data** tab page displays the inbound and outbound traffic of the source interface within one hour, as shown in the following figure.





- i. Select the metric , and the trend graph is refreshed according to the selected metric.
- ii. Click  to manually refresh the trend graph.
- iii. Click  to display the data of the latest one hour, one day, one week, one month, and one year.
- iv. Specify the time period, as shown in the following figure. The data of the specified period is displayed.



- v. Click  to export data to a Word file, an Excel file, and a PDF file.

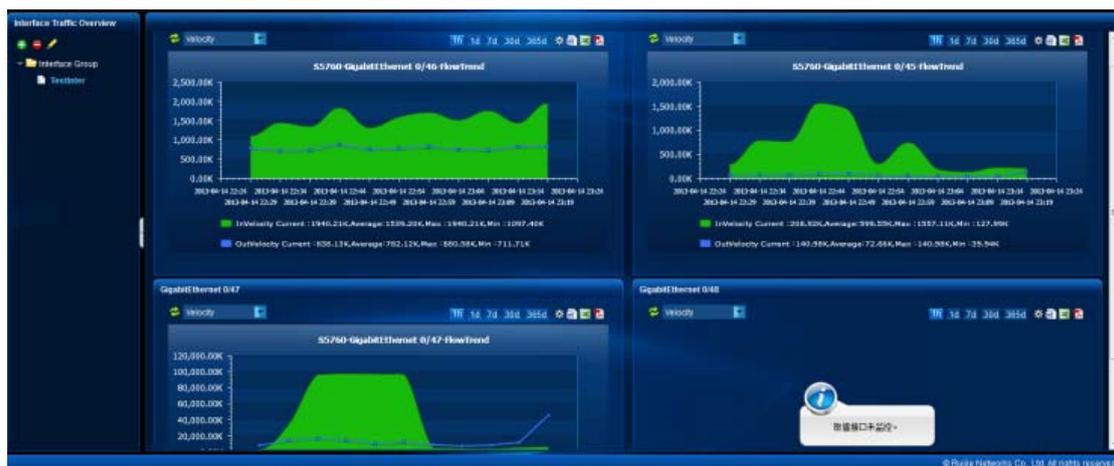
4.8.1.4 Viewing Topologies



You can click icons in the toolbar to view traffic topology as required.

1.  (switch metric or legend): used to display the traffic topology by **Velocity** or **BandwidthRate**
2.  (search node): used to search for a node by IP address or node name
3.  (display/hide the move & zoom panel)
4.  (fit to window): used to fit the traffic topology to the window
5.  (normal size): used to display the traffic topology in normal size
6.  (full screen): used to display the topology in full screen
7.  (auto layout): used to display the topology according to the selected layout mode
8.  (show grid): used to display grids on the topology
9.  (refresh): used to refresh the current topology
10.  (undo): used to undo the operation on the topology
11.  (redo): used to restore the topology to the previous state

4.8.2 Interface Traffic Overview



Interface Traffic Overview displays interface traffic trends. On this page, you can maintain interface groups. You can also define interface groups to display the inbound and outbound traffic velocity and bandwidth rate of the concerned interfaces within a certain period of time.

1. Adding an interface group

- 1) Click  to add an interface to be monitored.

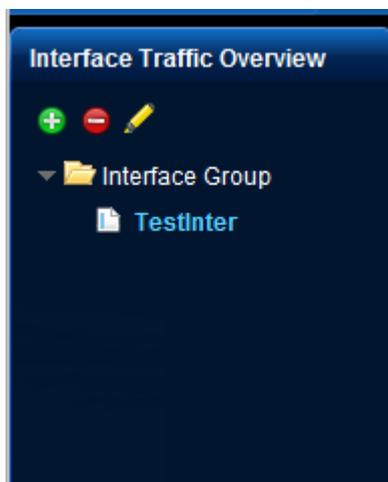


- 2) Enter the interface group name and select the device interfaces to be monitored. (A maximum of 10 interfaces can be added to an interface group.)

- 3) Click  to create the interface group.

2. Deleting an interface group

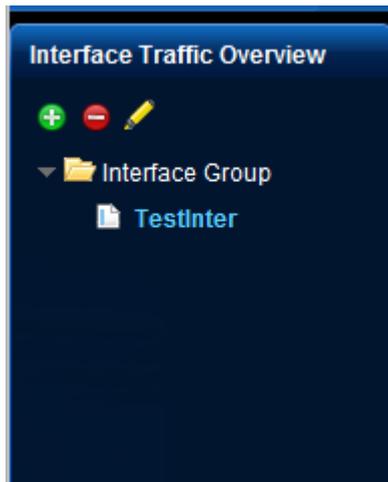
- 1) Select an interface group to be deleted. The interface group name is highlighted.



- 2) Click  to delete the selected interface group.

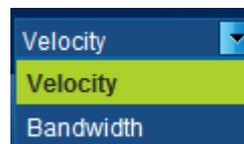
3. Modifying an interface group

- 1) Select an interface group to be modified. The interface group name is highlighted.

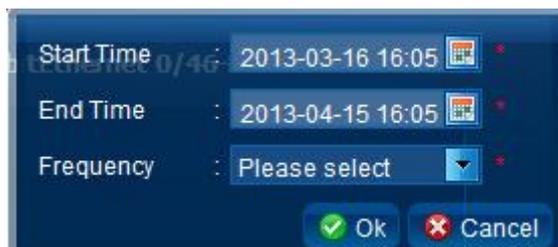


- 2) Click  and modify the selected interface group.

4. Select an interface metric from the drop-down list



5. Click  to refresh the view.
6. Click      respectively to display the data of the latest one hour, one day, one week, one month, and one year.
7. Click  and specify the time period. The data of the specified period is displayed.



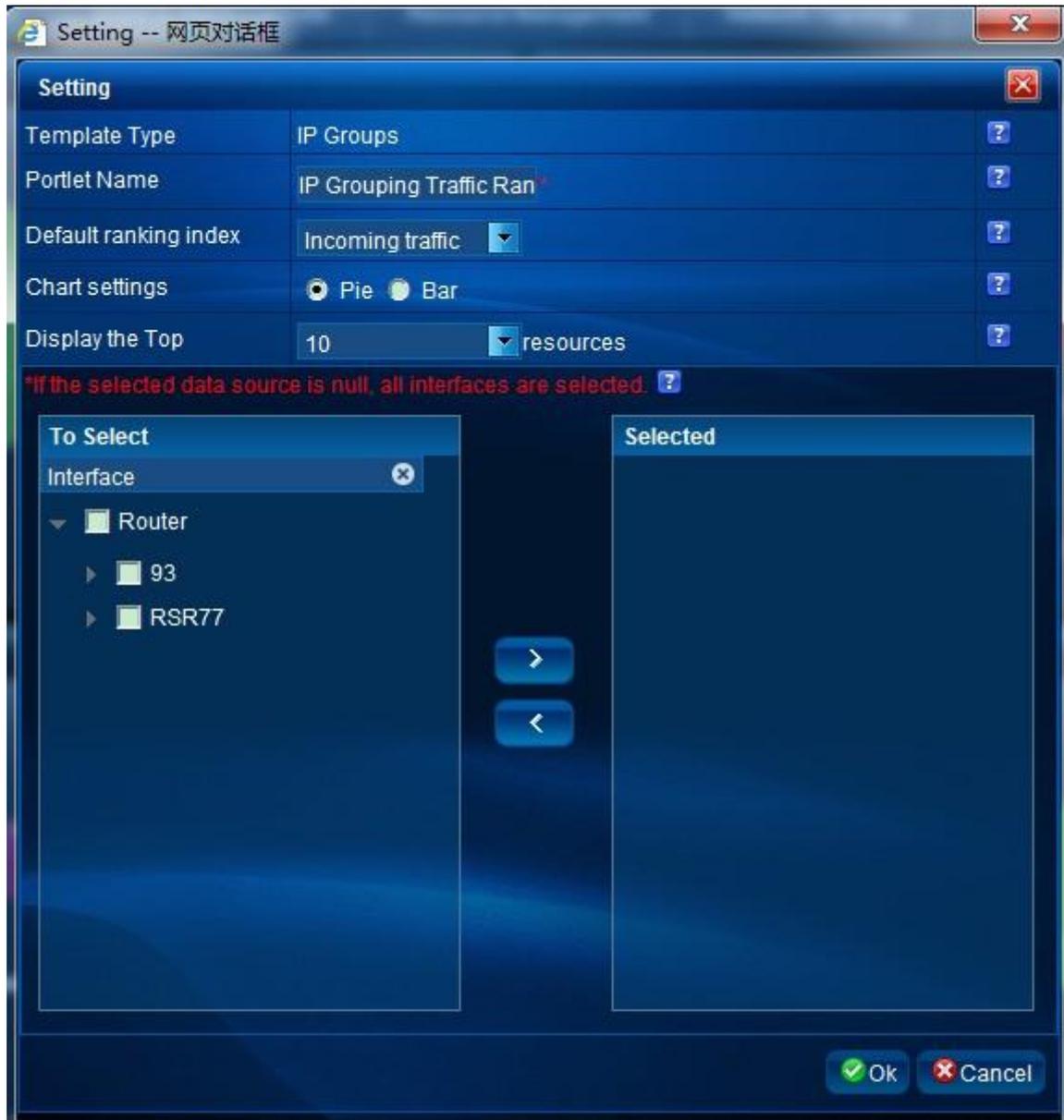
8. Click  to export data to a Word file, an Excel file, and a PDF file.

4.8.3 TOPN

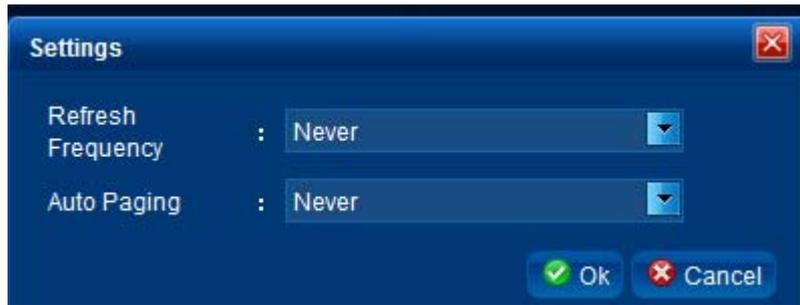


RIIL can display the terminal, application, session, protocol, IP grouping, and VPN traffic rankings.

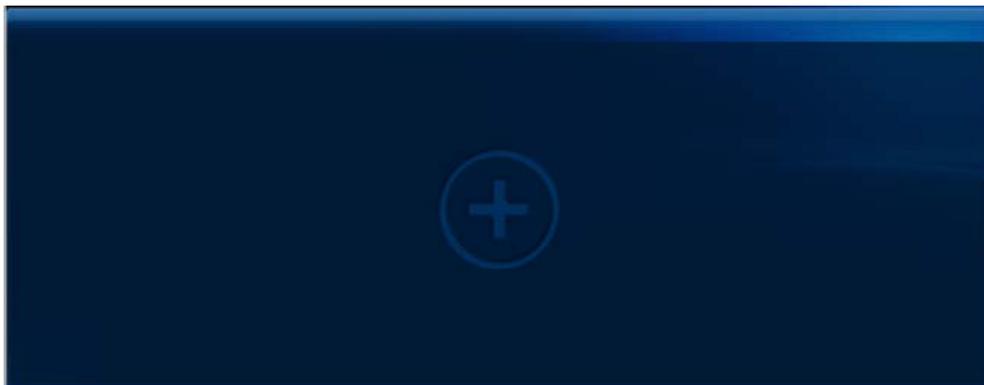
1. Select time in the drop-down list , and the data of the specified period is displayed.
2. Click  and set related parameters.



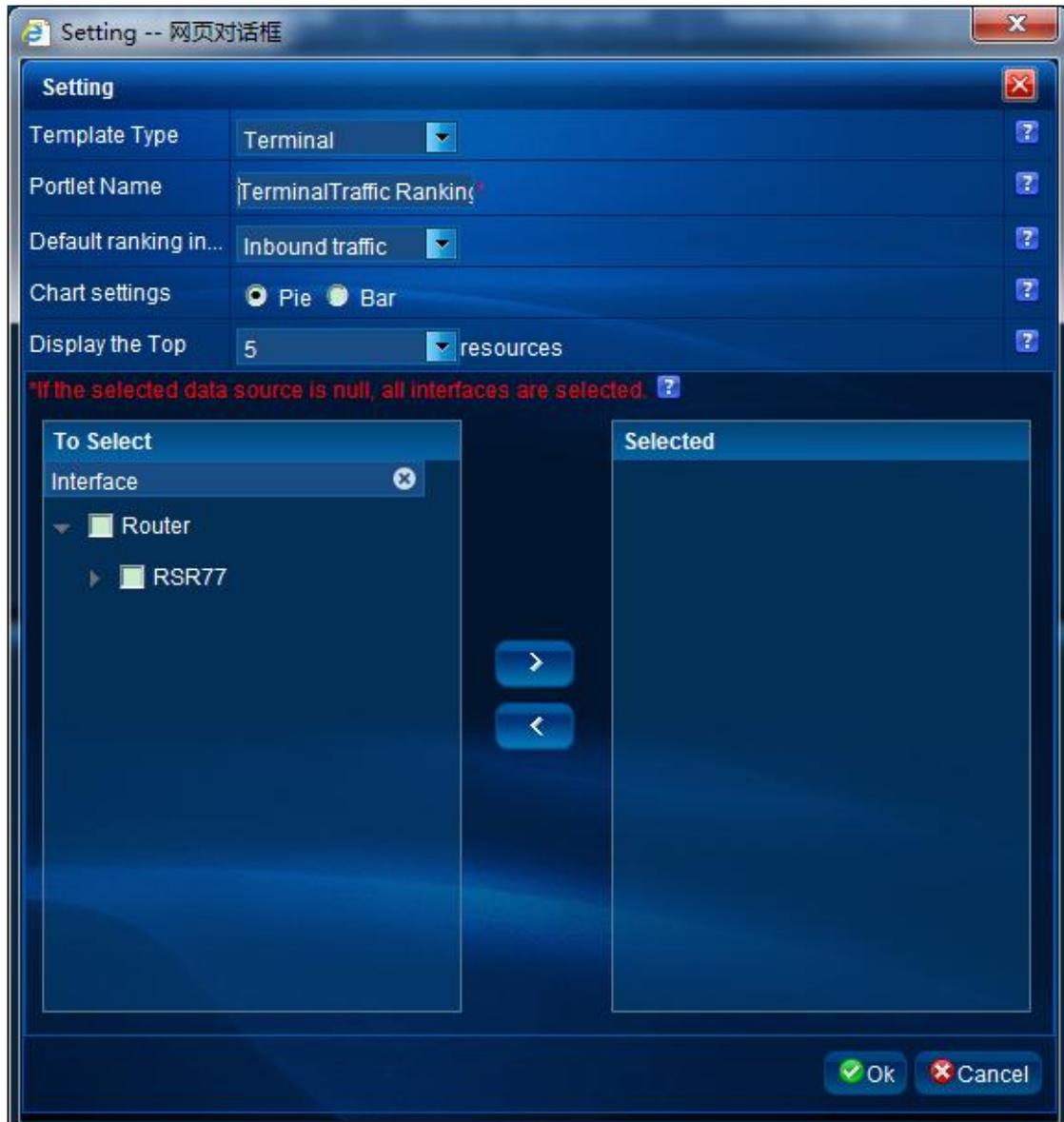
3. Click  to refresh the view.
4. When a chart is displayed on the portlet, click  to display a table; when a table is displayed on the portlet, click  to display a chart.
5. Click  to delete the view. (The four preset views cannot be deleted.)
6. Click . The following window is displayed.



- 1) Select the refresh frequency from the **Refresh Frequency** drop-down list to refresh views at the specified frequency.
 - 2) Enable automatic paging from the **Auto Paging** drop-down list.
7. Click  to automatically page up or down.
8. Adding a TOPN view
- 1) Click the plus sign to create a view, as shown in the following figure.



- 2) The following page is displayed.



- 3) Select the template type, as shown in the following figure.



- 4) Specify **Portlet Name**, **Default ranking in**, **Chart settings**, and **Display the Top resources**, and then click **Ok**.
9. When the top resources are displayed in a table, click a metric in the table header, and the resources are ranked according to the selected metric. Additionally, when you switch the display format, the statistic chart of the selected metric is displayed.

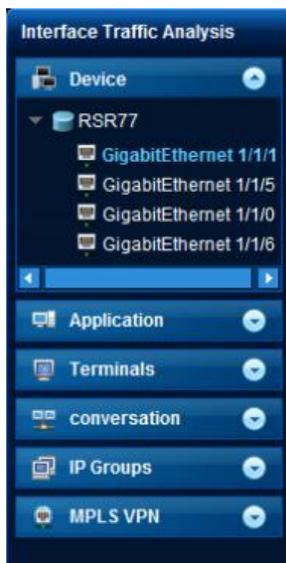
- When the top resources are displayed in a table, click a terminal name (application name, IP group name, session name, protocol name, or VPN name). The details page is displayed.

4.8.4 Traffic Analysis Overview



RIIL can analyze traffic trends and rank the traffic of devices, interfaces, applications, terminals, sessions, IP groups, and VPNs.

- Left navigation pane



Click a node on the left to open the corresponding tab page. The right pane displays the dimension details of the first interface in the tree.

- Upper navigation bar



- Select a time range for interface traffic analysis. The time ranges include **Latest 1 day**, **Latest 1 week**, and **Latest 1 month**.
 - Select to display the data of top 5 or 10 resources, and the chart or table data is refreshed accordingly.
- Public functions

- i. Click  to refresh the data in the current view.
- ii. By default, data is displayed in a chart. You can click  to display data in a table.

When the data is displayed in a table, you can click  to display data in a chart.

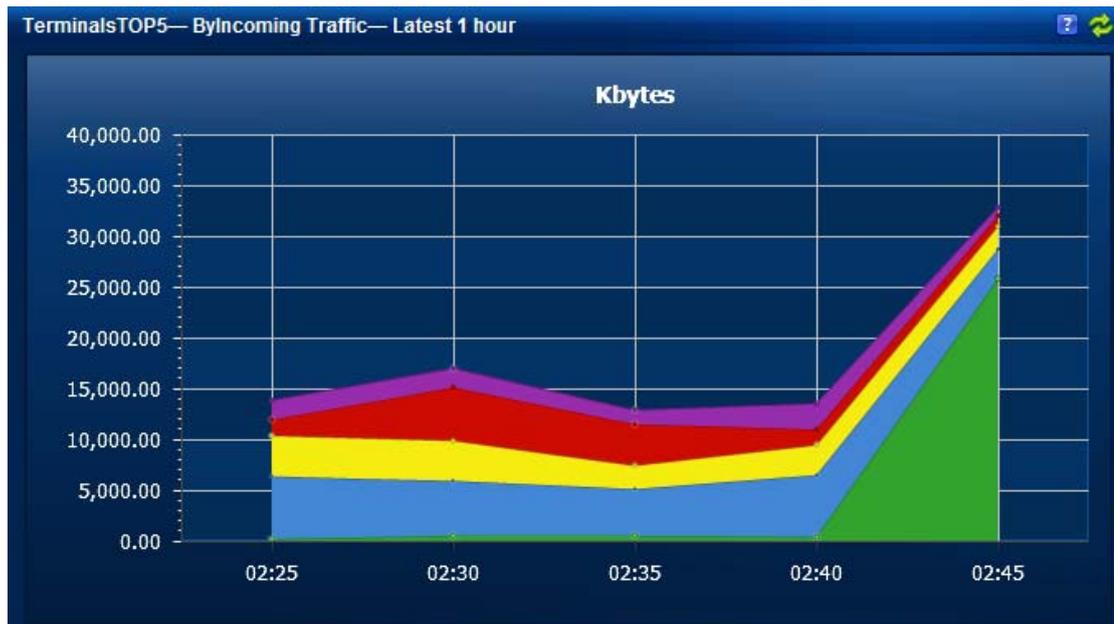
- iii. Move the cursor upon . Hover help appears, displaying the view statistics.

4. Device dimension

- 1) Click **Device**, as shown in the following figure.



- 2) Devices and interfaces in the Device tree are added on the **Management Configuration** page. For details, see section 4.8.5 "Management Configuration."
- 3) Click any device interface, and the terminals, applications, sessions, and IP groups of the interface are displayed in the right pane.
- 4) Terminal view: The terminal view records the top 5 or 10 terminals by traffic on the interface. By default, the terminals are ranked by inbound traffic, as shown in the following figure.

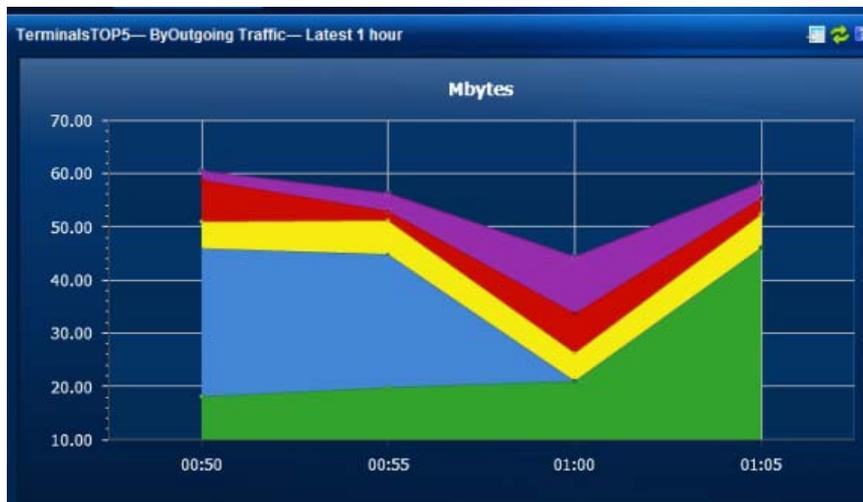


The line chart closest to the X axis indicates the terminal with the maximum traffic. The closer to the X axis, the larger the traffic is. The line chart of a terminal with smaller traffic is drawn based on the ordinates of the terminal with larger traffic.

- a) Switch to the table and click the incoming traffic, outgoing traffic, incoming packets, or outgoing packets to re-rank the terminals, as shown in the following figure.

TerminalsTOP5— ByOutgoing Traffic— Latest 1 hour						
	Term	Incoming Traffic	Outgoing Tr... ↓	Incoming Pac...	Outgoing Pac...	Percent...
<input checked="" type="checkbox"/>	172.16.36.43	10.84Mbytes	104.95Mbytes	76.63Kpackets	107.70Kpack...	19.00%
<input checked="" type="checkbox"/>	60.213.225.106	1.44Mbytes	52.88Mbytes	26.80Kpackets	36.15Kpackets	10.00%
<input checked="" type="checkbox"/>	172.16.7.14	22.03Mbytes	22.92Mbytes	255.86Kpack...	259.74Kpack...	4.00%
<input checked="" type="checkbox"/>	172.17.160.3	2.75Mbytes	20.07Mbytes	11.11Kpackets	17.52Kpackets	4.00%
<input checked="" type="checkbox"/>	172.17.160.59	39.32Mbytes	18.65Mbytes	74.83Kpackets	65.39Kpackets	3.00%

Switch to the chart again. The chart is refreshed according to the selected column, as shown in the following figure.



- b) The checkbox before each record in the terminal table indicates whether to draw the data record in the chart. By default, all records are selected. Deselect a record, and the record will disappear from the chart. Select a record, and the record will be displayed in the chart, as shown in the following figure.

TerminalsTOP5— ByOutgoing Traffic— Latest 1 hour						
	Term	Incoming Traffic	Outgoing Tr... ↓	Incoming Pac...	Outgoing Pac...	Percent...
<input checked="" type="checkbox"/>	172.16.36.43	10.84Mbytes	104.95Mbytes	76.63Kpackets	107.70Kpack...	19.00%
<input type="checkbox"/>	60.213.225.106	1.44Mbytes	52.88Mbytes	26.80Kpackets	36.15Kpackets	10.00%
<input type="checkbox"/>	172.16.7.14	22.03Mbytes	22.92Mbytes	255.86Kpack...	259.74Kpack...	4.00%
<input type="checkbox"/>	172.17.160.3	2.75Mbytes	20.07Mbytes	11.11Kpackets	17.52Kpackets	4.00%
<input type="checkbox"/>	172.17.160.59	39.32Mbytes	18.65Mbytes	74.83Kpackets	65.39Kpackets	3.00%

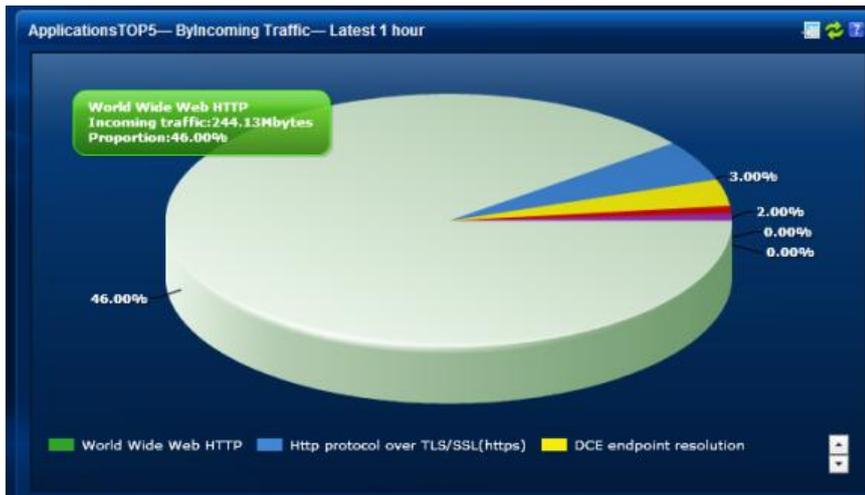
The chart is refreshed (this function is available only in IE), as shown in the following figure.



- c) Click a terminal in the table, and the details page of the terminal is displayed, as shown in the following figure.



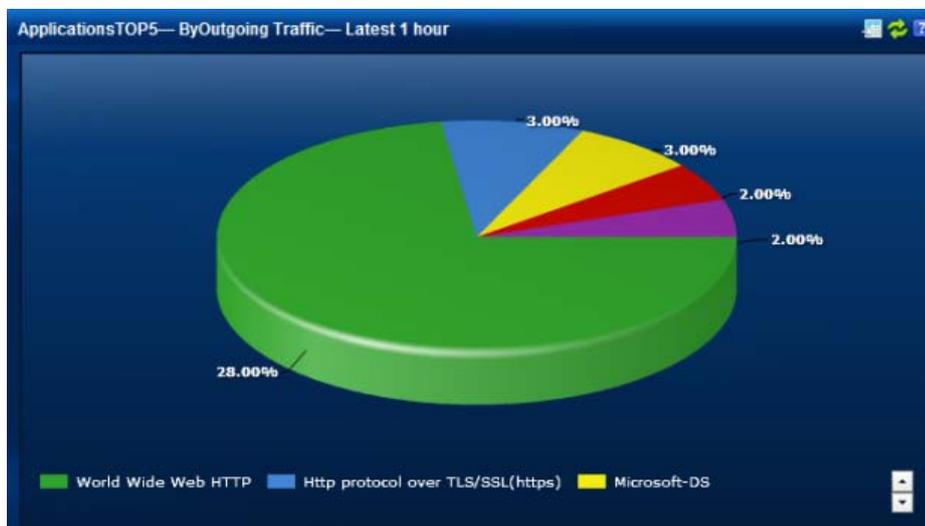
- 5) The application view displays the top 5 or 10 applications by traffic on the interface. By default, the applications are ranked by inbound traffic, as shown in the following figure.



- a) Switch to the table and click the incoming traffic, outgoing traffic, incoming packets, or outgoing packets to re-rank the applications, as shown in the following figure.

Application	Incoming Traffic	Outgoing Tr...	Incoming Pac...	Outgoing Pac...	Percent...
World Wide Web HTTP	542.46Mbytes	161.55Mbytes	554.29KPack...	542.68KPack...	28.00%
Http protocol over TLS/SSL(...)	85.86Mbytes	19.74Mbytes	102.05KPack...	96.28KPackets	3.00%
Microsoft-DS	1.47Mbytes	17.19Mbytes	11.47KPackets	14.57KPackets	3.00%
NETBIOS Session Service	36.48Kbytes	11.87Mbytes	0.54KPackets	253.33KPack...	2.00%
The Secure Shell (SSH) Pro...	5.59Mbytes	11.59Mbytes	36.84KPackets	32.43KPackets	2.00%

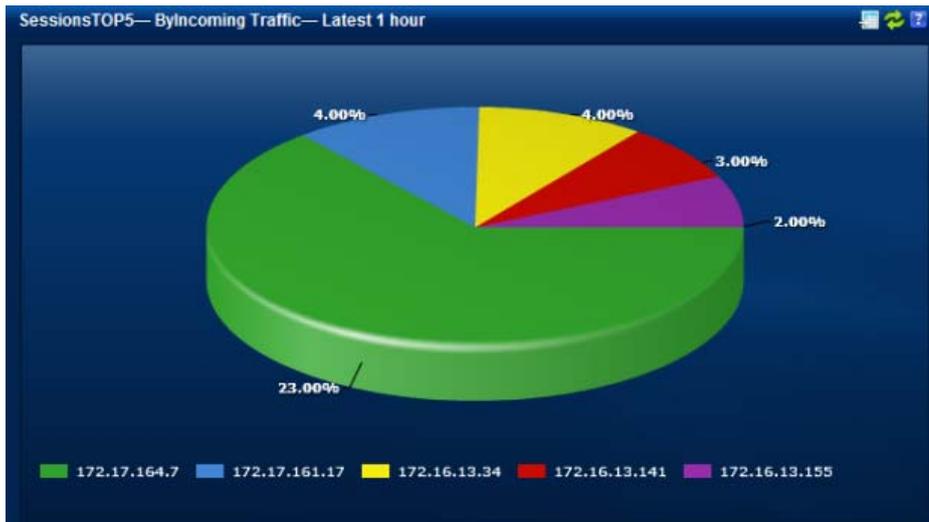
The chart is refreshed according to the selected metric, as shown in the following figure.



- b) Click an application in the table, and the details page of the application is displayed, as shown in the following figure.



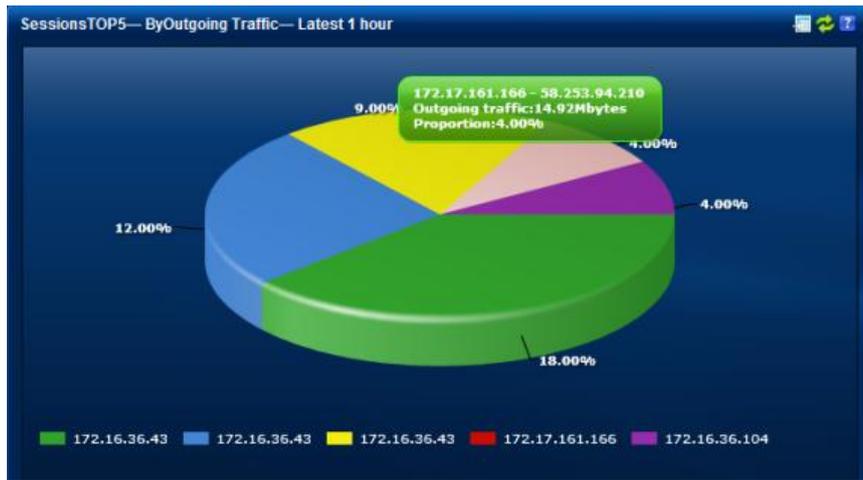
6) The session view displays the top 5 or 10 sessions by traffic on the interface. By default, the sessions are ranked by inbound traffic, as shown in the following figure.



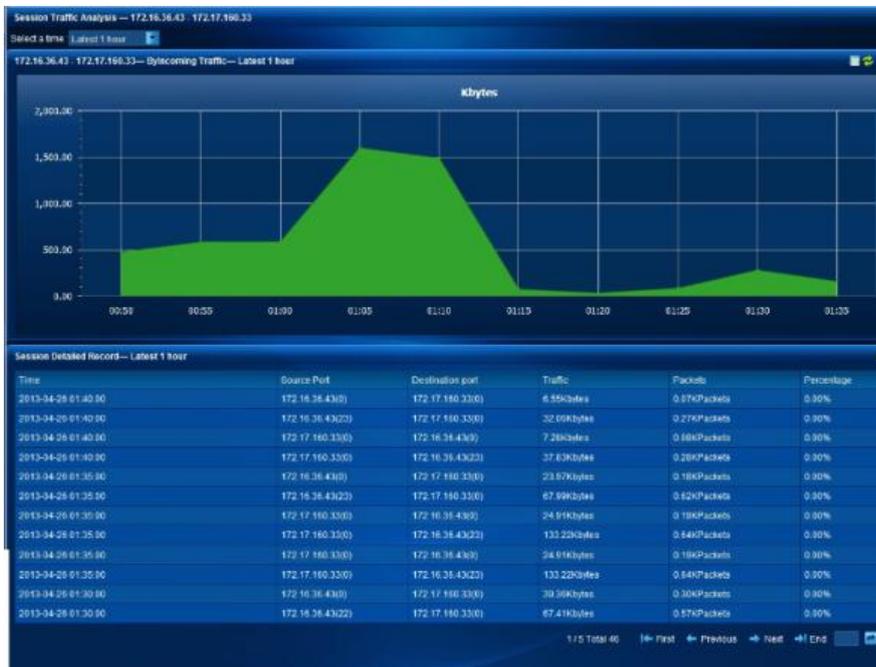
a) Switch to the table and click the incoming traffic, outgoing traffic, incoming packets, or outgoing packets to re-rank the sessions, as shown in the following figure.

Conversation	Incoming Traffic	Outgoing Tr...	Incoming Pac...	Outgoing Pac...	Percent...
172.16.36.43 - 172.17.160.33	4.69Mbytes	64.89Mbytes	42.58KPkets	61.75KPkets	18.00%
172.16.36.43 - 172.17.160.59	4.03Mbytes	42.33Mbytes	30.80KPkets	42.62KPkets	12.00%
172.16.36.43 - 172.17.160....	2.52Mbytes	31.70Mbytes	20.60KPkets	29.73KPkets	9.00%
172.17.161.166 - 58.253.94...	294.55Kbytes	14.92Mbytes	7.08KPkets	10.88KPkets	4.00%
172.16.36.104 - 172.17.161...	2.71Mbytes	14.06Mbytes	10.54KPkets	13.08KPkets	4.00%

The chart is refreshed according to the selected metric, as shown in the following figure.



b) Click a session in the table, and the details page of the session is displayed, as shown in the following figure.



7) The IP group view displays the top 5 or 10 IP groups by traffic on the interface. By default, the IP groups are ranked by inbound traffic, as shown in the following figure.



- a) Switch to the table and click the incoming traffic, outgoing traffic, incoming packets, or outgoing packets to re-rank the IP groups, as shown in the following figure.

IP GroupsTOP5— ByOutgoing Traffic— Latest 1 hour

IP Group	Incoming Traffic	Outgoing Tr... ↓	Incoming Pac...	Outgoing Pac...	Percent...
IP	363.23Mbytes	329.16Mbytes	1.88MPackets	2.07MPackets	100.00%

A screenshot of a table interface. The title is 'IP GroupsTOP5— ByOutgoing Traffic— Latest 1 hour'. The table has six columns: 'IP Group', 'Incoming Traffic', 'Outgoing Tr...' (with a downward arrow), 'Incoming Pac...', 'Outgoing Pac...', and 'Percent...'. There is one data row for the 'IP' group with values: 363.23Mbytes, 329.16Mbytes, 1.88MPackets, 2.07MPackets, and 100.00%. A legend at the bottom left shows a green square next to the label 'IP'.

The chart is refreshed according to the selected metric, as shown in the following figure.

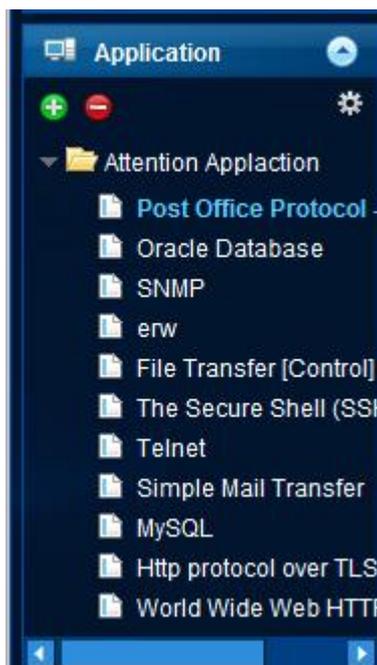


- b) Click an IP group in the table, and the details page of the IP group is displayed, as shown in the following figure.



5. Application tab

- 1) Click **Application**, as shown in the following figure.

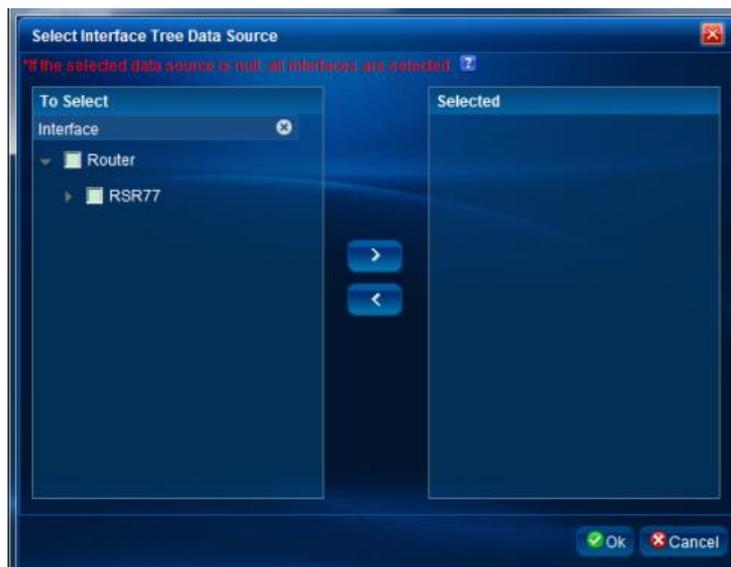


- 2) Click . The **Attention Application** page is displayed, as shown in the following figure.



Select an application and click  to add the application to the Attention Application list.

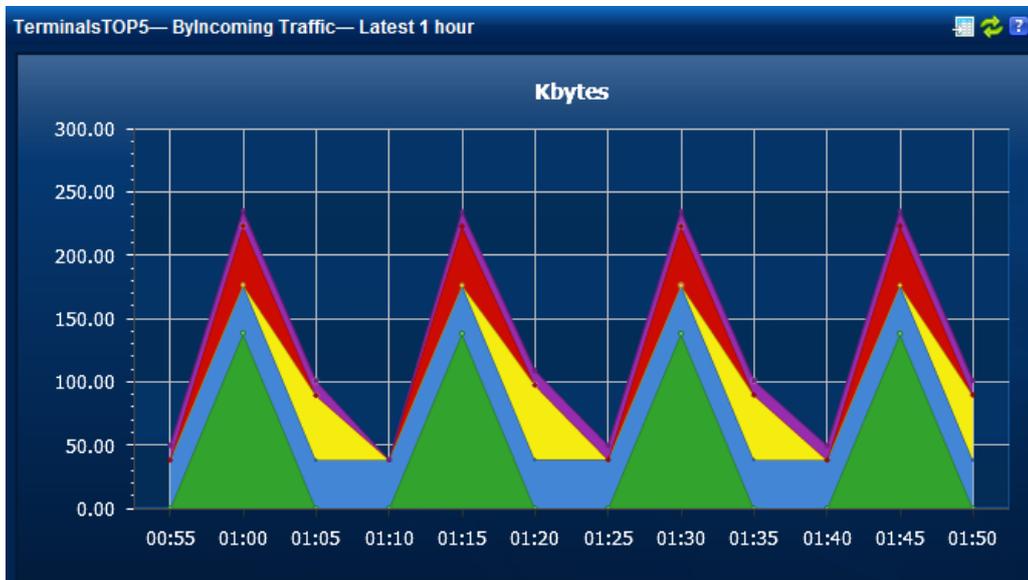
- 3) Click  to delete the selected application from the Attention Application list.
- 4) Click . The **Select Interface Tree Data Source** page is displayed. Select a data source, and the applications are ranked according to the selected data source, as shown in the following figure.



- 5) The application view displays the applications by the traffic on the selected interface data source. By default, the applications are ranked by inbound traffic, as shown in the following figure.

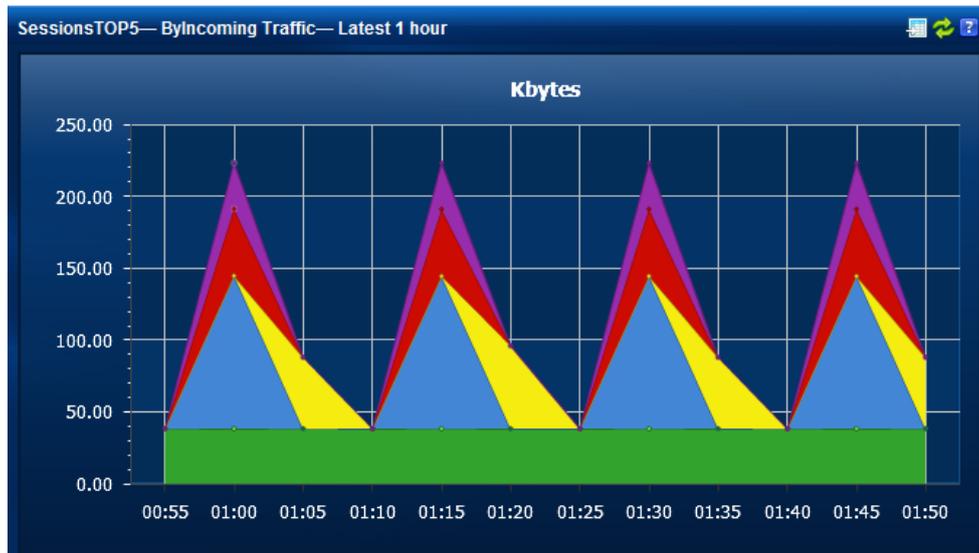


- 6) The terminal view displays the top 5 or 10 terminals by the traffic on the selected interface data source. By default, the terminals are ranked by inbound traffic, as shown in the following figure.



For details, see the description of the terminal view for the device dimension.

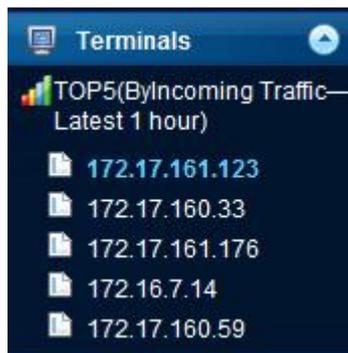
- 7) The session view displays the top 5 or 10 sessions by the traffic on the selected interface data source. By default, the sessions are ranked by inbound traffic, as shown in the following figure.



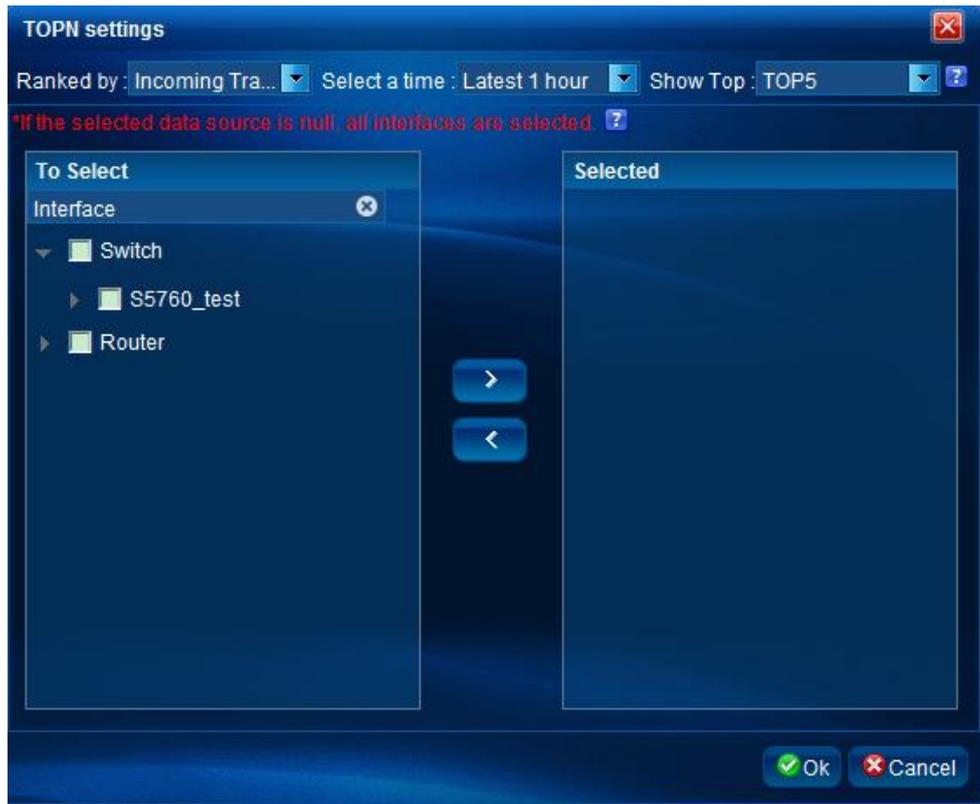
For details, see the description of the session view for the device dimension.

6. Terminal tab

- 1) Click **Terminal**, as shown in the following figure.



- 2) Click  to display the top N tree, as shown in the following figure.

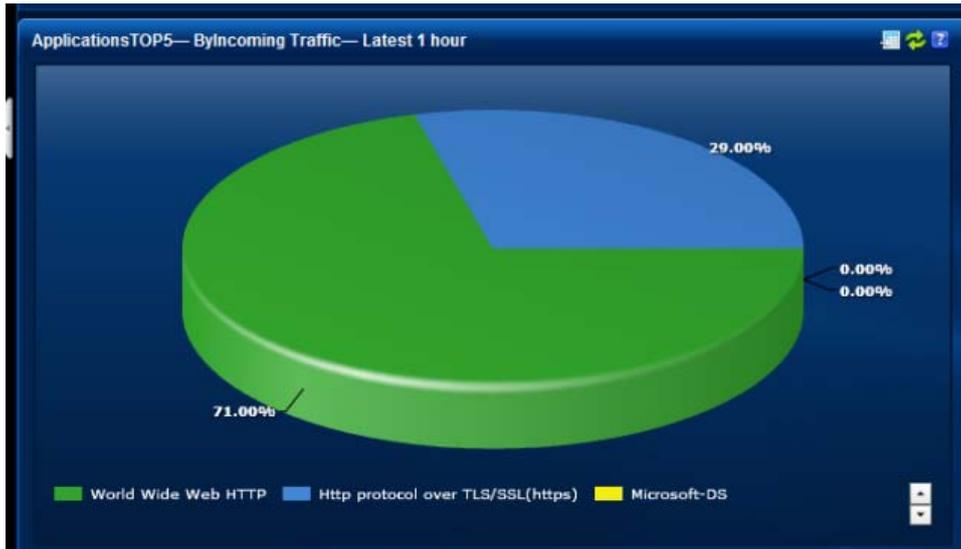


The terminals displayed in the left top N tree are the terminals with traffic flowing through the selected data source.

- 3) The terminal view displays the trends of the current terminal's traffic flowing through the interface data source. By default, the terminals are ranked by inbound traffic, as shown in the following figure.



- 4) The application view displays the top 5 or 10 applications by the current terminal's traffic flowing through the interface data source. By default, the applications are ranked by inbound traffic, as shown in the following figure.



For details, see the description of the application view for the device dimension.

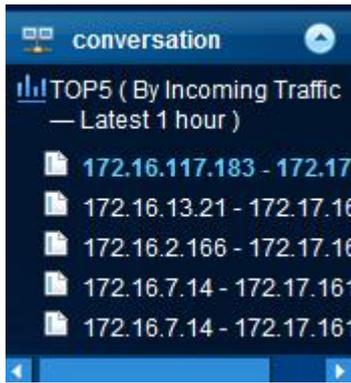
- 5) The session view displays the top 5 or 10 sessions by the current terminal's traffic flowing through the interface data source. By default, the sessions are ranked by inbound traffic, as shown in the following figure.



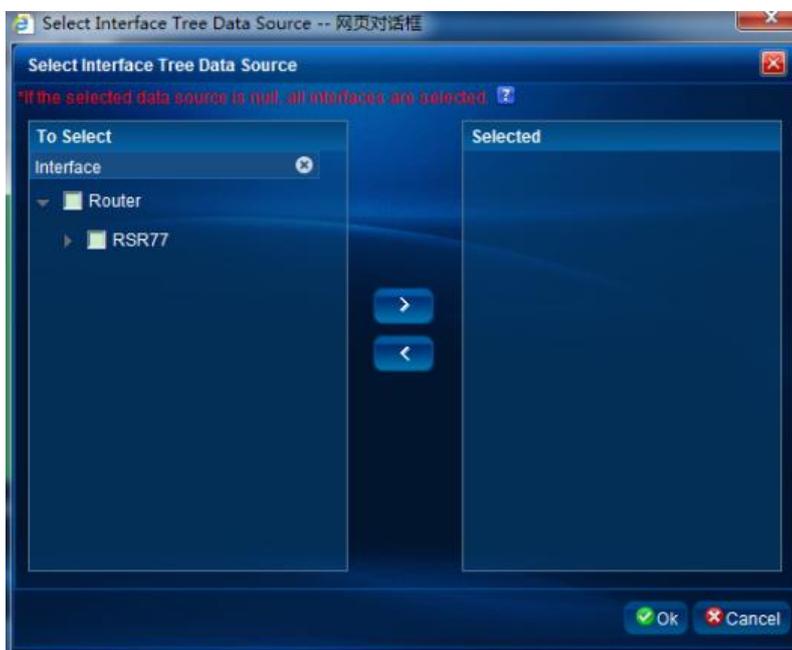
For details, see the description of the application view for the device dimension.

7. Session dimension

- 1) Click **Conversation**, as shown in the following figure.



- 2) Click  to display the top N tree, as shown in the following figure.



The devices displayed in the left top N tree are the sessions with traffic flowing through the selected data source.

- 3) The session view displays the trends of the current session's traffic flowing through the interface data source. By default, the sessions are ranked by inbound traffic, as shown in the following figure.



- 4) The session details page is displayed, as shown in the following figure.

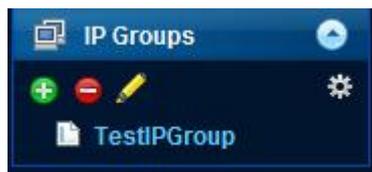
Session Detailed Record—Latest 1 hour

Time	Source Port	Destination port	Traffic	Packets	Percentage
2013-04-26 01:55:00	172.17.161.123(0)	106.187.192.201(0)	26.82Kbytes	0.27Kpackets	0.00%
2013-04-26 01:50:00	172.17.161.123(0)	106.187.192.201(0)	14.19Kbytes	0.21Kpackets	0.00%
2013-04-26 01:50:00	106.187.192.201(0)	172.17.161.123(0)	10.07Kbytes	0.18Kpackets	0.00%
2013-04-26 01:45:00	172.17.161.123(0)	106.187.192.201(0)	284.38Kbytes	1.39Kpackets	0.00%
2013-04-26 01:45:00	106.187.192.201(0)	172.17.161.123(0)	574.71Kbytes	1.29Kpackets	0.00%
2013-04-26 01:40:00	172.17.161.123(0)	106.187.192.201(0)	1.31Mbytes	11.19Kpackets	0.00%
2013-04-26 01:40:00	106.187.192.201(0)	172.17.161.123(0)	22.59Mbytes	18.97Kpackets	8.00%
2013-04-26 01:35:00	172.17.161.123(0)	106.187.192.201(0)	3.29Mbytes	32.87Kpackets	1.00%
2013-04-26 01:35:00	106.187.192.201(0)	172.17.161.123(0)	58.43Mbytes	43.17Kpackets	22.00%
2013-04-26 01:30:00	172.17.161.123(0)	106.187.192.201(0)	8.38Mbytes	88.64Kpackets	3.00%

1/2 Total 19 | First | Previous | Next | End

8. IP group dimension

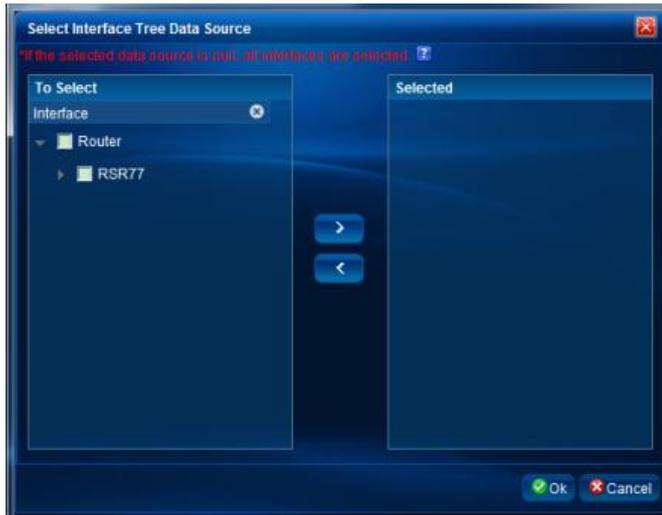
- 1) Click **IP Groups**, as shown in the following figure.



- 2) Click  to add an IP group, as shown in the following figure.



- 3) Click  to delete an IP group.
- 4) Select an IP group and click  to modify the parameter settings of the IP group.
- 5) Click . The **Select Interface Tree Data Source** page is displayed. Select a data source, and the applications are ranked according to the selected data source.



- 6) The IP group view displays the top 5 or 10 terminals by the current IP group's traffic flowing through the interface data source. By default, the terminals are ranked by inbound traffic, as shown in the following figure.



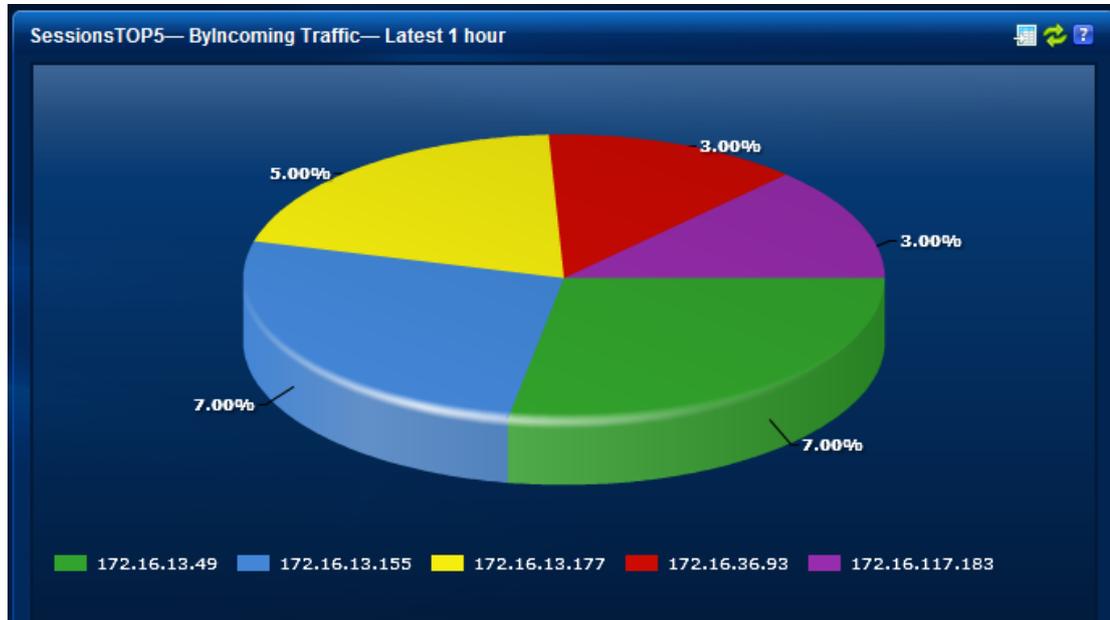
For details, see the description of the terminal view for the device dimension.

- 7) The application view displays the top 5 or 10 applications by the current IP group's traffic flowing through the interface data source. By default, the applications are ranked by inbound traffic, as shown in the following figure.



For details, see the description of the terminal view for the device dimension.

- 8) The session view displays the top 5 or 10 sessions by the current IP group's traffic flowing through the interface data source. By default, the sessions are ranked by inbound traffic, as shown in the following figure.



For details, see the description of the session view for the device dimension.

9. MPLS VPN dimension

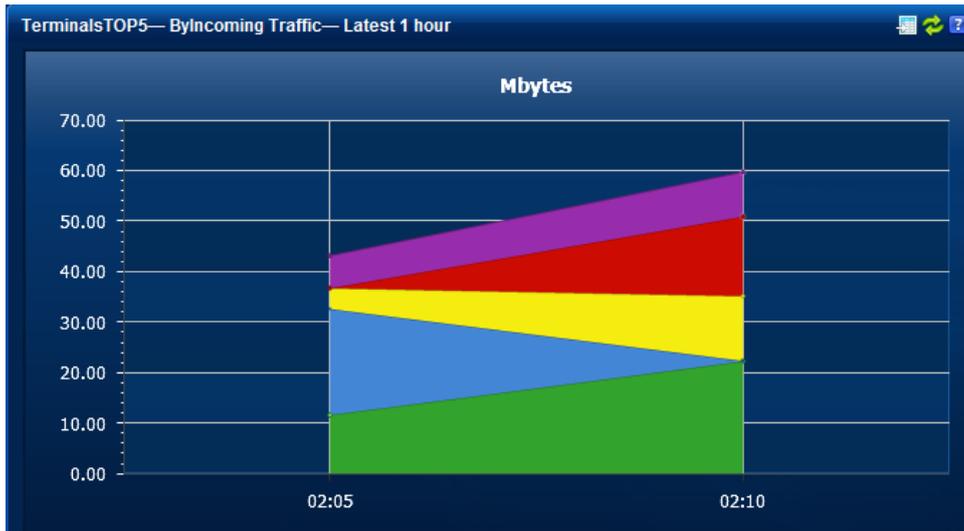
- 1) Click **MPLS VPN**, as shown in the following figure. For VPN settings, see interface settings in section 4.8.5 "Management Configuration."



- 2) The VPN view displays the traffic trend of the current VPN. By default, the VPNs are ranked by inbound traffic, as shown in the following figure.

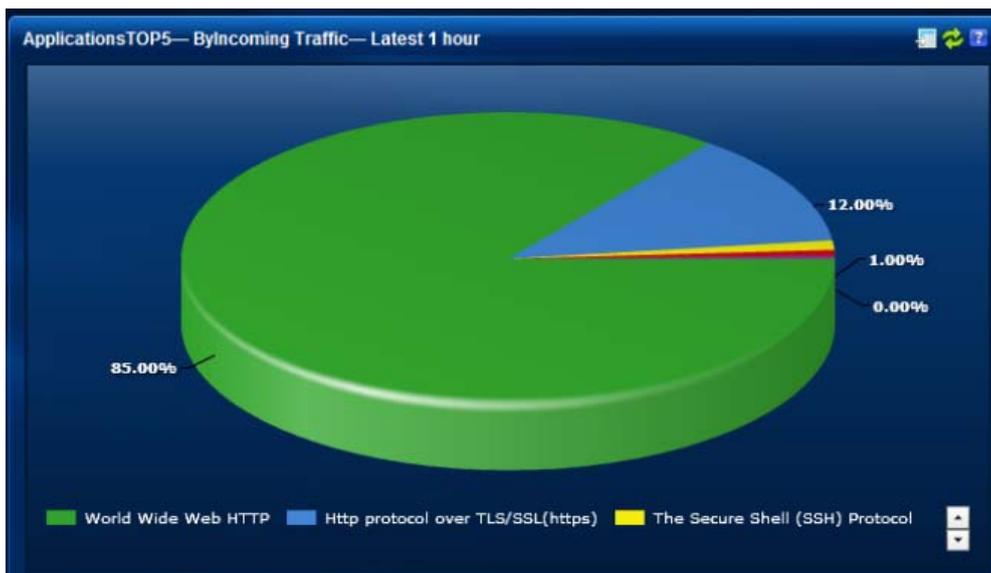


- 3) The terminal view displays the top 5 or 10 terminals by traffic flowing through the VPN. By default, the terminals are ranked by inbound traffic, as shown in the following figure.



For details, see the description of the terminal view for the device dimension.

- The application view displays the top 5 or 10 applications by traffic flowing through the VPN. By default, the applications are ranked by inbound traffic, as shown in the following figure.



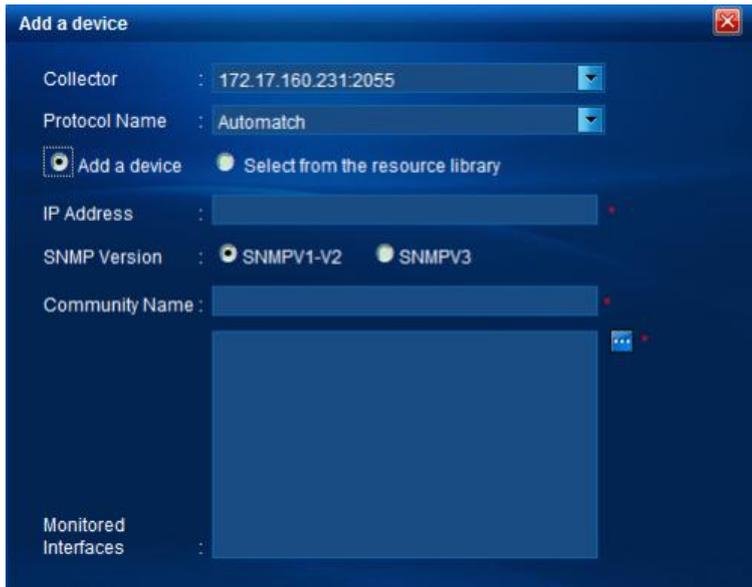
For details, see the description of the application view for the device dimension.

4.8.5 Management Configuration

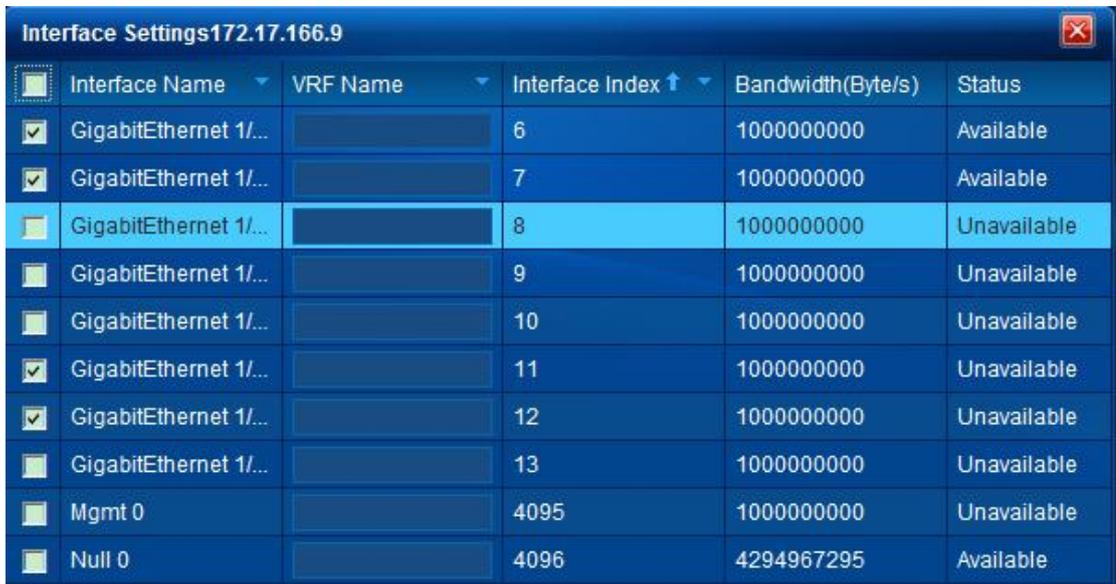
1. Device Management

Device Name	Device IP Address	Collector	Protocol	Interface Setting
172.16.8.30_Red-Giant	172.16.8.30	172.17.160.231.2056		⊕
RG-S2652G-E-4	172.17.167.7	172.17.160.231.2056		⊕

- Click to add a device from which data is to be collected.



- 2) Click  to delete a device from which data is to be collected.
- 3) Click  to display the interface settings of the device, as shown in the following figure.



Interface Name	VRF Name	Interface Index	Bandwidth(Byte/s)	Status
GigabitEthernet 1/...		6	1000000000	Available
GigabitEthernet 1/...		7	1000000000	Available
GigabitEthernet 1/...		8	1000000000	Unavailable
GigabitEthernet 1/...		9	1000000000	Unavailable
GigabitEthernet 1/...		10	1000000000	Unavailable
GigabitEthernet 1/...		11	1000000000	Unavailable
GigabitEthernet 1/...		12	1000000000	Unavailable
GigabitEthernet 1/...		13	1000000000	Unavailable
Mgmt 0		4095	1000000000	Unavailable
Null 0		4096	4294967295	Available

You can specify the VPN name in **VRF Name**.

2. Application mapping

Attention Status	Application Name	Port	Protocol Name	IP Address
	Simple Mail Transfer	25	TCP	All
	The Secure Shell (SSH) Protocol	22	TCP	All
	Http protocol over TLS/SSL (https)	443	TCP	All
	File Transfer [Control]	21	TCP	All
	Oracle Database	1521	TCP	All
	SNMP	161	TCP	All
	Post Office Protocol - Version 3	110	TCP	All
	World Wide Web HTTP	80	TCP	All
	MySQL	3306	TCP	All
	Telnet	23	TCP	All
	WACOSM-APP	671	TCP	All
	rpmip-local	610	TCP	All
	Imeserver	525	TCP	All
	GDDI	848	TCP	All
	IBM Operations Planning and Control Track	424	TCP	All
	SynOptics Port Broker Port	392	TCP	All
	Magenta Logic	313	TCP	All
	Directory Location Service Monitor	198	TCP	All
	EMFIS Control Service	141	TCP	All
	Bootstrap Protocol Client	68	TCP	All

1) Click to add application mapping.

4) Select an application and click to delete the application mapping.

5) Click to restore the application mapping to the default application mapping.

6) Select an application not in the Attention Application list and click to add the application to the list.

7) Select an application in the Attention Application list and click to delete the application from the list.

3. Manage IP Group

Ip Group Name	Ip Address
2	2.2.2.2

1) To create an IP group, click .



2) To delete an IP group, click

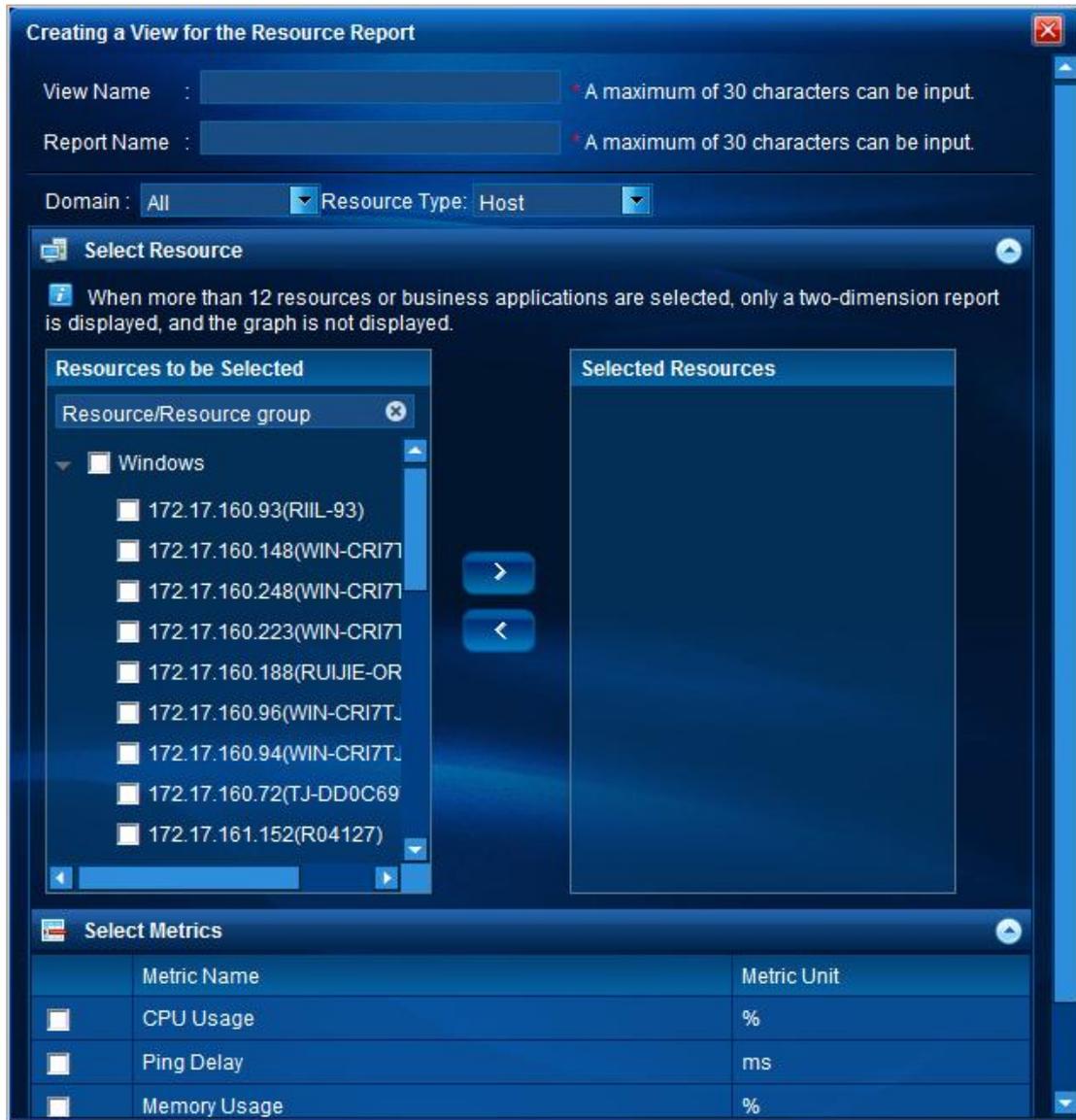


4.9 KPI & Statistics Reports

4.9.1 Resource Reports



1. Click  to create a view.



Select the resource type to query sub-resource information such as CPU, memory, and network interface. Select the sub-resource type to filter the resources meeting conditions and display the metrics of the current sub-resource type.

2. Click  to delete a view.
3. Click  to edit a view.
4. Click  to subscribe to a view.
5. Click  to export reports to a PDF file, a Word file, and an Excel file.
6. Click  to set the horizontal ordinate of the graphic report.

- 1) The maximum values, minimum values, and average values of the performance metrics of the selected resource are displayed in the tabular form.



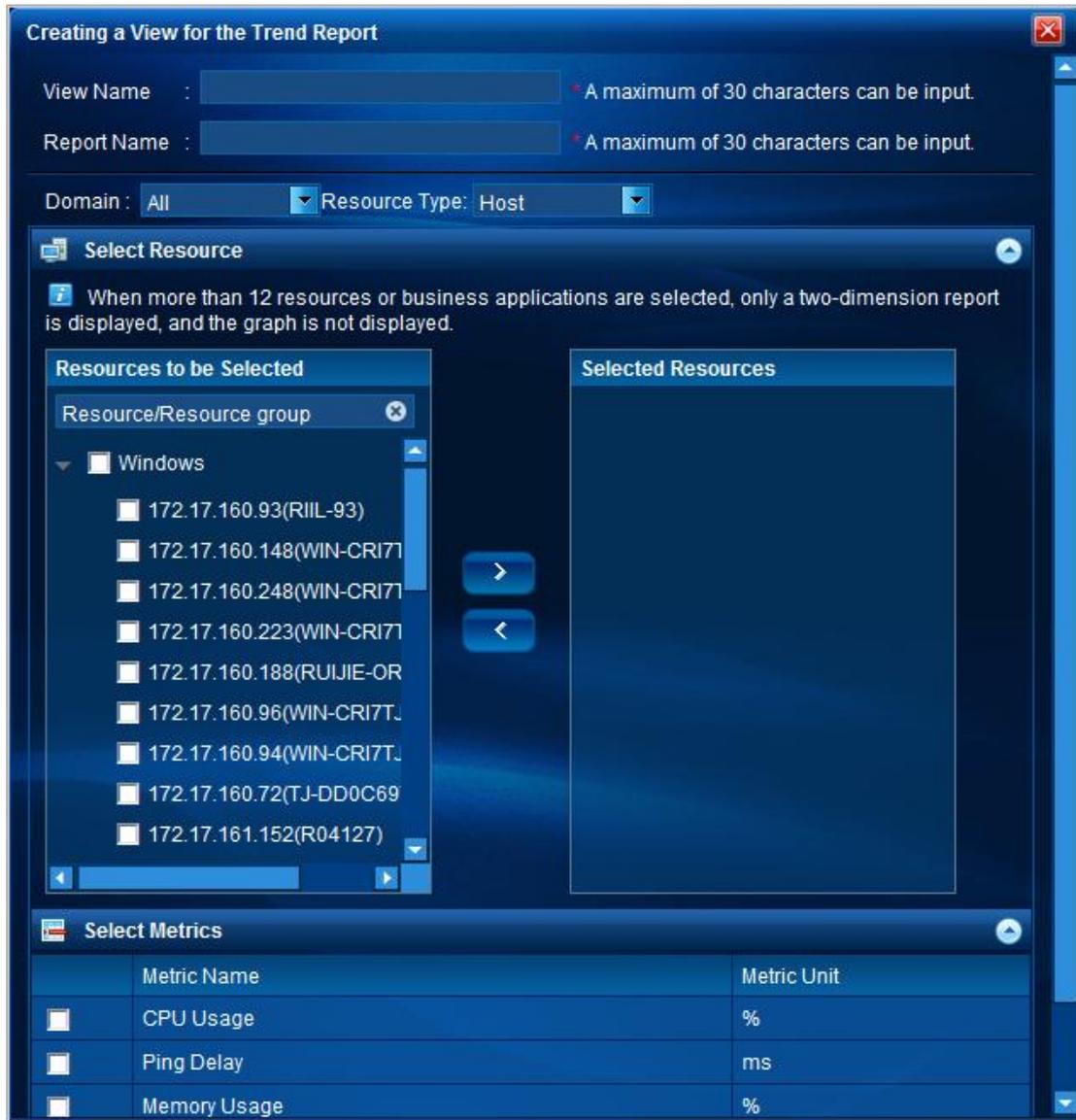
Serial Number	Resource Name	CPU Usage(%)			Memory Usage(%)			Ping Delay(ms)	
		Average Value	Maximum Value	Minimum Value	Average Value	Maximum Value	Minimum Value	Average Value	Maximum Value
1	(Windows)RD407K(172.17.161.157)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	(Windows)RD412(172.17.161.152)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	(Windows)RD425.najee.com.cn(172.17.161.171)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	(Windows)RD426(172.17.161.154)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	(Windows)REL_149(172.17.160.149)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	(Windows)REL_224(172.17.160.224)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	(Windows)REL_246(172.17.160.246)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	(Windows)REL_93(172.17.160.93)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	(Windows)RLJJE-OBAPP(172.17.160.179)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	(Windows)RLJJE-ORALCEAS(172.17.160.188)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	(Windows)SLUNGT(172.17.160.176)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	(Windows)SunWork-PC(172.17.161.89)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	(Windows)TJ-DDOCS(172.17.160.72)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	(Windows)Truip-PC(172.17.160.232)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	(Windows)WIN-AMRQJ(172.17.160.14)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	(Windows)WIN-CRITT-JARIF(172.17.160.140)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	(Windows)WIN-CRITT-JARIF(172.17.160.150)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	(Windows)WIN-CRITT-JARIF(172.17.160.152)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	(Windows)WIN-CRITT-JARIF(172.17.160.176)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	(Windows)WIN-CRITT-JARIF(172.17.160.182)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	(Windows)WIN-CRITT-JARIF(172.17.160.210)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

- 2) The average values of each performance metric within one day, one hour, or five minutes are displayed in line charts.

4.9.2 Analysis Reports



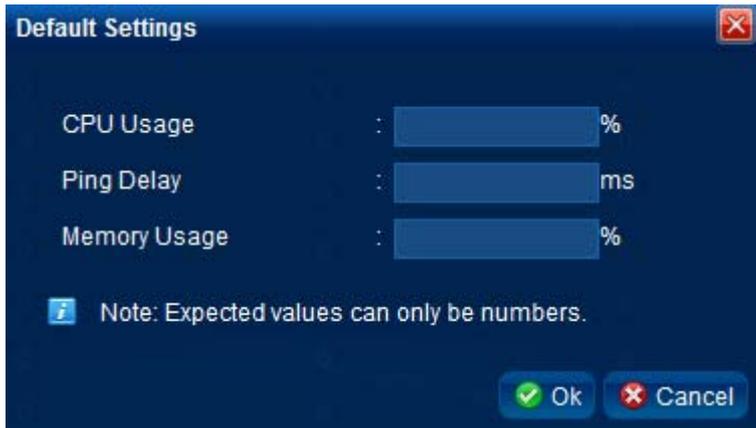
1. Click  to create a view.



- 1) Click . The setting page is displayed.



- 2) Click . The **Default Settings** page is displayed.



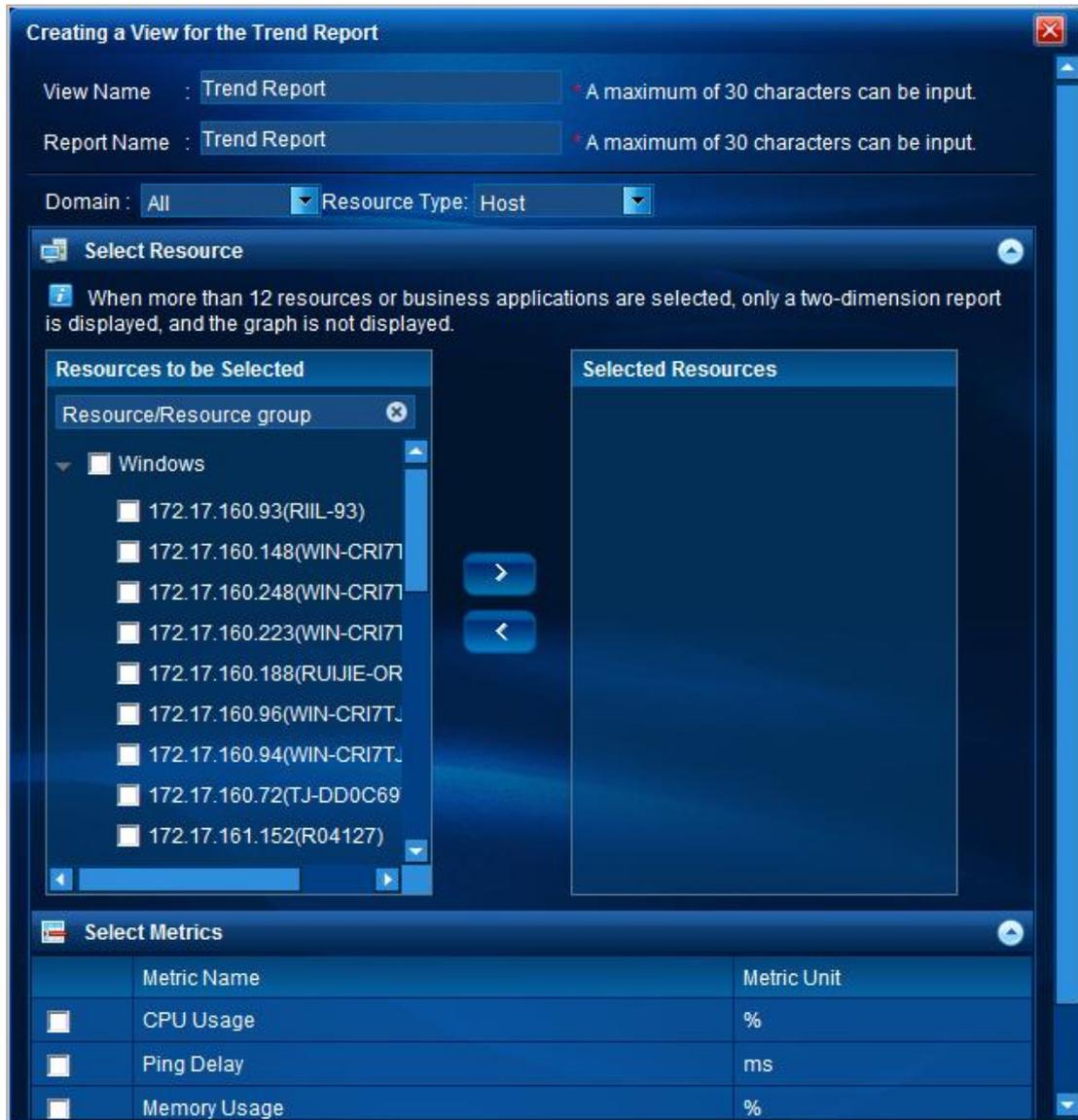
2. Click to delete a view.
3. Click to edit a view.
4. Click to subscribe to a view.
5. Click to export reports to a PDF file, a Word file, and an Excel file.
6. The metric values and the differences between the values and the expected values are displayed in tables and bar charts.



4.9.3 Trend Reports



1. Click to create a view.



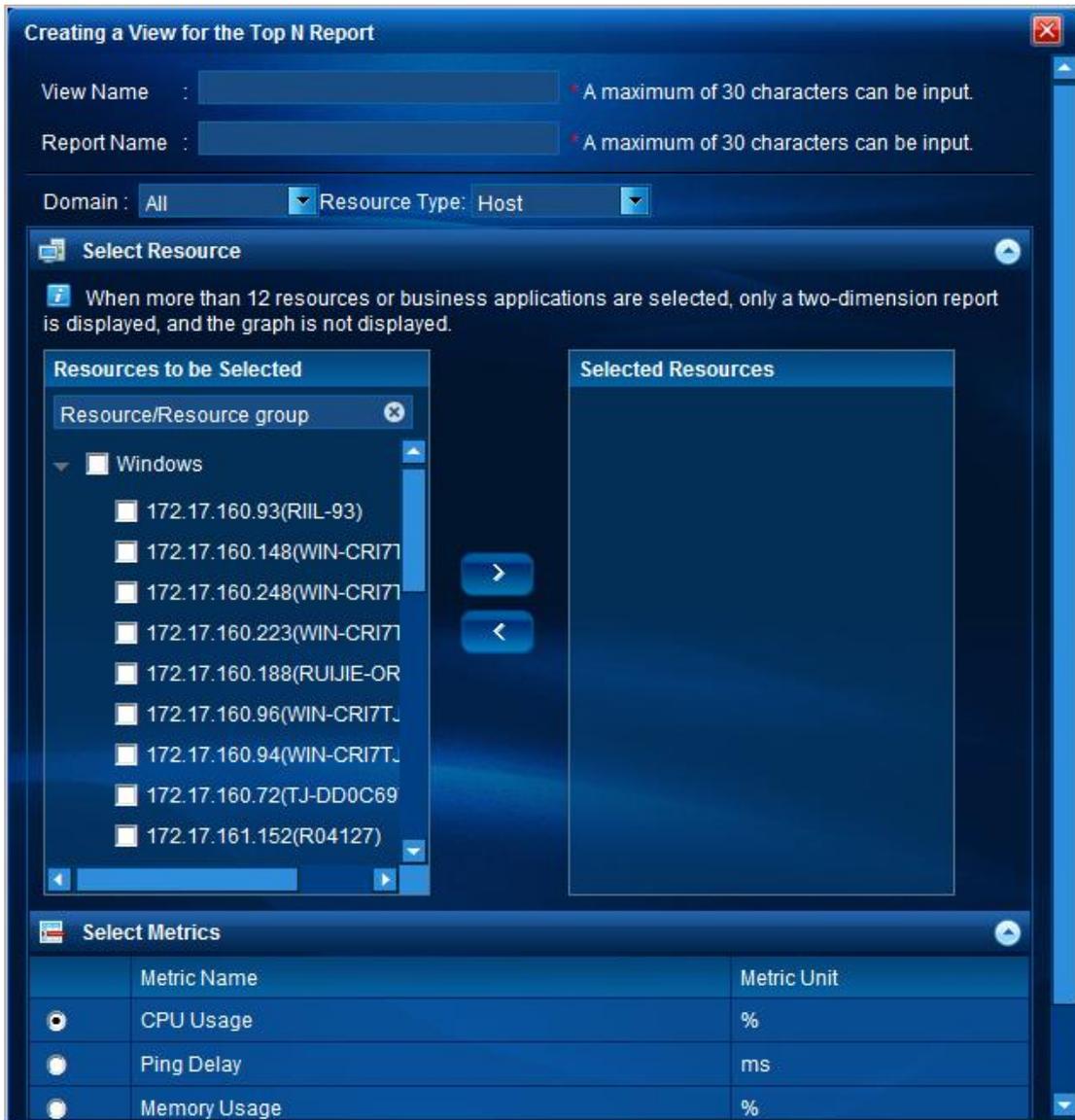
Only one resource can be selected for a trend graph. Multiple metrics can be selected, and each is displayed in one trend graph.

2. Click  to delete a view.
3. Click  to edit a view.
4. Click  to subscribe to a view.
5. Click  to export reports to a PDF file, a Word file, and an Excel file.
6. Select the display value in .
7. View the metric trends of the previous cycle, current cycle and next cycle. One cycle is 7 or 30 days.

4.9.4 Top N Reports



1. Click  to create a view.



2. Click  to delete a view.
3. Click  to edit a view.
4. Click  to subscribe to a view.
5. Select the sorting rule of the charts in **Sorting Rule:** Ascending Order Descending Order.

6. Click  to export reports to a PDF file, a Word file, and an Excel file.
7. Top N rankings are displayed in descending or ascending order in the two-dimensional table and bar chart. If more than 12 resources or services are selected, only the two-dimensional report is displayed, and the pie chart is not displayed, as shown in the following figure.

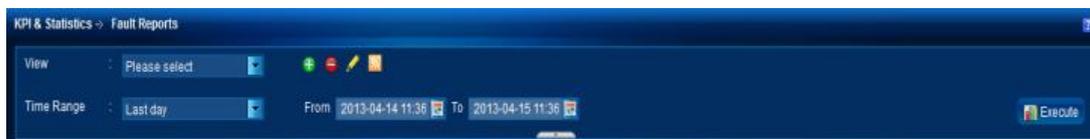


KPI & Statistics -> Top N Reports

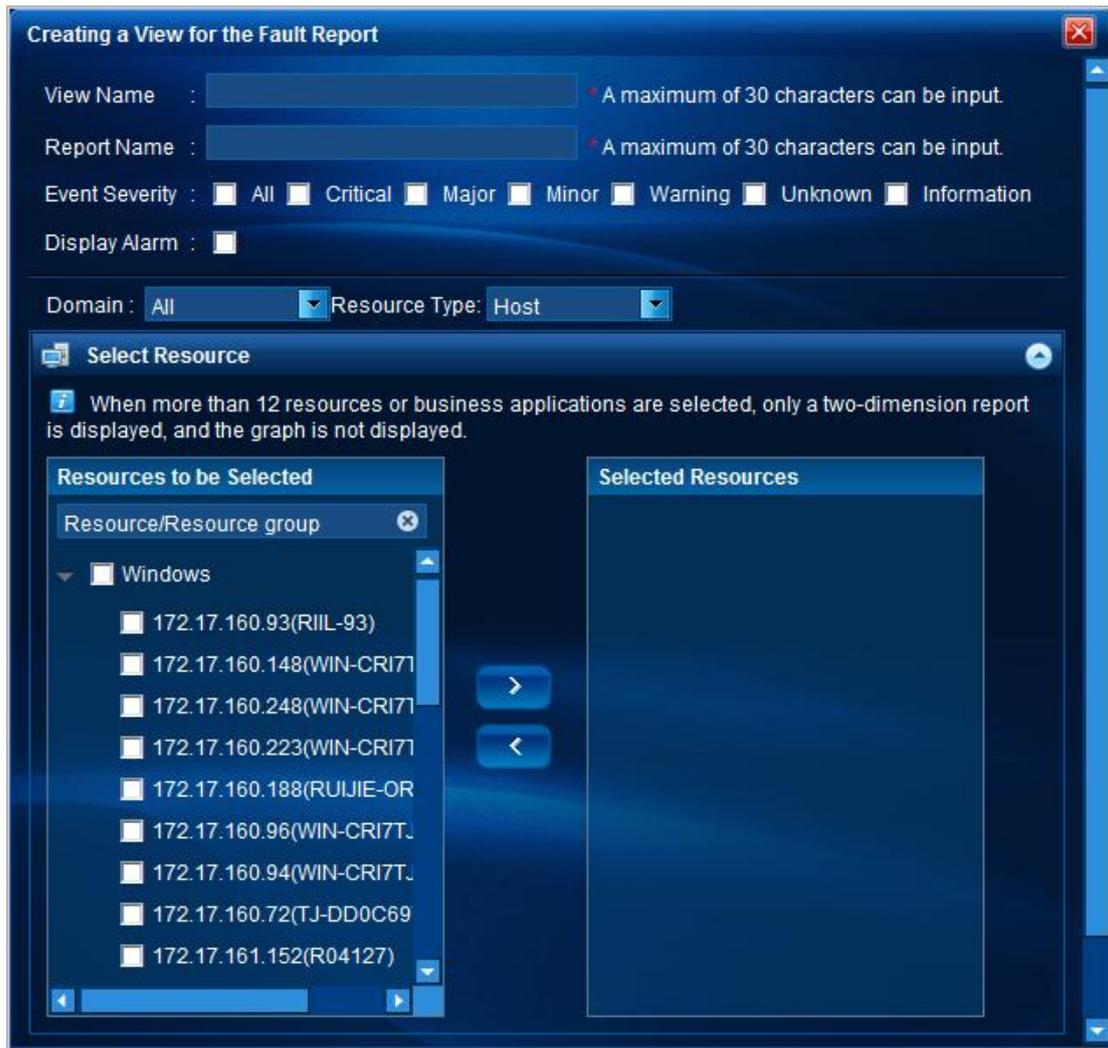
When more than 12 resources or business applications are select. 44 (2013-04-14 15:11 --- 2013-04-15 15:11)

Serial Number	Resource Name	CPU Usage(%)
1	(Windows) WN-GBLPADSOQT	77.96
2	(Windows) WN-CRITJ4VFF	55.93
3	(Windows) RIL-93(172.17.160.93)	27.46
4	(Windows) RIL-245(172.17.160.245)	26.27
5	(Windows) R04904(172.17.161.4)	25.15
6	(Windows) WN-CRITJ4VFF	15.41
7	(Windows) R04325.ruile.com.cn	15.41
8	(Windows) R04363(172.17.161.176)	14.86
9	(Windows) WN-CRITJ4VFF	11.90
10	(Windows) R04127(172.17.161.152)	10.29
11	(Windows) WN-CRITJ4VFF	9.83
12	(Windows) WN-0MRQJT1JLC	9.72
13	(Windows) WN-CRITJ4VFF	8.59
14	(Windows) R00516(172.17.161.9)	8.09
15	(Windows) R00756(172.17.161.110)	8.02
16	(Windows) R04764(172.17.161.112)	7.30
17	(Windows) R00658(172.17.161.108)	6.78
18	(Windows) R00661(172.17.161.8)	6.74
19	(Windows) R00657(172.17.161.114)	6.29
20	(Windows) WN-CRITJ4VFF	5.38
21	(Windows) R04364(172.17.161.154)	5.36
22	(Windows) TJ-000C697C9145	5.35

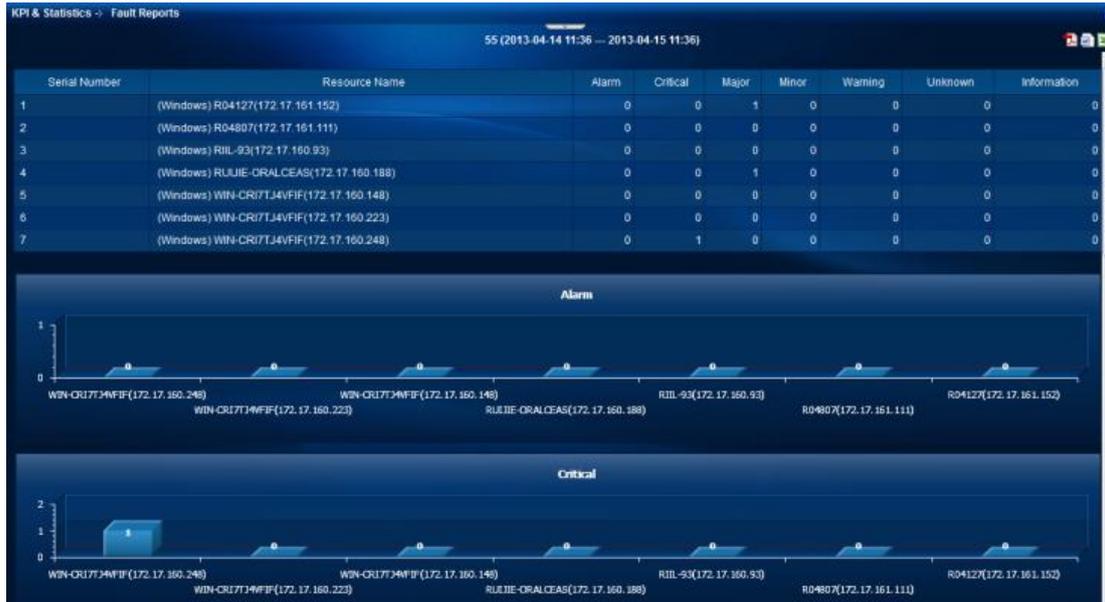
4.9.5 Fault Reports



1. Click  to create a view.



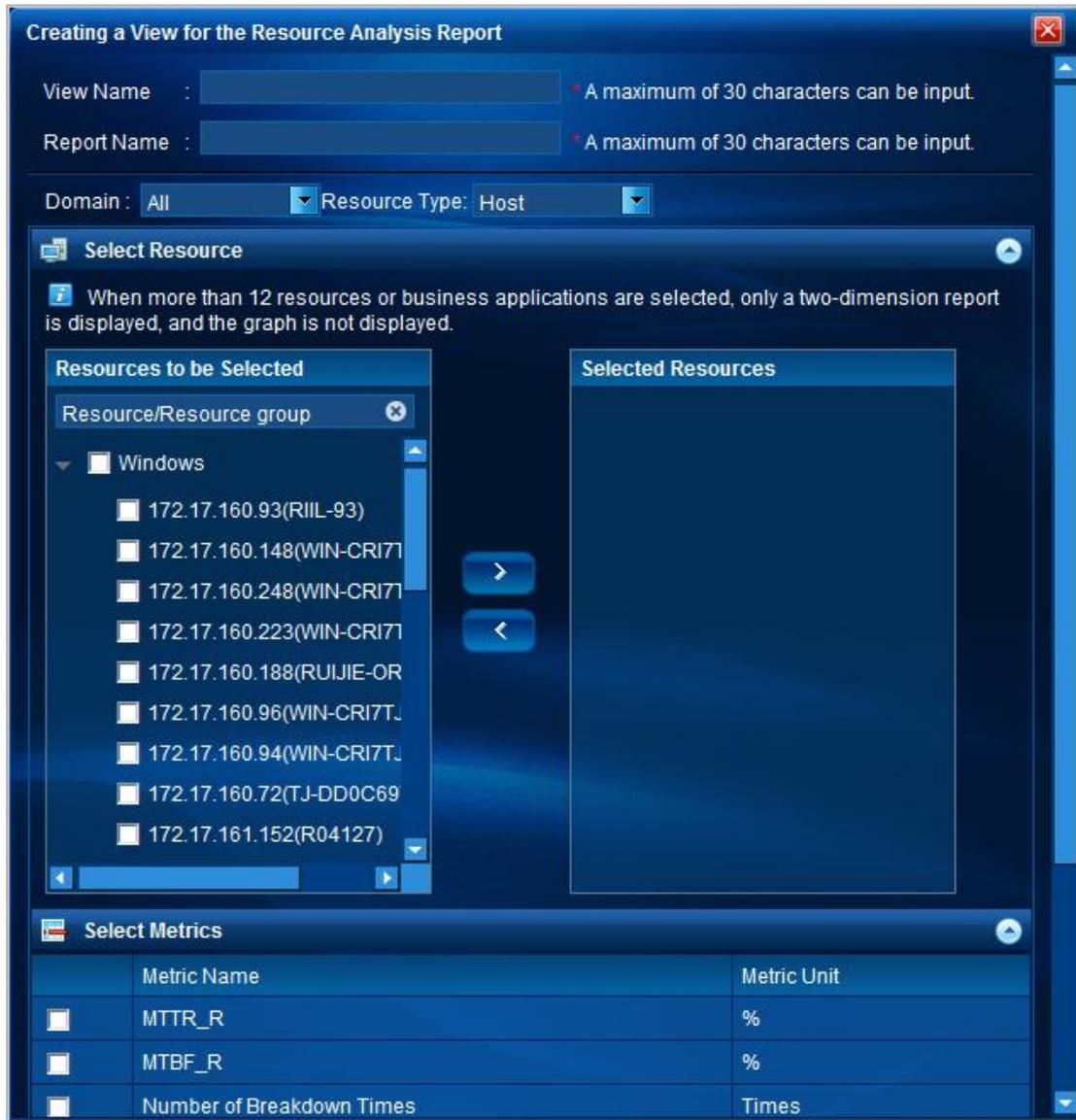
2. Click  to delete a view.
3. Click  to edit a view.
4. Click  to subscribe to a view.
5. Click  to export reports to a PDF file, a Word file, and an Excel file.
6. The resources and the generated events and alarms are displayed in the two-dimensional table and bar chart.



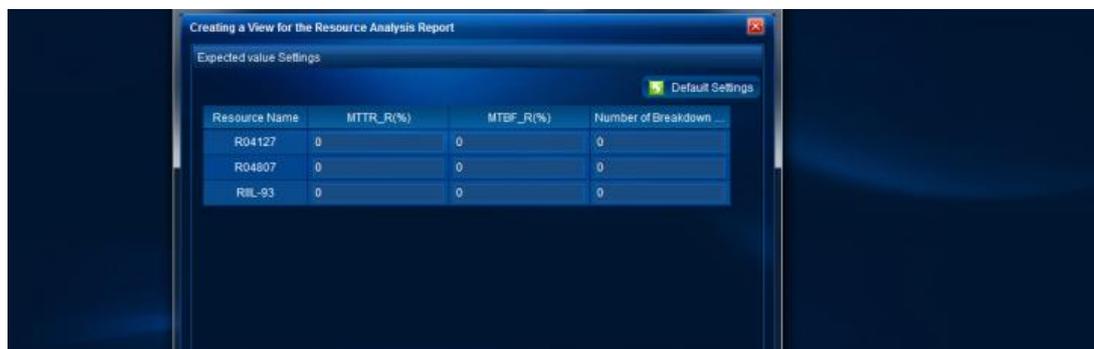
4.9.6 Resource Analysis Reports



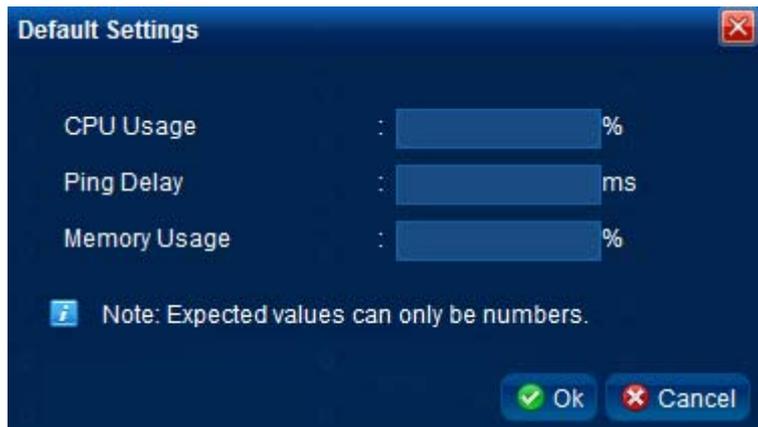
1. Click to create a view.



- 1) Click . The setting page is displayed.



- 2) Click . The **Default Settings** page is displayed.



2. Click  to delete a view.
3. Click  to edit a view.
4. Click  to subscribe to a view.
5. Click  to export reports to a PDF file, a Word file, and an Excel file.
6. The metric values and the differences between the values and the expected values are displayed in tables and bar charts.

4.9.7 My Feeds



1. Click  **Cancel subscription** to cancel subscription.
2. Click a table header to list the subscription within the specified subscription time.

4.10 CMDB

The configuration management database (CMDB) is an information database for managing resource configurations and changes.

You can create and audit configuration items (CIs).

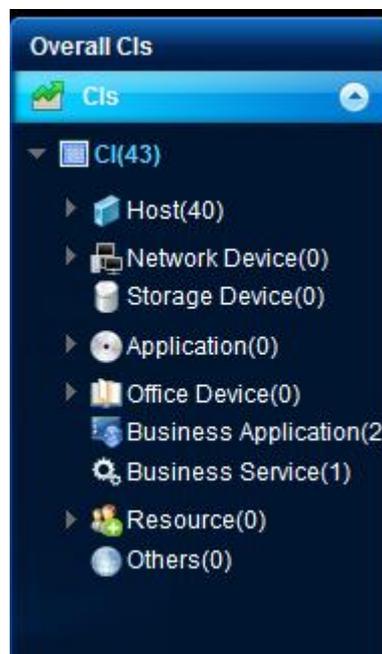
4.10.1 Configuration Overview

1. Overall CIs

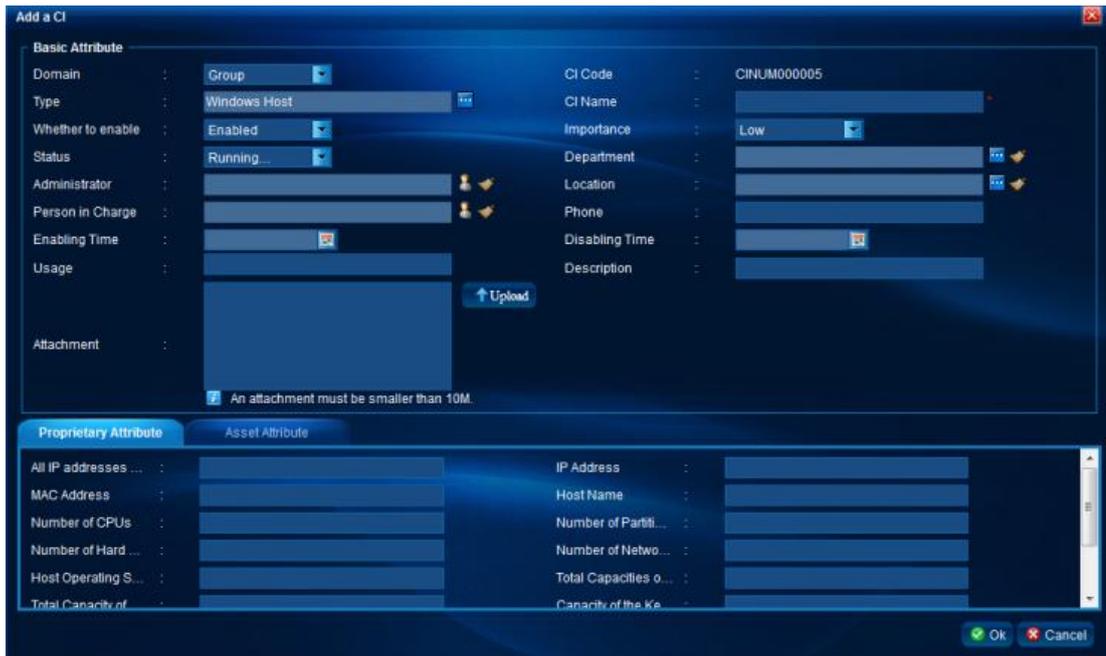
Overall CIs -> CI Information

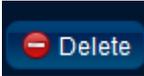
CI Code	CI Name	Status	Type	Description	Related Resources
CINJM000001	s4r	Running	Business Service		
CINJM000002	app	Running	Business Application		
CINJM000003	app2	Running	Business Application		
CINJM000004	R04127	Running	Windows Host		
CINJM000005	R04807	Running	Windows Host		
CINJM000006	R00659	Running	Windows Host		
CINJM000007	R04364	Running	Windows Host		
CINJM000008	R04764	Running	Windows Host		
CINJM000009	RIL_224	Running	Windows Host		
CINJM000010	R00756	Running	Windows Host		
CINJM000011	R04079	Running	Windows Host		
CINJM000012	R04904	Running	Windows Host		
CINJM000013	R04370	Running	Windows Host		
CINJM000014	R04363	Running	Windows Host		
CINJM000015	RIL_148	Running	Windows Host		
CINJM000016	RIL_246	Running	Windows Host		
CINJM000017	R04787	Running	Windows Host		
CINJM000018	R00616	Running	Windows Host		
CINJM000019	R00657	Running	Windows Host		

1/3 Total 43 | First | Previous | Next | End



1) Select a leaf node in the CIs tree and click  to add a CI.

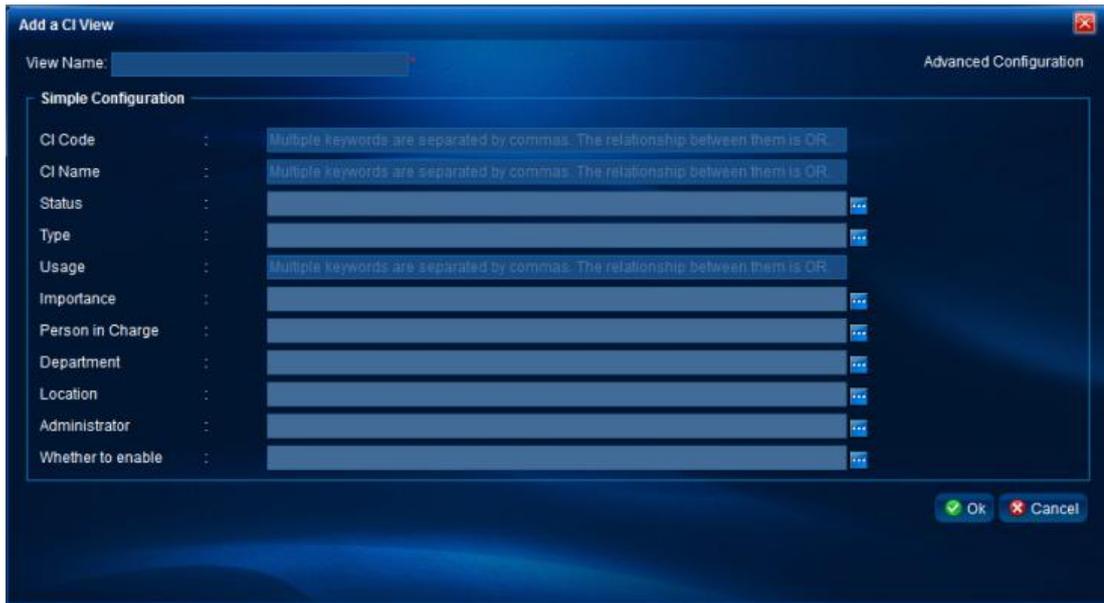


- 2) Click  to delete a CI.
 - 3) Click  to export a CI.
 - 4) Click  to export all CIs.
2. Click  to customize a CI view.
- Click  to create a view.

You can perform simple configuration and advanced configuration for the created view.

Simple Configuration lists all conditions that are in AND relationship.

In **Advanced Configuration**, you can set conditions that are in AND or OR relationship as required.

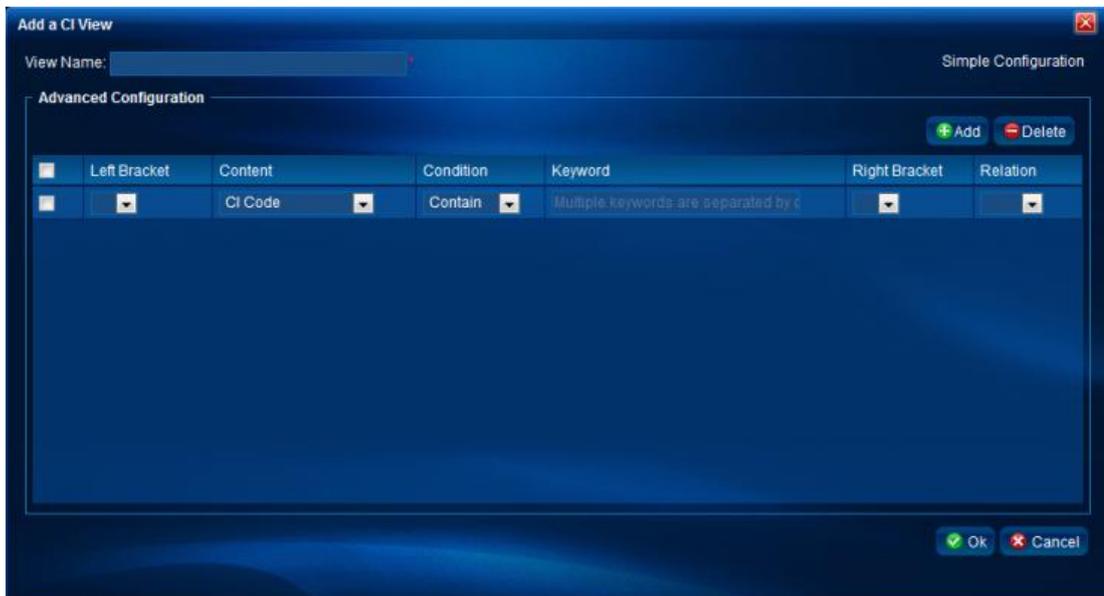


The screenshot shows the 'Add a CI View' dialog box with the 'Simple Configuration' tab selected. The 'View Name' field is empty. Below it, the 'Simple Configuration' section contains several fields with their respective values or options:

- CI Code: Multiple keywords are separated by commas. The relationship between them is OR
- CI Name: Multiple keywords are separated by commas. The relationship between them is OR
- Status: [Empty field]
- Type: [Empty field]
- Usage: Multiple keywords are separated by commas. The relationship between them is OR
- Importance: [Empty field]
- Person in Charge: [Empty field]
- Department: [Empty field]
- Location: [Empty field]
- Administrator: [Empty field]
- Whether to enable: [Empty field]

At the bottom right, there are 'Ok' and 'Cancel' buttons.

Add a CI View (Simple Configuration)

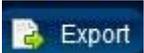


The screenshot shows the 'Add a CI View' dialog box with the 'Advanced Configuration' tab selected. The 'View Name' field is empty. Below it, the 'Advanced Configuration' section contains a table with columns: Left Bracket, Content, Condition, Keyword, Right Bracket, and Relation. There are 'Add' and 'Delete' buttons at the top right of the table area.

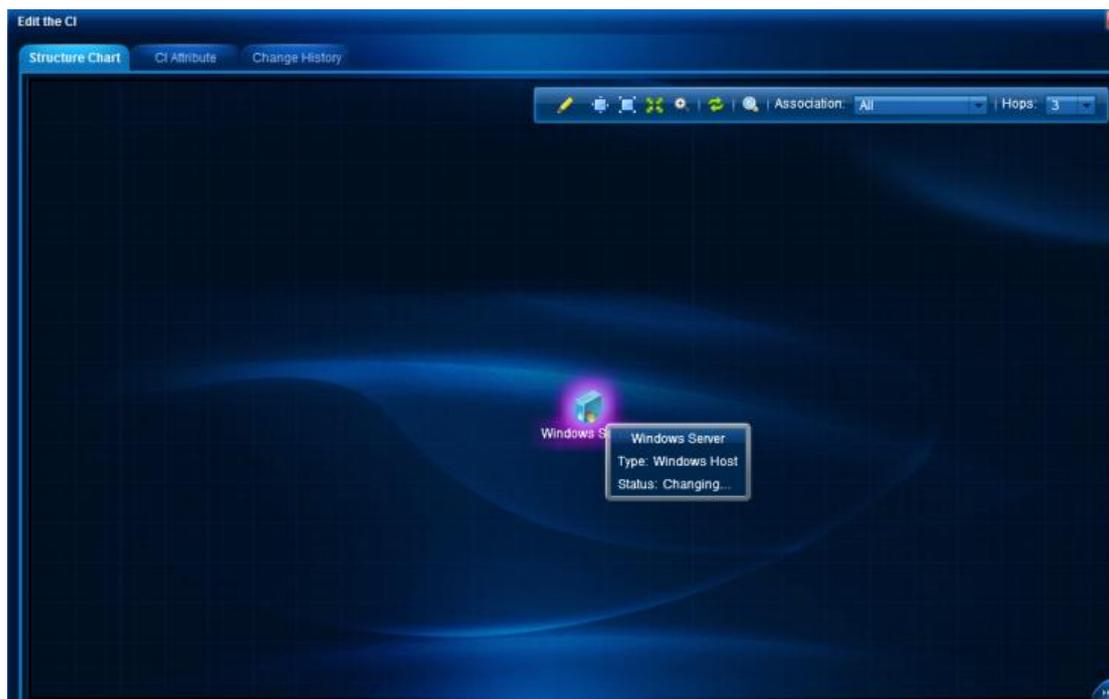
Left Bracket	Content	Condition	Keyword	Right Bracket	Relation
[Empty]	CI Code	Contain	Multiple keywords are separated by c	[Empty]	[Empty]

At the bottom right, there are 'Ok' and 'Cancel' buttons.

Add a CI View (Advanced Configuration)

- Click  to delete a view.
- Click  to edit a view.
- Click  to export a CI.
- Click  to export all CIs.

4.10.1.1 Structure Chart



A newly created CI has only the current CI node that is highlighted.

4.10.1.2 Browsing a View

1. The view displays the logical relationship between the current CI and all other CIs.
2. Eagle eye: can be dragged to zoom in or out the structure chart.
3. Thumbnail image: appears only when a part of the chart is zoomed in to over 100%. You can use the thumbnail image for locating.
4. The current CI is highlighted.
5. Toolbar:



- 1) : used to switch to the edit page
- 2) : used to display the structure chart in its actual size
- 3) : used to fit the structure chart to the size of the window
- 4) : used to display the structure chart in full screen
- 5) : used to refresh the structure chart
- 6) : used to search for and highlight a CI in the structure chart

- 7) Hops: used to present the number of connection lines between the current node and the farthest node. The default value is 3.
 - 8) Association: used to filter CIs by their association. The default value is **All**. After you click , **Association** is set to **All** automatically.
6. Hover help is available for CIs.
 7. CIs under permission control can be drilled to switch the CI structure chart.

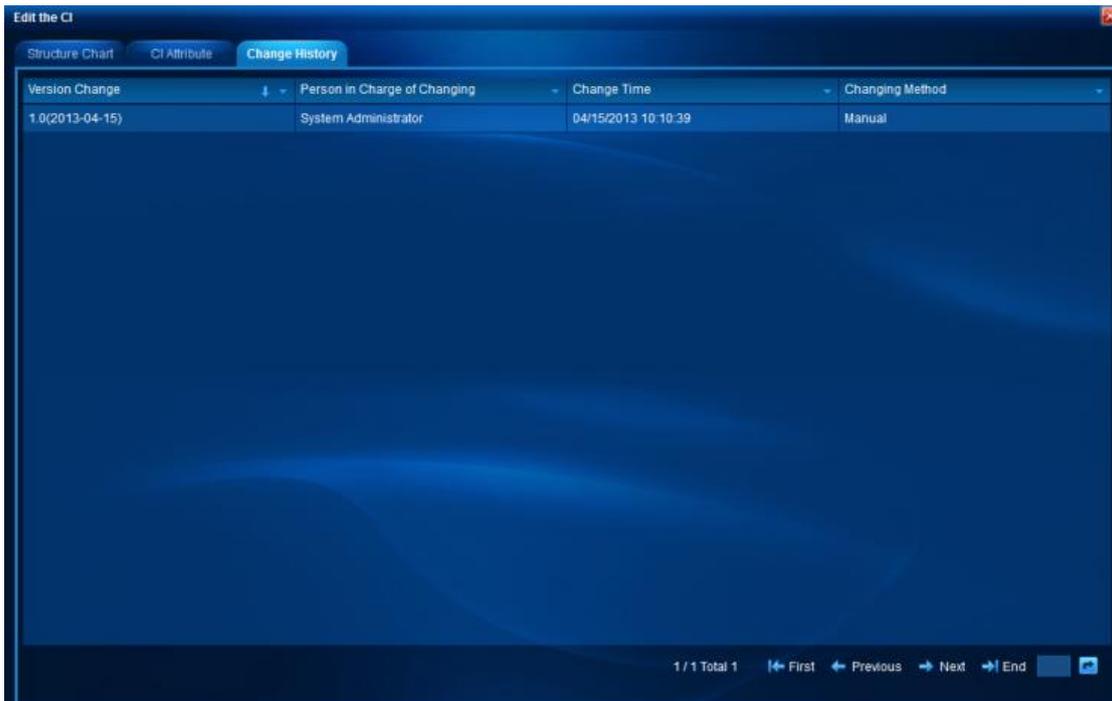
4.10.1.3 Editing a View

1. Eagle eye can be used to zoom in or out the current structure chart.
2. Thumbnail image: appears only when a part of the chart is zoomed in to over 100%. You can use the thumbnail image for locating.
3. The current CI is highlighted.
4. Toolbar:



- 1) : used to switch to the explorer view
 - 2) : used to re-calculate node locations for re-displaying the structure chart
 - 3) : used to display the structure chart in its actual size
 - 4) : used to fit the structure chart to the size of the window
 - 5) : used to delete a device, a straight line, or an area. The current central node cannot be deleted.
 - 6) : used to save the nodes of the current topology and their positions
5. Resource panel:
Search: supports search by resource name or IP address. Fuzzy search is supported.
 6. Association:
There are 11 associations: dependency, connection, hot backup, physical, cold backup, document, use, composition, running, monitoring, and installation.
 7. Area: cloud type, rectangular, lane
When an area is dragged, nodes in the area move with the area. When a node is dragged, the area does not move with it.

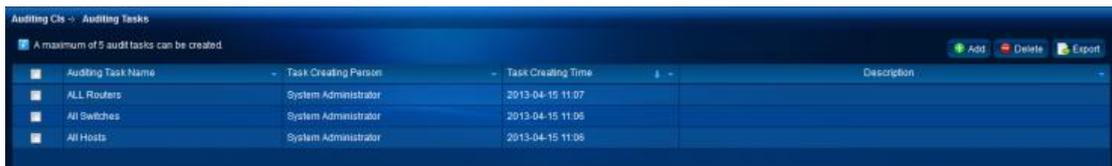
4.10.1.4 Change History



1. Manually change the CI attributes and click **Apply**. A version change record is generated, and **Changing Method** changes to **Manual**.
2. Change the CI attributes through auditing. A version change record is generated, and **Changing Method** changes to **Automatic**.

4.10.2 Auditing CIs

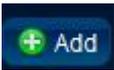
4.10.2.1 Auditing Tasks

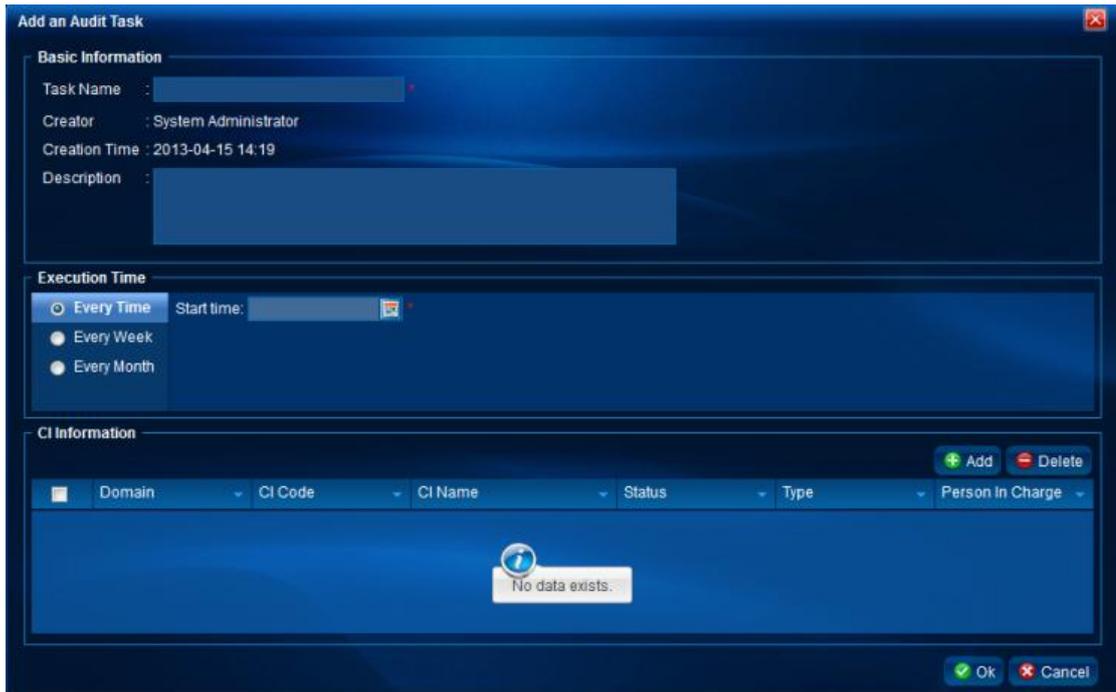


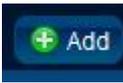
1. Display conventions:

Common users can access only audit tasks created by them. The system administrator can view all audit tasks but cannot edit or change them.

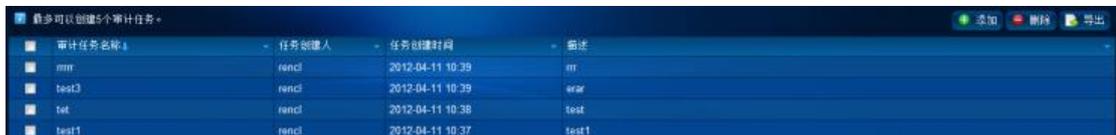
By default, audit tasks are sorted by **Task Creating Time** in descending order.

2. Click  to add an audit task.

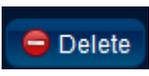


1) Click  to add a CI.

2) Click  to delete a CI.



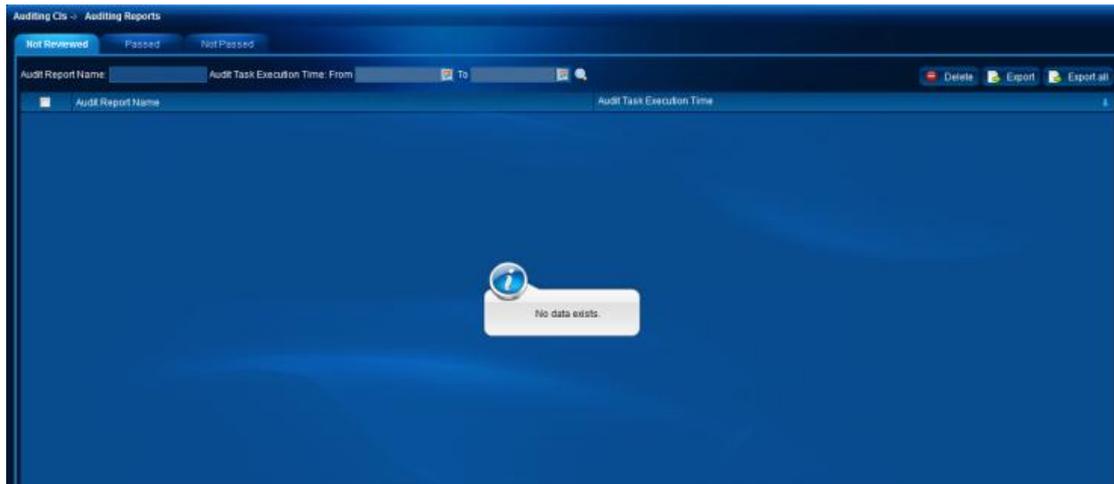
审计任务名称	任务创建人	任务创建时间	描述
mtr	rencl	2012-04-11 10:39	mtr
test3	rencl	2012-04-11 10:39	eraw
test	rencl	2012-04-11 10:38	test
test1	rencl	2012-04-11 10:37	test1

3. Click  to delete an audit task.

4. Click  to export an audit task.

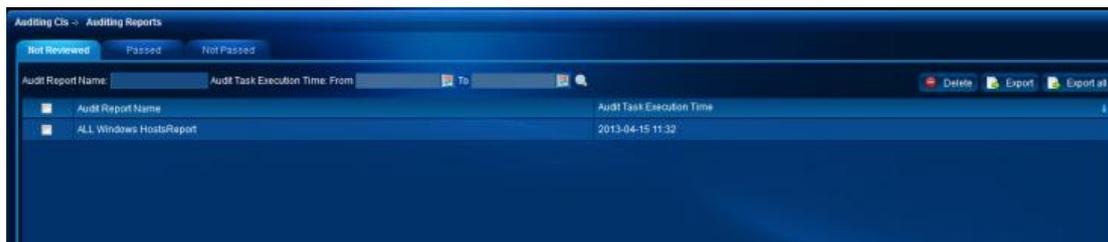
4.10.2.2 Auditing Reports

Auditing reports are classified into three types: not reviewed, passed, and not passed.

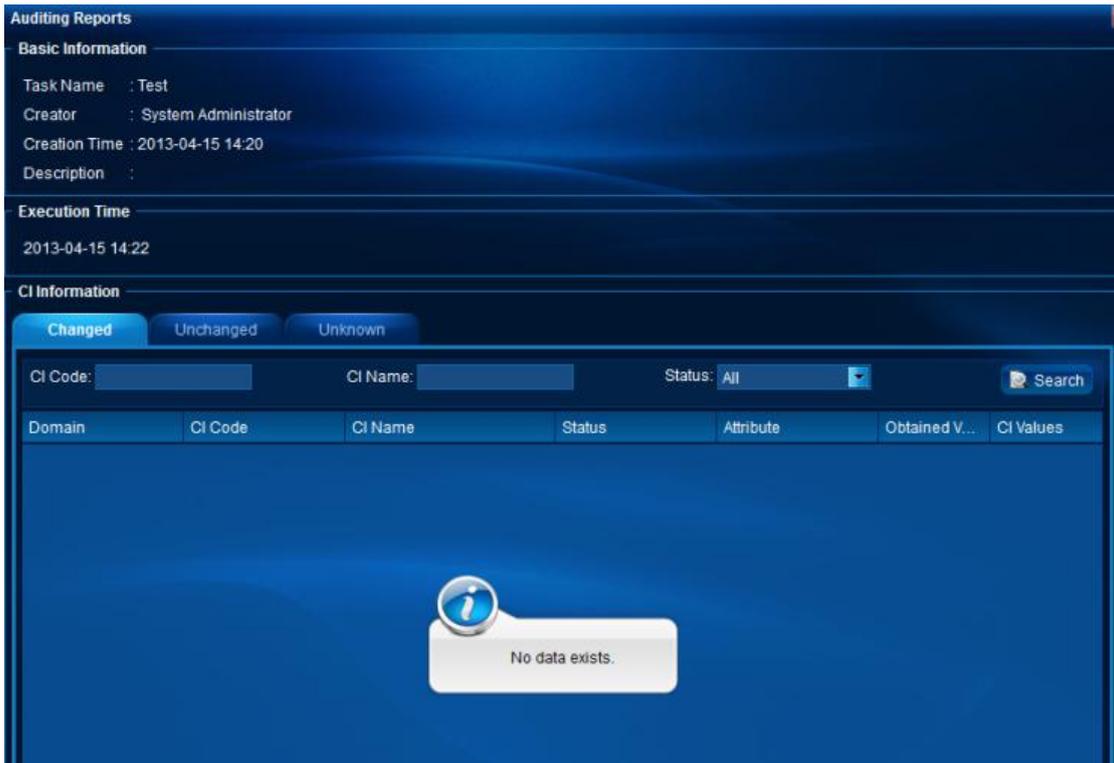


- 1) Click  to delete an audit report.
- 2) Click  to export an audit report.
- 3) Click  to export all audit reports.

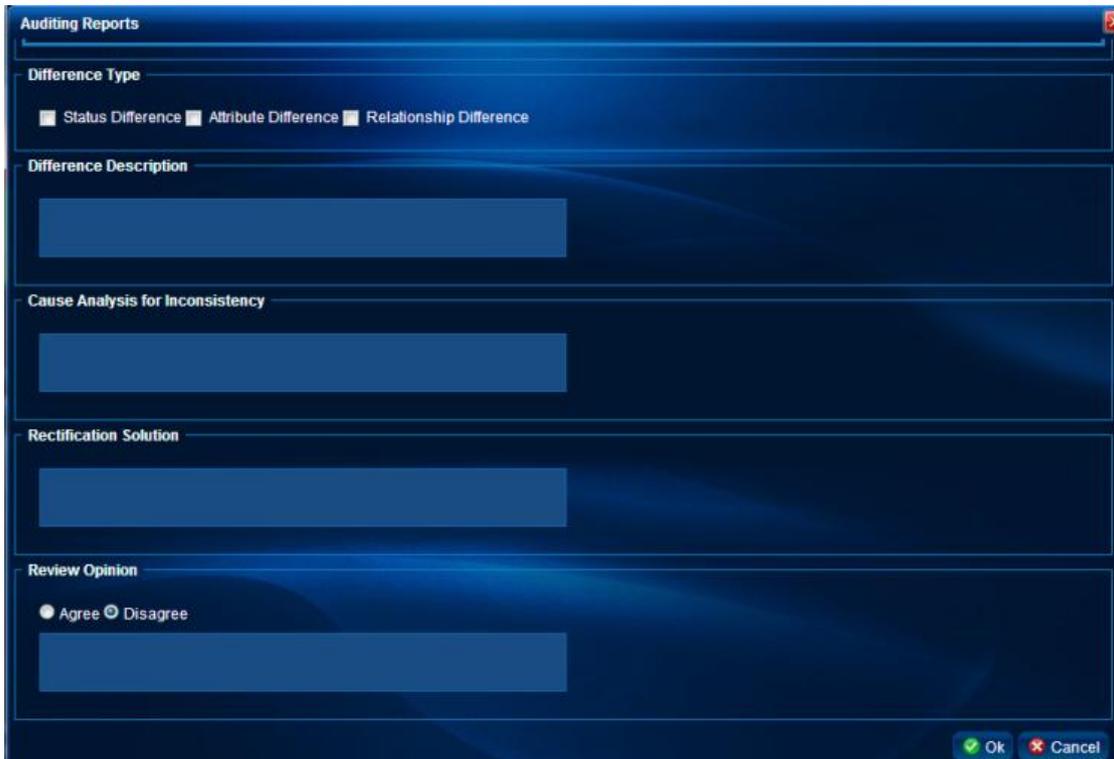
1. Audit reports to be reviewed



Click the audit report name to access the **Auditing Reports** page.



You can agree or disagree an audit report in **Review Opinion**.



If the audit report is not passed, all CIs in the report do not change.

If the audit report is passed, **CI Values** of a changed CI in the report changes to **Obtained Values**, a change record is added, and **Changing Method** is **Automatic**.

Edit the CI

Structure Chart | CI Attribute | **Change History**

Version Change	Person in Charge of Changing	Change Time	Changing Method
1.2(2013-04-15)	System Administrator	04/15/2013 11:55:04	Automatic

2. Passed

Auditing CIs > Auditing Reports

Not Reviewed | **Passed** | Not Passed

Audit Report Name: Audit Task Execution Time: From To Delete Export Export all

Audit Report Name	Audit Task Execution Time	Audit Task Verification Time
ALL Windows HostsReport	2013-04-15 11:32	04/15/2013 11:55:04

3. Reviewed audit reports

Auditing Reports

Basic Information

Task Name : Test
 Creator : System Administrator
 Creation Time : 2013-04-15 14:20
 Description : -

Execution Time

2013-04-15 14:22

CI Information

Changed | Unchanged | Unknown

CI Code: CI Name: Status: All Search

Domain	CI Code	CI Name	Status	Attribute	Obtained V...	CI Values
No data exists.						

Difference Type

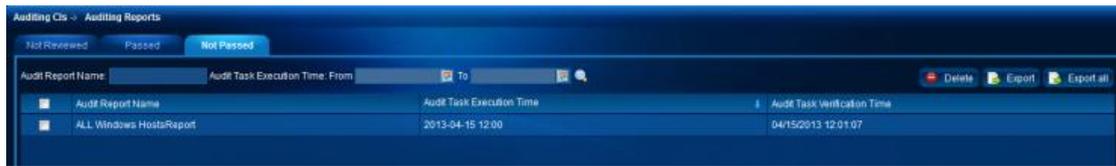
Difference Description

Cause Analysis for Inconsistency

Rectification Solution

Review Opinion

4. Not Passed



Audit Report Name	Audit Task Execution Time	Audit Task Verification Time
ALL Windows HostsReport	2013-04-15 12:00	04/15/2013 12:01:07

4.10.3 Configuration Wizard

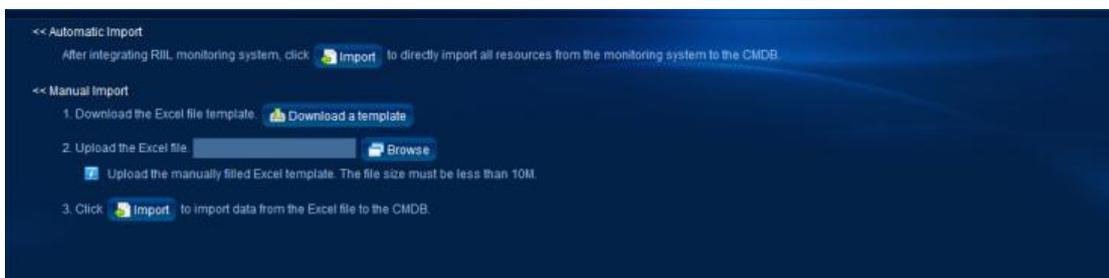
The wizard will guide you through all CMDB configuration pages, including import, associating, allocating a domain, and configuring permissions. It will also help you to complete CMDB setting.



Click  to start CMDB configuration.



4.10.3.1 Import



1. Allocate CI types to resources monitored by RIIL and import the resources to the CMDB.
2. Import data from the Excel file to the CMDB.

4.10.3.2 Automatic Import

Allocate CI types to resources monitored by RIIL and import the resources to the CMDB.

Resource Name	IP Address	MAC Address	Resource Type	Whether to add the resource to the CMDB
Rajje Router				
address	192.168.192.179	00:1a:ad:39:45:c3:00:1a:ad:39:45:c4	Rajje Router	<input type="checkbox"/>
172.16.8.50_Phd-Giant	172.16.8.50	00:00:00:a5:86:35:00:00:a5:86:34	Rajje Router	<input type="checkbox"/>
RDR77	172.17.166.9	00:1a:ad:3f:68:78:00:1a:ad:3f:68:7a	Rajje Router	<input type="checkbox"/>
172.16.8.30_Red-Giant	172.16.8.30	00:00:00:a5:86:35:00:00:a5:86:34	Rajje Router	<input type="checkbox"/>
ED9800C-TJFZL	172.17.166.1	00:1a:ad:3f:68:78:00:1a:ad:3f:68:10	Rajje Router	<input type="checkbox"/>
Rajje WLAN				
444	10.10.10.10	00:1a:ad:c3:f4:94	Rajje WLAN	<input type="checkbox"/>
444	10.10.10.10	00:1a:ad:c3:f4:94	Rajje WLAN	<input type="checkbox"/>
444	10.10.10.11	00:1a:ad:7f:55:a7	Rajje WLAN	<input type="checkbox"/>
19-wpa2-psk	10.10.10.11	00:1a:ad:7f:55:a7	Rajje WLAN	<input type="checkbox"/>
2	10.10.10.10	00:1a:ad:c3:f4:94	Rajje WLAN	<input type="checkbox"/>
505	10.10.10.10	00:1a:ad:c3:f4:94	Rajje WLAN	<input type="checkbox"/>
1st1	172.17.167.6	00:1a:ad:7c:b2:e5	Rajje WLAN	<input type="checkbox"/>
2	10.10.10.10	00:1a:ad:c3:f4:94	Rajje WLAN	<input type="checkbox"/>
3446	172.17.167.6	00:1a:ad:7c:b2:e5	Rajje WLAN	<input type="checkbox"/>

After the resources are imported to the CMDB, the following message is displayed.

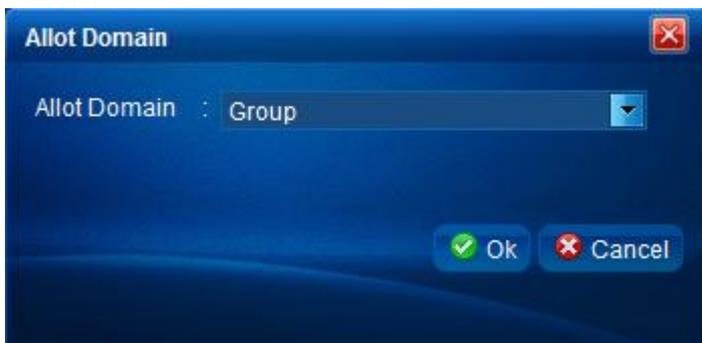


4.10.3.3 Allocating a Domain

To allocate a domain for CIs, perform the following steps:

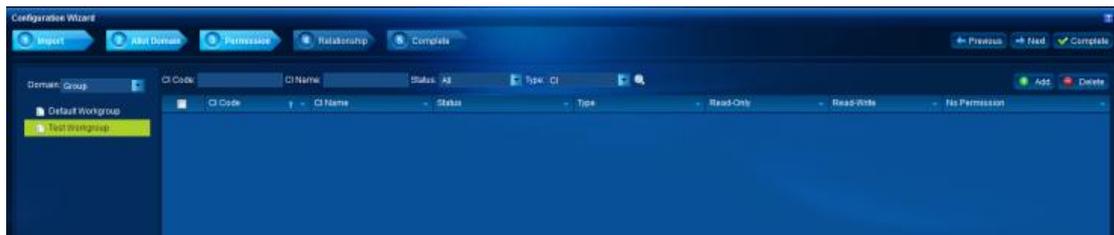
CI Code	CI Name	Status	Type	Domain
CHL0000003	Windows Server	Changing	Windows Host	Group
CHL0000004	ESD	Running	Windows Host	Group

Select records to be added to a domain and click

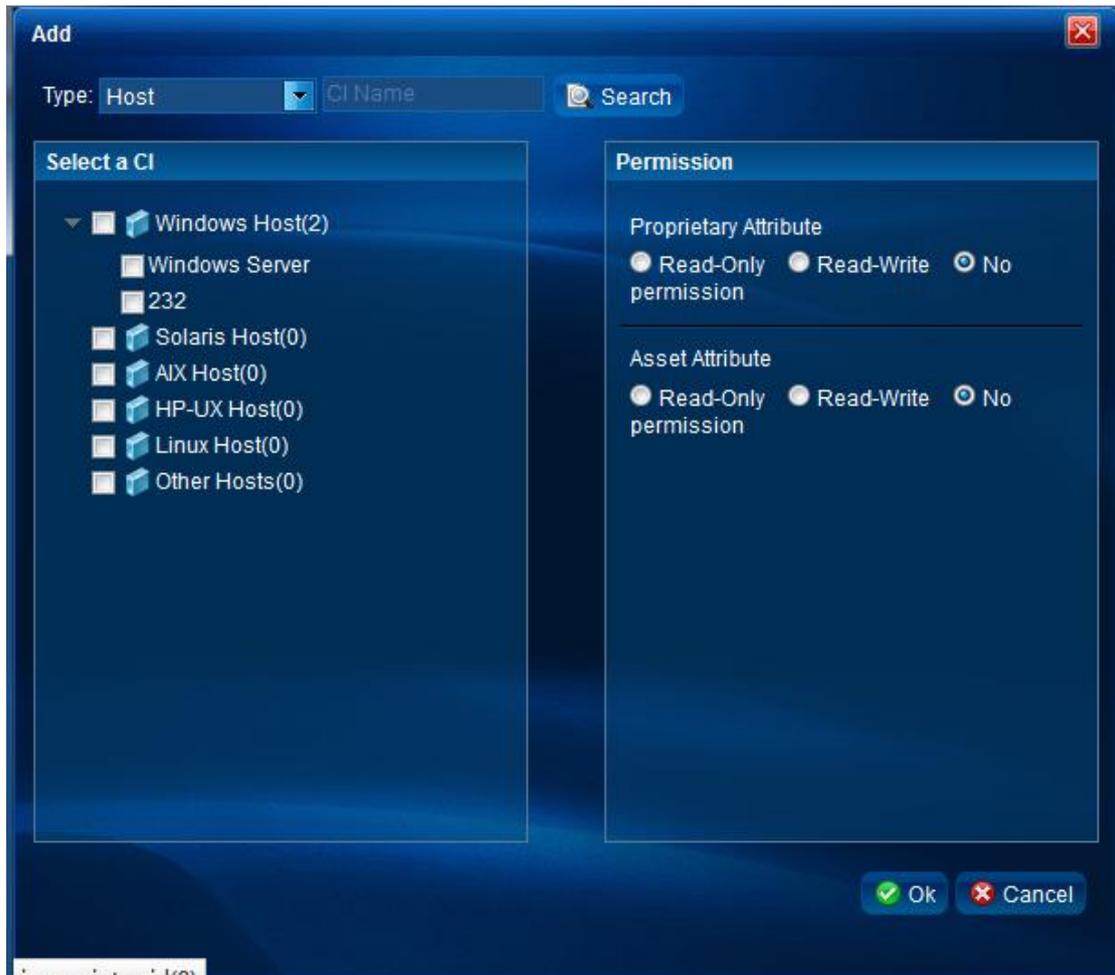


1. Select a domain to which resources are to be added. Click **Ok** to proceed or click **Cancel** to quit.
2. Click **Export** to export the selected CI.
3. Click **Export all** to export all CIs.
4. Click **Next**.

4.10.3.4 Permission Setting



1. Display CIs in the default workgroup.
2. Add CIs to a non-default workgroup and assign permissions (for proprietary attribute and asset attribute). Click a non-default workgroup and click . The **Add** dialog box is displayed.



- 1) Read-Only: A read-only CI cannot be edited.
- 2) Read-Write: A read-write CI can be edited.
- 3) No Permission: The corresponding tab is hidden.

4.10.3.5 Relationship

1. The global structure chart is affected if the relationship name or type is changed.
2. A relationship in use cannot be deleted, but the relationship name and type can be changed.



4.10.3.6 Complete

Click **Complete** to exit the configuration wizard.

4.11 Knowledge Base

The knowledge base helps you solve problems encountered during operation and maintenance.

You can add knowledge records during event handling or resource maintenance or directly add knowledge. In addition, when an event is generated, the system automatically associates the recorded knowledge to help you handle events and maintain resources.

4.11.1 My Knowledge

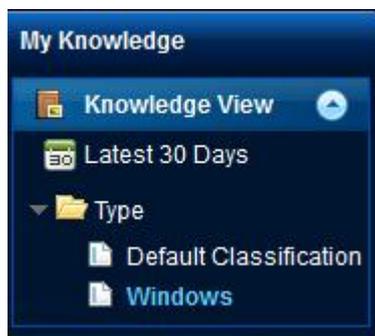
1. Viewing knowledge

1) Latest 30 Days



Serial Number	Title	Type	Creator	Keyword	Source	Browsing Times	Grade	Latest Maintenance
KB000004	AS	Default Classification	System Administrator	WINDOWS	Event	1	A	04/13/2013 13:14:21
KB000003	ABC	Default Classification	System Administrator	EQW	Event	0	A	04/13/2013 13:13:29
KB000002	BBB	Default Classification	System Administrator	windows	Event	0	A	04/13/2013 13:09:44
KB000001	AAA	Default Classification	System Administrator	windows	Event	0	A	04/13/2013 13:09:27

- 2) By type: You can view released knowledge by type. For example, you can view knowledge by Windows.



- 3) Customize a view for released knowledge.

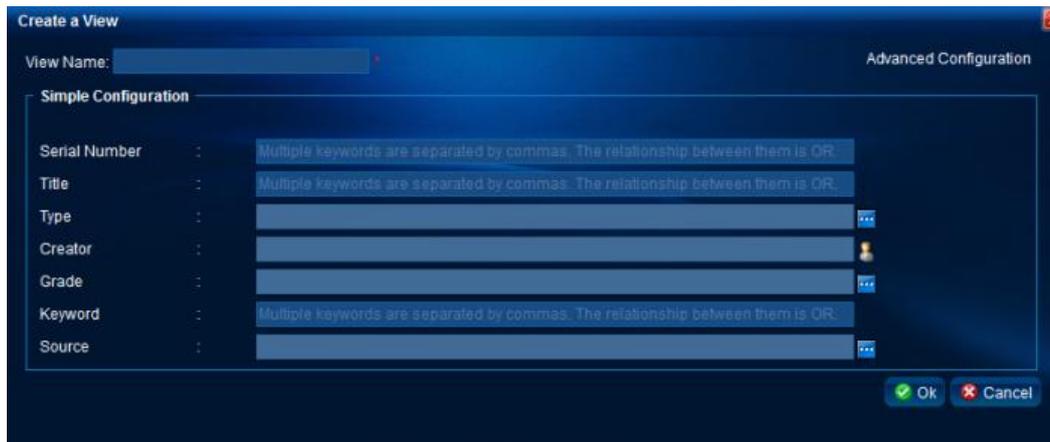


- Click  to add a knowledge view.

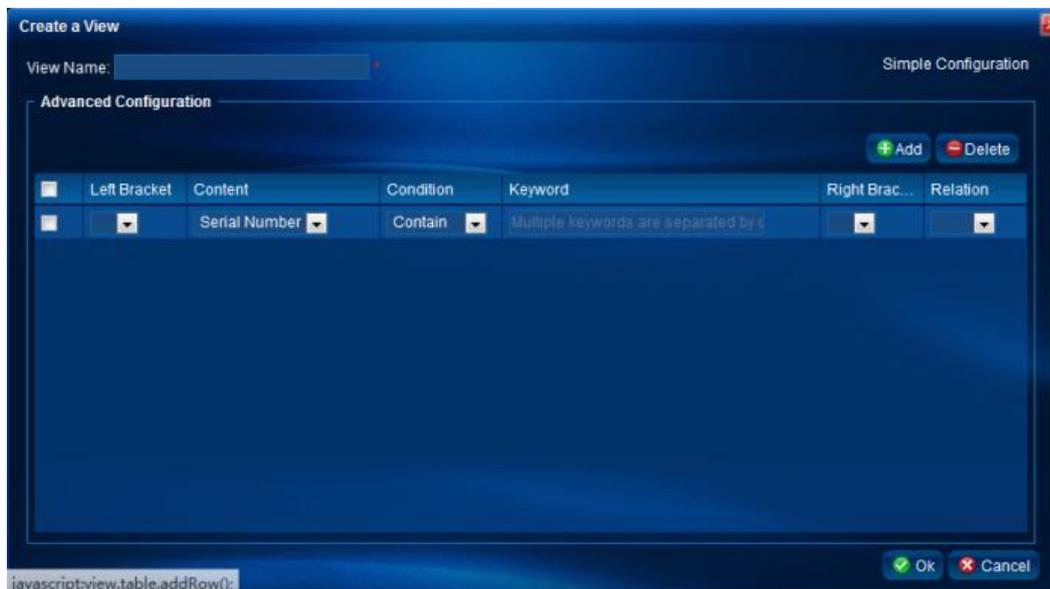
You can perform simple configuration and advanced configuration for the created view.

Simple Configuration: The conditions are in AND relationship.

Advanced Configuration: You can set conditions as required. The conditions are in AND or OR relationship.



Simple Configuration



Advanced Configuration

Click  to delete a knowledge view.

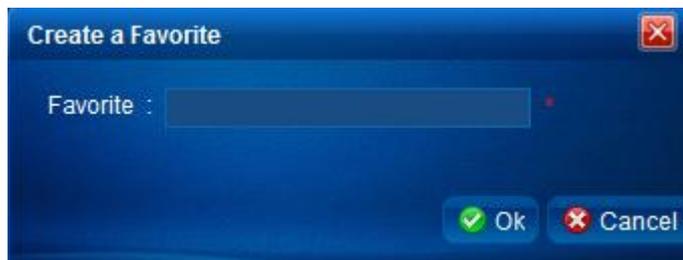
Click  to edit a knowledge view.



2. Saving knowledge



- 1) Click  to create the **Favorite** folder.



- 2) Click  to delete the **Favorite** folder. The default folder **Ungrouped** cannot be deleted.
- 3) Click  to edit the **Favorite** folder. The default folder **Ungrouped** cannot be edited.

3. Maintaining knowledge

- 1) Creating knowledge

Click . The **New Knowledge** dialog box is displayed, where you can specify **Serial Number** (automatically assigned), **Title**, **Type**, **Creator** (the current login user by default), **Keyword**, **Solution**, **Description**, and **Attachment**. If you click

Save, the **Draft Knowledge** page is displayed. If you click **Submit**, the **Pending Knowledge** page is displayed.

2) Draft Knowledge

Serial Number	Title	Type	Keyword	Source	Grade	Creating Time
KB0000006		Default Classification		Creation	A	04/15/2013 13:58:52

Click **Delete** to delete knowledge.

3) Pending Knowledge

Serial Number	Title	Type	Keyword	Source	Grade	Creating Time
KB0000006	test knowledge	Default Classification	test knowledge	Creation	A	04/15/2013 13:58:52

Click **Delete** to delete knowledge.

4) Rejected Knowledge

Serial Number	Title	Type	Keyword	Source	Grade	Creating Time
KB0000006	test knowledge	Default Classification	test knowledge	Creation	A	04/15/2013 13:58:52

 Click  to delete knowledge.

4.11.2 Knowledge Management

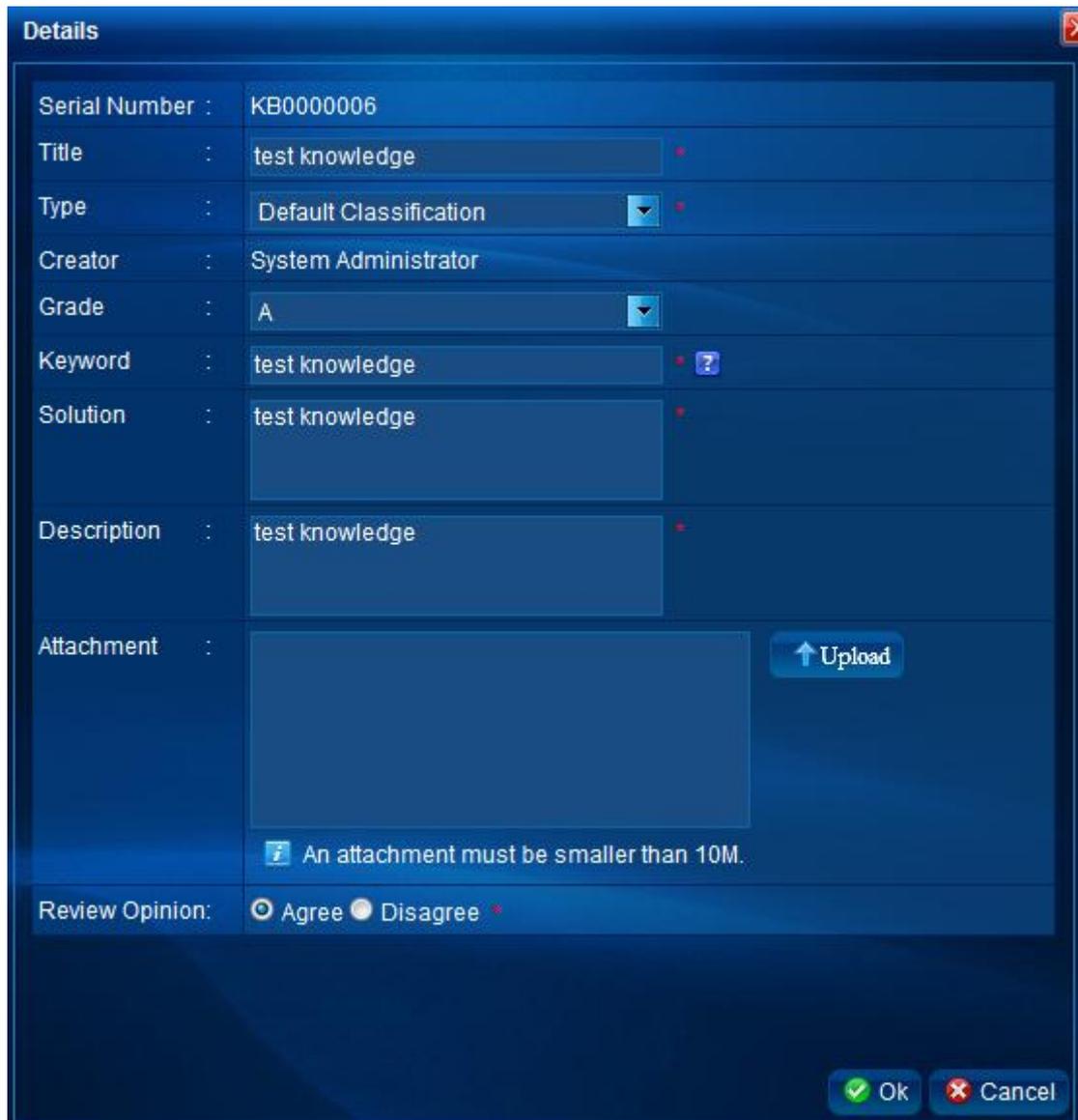
Only a knowledge administrator has permission to manage knowledge, including knowledge audit, knowledge statistics, and knowledge setting.

1. Knowledge Audit



Serial Number	Title	Type	Creator	Keyword	Creating Time
K0000000	test knowledge	Default Classification	System Administrator	test knowledge	9/15/2013 13:56:52

- 1) When you click a knowledge record in the list, the **Details** page of the knowledge is displayed. The **Details** page displays **Serial Number** (unchangeable), **Title**, **Type**, **Creator** (unchangeable), **Grade**, **Keyword**, **Solution**, **Description**, and **Attachment**, as shown in the following figure.



Details

Serial Number : KB0000006

Title : test knowledge

Type : Default Classification

Creator : System Administrator

Grade : A

Keyword : test knowledge

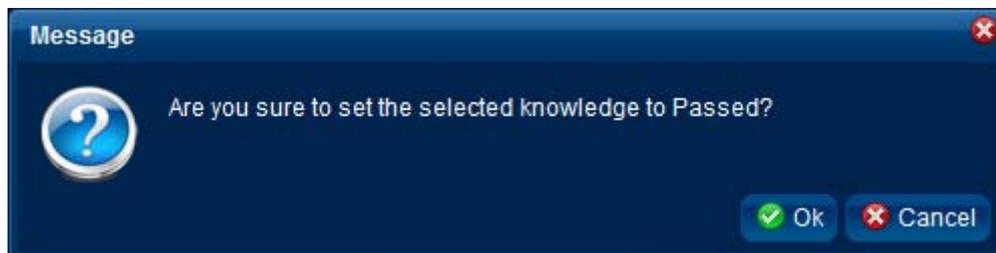
Solution : test knowledge

Description : test knowledge

Attachment : An attachment must be smaller than 10M.

Review Opinion: Agree Disagree

- 2) Select knowledge to be reviewed and click . A prompt box is displayed, as shown in the following figure.



2. Knowledge Statistics

You can collect statistics of knowledge according to the statistics type or chart type.

- 1) Click  to create a view.

You can perform simple configuration and advanced configuration for the created view.



Create Statistic View

Basic Information

Chart Name :

Statistics Type : Knowledge type

Chart Type : Bar Chart Pie Chart

Simple Configuration

Type :

Browsing times : Multiple keywords are separated by commas. The relationship between them is OR.

Creator :

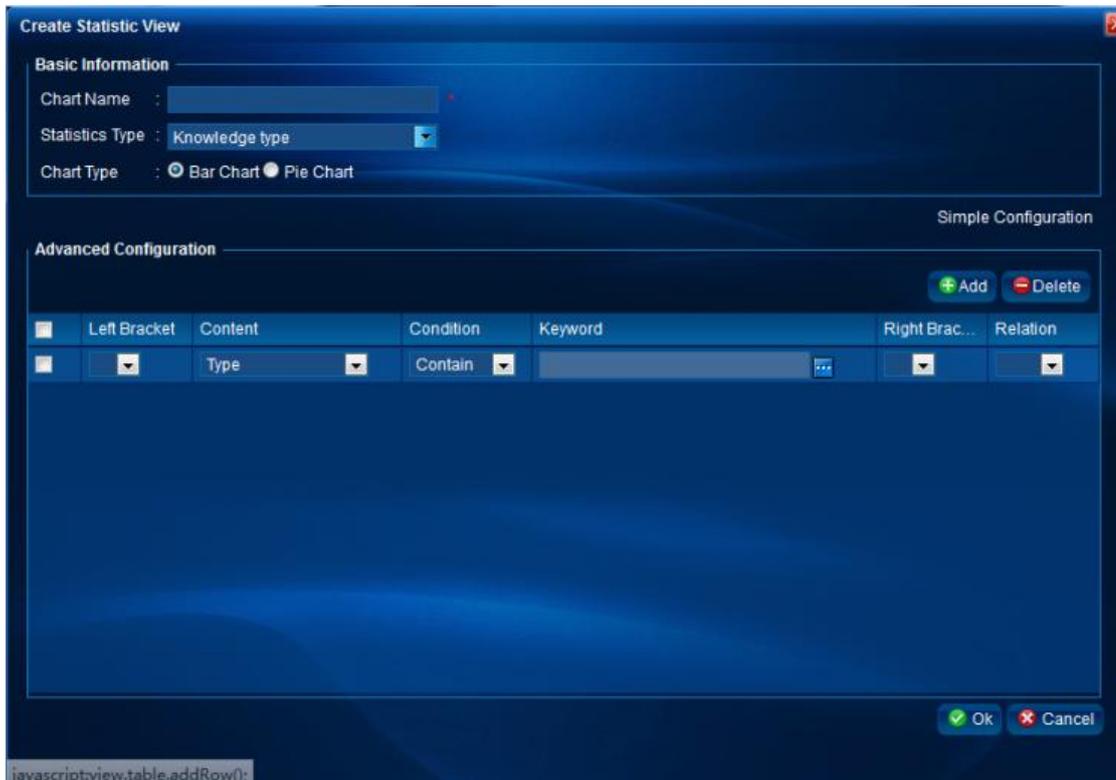
Grade :

Knowledge status :

Source :

Ok Cancel

Simple Configuration



Create Statistic View

Basic Information

Chart Name :

Statistics Type : Knowledge type

Chart Type : Bar Chart Pie Chart

Advanced Configuration

Simple Configuration

+ Add - Delete

Left Bracket	Content	Condition	Keyword	Right Brac...	Relation
<input type="text"/>	Type	Contain	<input type="text"/>	<input type="text"/>	<input type="text"/>

Ok Cancel

javascript:view.table.addRow();

Advanced Configuration

The **Create Statistic View** page is displayed. Select **Statistics Type** and **Chart Type**, set conditions, and then click **Save**.



2) Click  to delete a view.

3) Click  to edit a view.

3. Knowledge Setting

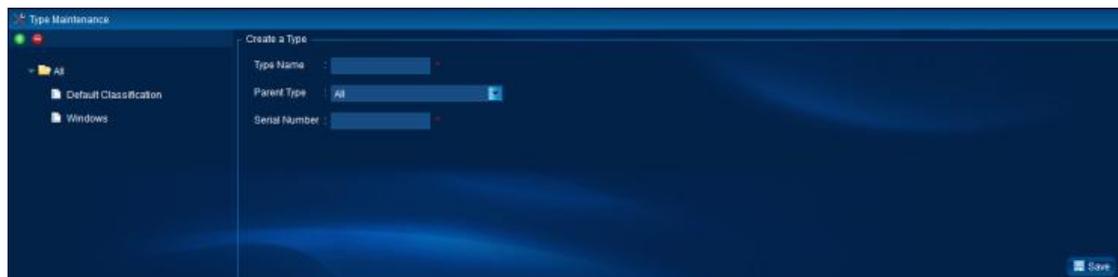
1) Basic Setting

You can set conditions of hotspot knowledge and excellent knowledge.



2) Type Maintenance

 Click  to add a knowledge type.

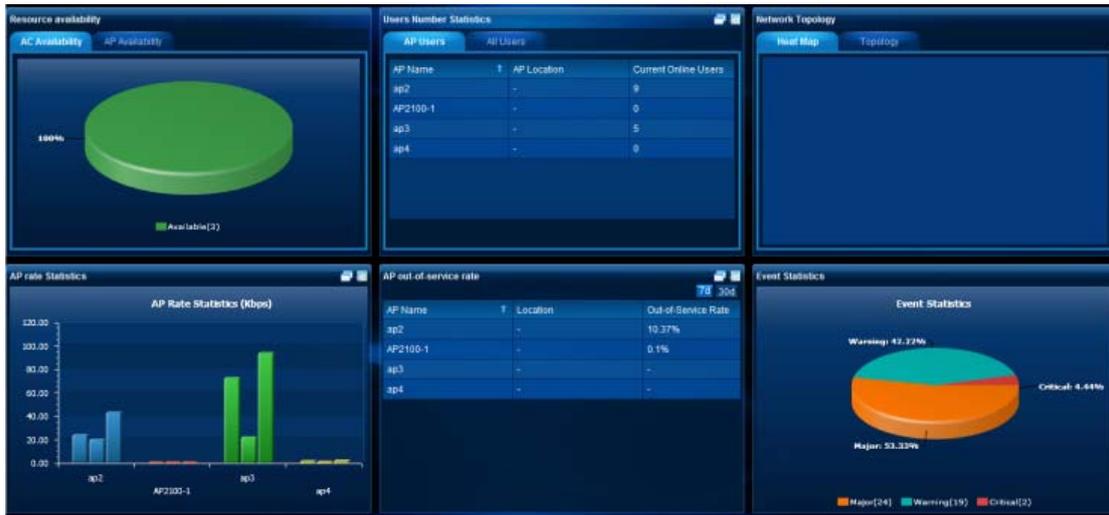


 Click  to delete a knowledge type.

4.12 Wireless Management

The **Manage Wireless** module provides visualized monitoring and management of wireless networks, including the homepage, wireless topology, overall events and alarms, resource management, Top N, security management, statistics report, and wireless configuration.

4.12.1 Homepage

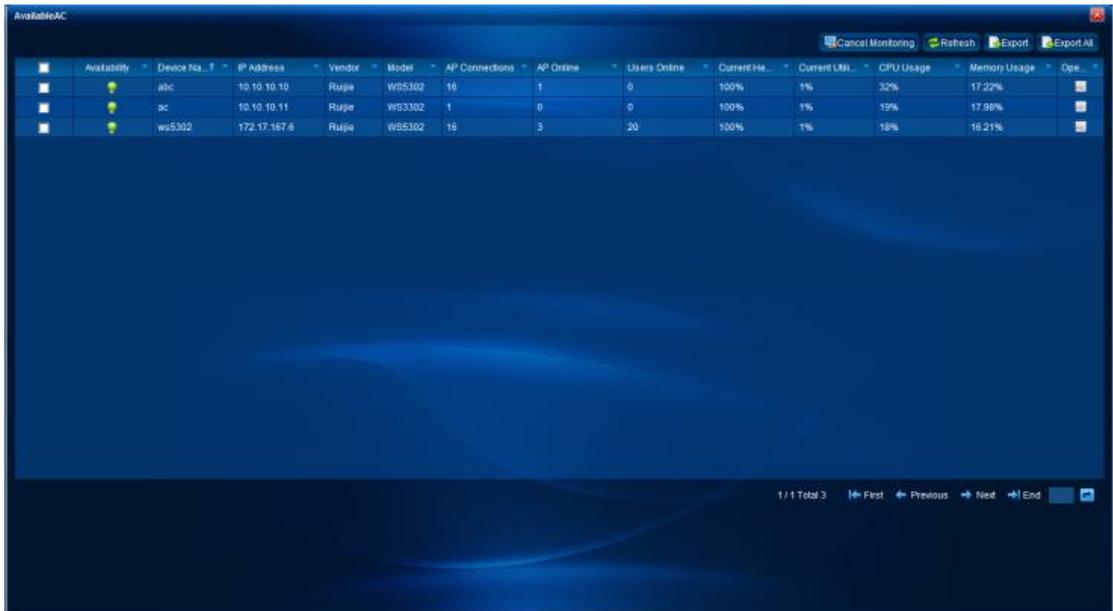


The homepage provides six information panels, visually presenting the wireless resource availability, number of online users, wireless network topology, AP rate statistics (fit AP), AP out-of-service rate (fit AP), and event statistics.

4.12.1.1 Resource Availability

1. The availability status of monitored ACs and fit APs is displayed in pie charts. You can click the pie chart to open the list of the resources in corresponding status.





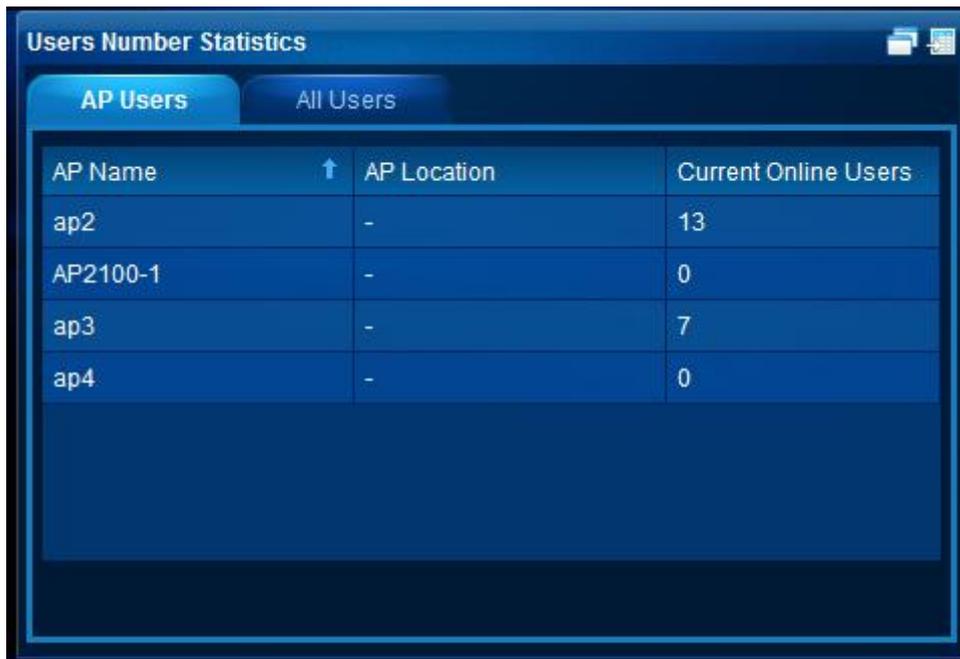
Availability	Device Name	IP Address	Vendor	Model	AP Connections	AP Online	Users Online	Current He...	Current Util...	CPU Usage	Memory Usage	Oper...
	abc	10.10.10.10	Ruijie	WS5302	16	1	0	100%	1%	32%	17.22%	
	ac	10.10.10.11	Ruijie	WS3302	1	0	0	100%	1%	19%	17.98%	
	ws5302	172.17.167.6	Ruijie	WS5302	16	3	20	100%	1%	18%	16.21%	

2. Click a resource in the resource list. The details page of the resource is displayed.



4.12.1.2 Users Number Statistics

1. This panel displays the statistics of AP users and all users.



AP Name	AP Location	Current Online Users
ap2	-	13
AP2100-1	-	0
ap3	-	7
ap4	-	0



2. On the **AP Users** tab page, click the view all button. The statistics of online AP users are displayed.

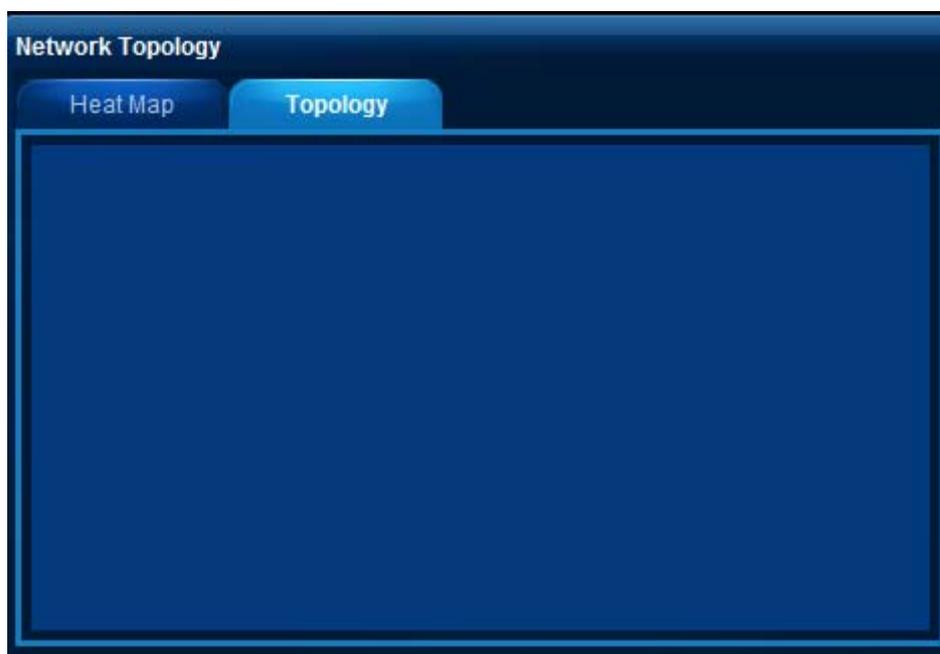


3. On the **AP Users** tab page, click the rollover button to switch to the bar chart.



4.12.1.3 Network Topology

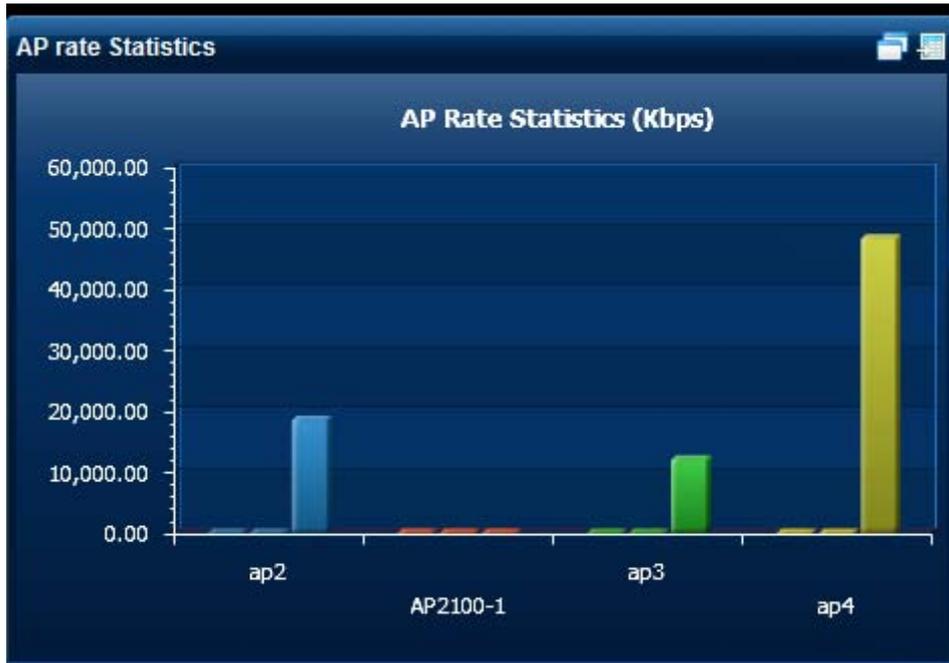
1. This panel provides shortcuts to the **Heat Map** or **Topology** tab page. You can right-click in the blank area of the topology and select **Preview** from the shortcut menu to create a shortcut on the homepage.



2. Click the **Heat Map** or **Topology** tab on the **Network Topology** panel of the homepage to quickly access the corresponding view.

4.12.1.4 AP rate Statistics

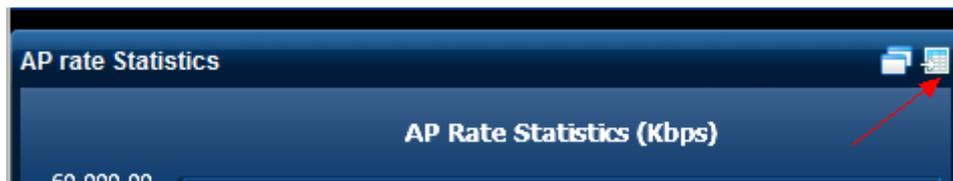
1. This panel displays the rate statistics of all fit APs.



2. Click the view all button. The statistics of rates of all APs are displayed.



3. Click the rollover button to switch to the table.



AP rate Statistics

AP	Uplink Rate (...)	Downlink Rat...	Total Rate (K...
ap2	10.78	14.07	18519.89
AP2100-1	0	0	0
ap3	33.12	11.62	12040.4
ap4	0.45	0.07	48286.12

4.12.1.5 AP out-of-service rate

1. This panel displays the out-of-service rate statistics of all fit APs.

AP out-of-service rate

7d 30d

AP Name	Location	Out-of-Service Rate
ap2	-	10.37%
AP2100-1	-	0.1%
ap3	-	-
ap4	-	-

2. Click the view all button. The out-of-service rate statistics of all APs are displayed.

AP out-of-service rate

7d 30d

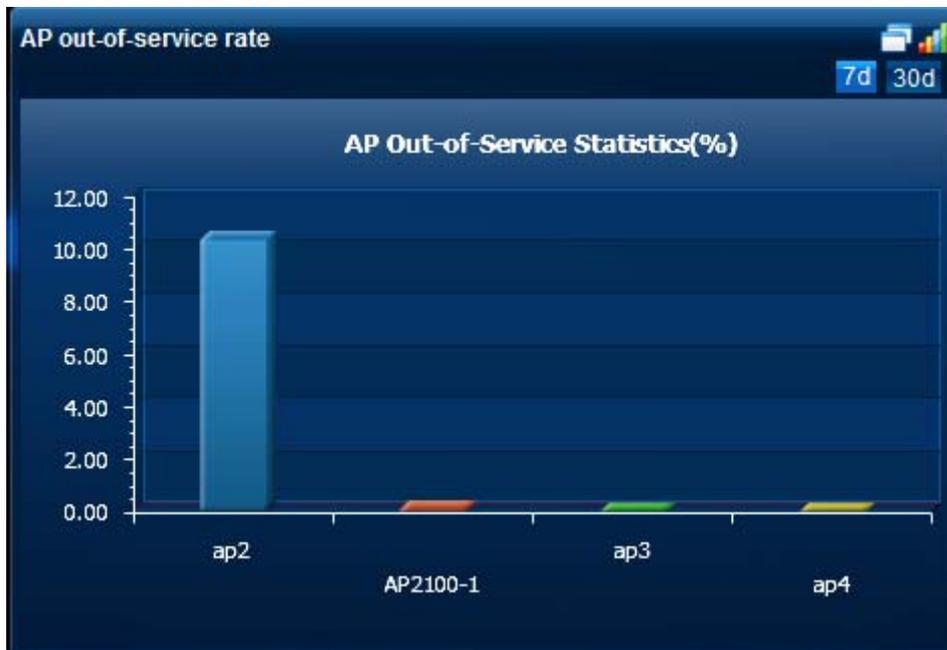
AP Name	Location	Out-of-Service Rate
ap2	-	10.37%
AP2100-1	-	0.1%

3. Click the rollover button to switch to the table.

AP out-of-service rate

7d 30d

AP Name	Location	Out-of-Service Rate
ap2	-	10.37%



4.12.1.6 Event Statistics

1. This panel displays event statistics by event severity.



2. Click the pie chart to display the event list.



The screenshot shows the 'Event Statistics' window with the 'Unrecovered' tab selected. The table below represents the data shown in the window:

Event Name	IP Address	Resource Name	Resource Type	Occurrence Time	Processing Ti.	Maint.
(Ruijie Wireless AC Devices)Slight overrun of Me...	172.17.167.6	ws5302	Ruijie Wireless A...	04/22/2013 17:20:58	-	?
(Ruijie Wireless AC Devices)Slight overrun of CP...	10.10.10.11	ac	Ruijie Wireless A...	04/22/2013 17:20:58	-	?
(Ruijie Wireless AC Devices)Slight overrun of Up...	172.17.167.6	ws5302	Ruijie Wireless A...	04/22/2013 17:20:59	-	?
(Ruijie Wireless AC Devices)Slight overrun of Th...	172.17.167.6	ws5302	Ruijie Wireless A...	04/22/2013 17:20:59	-	?
(Ruijie Wireless AC Devices)Slight overrun of Th...	10.10.10.10	abc	Ruijie Wireless A...	04/22/2013 17:21:27	-	?
(Ruijie Wireless AC Devices)Slight overrun of Me...	10.10.10.10	abc	Ruijie Wireless A...	04/22/2013 17:21:27	-	?
(Ruijie Wireless AC Devices)Slight overrun of Up...	10.10.10.10	abc	Ruijie Wireless A...	04/22/2013 17:21:27	-	?

Summary: All 7 Critical 0 Major 0 Minor 0 Warning 7 Unknown 0 Information 0. Total: 1/1 Total 7. Navigation: First, Previous, Next, End.

4.12.2 Wireless Topology

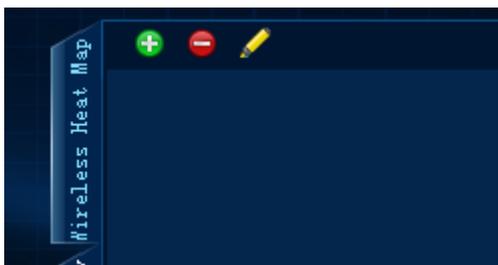
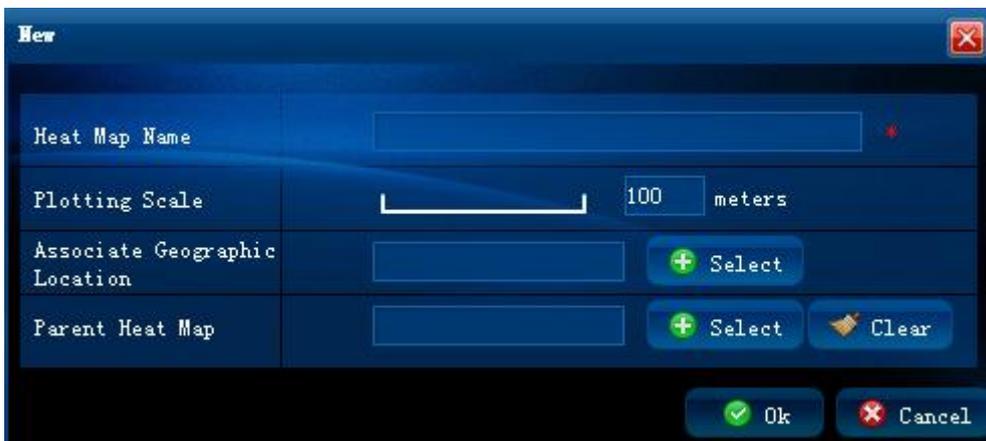
The wireless topology module provides two functions: heat map and geographic location topology. To use the functions, you need to discover and monitor ACs in the system, and then allocate geographic locations for fit APs in **Wireless Configuration > Hotspot Configuration**.

4.12.2.1 Heat Map

If a heat map is created, the heat map is automatically displayed after you access the **Wireless Topology** page.

The heat map visually displays the AP signal coverage in the graphic form.

1. Click the add button on the right **Wireless Heat Map** panel to create a heat map.

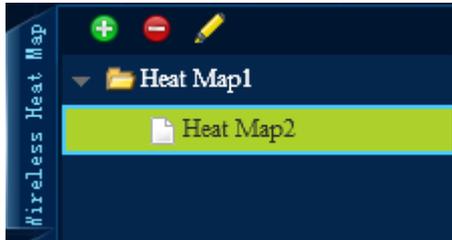



The 'New' dialog box contains the following fields and controls:

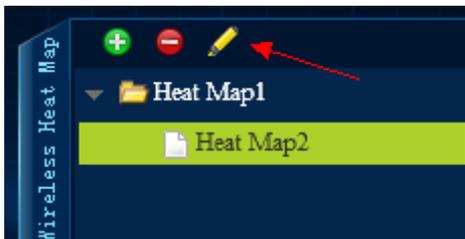
- Heat Map Name:** A text input field.
- Plotting Scale:** A slider control set to 100 meters.
- Associate Geographic Location:** A dropdown menu with a '+ Select' button.
- Parent Heat Map:** A dropdown menu with '+ Select' and 'Clear' buttons.
- Buttons:** 'Ok' and 'Cancel' buttons at the bottom.

- 1) The heat map name must be entered.
- 2) To add an AP to the heat map and associate it with a monitored AP, you need to associate a geographic location when creating the heat map.
- 3) After a parent heat map is configured, heat maps are listed in a tree on the right **Wireless Heat Map** panel.

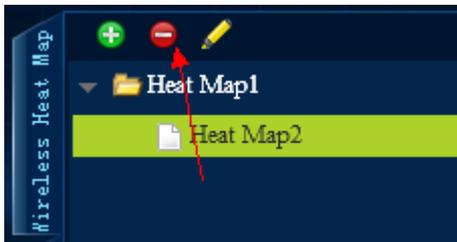
Note: After a heat map is created, only the plotting scale can be changed.



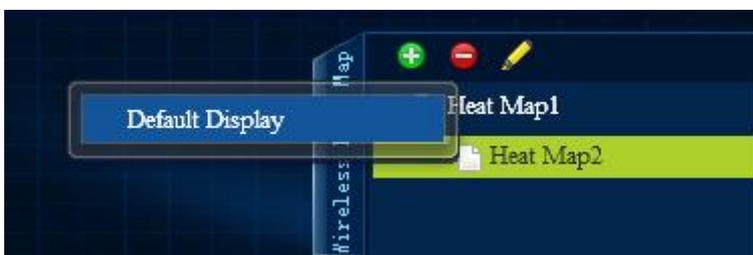
2. On the **Wireless Heat Map** panel, select a created heat map and click the edit button to change the plotting scale.



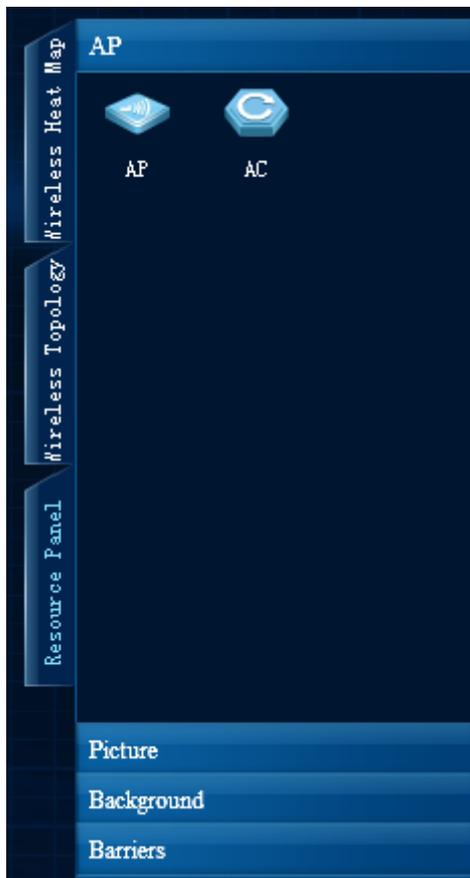
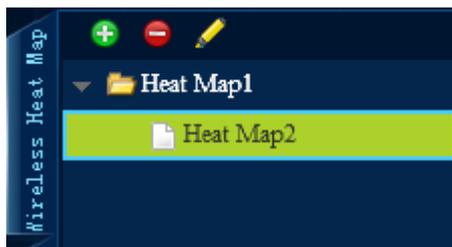
3. On the **Wireless Heat Map** panel, select a created heat map and click the delete button to delete the heat map.



4. On the **Wireless Heat Map** panel, right-click a heat map and select **Default Display** from the shortcut menu.



5. Double-click a heat map name. After the heat map is displayed, the **Resource Panel** panel is displayed on the right.

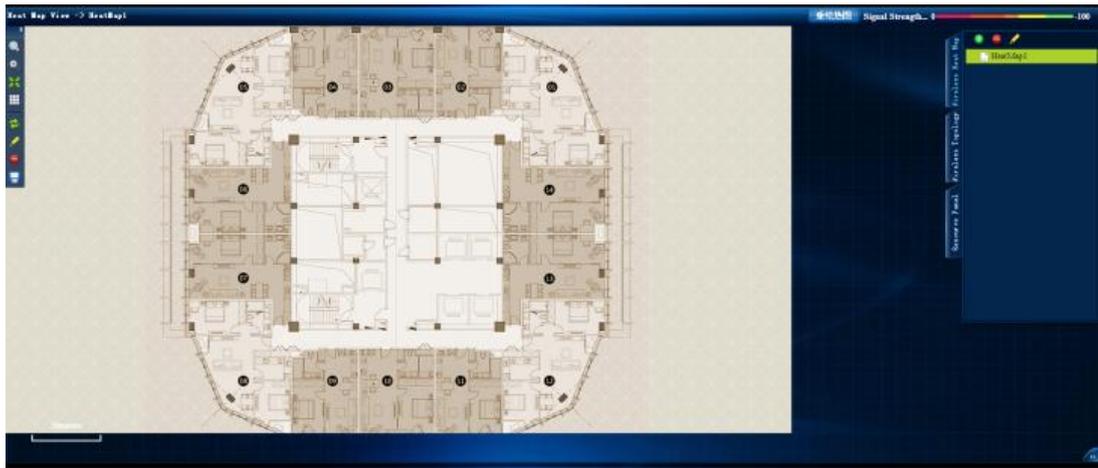


6. Basic functions: After a heat map is created, perform the following steps to draw the heat map:

Note: Any operation on the heat map (for example, adding a node) must be manually saved.

- 1) Dragging a background: On **Resource Panel**, click **Background** and upload a background. Before dragging the background to the topology diagram, check the plotting scale of the background picture. It is recommended that the picture use the same scale as the heat map does.

Note: The scale of the heat map can be changed.



- 2) Dragging an AP: On **Resource Panel**, drag an AP from the **Device** area to the topology. After the AP is dragged to the topology, the **New** page is displayed, where you can configure the AP associated with the node. The AP that can be associated is an AP allocated for the geographic location associated with the current heat map.



List of Wireless Device

	AP	IP Address	MAC Address	AC	AP Group	Location
<input checked="" type="radio"/>	ap2	172.17.163.2	14:14:4b:13:53:2b	ws5302	Ruijie_group	Level1 Location
<input checked="" type="radio"/>	ap3	172.17.163.4	14:14:4b:54:2f0a	ws5302	Ruijie_group	Level1 Location

1/1 Total 2 |< First < Previous Next > End >|

Ok Cancel

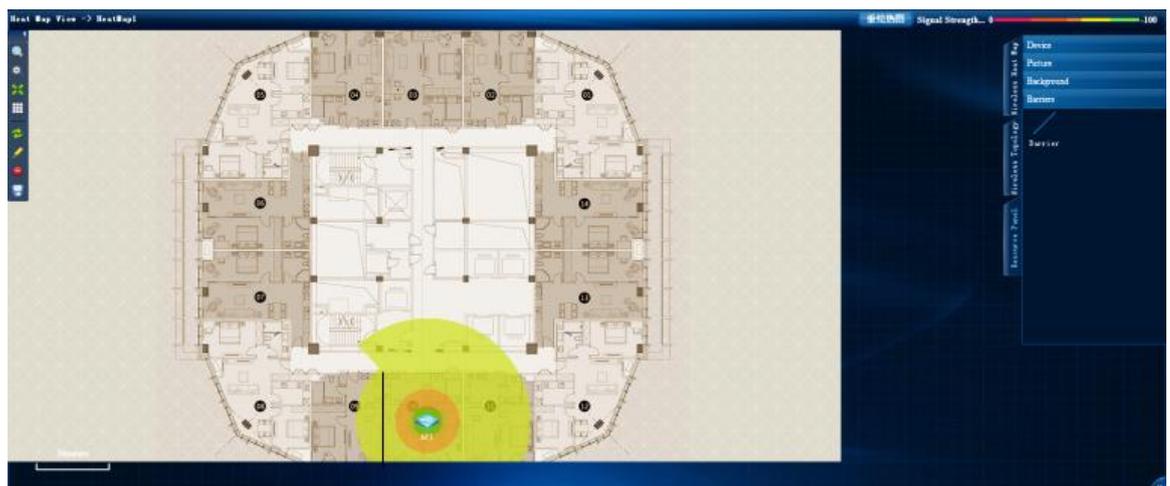
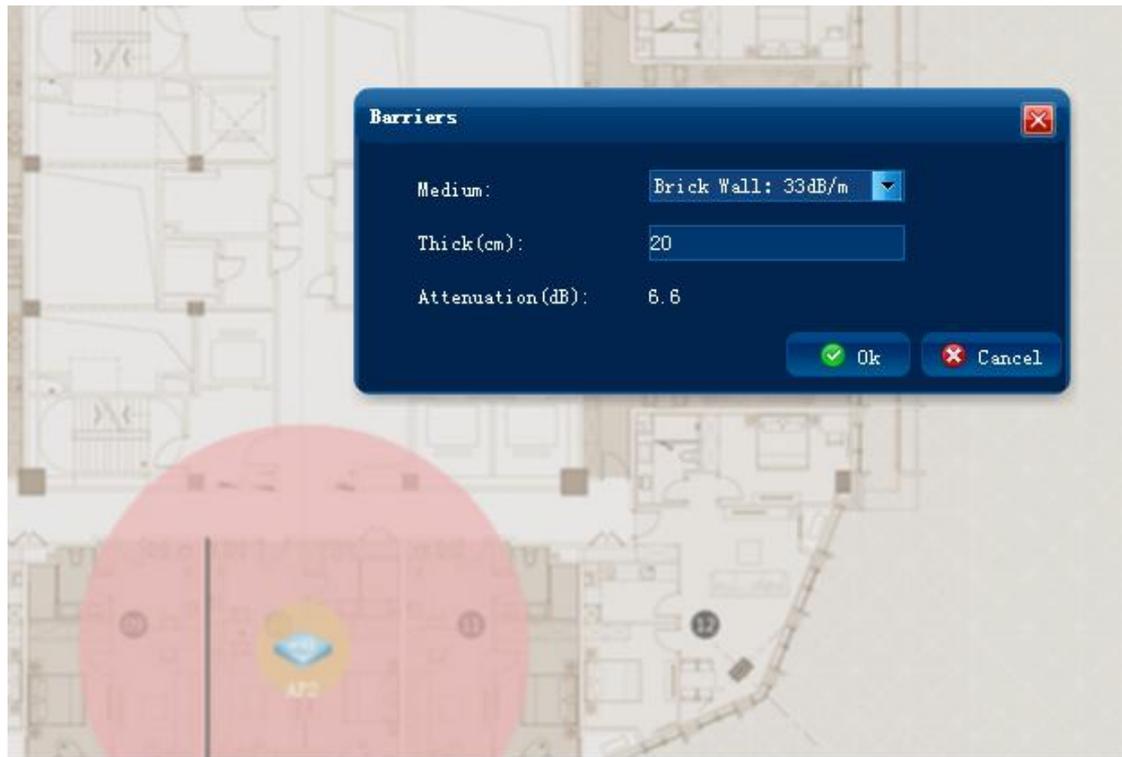
Note: If you make any modification on the heat map, you must click the **Redraw Heatmap** button, so that the heat map is refreshed.



The node may or may not be associated with an AP. If the node is not associated with an AP, the signal coverage is not displayed. If the node is associated with an AP, you can right-click the node and edit it.

- 3) Adding a barrier: On **Resource Panel**, drag a barrier from the **Barriers** area to the topology. Adding barriers aims to make the heat map reflect the actual AP signal coverage.

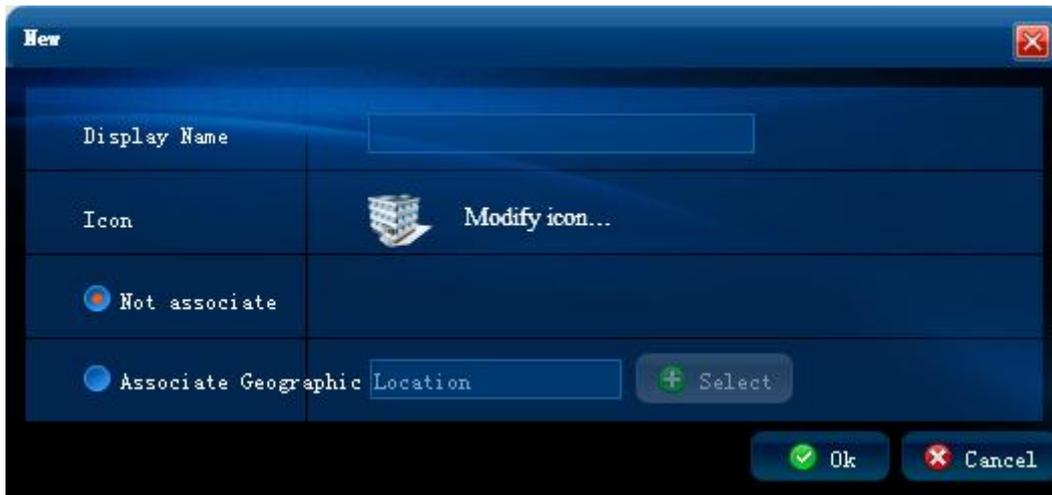
After a barrier is dragged to the topology, the **Barriers** page is displayed.



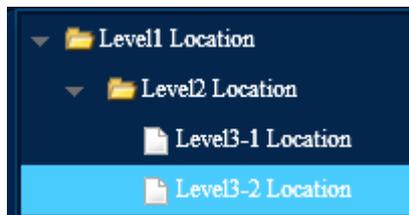
Note: After the barrier is added, you can right-click the barrier and edit it.

7. Advanced function: drilling down

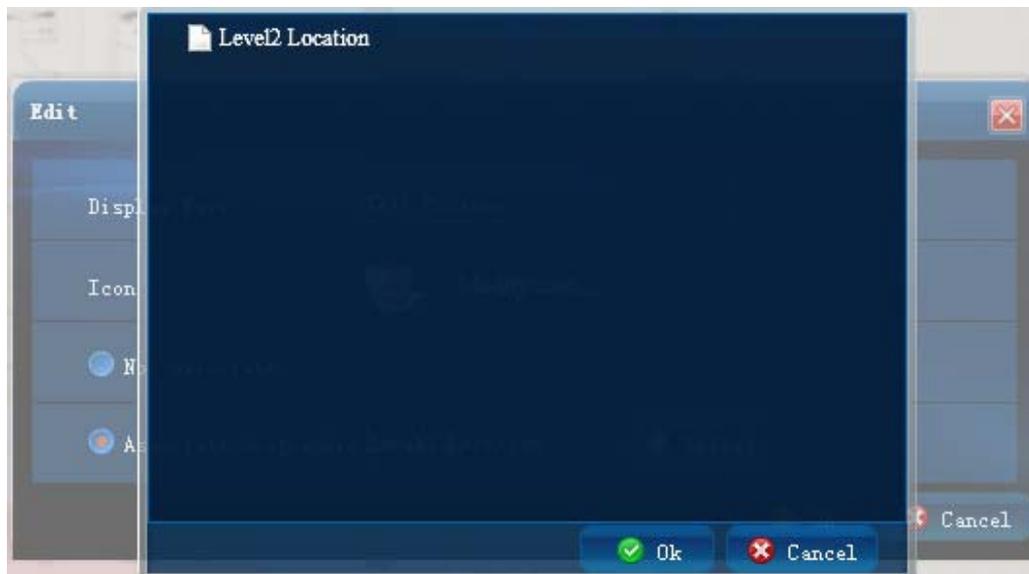
- 1) To use the drilling down function, drag a picture node from the **Picture** area on **Resource Panel** to the topology. (After the node is dragged to the topology, the **New** page is displayed.)



- 1.1) To use the drilling down function, you need to associate a geographic location.
- 1.2) You can only associate the immediate child node of the geographic location associated with the current heat map. For example, in the following configuration



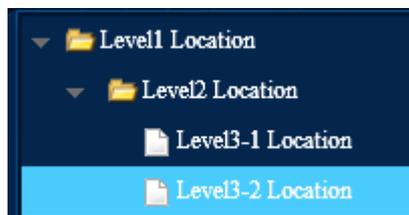
the heat map is associated with Level1 Location, the picture node can be associated only with Level2 Location.



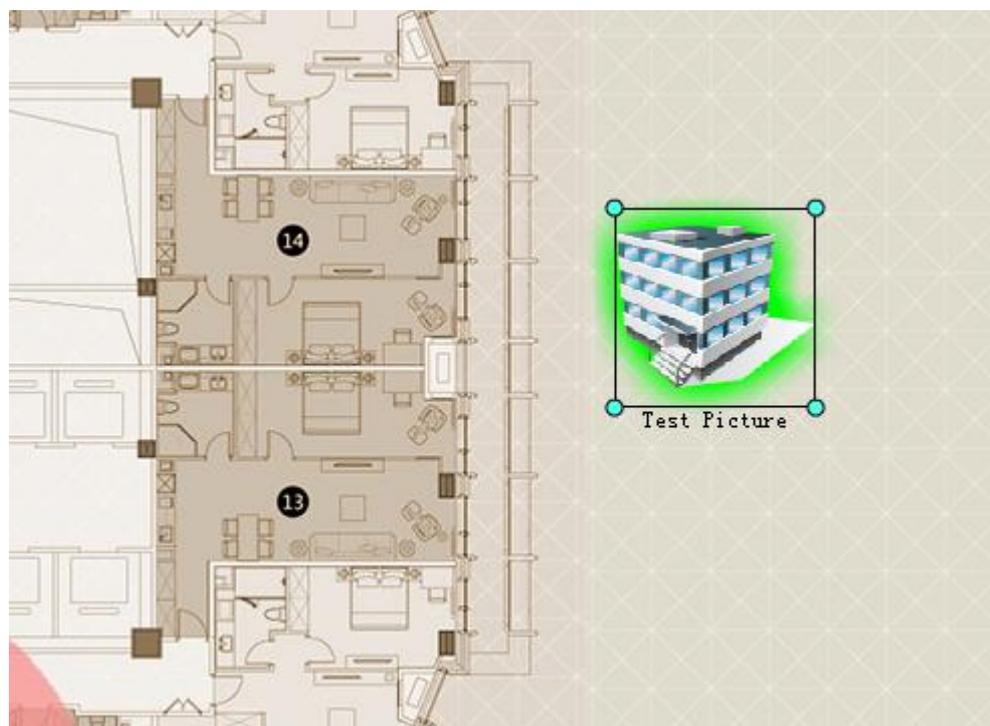
- 2) You can use the drilling down function for two purposes:
 Double-click a picture node and drill down to the heat map associated with the same geographic location as the picture node.
 Right-click a picture node and drill down to the heat map associated with the immediate child node of the geographic location associated with the picture node.

- 3) To activate the drilling down function, you need to associate a heat map with the geographic location that is associated with the picture node. See the following example.

3.1) The geographic location configuration is as follows:



- 3.2) The current heat map is associated with Level1 Location, and the Test Picture node is associated with Level2 Location.



- 3.3) Assume that Level2 Location and Level3-1 Location are associated with heat maps.
- 3.3.1) Double-click the Test Picture node, and the heat map associated with Level2 Location will be drilled.
- 3.3.2) Right-click the Test Picture node, and the immediate child node of Level2 Location are displayed. Because Level3-2 Location is not associated with a heat map, it is grayed out.



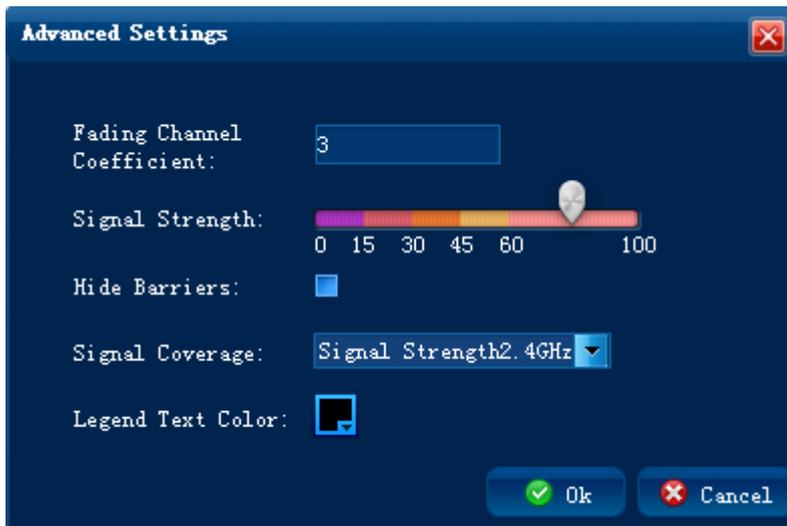
Select **Level3-1 Location**. The heat map associated with Level3-2 Location can be drilled.

8. Other operations on the heat map:

1) Signal strength toolbar



Click the signal strength toolbar. The **Advanced Settings** page is displayed, where you can set the maximum signal strength displayed on the AP and some other parameters.



2) Right-click in the blank area. The following shortcut menu is displayed.



2.1) Preview: Click it to generate a shortcut to the **Wireless Heat Map** tab on the **Network Topology** panel of the wireless management homepage.

2.2) Advanced Settings: Click it to display the **Advanced Settings** page the same as you click the signal strength toolbar.

2.3 Node Setting: Click it to set node text format on the topology.

Note: **Node Setting** is used to set the text display effect of nodes. **Legend Text Color** on the **Advanced Settings** page is used to set the colors of the scale and signal strength toolbar.

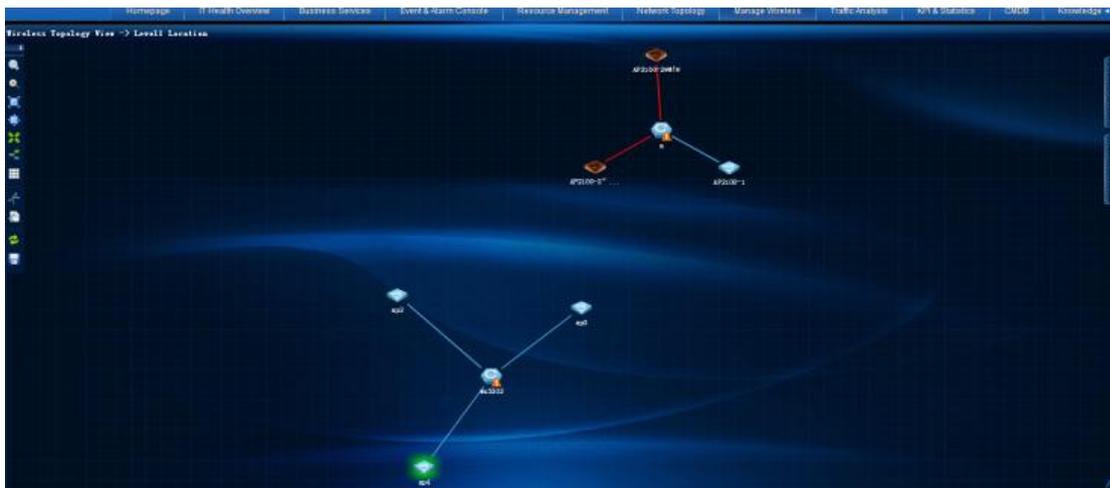
3) Edit button on the left toolbar



3.1) If you select a node (such as an AP node or a barrier) and click the **Edit** button, a page for editing the node is displayed. If you click the **Edit** button without selecting any node, the **Advanced Settings** page is displayed, which is the same as that displayed when you click the signal strength toolbar.

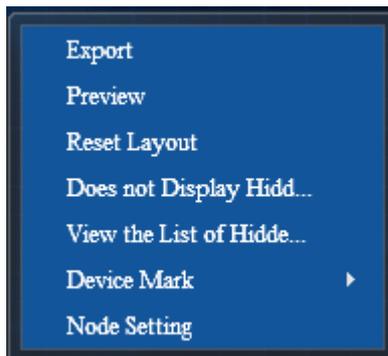
4.12.2.2 Geographic Location Topology

If no heat map is configured, the **Wireless Topology** page is displayed. The topology of the first node (not the All node) in the geographic location tree in **Hotspot Configuration**.

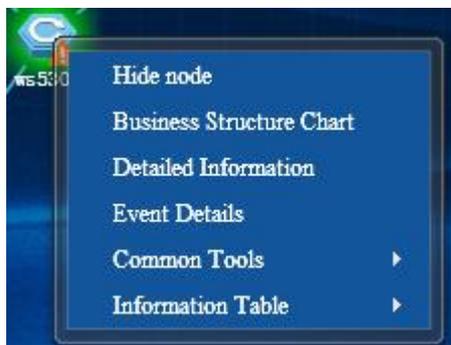


1. The topology includes all fit APs configured under the node and the ACs of the fit APs.
2. Click any other node on the **Wireless Topology** panel. The corresponding topology will be displayed.
3. When the geographic location topology is displayed, the right panel does not display the **Resource Panel** tab.

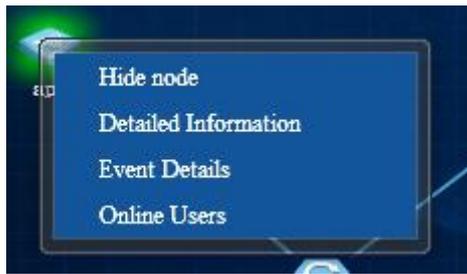
4. Right-click in the blank area. The following shortcut menu is displayed.



- 1) Export: Click it to export a screenshot of the current topology.
 - 2) Preview: Click it to generate a shortcut to the **Topology** tab on the **Network Topology** panel on the wireless management homepage
 - 3) Reset Layout: Click it to apply the star layout
 - 4) Display/Does not Display Hidden Node: Click it to display or not display hidden nodes.
 - 5) View the List of Hidden Resources: Click to view the list of hidden resources and change the hidden state of the resources
 - 6) Device Mark: Click it to specify the IP address or resource name to be displayed for a device on the topology
 - 7) Node Setting: Click it to set node text format on the topology
5. Right-click an AC. The following shortcut menu is displayed.



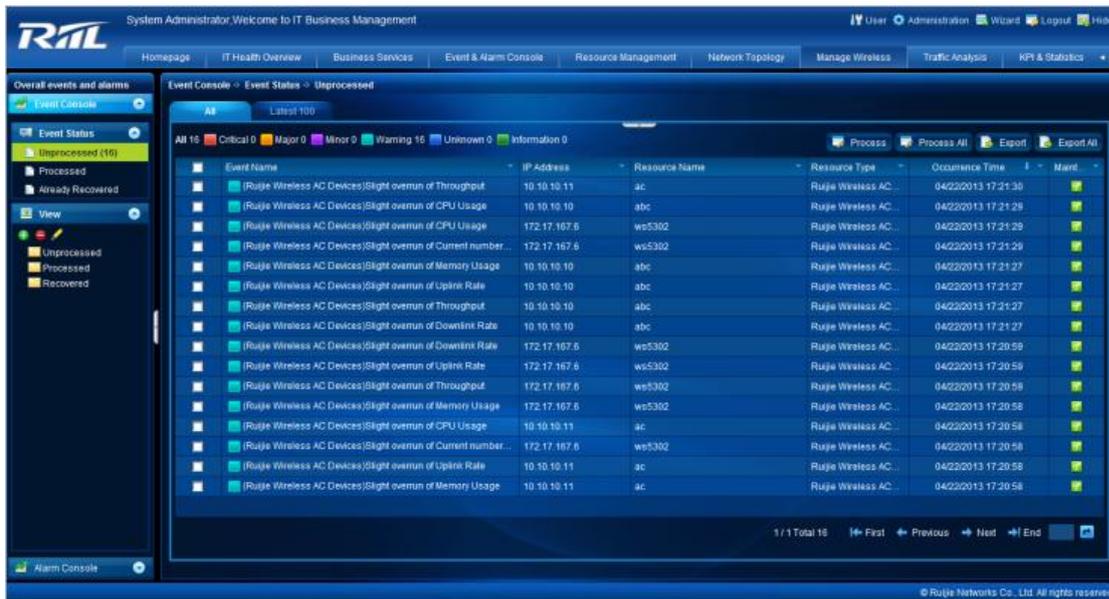
- 1) Display/Hide node: Click it to display or hide nodes.
 - 2) Business Structure Chart: Click it to view resource locations in the business structure chart.
 - 3) Detailed Information: Click it to display the **Resource Details** page.
 - 4) Event Details: Click to display the **Event Details** page.
 - 5) Common Tools
 - 6) Information Table: Click it to view the AC interface table and routing table
6. Right-click an AP. The following shortcut menu is displayed.



- 1) Display/Hide node: Click it to display or hide nodes.
 - 2) Detailed Information: Click it to display the **Resource Details** page.
 - 3) Event Details: Click it to display the **Event Details** page.
 - 4) Online users: Click it to display the AP online users.
7. The left toolbar provides some operation buttons for easy operations.
8. Except that hiding or displaying nodes is automatically saved, all other operations on the topology (for example, moving a node) must be manually saved.

4.12.3 Overall Events and Alarms

4.12.3.1 Event Console

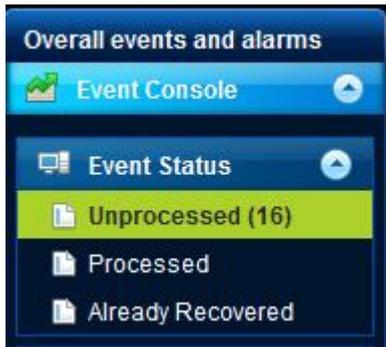


Event Name	IP Address	Resource Name	Resource Type	Occurrence Time	Mand.
(Ruijie Wireless AC Devices) (Slight overrun of Throughput)	10.10.10.11	ac	Ruijie Wireless AC...	04/22/2013 17:21:30	
(Ruijie Wireless AC Devices) (Slight overrun of CPU Usage)	10.10.10.10	abc	Ruijie Wireless AC...	04/22/2013 17:21:29	
(Ruijie Wireless AC Devices) (Slight overrun of CPU Usage)	172.17.167.6	ws5302	Ruijie Wireless AC...	04/22/2013 17:21:29	
(Ruijie Wireless AC Devices) (Slight overrun of Current number...	172.17.167.6	ws5302	Ruijie Wireless AC...	04/22/2013 17:21:29	
(Ruijie Wireless AC Devices) (Slight overrun of Memory Usage)	10.10.10.10	abc	Ruijie Wireless AC...	04/22/2013 17:21:27	
(Ruijie Wireless AC Devices) (Slight overrun of Uplink Rate)	10.10.10.10	abc	Ruijie Wireless AC...	04/22/2013 17:21:27	
(Ruijie Wireless AC Devices) (Slight overrun of Throughput)	10.10.10.10	abc	Ruijie Wireless AC...	04/22/2013 17:21:27	
(Ruijie Wireless AC Devices) (Slight overrun of Downlink Rate)	10.10.10.10	abc	Ruijie Wireless AC...	04/22/2013 17:21:27	
(Ruijie Wireless AC Devices) (Slight overrun of Downlink Rate)	172.17.167.5	ws5302	Ruijie Wireless AC...	04/22/2013 17:20:59	
(Ruijie Wireless AC Devices) (Slight overrun of Uplink Rate)	172.17.167.6	ws5302	Ruijie Wireless AC...	04/22/2013 17:20:59	
(Ruijie Wireless AC Devices) (Slight overrun of Throughput)	172.17.167.6	ws5302	Ruijie Wireless AC...	04/22/2013 17:20:58	
(Ruijie Wireless AC Devices) (Slight overrun of Memory Usage)	172.17.167.5	ws5302	Ruijie Wireless AC...	04/22/2013 17:20:58	
(Ruijie Wireless AC Devices) (Slight overrun of CPU Usage)	10.10.10.11	ac	Ruijie Wireless AC...	04/22/2013 17:20:58	
(Ruijie Wireless AC Devices) (Slight overrun of Current number...	172.17.167.6	ws5302	Ruijie Wireless AC...	04/22/2013 17:20:58	
(Ruijie Wireless AC Devices) (Slight overrun of Uplink Rate)	10.10.10.11	ac	Ruijie Wireless AC...	04/22/2013 17:20:58	
(Ruijie Wireless AC Devices) (Slight overrun of Memory Usage)	10.10.10.11	ac	Ruijie Wireless AC...	04/22/2013 17:20:58	

Only events generated by wireless resources are displayed.

1. Viewing events

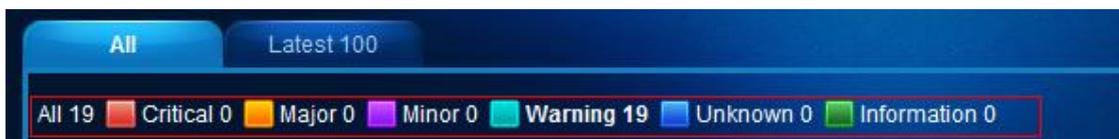
- 1) You can view events in the unprocessed, processed, and already recovered states.



Unprocessed events are further classified into all unprocessed events and the latest 100 unprocessed events.



- 2) Click  or  to export one or all events.
- 3) Filter events quickly by event severity.



Note: The function of filtering events by event severity is available on all other event views except the **Latest 100** view.

- 4) Click the unfold button to unfold the search bar.





Note: This function is available on all other event views except the **Latest 100** view.

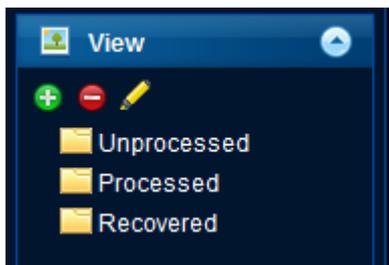
2. Processing events

1) Unprocessed events can be manually processed. The processed events no longer displayed for the resource node on the wireless topology.

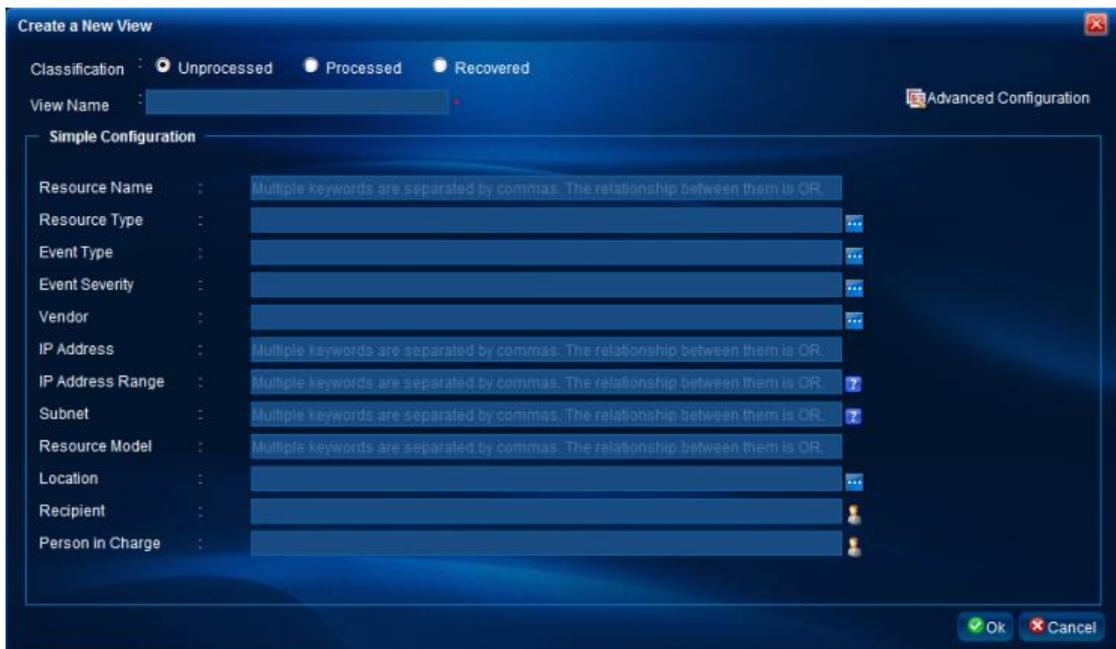
2) You can click  **Process** or  **Process All** to process one or all events in the unprocessed event list.

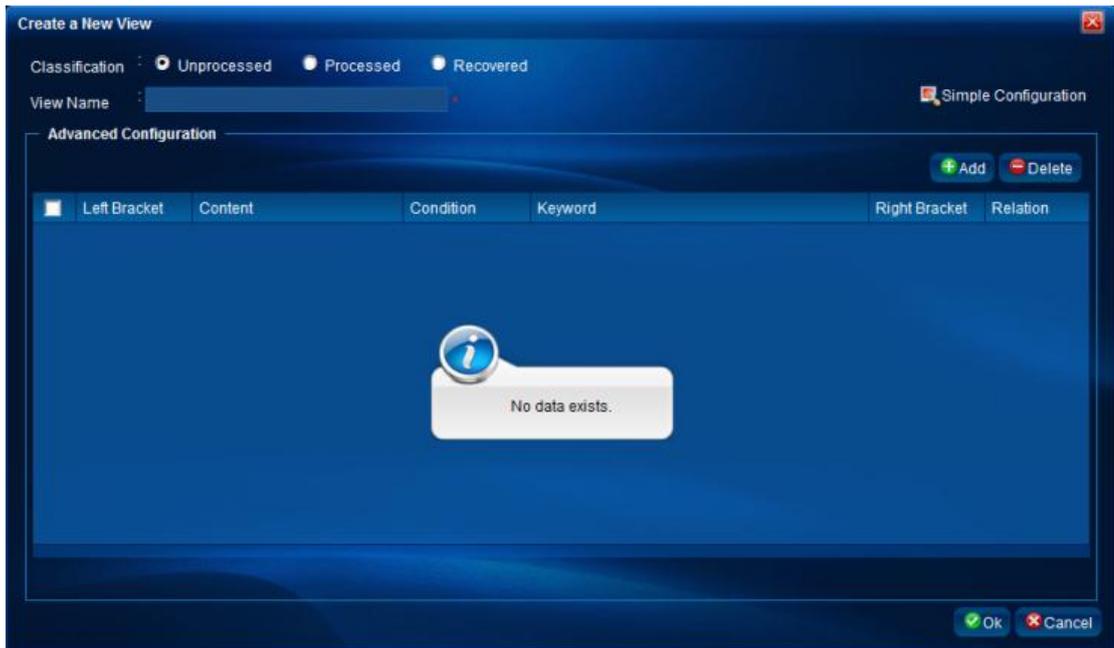
3. Defining a view

1) You can define an event view for your concerned events. In the self-defined view, events are also classified into unprocessed, processed and recovered events.

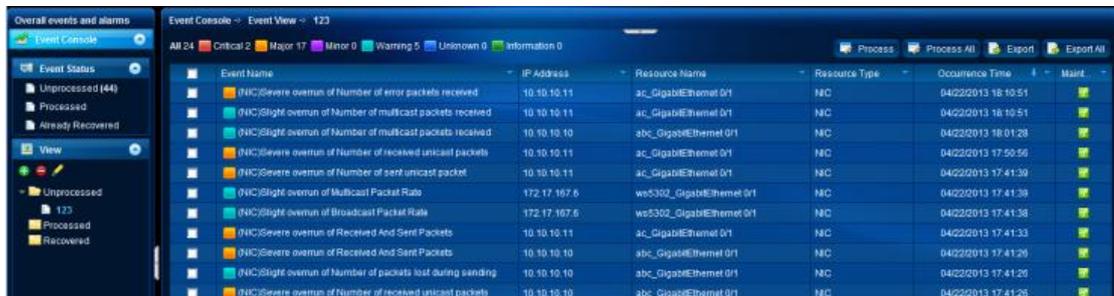


2)  are used to create, delete, or edit a view.



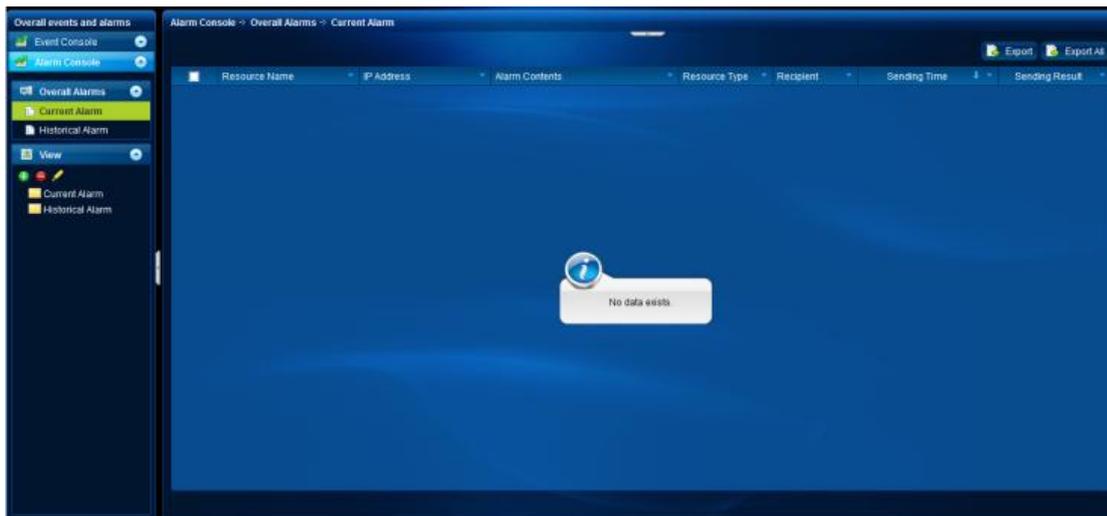


- 3) You can click  **Advanced Configuration** or  **Simple Configuration** to perform advanced configuration or simple configuration for the created view. On the **Advanced Configuration** page, you can flexibly set search conditions for specific filtering.
- 4) You can also process events in the self-defined view for unprocessed events.



4.12.3.2 Alarm Console

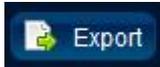
When an event generated by the wireless resource meets the alarm condition of the wireless device, RIIL generates an alarm. You can view all alarms generated by wireless resources on the alarm console.



1. Viewing events

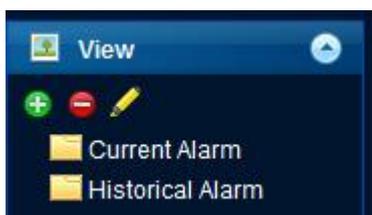
- 1) Alarms are classified into current alarms and historical alarms by generation time. Current alarms are generated on the current day. Historical alarms are generated previously.



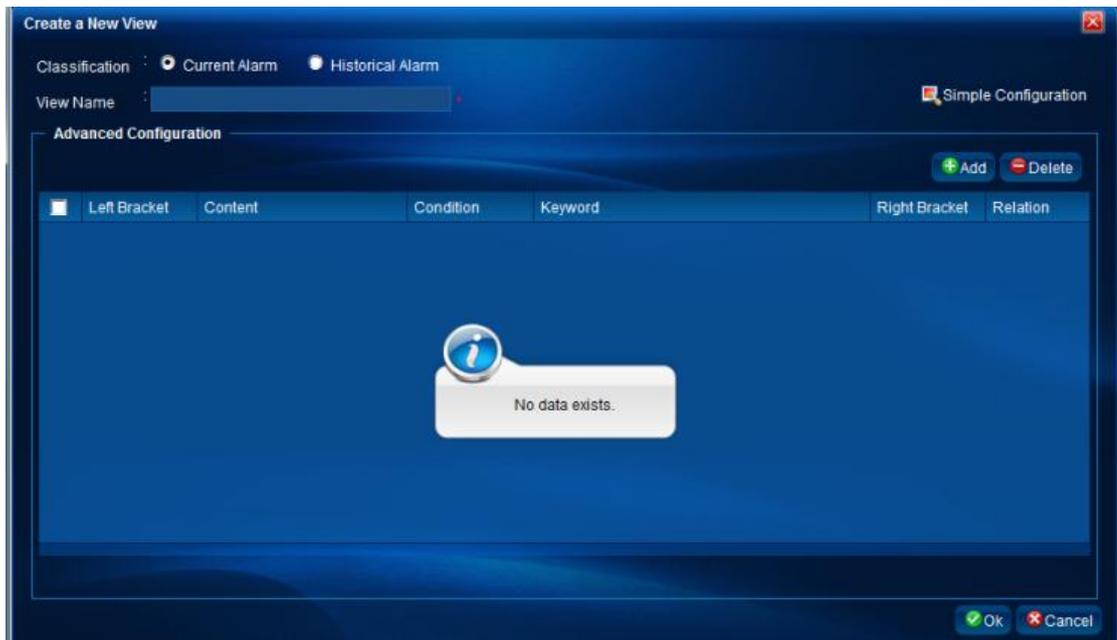
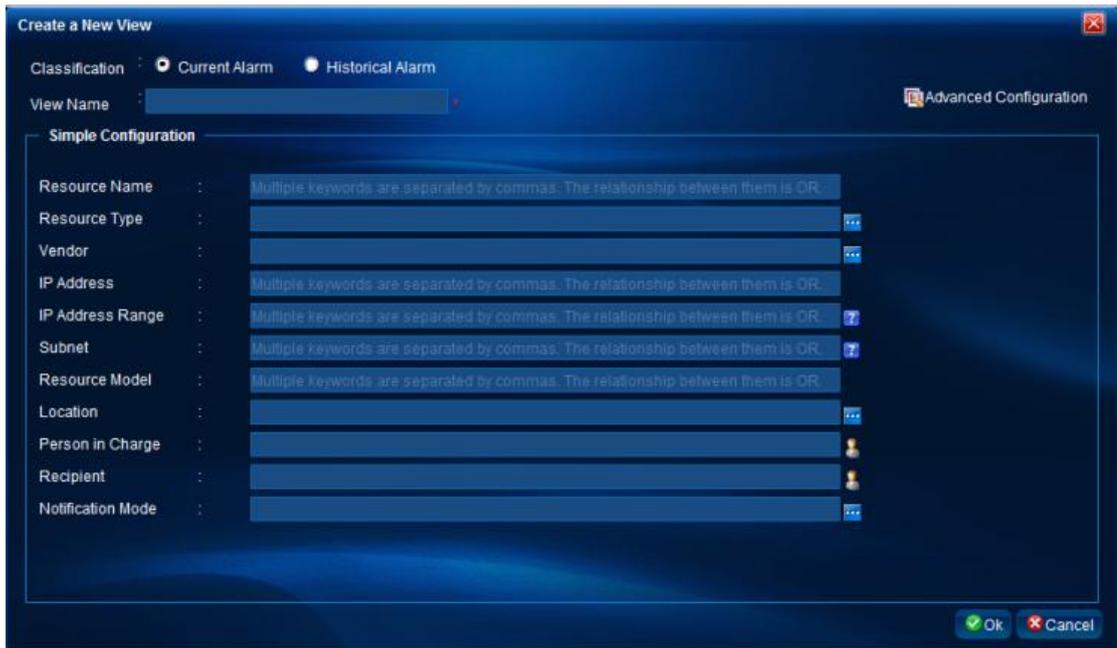
- 2) You can click  or  to export one or all alarms.

2. Defining a view

- 1) You can define a view for your concerned alarms. In this view, alarms are also classified into current alarms and historical alarms.



- 2)  are used to create, delete, or edit a view.

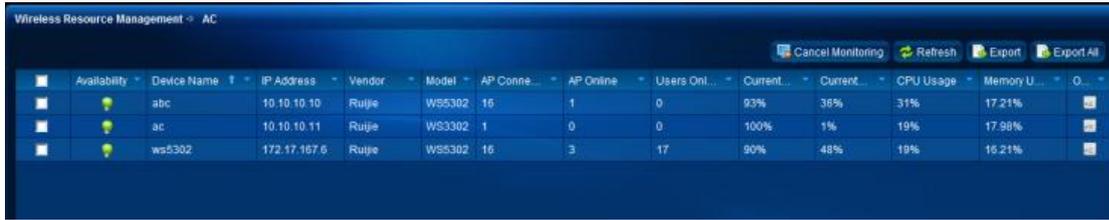


- 3) You can click  or  to perform advanced configuration or simple configuration for the created view. In the **Advanced Configuration** area, you can flexibly set search conditions for specific filtering.

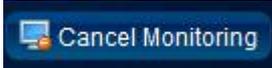
4.12.4 Wireless Resource Management

On the **Wireless Resource Management** page, you can view information of the monitored AC, fat AP, fit AP, and WLAN resources, number of online users, and details of out-of-service fit APs, and manage the access ports of fit APs.

4.12.4.1 AC

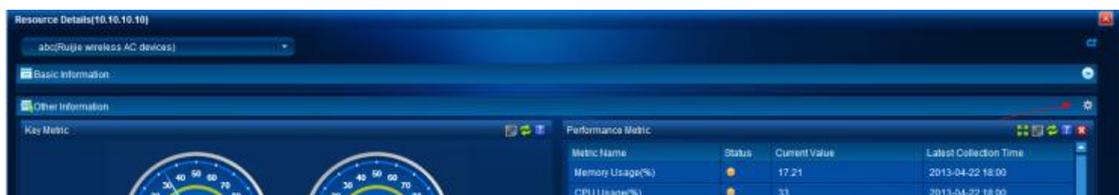


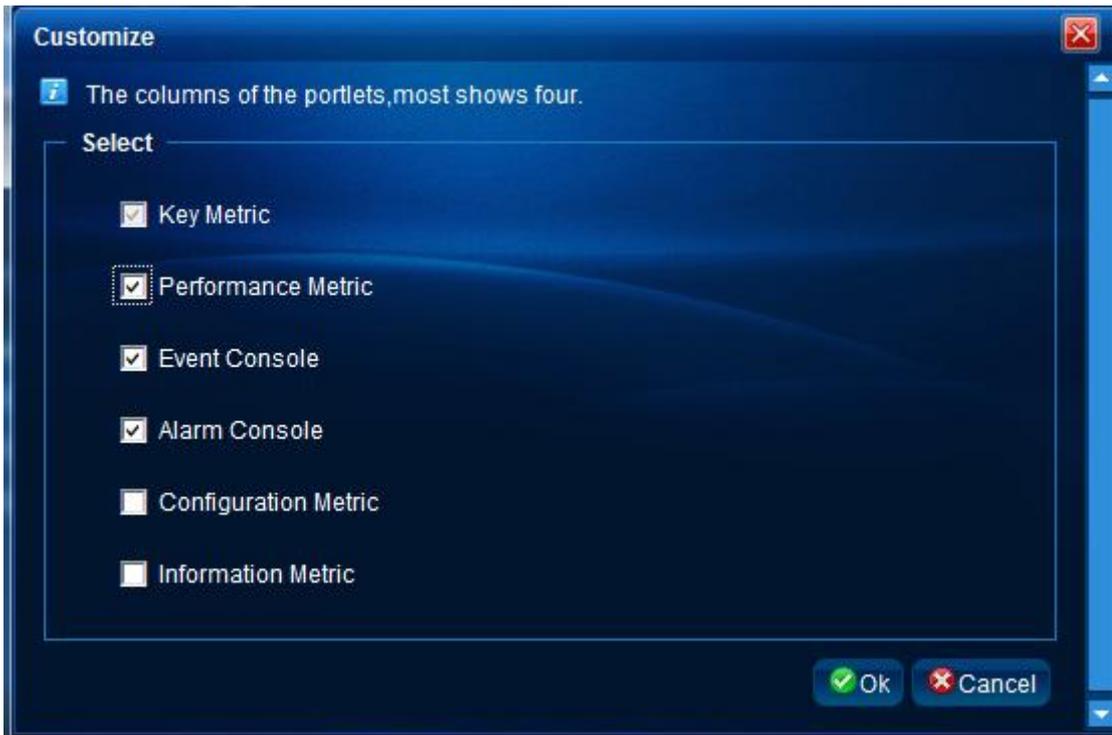
Availability	Device Name	IP Address	Vendor	Model	AP Conne...	AP Online	Users Ont...	Current...	Current...	CPU Usage	Memory U...	0...
	abc	10.10.10.10	Ruijie	WS5302	16	1	0	93%	38%	31%	17.21%	
	ac	10.10.10.11	Ruijie	WS3302	1	0	0	100%	1%	19%	17.98%	
	ws5302	172.17.167.6	Ruijie	WS5302	16	3	17	90%	48%	19%	16.21%	

1. The AC list displays all monitored AC resources.
2. You can click  to stop monitoring an AC. The unmonitored AC resource is no longer displayed in the resource management list.
3. You can click  or  to export resource monitoring information.
4. Click a resource name. The **Resource Details** page is displayed.



- 1) On the **Resource Details** page, click the setting button to set the panel displayed on the details page.



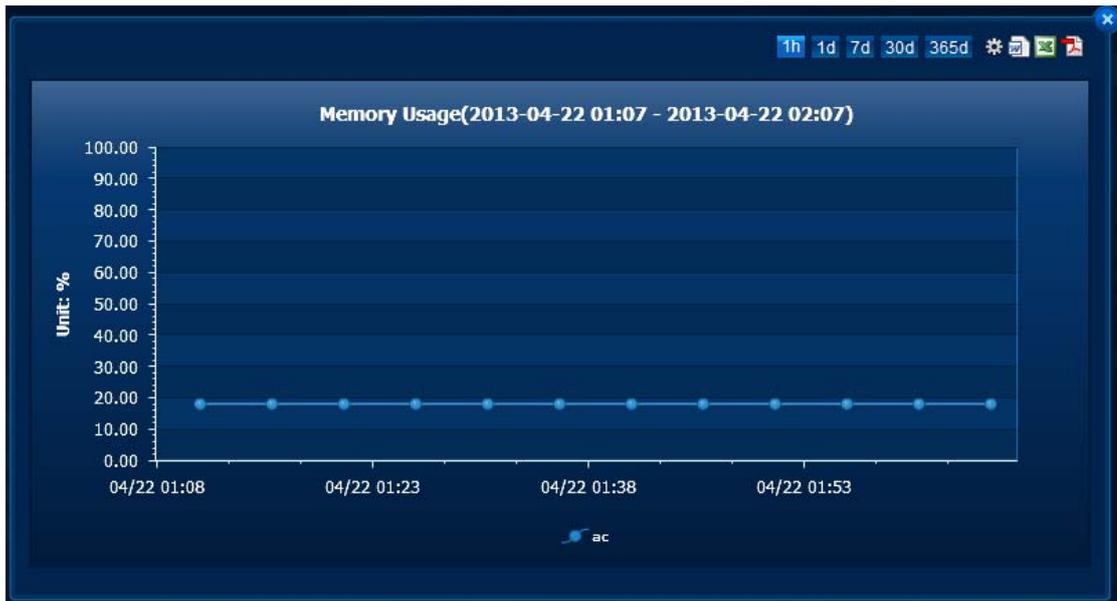


- 2) On the **Key Metric** or **Performance Metric** panel, click the real-time collection button to collect data in real time.



- 3) Click a metric name on the **Performance Metric** panel. The historical data of the metric is displayed.

Metric Name	Status	Current Value	Latest Collection Time
Memory Usage(%)	🟡	17.98	2013-04-22 02:08
CPU Usage(%)	🟡	19.00	2013-04-22 02:08
Throughput(kbps)	🟡	22.17	2013-04-22 02:08
Broadcast Rate(包秒)	🟢	0	2013-04-22 02:08
Ping Delay(毫秒)	🟢	1.00	2013-04-22 02:08
Current number of STAs connect...	🟢	0	2013-04-22 02:08
Current number of APs connect	🟢	0	2013-04-22 02:08



- Click the drop-down list in the upper left corner of the **Resource Details** page. The sub-resources or associated WLANs of the AC are displayed.



- In the resource list, you can click the button in the **Operation** column to view information and complete some operations.

Availability	Device Name	IP Address	Vendor	Model	AP Conne.	AP Online	Users Onl.	Current	Current	CPU Usage	Memory U.	Operation
🟢	abc	10.10.10.10	Ruijie	WS5302	16	1	0	93%	36%	31%		Discoveries Unhandled Event Common Tools Maintenance Info Business Structu
🟢	ac	10.10.10.11	Ruijie	WS3302	1	0	0	100%	1%	19%		
🟢	ws5302	172.17.167.6	Ruijie	WS5302	16	3	17	90%	48%	19%		

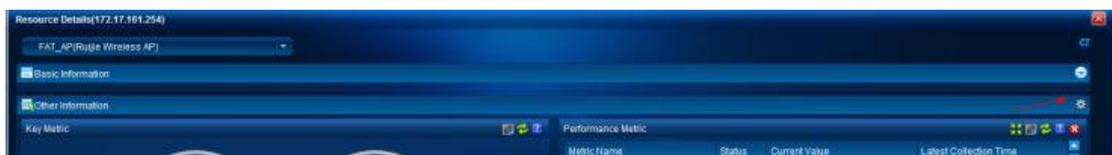
4.12.4.2 Fat AP

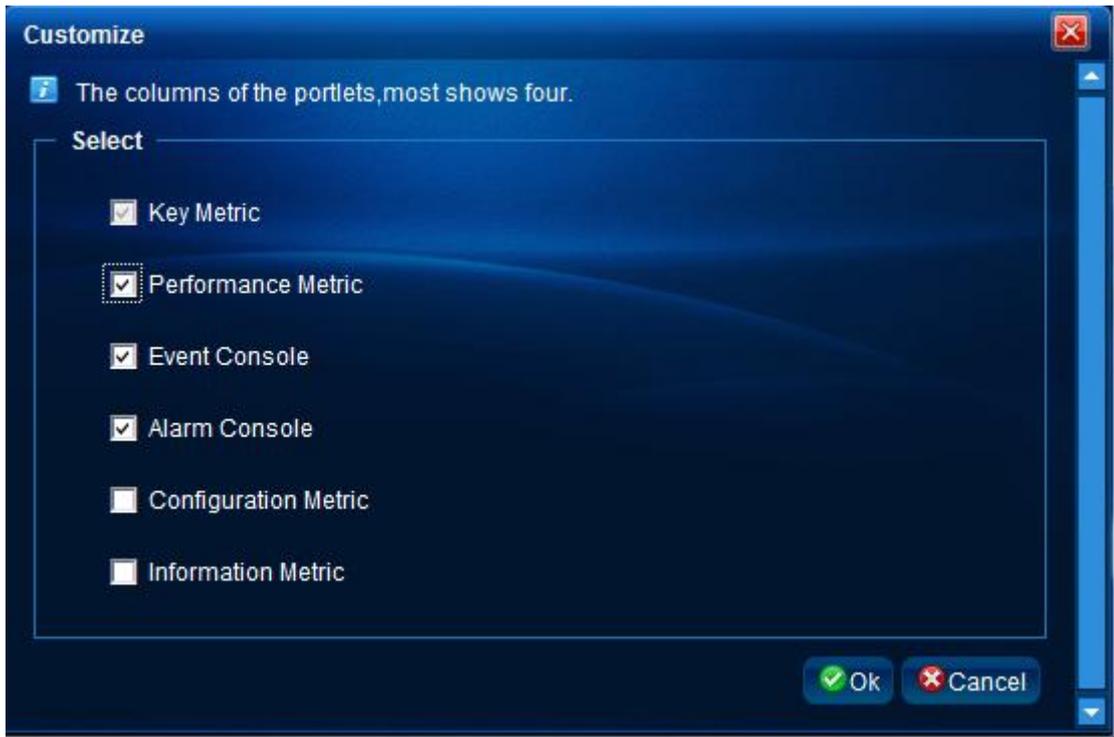


1. The fat AP list displays all monitored fat AP resources.
2. You can click  to stop monitoring a fat AP. The unmonitored fat AP resource is no longer displayed in the resource management list.
3. You can click  or  to export resource monitoring information.
4. Click a resource name. The **Resource Details** page is displayed.



- 1) On the **Resource Details** page, click the setting button to set the panel displayed on the details page.





- 2) On the **Key Metric** or **Performance Metric** panel, click the real-time collection button to collect data in real time.

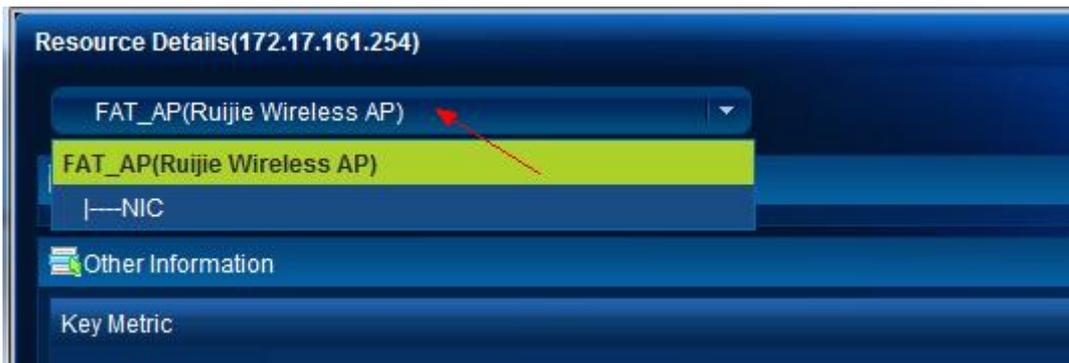


- 3) Click a metric name on the **Performance Metric** panel. The historical data of the metric is displayed.

Metric Name	Status	Current Value	Latest Collection Time
CPU Usage(%)	🟡	13	2013-04-22 02:12
Memory Usage(%)	🟡	73	2013-04-22 02:12
Throughput(Kbps)	🟢	0.0	2013-04-22 02:07
Broadcast Packet Rate(packet/s)	🟢	0	2013-04-22 02:12
Packet Loss Ratio(packet/s)	🟢	0	2013-04-22 02:12
Rate of receiving and sending I...	🟢	0.82	2013-04-22 02:12
Number of TCP interface conne	🟢	0	2013-04-22 02:12



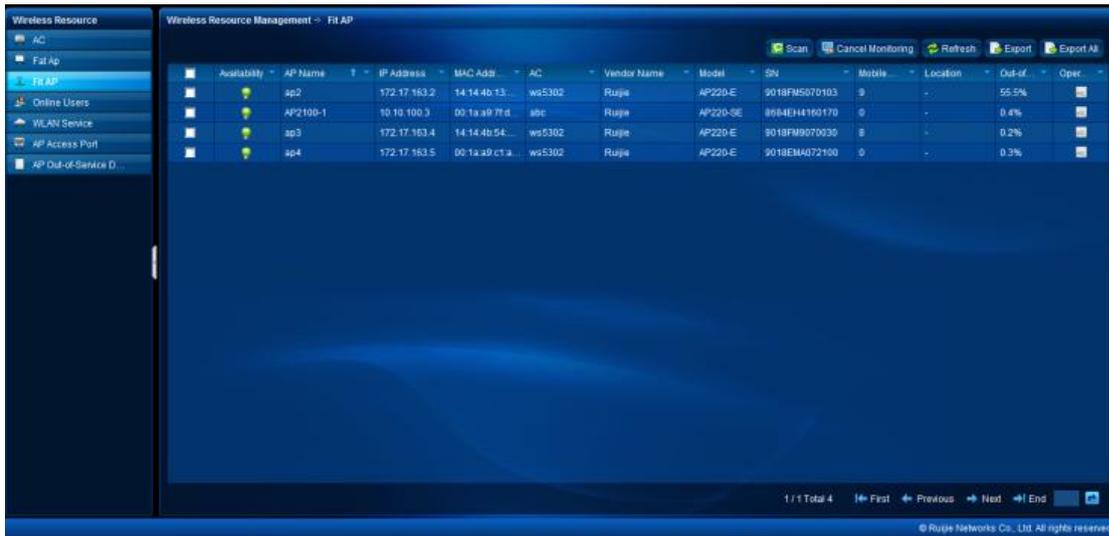
- Click the drop-down list in the upper left corner of the **Resource Details** page. The sub-resources or associated WLANs of the fat AP are displayed.



- In the resource list, you can click the button in the **Operation** column to view information and complete some operations.

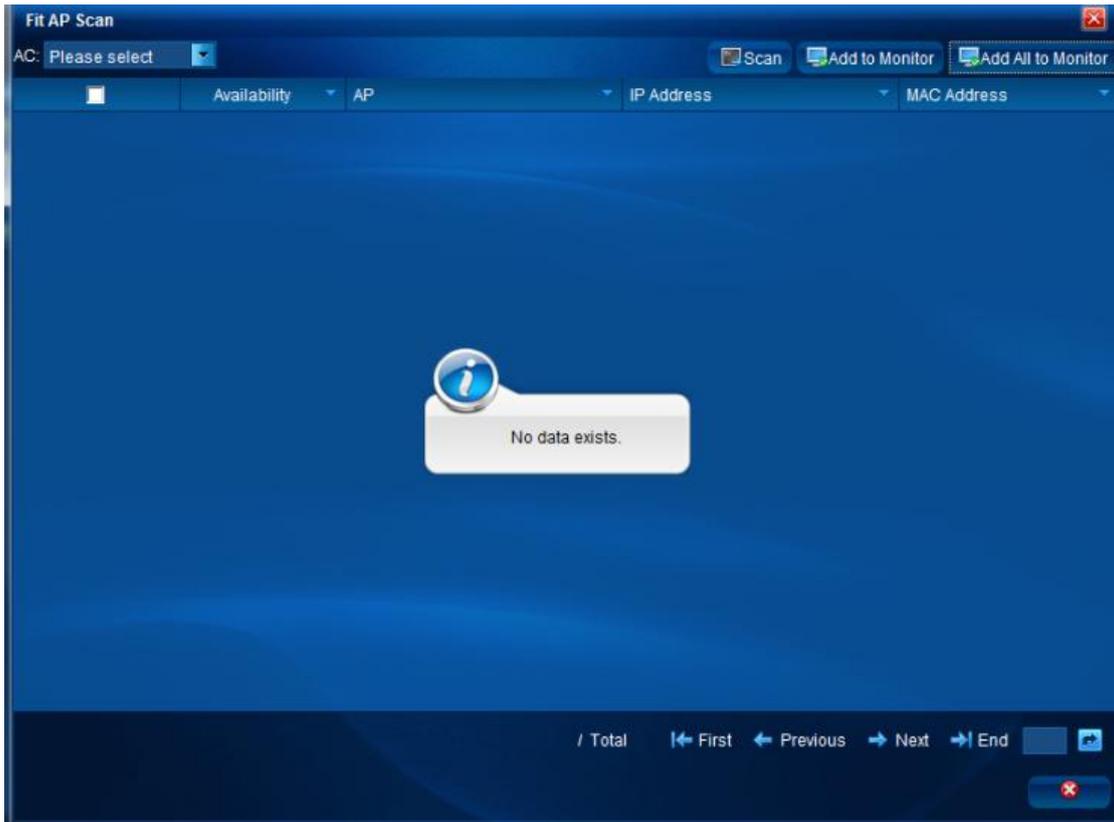
Availability	AP	IP Address	Vendor	Model	Current Health	Current Utilization	CPU Usage	Memory Usage	Operation
🟢	FAT_AP	172.17.161.254	Ruijie	AP220-I	63%	40%	73%	14%	<ul style="list-style-type: none"> Discoveries Unhandled Events Common Tools Maintenance Info Business Structure

4.12.4.3 Fit AP



Availability	AP Name	IP Address	MAC Addr	AC	Vendor Name	Model	SN	Mobile	Location	Out-of	Oper
	ap2	172.17.163.2	14-14-4b-13...	ws5302	Ruijie	AP220-E	9018FM5870103	8	-	55.5%	
	AP2100-1	10.10.100.3	00-1a-a9-7f-d...	abc	Ruijie	AP220-SE	8684EH4160170	0	-	0.4%	
	ap3	172.17.163.4	14-14-4b-54...	ws5302	Ruijie	AP220-E	9018FM9070030	8	-	0.2%	
	ap4	172.17.163.5	00-1a-a9-c1-a...	ws5302	Ruijie	AP220-E	9018EM4072100	0	-	0.3%	

1. The fit AP list displays all monitored fit AP resources.
2. You can click  to stop monitoring a fit AP. The unmonitored fit AP resource is no longer displayed in the resource management list.
3. You can click  or  to export resource monitoring information.
4. Click . The **Fit AP Scan** page is displayed. The fit APs not discovered can be scanned and automatically monitored. Select an AC in the **AC** drop-down list, and the scan automatically starts.

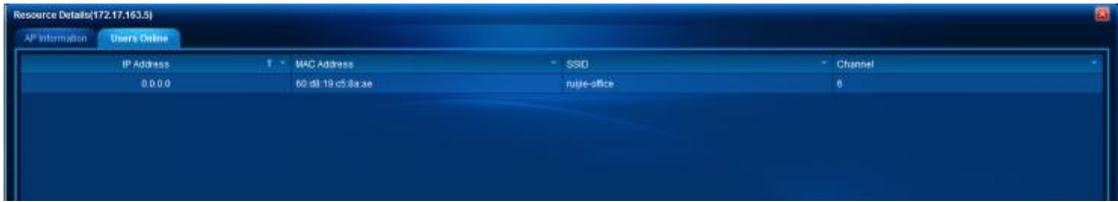


5. After the scan ends, click  or  to monitor the scanned fit APs.

6. Click a resource name in the fit AP list. The **Resource Details** page is displayed.

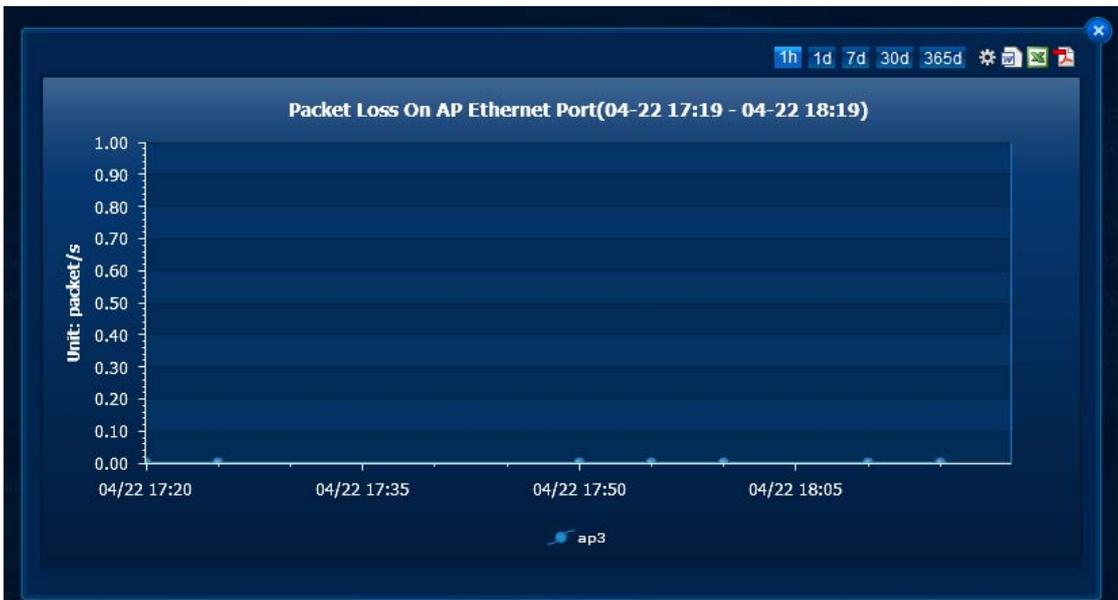


1) On the **Resource Details** page, click the **Users Online** tab to view the online users on the fit AP.



- 2) On the **AP Information** tab page, click a performance metric name. The historical data of the metric is displayed.

Metric Name	Status	Current Value	Last Collection Time
Packet Loss On AP Ethernet Port(packet/s)	●	0	2013-04-22 18:15
Current number of STAs connected to the AP(↓)	●	7	2013-04-22 18:15
Downlink Rate(kbps)	●	20.02	2013-04-22 18:15
Uplink Rate(kbps)	●	63.91	2013-04-22 18:15
Throughput(kbps)	●	7096.92	2013-04-22 18:10

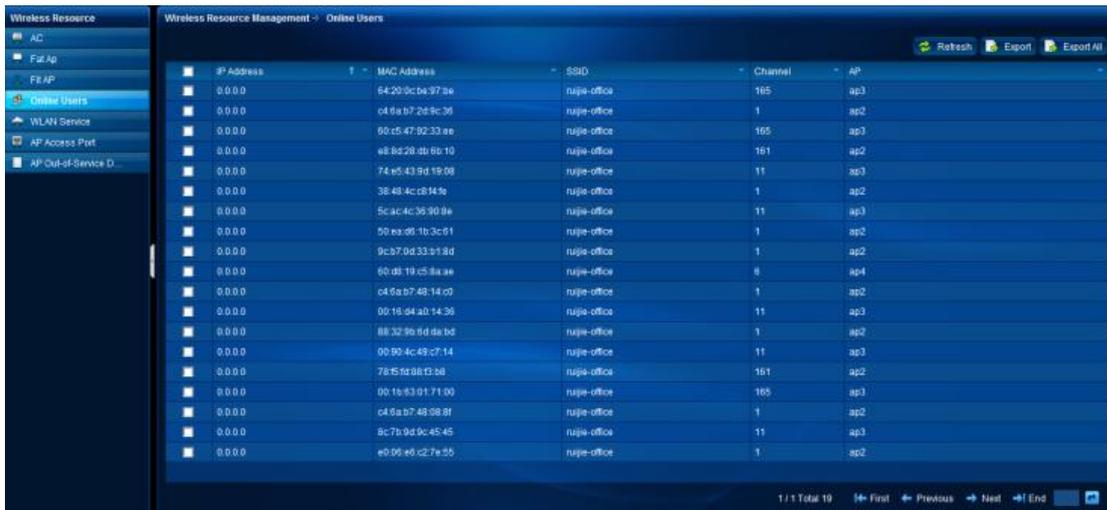


7. Click the operation buttons in the resource list to view the unprocessed events of the fit AP.

Availability	AP Name	IP Address	MAC Addr...	AC	Vendor Name	Model	SN	Mobile	Location	Out-of...	Oper...
●	ap2	172.17.163.2	14-14-4b-13...	ws5302	Ruijie	AP220-E	9018FM5070103	9	-	55.5%	
●	AP2100-1	10.10.100.3	00-1a-a9-7f-d...	abc	Ruijie	AP220-SE	8684EH4160170	0	-	0.4%	
●	ap3	172.17.163.4	14-14-4b-54...	ws5302	Ruijie	AP220-E	9018FM9070030	8	-	0.2%	
●	ap4	172.17.163.5	00-1a-a9-c1-a...	ws5302	Ruijie	AP220-E	9018EMA072100	0	-		

Unhandled Event

4.12.4.4 Online Users

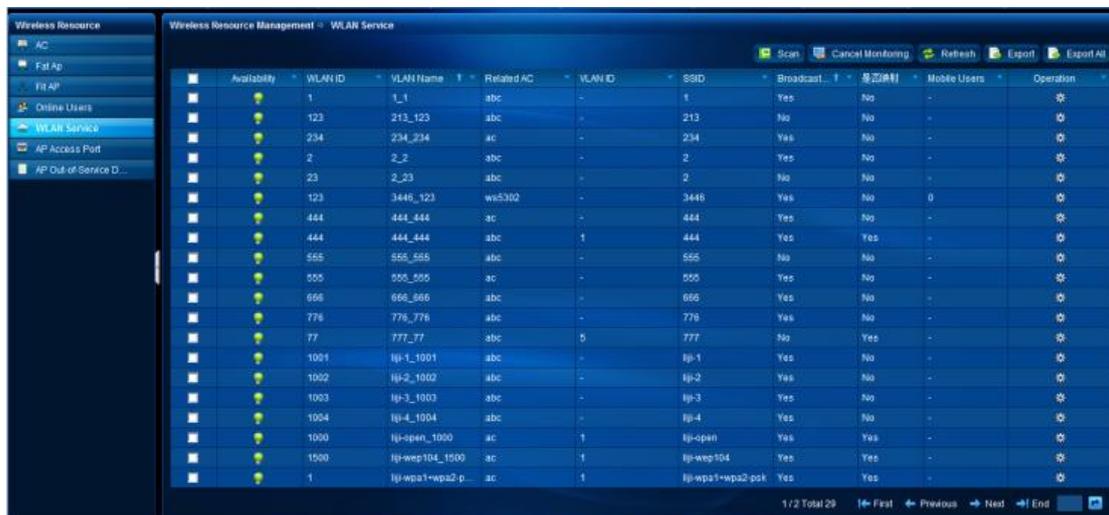


IP Address	MAC Address	SSID	Channel	AP
0.0.0.0	64:20:9c:b4:97:94	rujia-office	165	ap3
0.0.0.0	04:8a:b7:20:9c:35	rujia-office	1	ap2
0.0.0.0	60:c5:47:92:33:ee	rujia-office	165	ap3
0.0.0.0	e8:8d:28:db:65:10	rujia-office	161	ap2
0.0.0.0	74:e5:43:9d:19:08	rujia-office	11	ap3
0.0.0.0	38:43:4c:c8:14:9e	rujia-office	1	ap2
0.0.0.0	5c:a4:c3:90:8a	rujia-office	11	ap3
0.0.0.0	50:ea:06:1b:3c:61	rujia-office	1	ap2
0.0.0.0	9c:b7:9d:33:51:8d	rujia-office	1	ap2
0.0.0.0	60:08:19:c5:8a:ae	rujia-office	6	ap4
0.0.0.0	04:0a:b7:42:14:c0	rujia-office	1	ap2
0.0.0.0	00:1b:04:a0:14:36	rujia-office	11	ap3
0.0.0.0	88:32:96:6d:da:b4	rujia-office	1	ap2
0.0.0.0	00:90:4c:49:c7:14	rujia-office	11	ap3
0.0.0.0	78:15:12:88:13:58	rujia-office	161	ap2
0.0.0.0	00:1b:63:01:71:00	rujia-office	165	ap3
0.0.0.0	04:0a:b7:48:98:8f	rujia-office	1	ap2
0.0.0.0	8c7b:9d:9c:45:45	rujia-office	11	ap3
0.0.0.0	e9:06:e6:c2:7e:55	rujia-office	1	ap2

1. This page displays information of all online users.

2. You can click  or  to export information of the selected or all online users.

4.12.4.5 WLAN Service

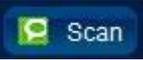


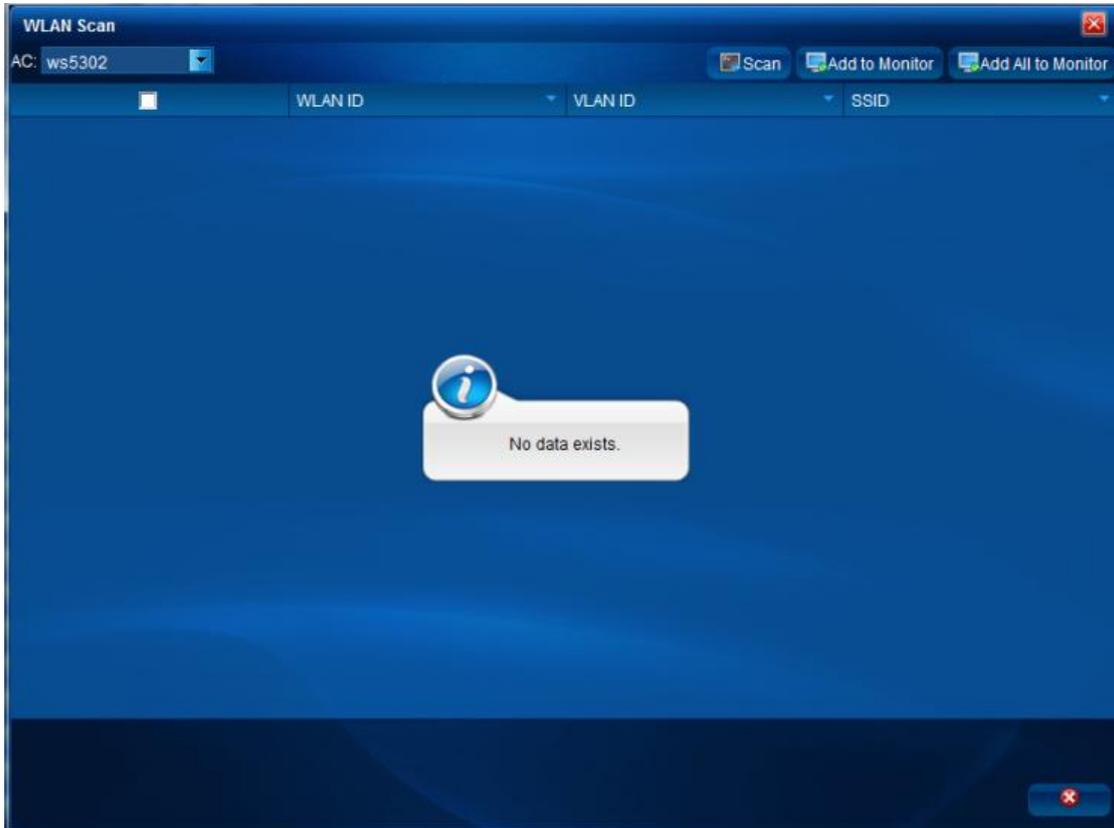
Availability	WLAN ID	WLAN Name	Related AC	VLAN ID	Broadcast	Mobile Users	Operation
1	1_1	abc	-	1	Yes	No	⊗
123	213_123	abc	-	213	No	No	⊗
234	234_234	ac	-	234	Yes	No	⊗
2	2_2	abc	-	2	Yes	No	⊗
23	2_23	abc	-	2	No	No	⊗
123	3446_123	ws5302	-	3446	Yes	No	0
444	444_444	ac	-	444	Yes	No	⊗
444	444_444	abc	1	444	Yes	Yes	⊗
555	555_555	abc	-	555	No	No	⊗
555	555_555	ac	-	555	Yes	No	⊗
666	666_666	abc	-	666	Yes	No	⊗
776	776_776	abc	-	776	Yes	No	⊗
77	777_77	abc	5	777	No	Yes	⊗
1001	lj-1_1001	abc	-	lj-1	Yes	No	⊗
1002	lj-2_1002	abc	-	lj-2	Yes	No	⊗
1003	lj-3_1003	abc	-	lj-3	Yes	No	⊗
1004	lj-4_1004	abc	-	lj-4	Yes	No	⊗
1000	lj-span_1000	ac	1	lj-span	Yes	Yes	⊗
1500	lj-wep104_1500	ac	1	lj-wep104	Yes	Yes	⊗
1	lj-wpa1-wpa2-p	ac	1	lj-wpa1-wpa2-pck	Yes	Yes	⊗

1. This page displays information of all monitored WLANs.

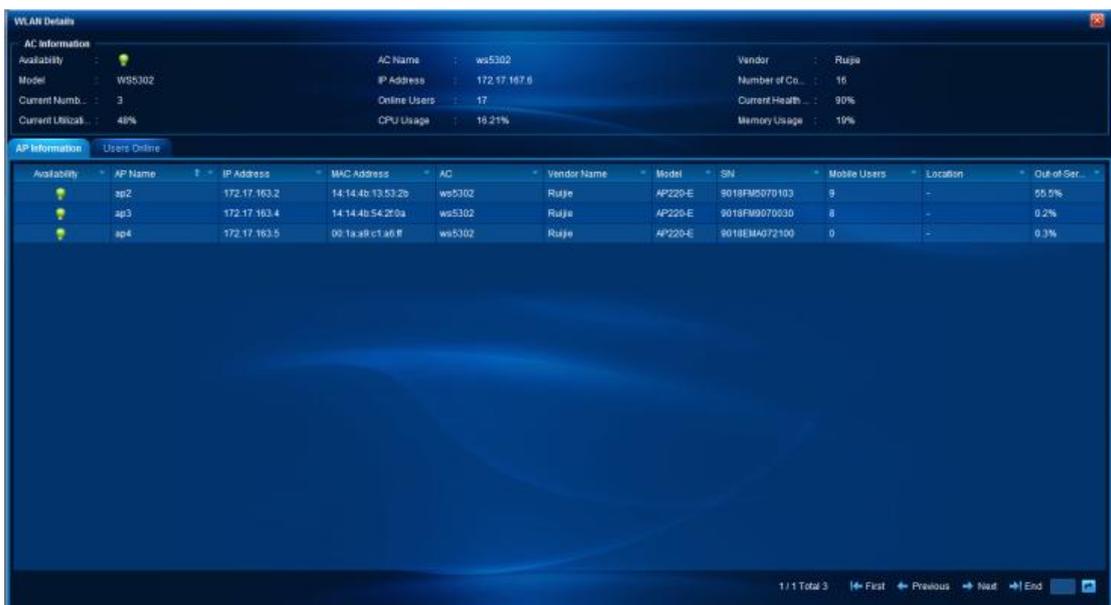
2. You can click  to stop monitoring a WLAN. The unmonitored WLAN resource is no longer displayed in the resource management list.

3. You can click  or  to export resource monitoring information.

- Click . The **WLAN Scan** page is displayed. The WLANs not discovered can be scanned and automatically monitored. Select an AC in the **AC** drop-down list, and the scan automatically starts.



- After the scan ends, click  or  to monitor the scanned WLANs.
- Click a resource name in the WLAN list. The **WLAN Details** page is displayed.



WLAN Details

AC Information

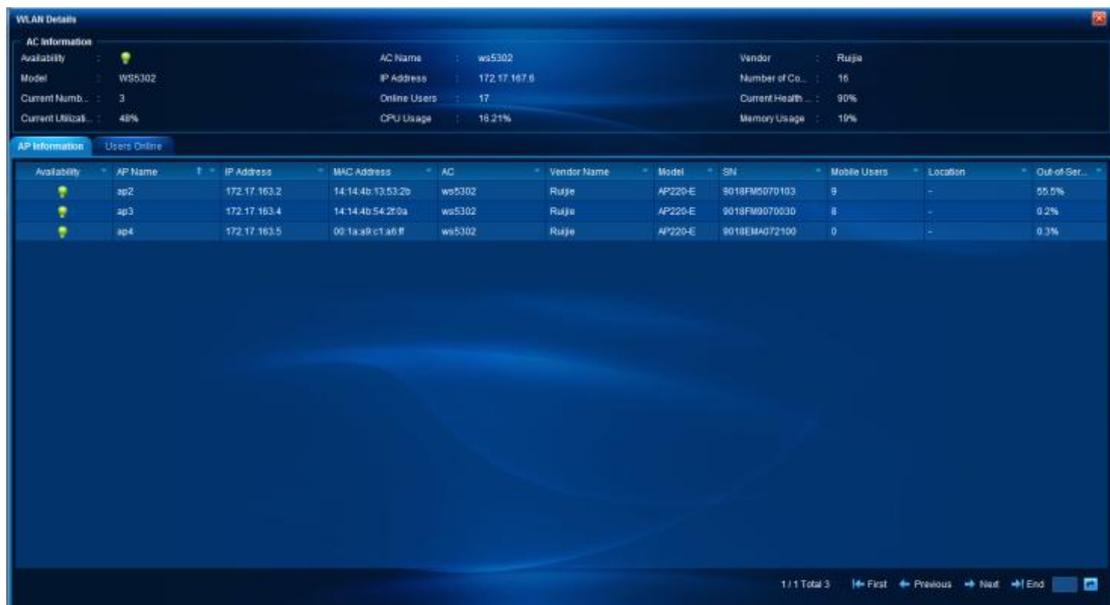
Availability	AC Name	ws5302	Vendor	Ruijie
Model	IP Address	172.17.167.6	Number of Co...	16
Current Numb...	Online Users	17	Current Health	90%
Current Utiliz...	CPU Usage	16.21%	Memory Usage	19%

AP Information

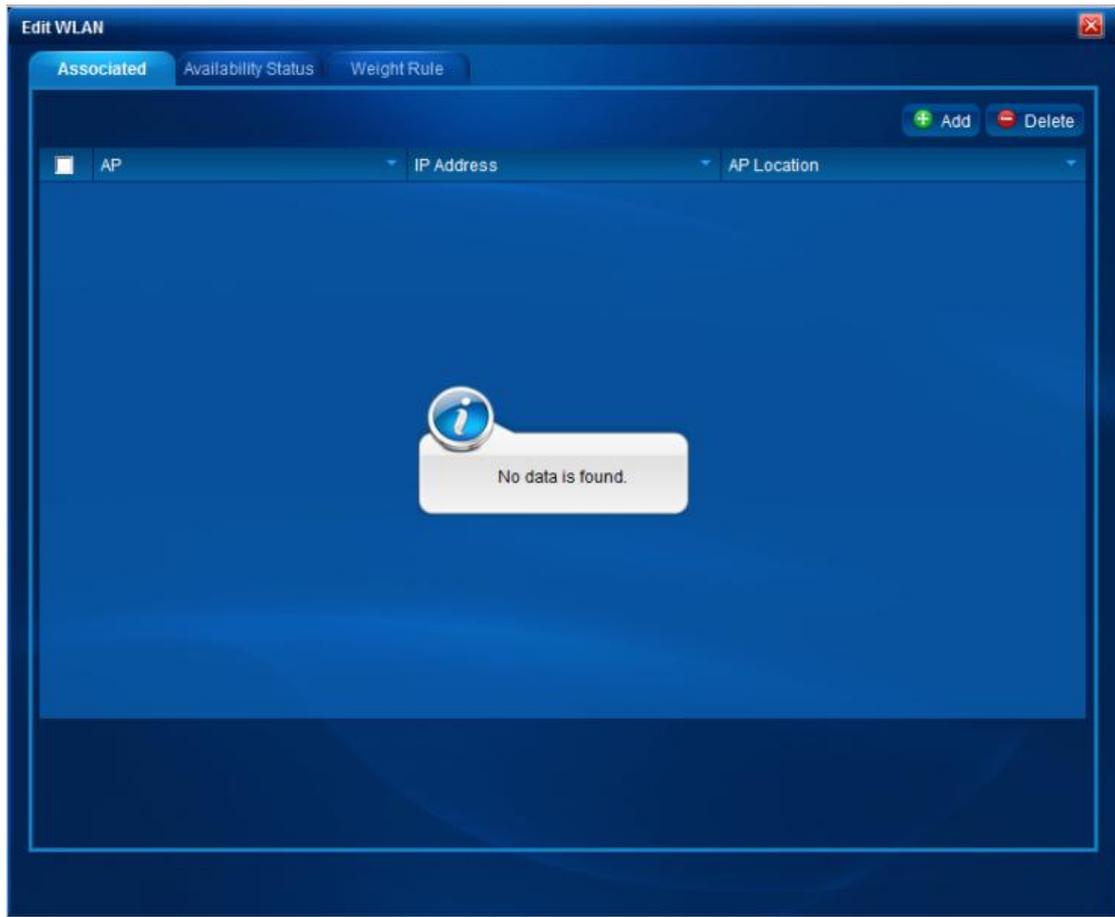
Availability	AP Name	IP Address	MAC Address	AC	Vendor Name	Model	SN	Mobile Users	Location	Out of Ser...
	ap2	172.17.163.2	14-14-4b-13-53-2b	ws5302	Ruijie	AP220-E	9018FM5070103	9	-	55.5%
	ap3	172.17.163.4	14-14-4b-54-2f-0a	ws5302	Ruijie	AP220-E	9018FM9070030	8	-	0.2%
	ap4	172.17.163.5	00-1a-a9-c1-a6-f	ws5302	Ruijie	AP220-E	9018EM4072100	0	-	0.3%

1 / 1 Total 3 | First | Previous | Next | End

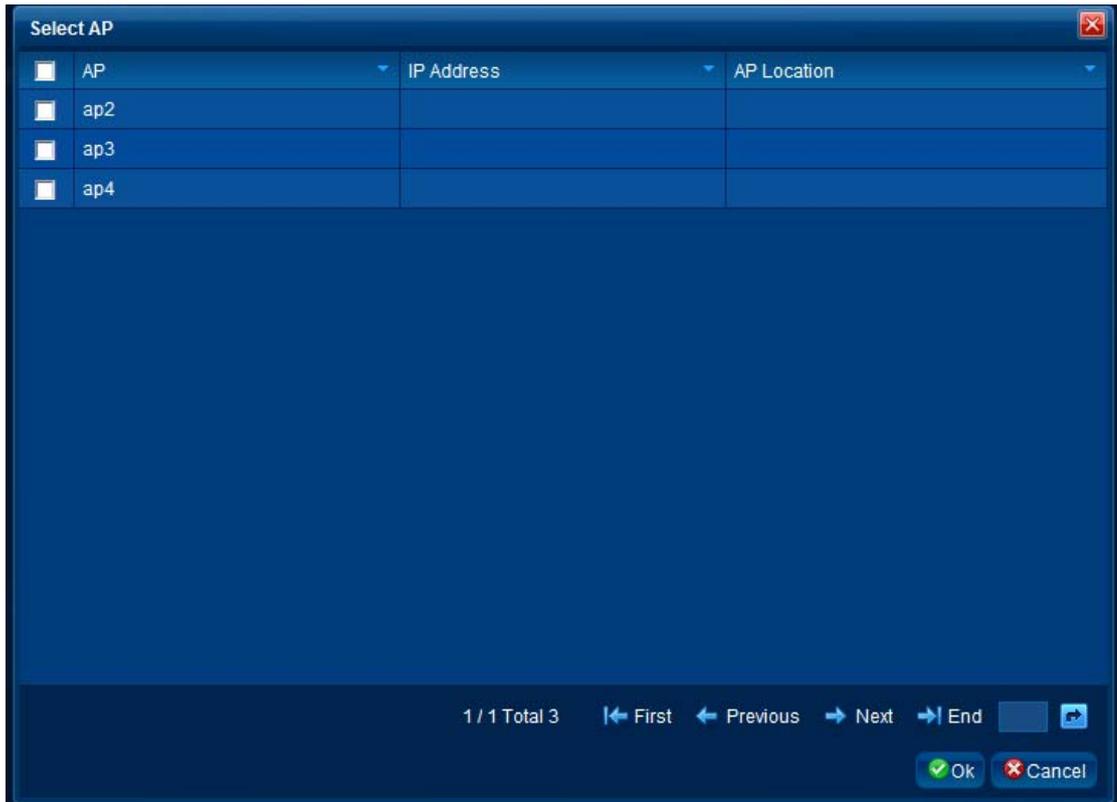
The **AP Information** page displays the managed APs on the WLAN. The **Users Online** page displays user information.



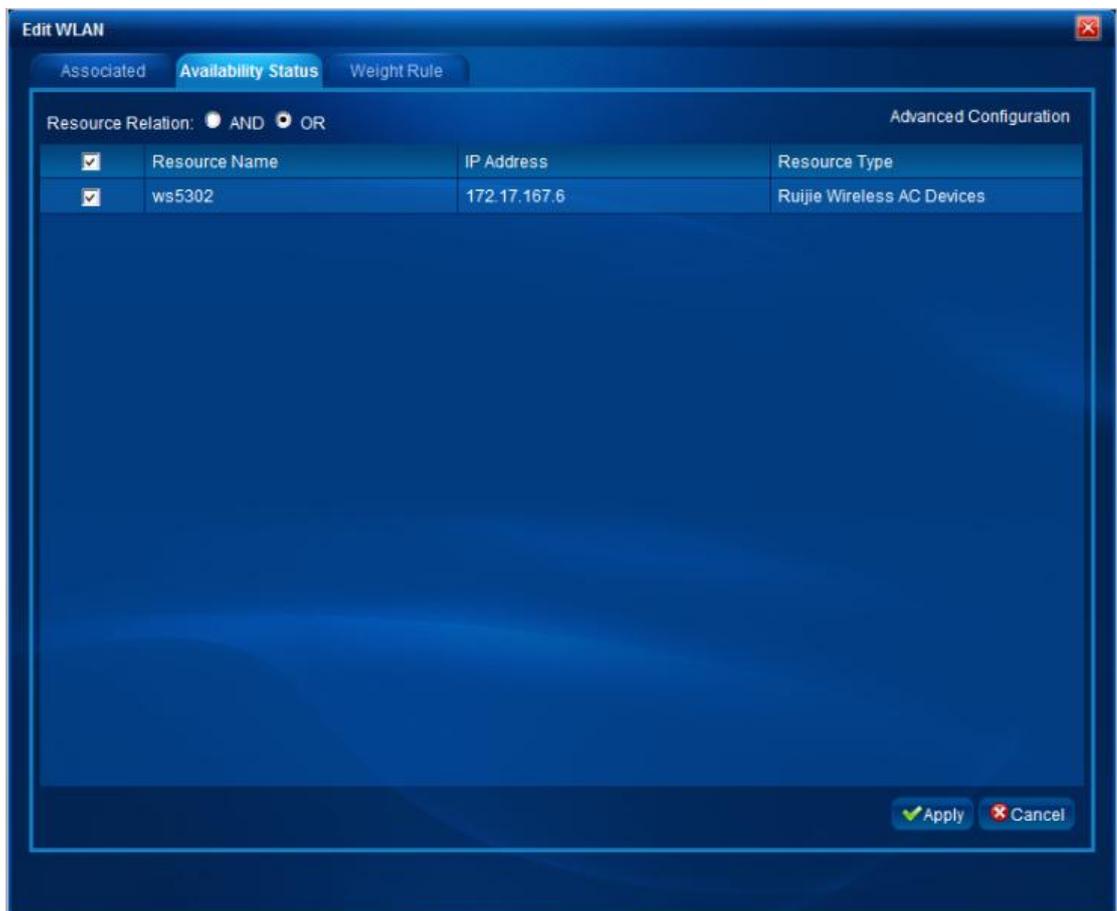
- In the WLAN list, click the button in the **Operation** column. The **Edit WLAN** page is displayed.



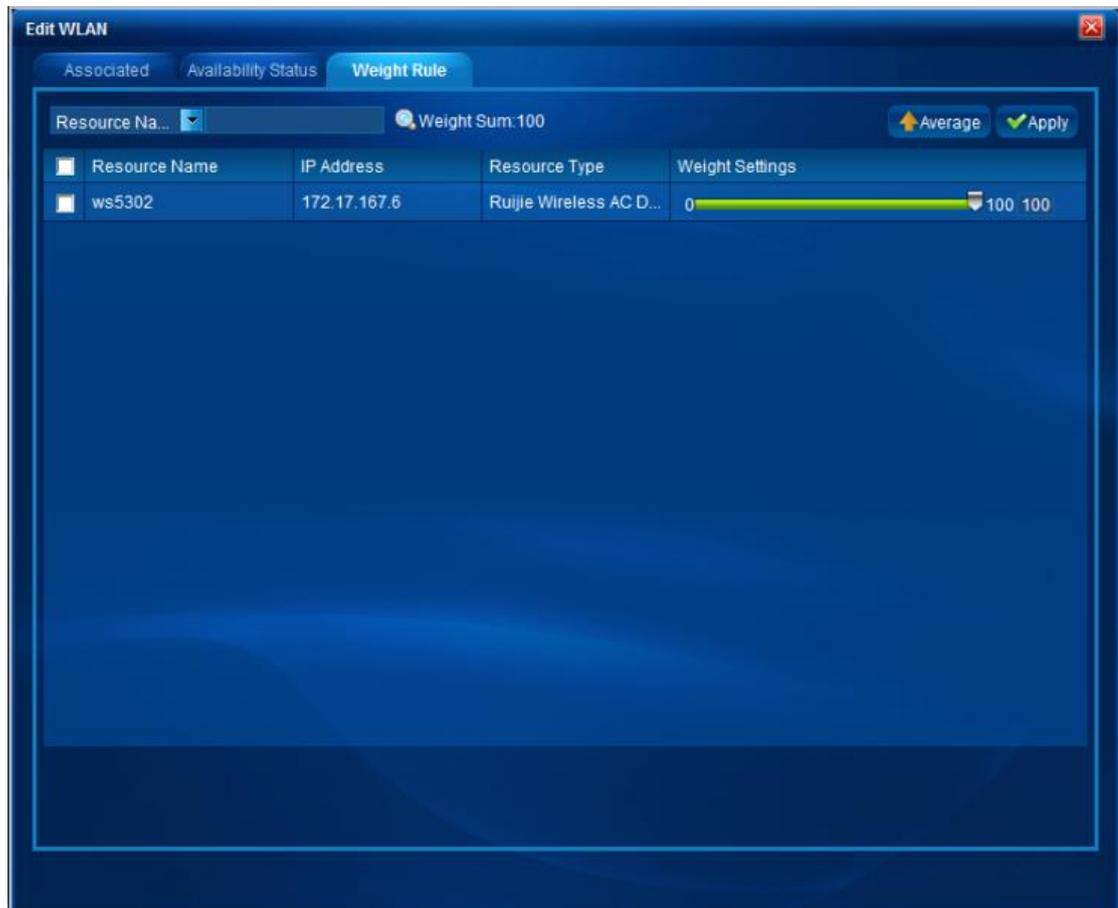
- 1) On this page, you can set the available status, health status, and busy status of the WLAN.
- 2) On the **Associated** tab page, click  and associate an AP.



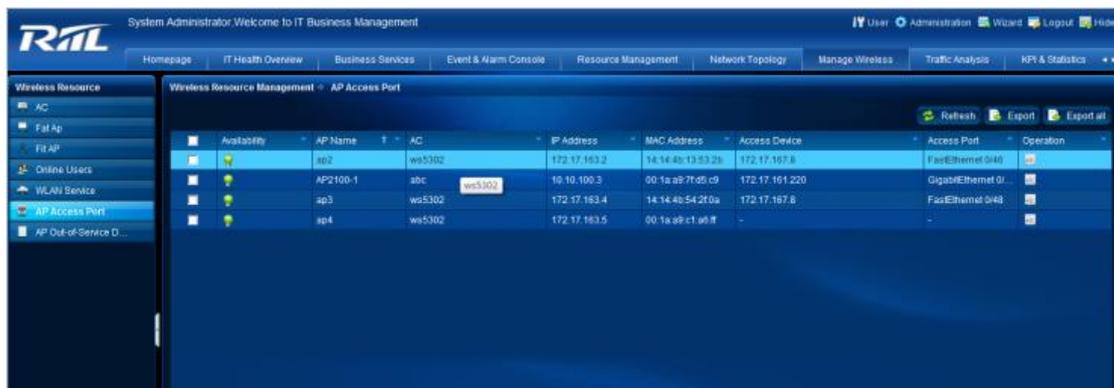
3) On the **Availability Status** tab page, configure the available status of the WLAN.



- 4) On the **Weight Rule** tab page, configure the weight of the WLAN-associated resources for measuring the health and busy states of the WLAN. The configuration method is the same as that for business services.



4.12.4.6 AP Access Port



1. This function is available only after automatic topology discovery is complete.
2. This function controls the status of the uplink network device (switch or router) port of the fit AP, so as to control the available or unavailable state of the fit AP. The SNMP set operation is used to complete this function.

- You can click  or  to export information of the selected or all online users.
- Click the button in the **Operation** column. The **Set uplink interface** page is displayed.

Availability	AP Name	AC	IP Address	MAC Address	Access Device	Access Port	Operation
	ap2	ws5302	172.17.163.2	14-14-4b-13-53-2b	172.17.167.8	FastEthernet 0/46	
	AP2100-1	abc	10.10.100.3	00-1a-a9-7f-d5-c9	172.17.161.220	GigabitEthernet 0/...	

Set uplink interface

Status : Enable Disable

Read-Write Community String :

Select the port status, set the read-write community name, and click **OK** to use the function.

Note: In the list, the availability status of APs is collected alternately. Therefore, the AP status does not change immediately after the uplink port is enabled. The specific waiting time is subject to the configured policy.

4.12.4.7 AP Out-of-Service Details

AP Name	AP Location	AC	IP Address	Model	Out-of-Service Time	Recovery Time	Duration
ap4	-	ws5302	172.17.163.5	AP220-E	2013-04-22 14:50	2013-04-22 14:55	00:05:00

- This page displays information of all online users.
- You can click  or  to export information of the selected or all online users.

4.12.5 TOP N

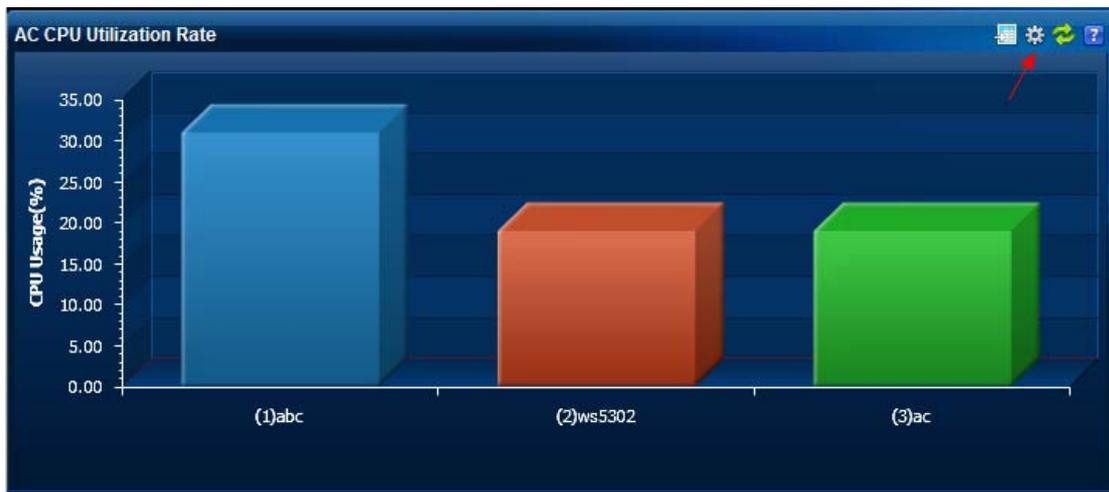


The **Top N** page provides eight information panels on two screens to display top N metric rankings of ACs and fit APs.

4.12.5.1 Basic Information Description

1. For AC resources, statistics and top rankings of six metrics are displayed, including the CPU utilization rate, memory utilization rate, online users, uplink rate, downlink rate, and total rate.
2. For fit AP resources, statistics and top rankings of four metrics are displayed, including online users, uplink rate, downlink rate, and total rate.
3. Metrics to be displayed on the portlets in the first screen can be defined, but the portlets cannot be closed. The portlets in the second screen can be added, closed, and configured.

4.12.5.2 Basic Operations

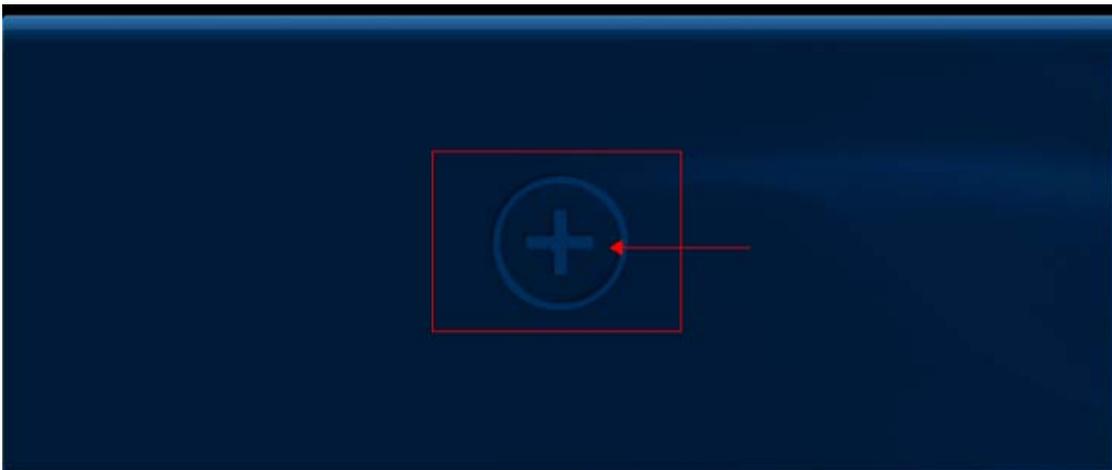


1. Click  in the upper right corner and set the information to be displayed on the portlet.

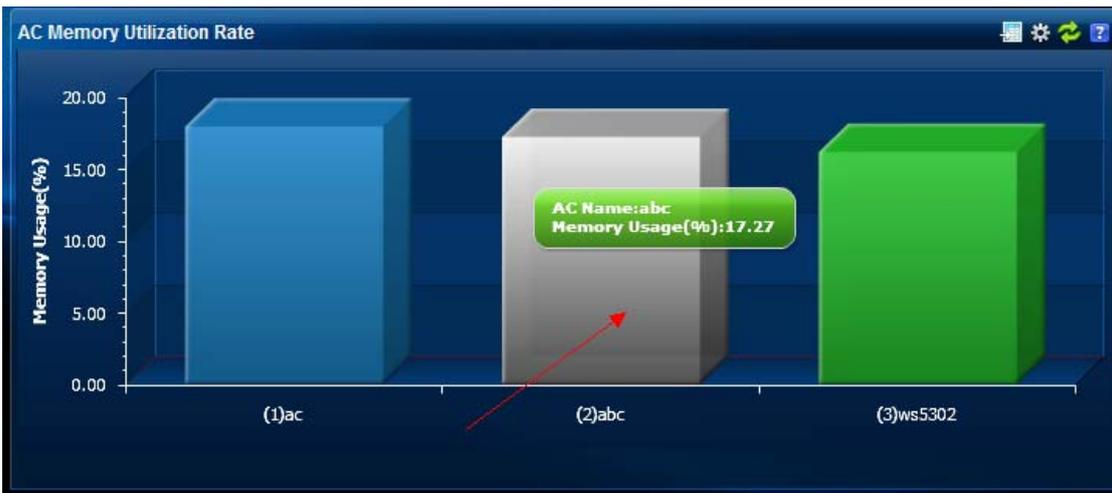
- Click  or  to switch between the statistics chart and table.
- Click the page up button.



- In the second screen, click the plus sign on a blank portlet to configure the contents to be displayed on the portlet.

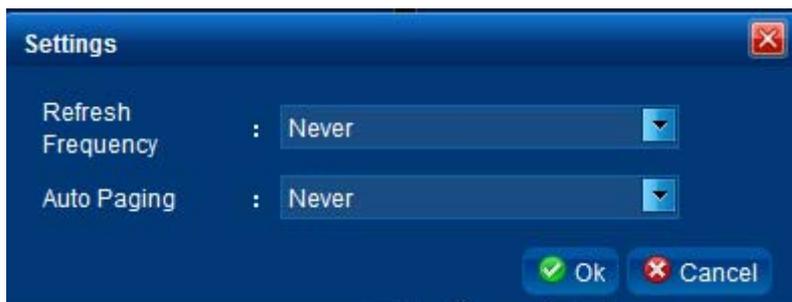


- In the second screen, click  to close the portlet.
- Click a record in the statistics chart or table. The **Resource Details** page is displayed.



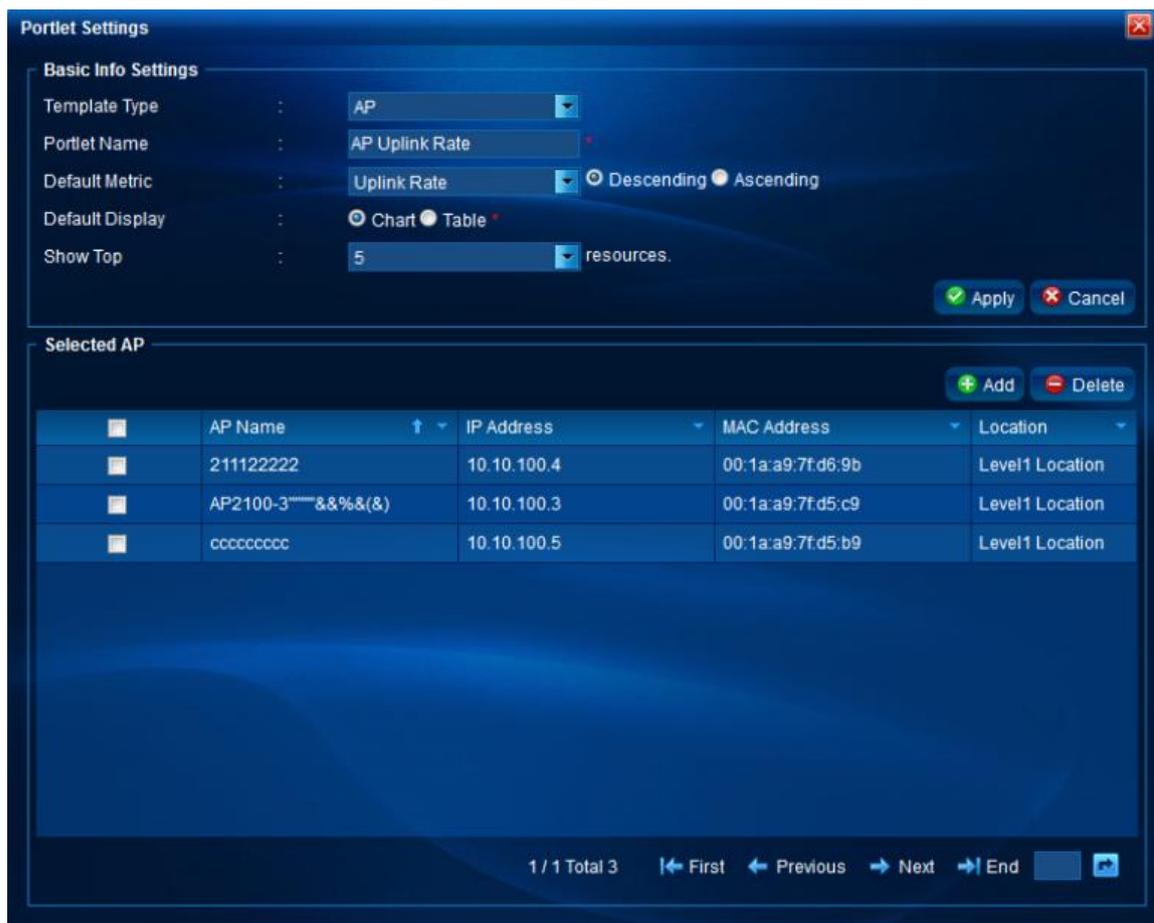


7. Click  and set **Refresh Frequency** and **Auto Paging**. The settings are valid for all portlets.

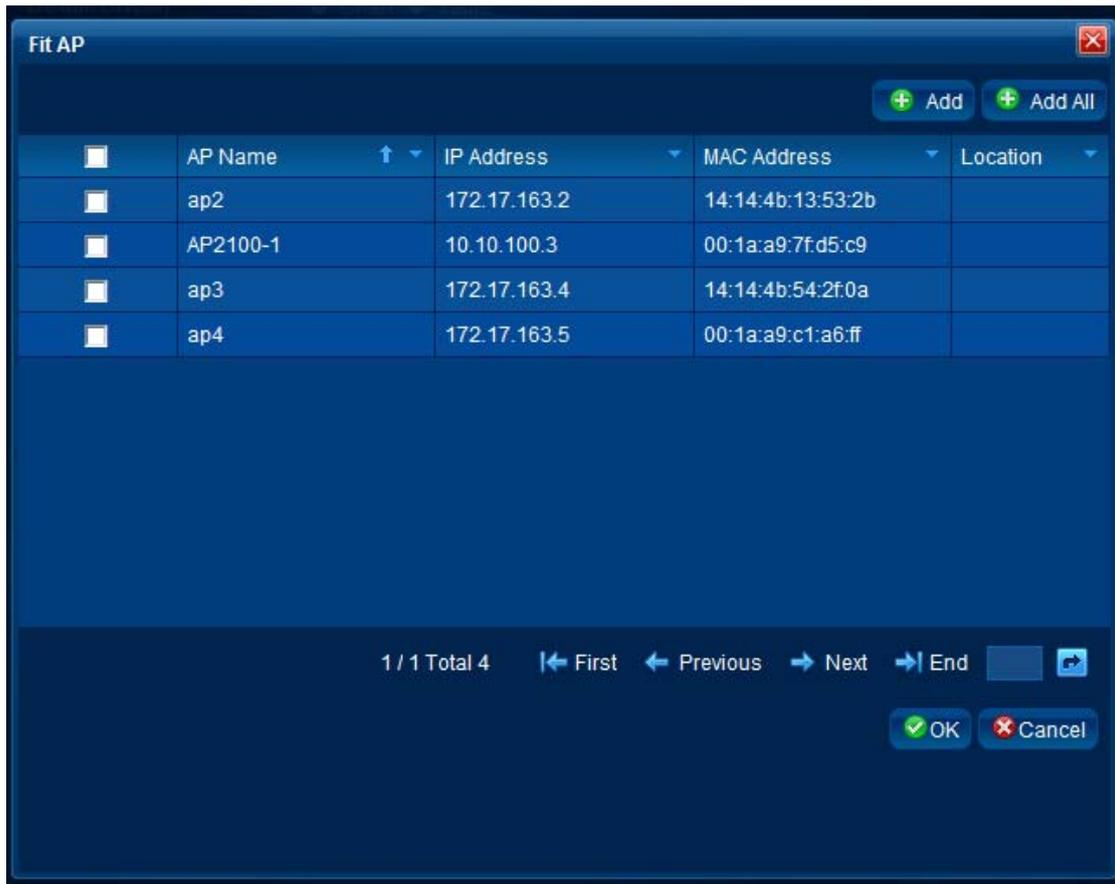


4.12.5.3 Portlet Settings

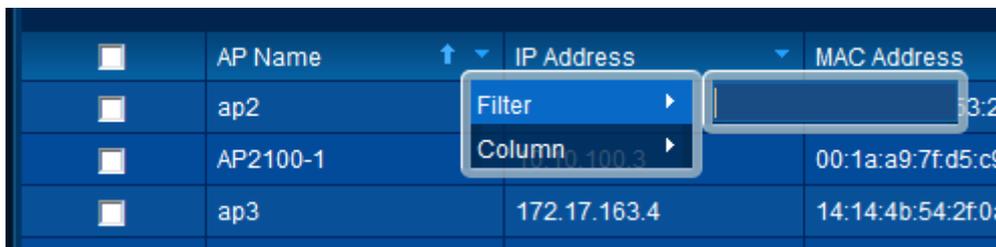
- Click  in the upper right corner and set the information to be displayed on the portlet.



1. Select **Template Type**, **Default Metric**, **Default Display**, and **Show Top N resources**.
2. Click  and select resources.
3. Click . The page for adding resources is displayed.



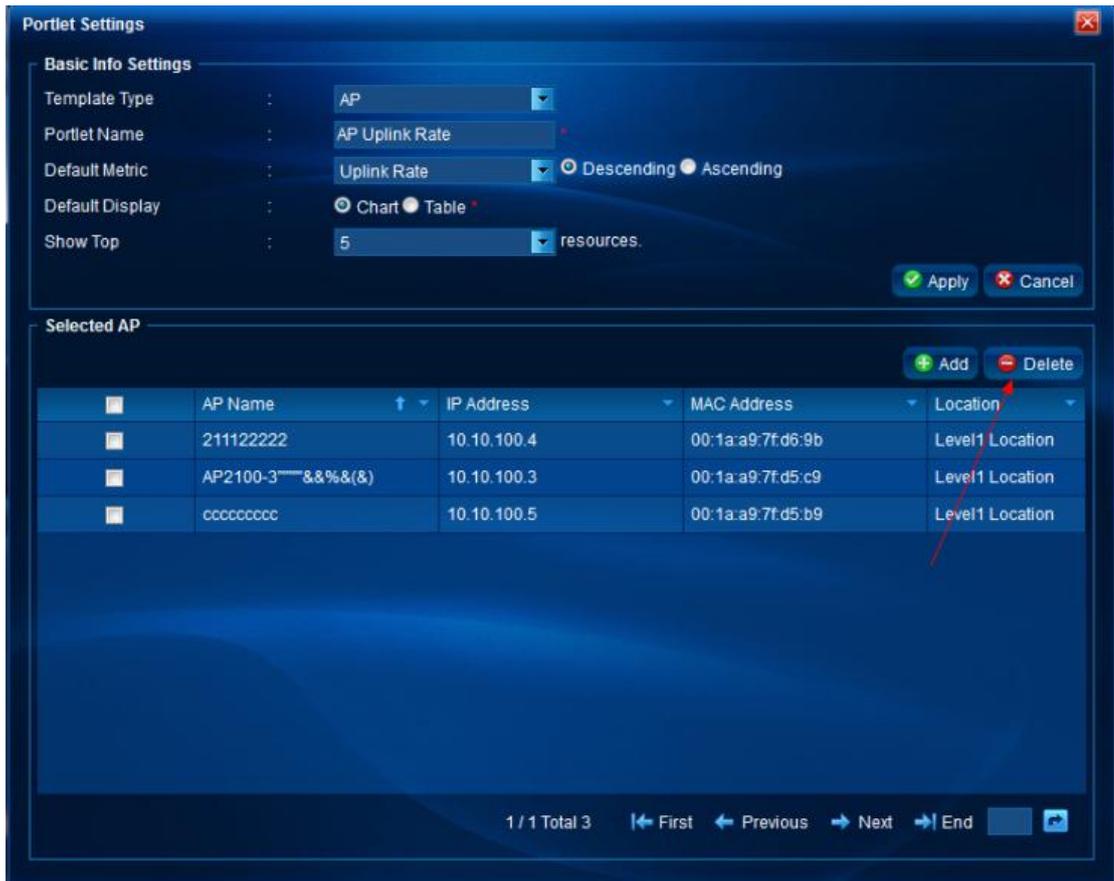
- 1) You can filter resources by column name. Click the triangle button next to a column name, and the **Filter** menu is displayed.



- 2) Click  to add the selected resource or click  to add all resources to the portlet.
- 3) On the **Top N** page of wireless management, you do not need to click **Apply** in **Basic Information** after you add a resource on the page for adding resources. The setting applies automatically after you close the configuration page.

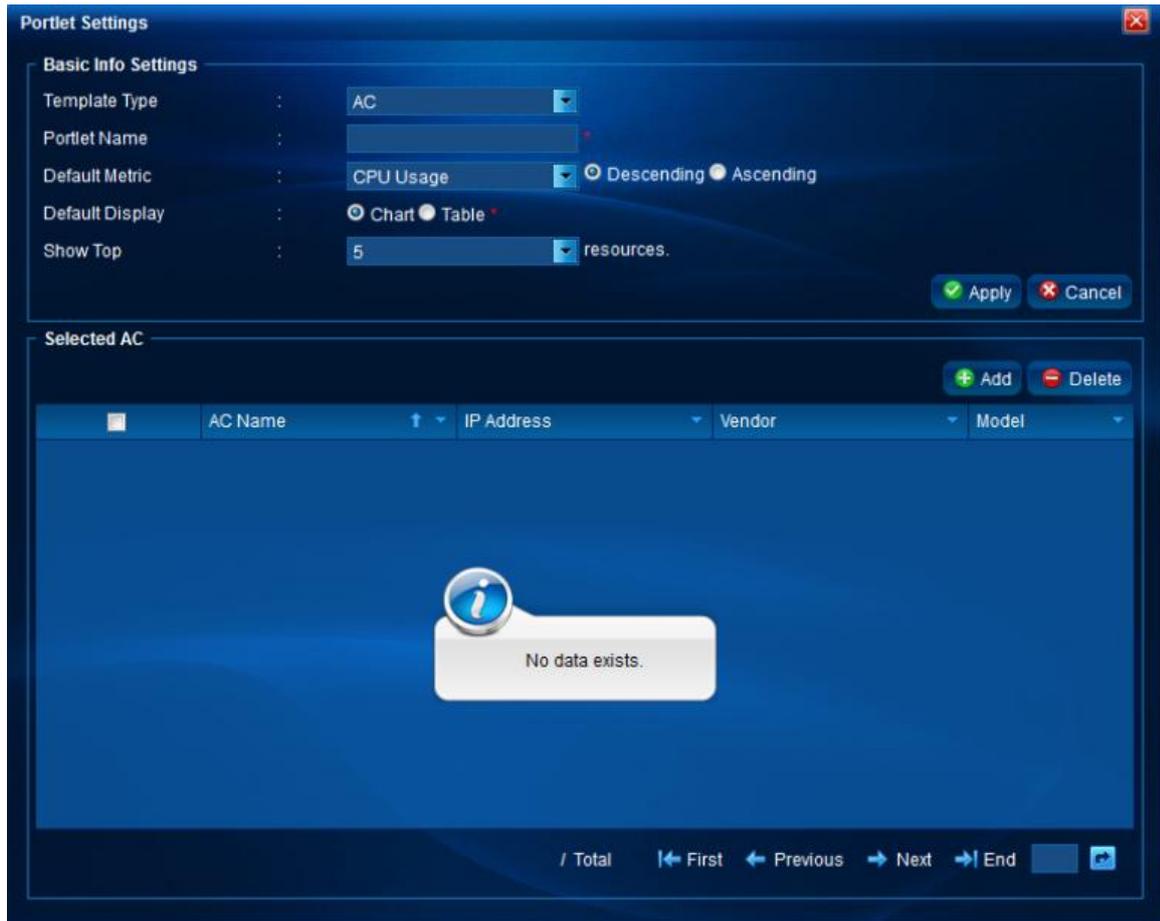


4) You do not need to click **Apply** after deleting associated resources.



4.12.5.4 Creating a Resource Portlet

In the second screen, click the plus sign on a blank portlet to configure the contents to be displayed on the portlet.



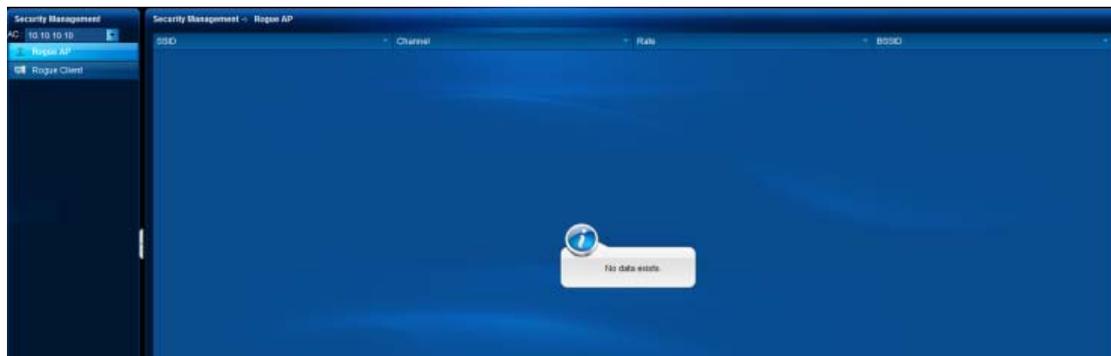
The configuration method is the same as the method for editing a portlet.

Note: On this page, you need to click  after setting basic information. Then, you can select resources.

4.12.6 Security Management

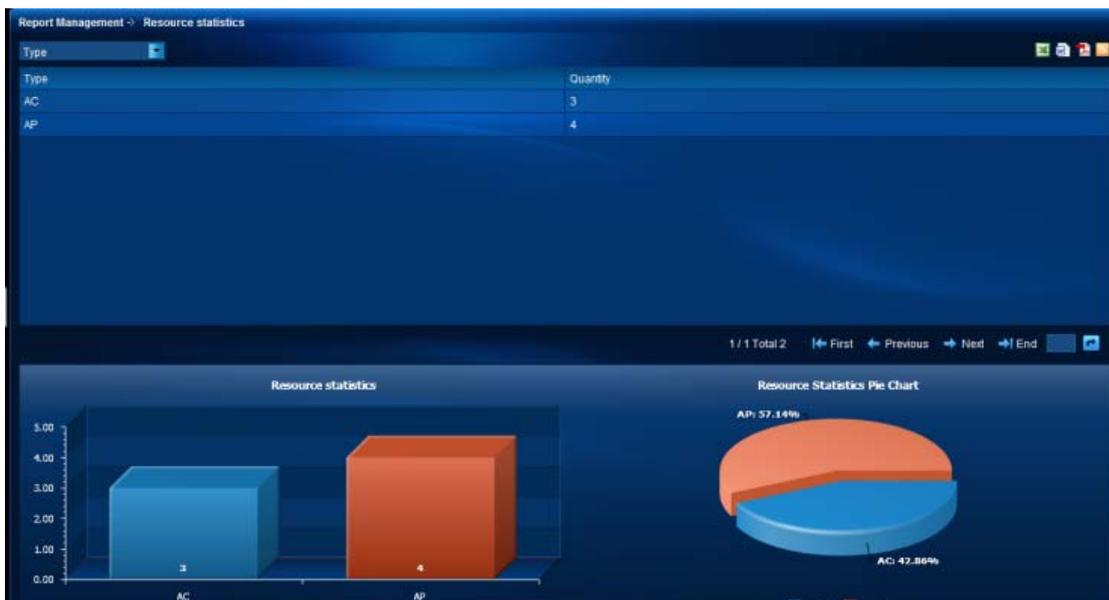
Before using this function, you need to add an AC on **Wireless Configuration > Find & Set AC**.

RIIL remotely connects to the AC added in **Wireless Configuration**, obtains the information of rogue APs and rogue clients recorded on the device, and displays the information to users.





4.12.7 Statistics Reports



For wireless resources, RIIL provides five statistics reports, including resource statistics reports, user statistics reports, AP availability details reports, AC rate statistics reports, and AP rate statistics reports. RIIL also provides the report subscription function.



4.12.7.1 Resource Statistics Report

1. Resource statistics reports can be generated by type, vendor, or model.
 - 1) By type



2) By vendor



3) By model



2. Click to export the current report to an Excel file, a Word file, and a PDF file.
3. Click to subscribe to the current statistics report.

Report Subscription

Time Setting

Report Type : Daily Report Weekly Report Monthly Report

Export File Format : PDF

* The subscribed report will be sent to your e-mail.

Ok Cancel

After the subscription is successful, RIIL sends the subscribed report to the current user by email.

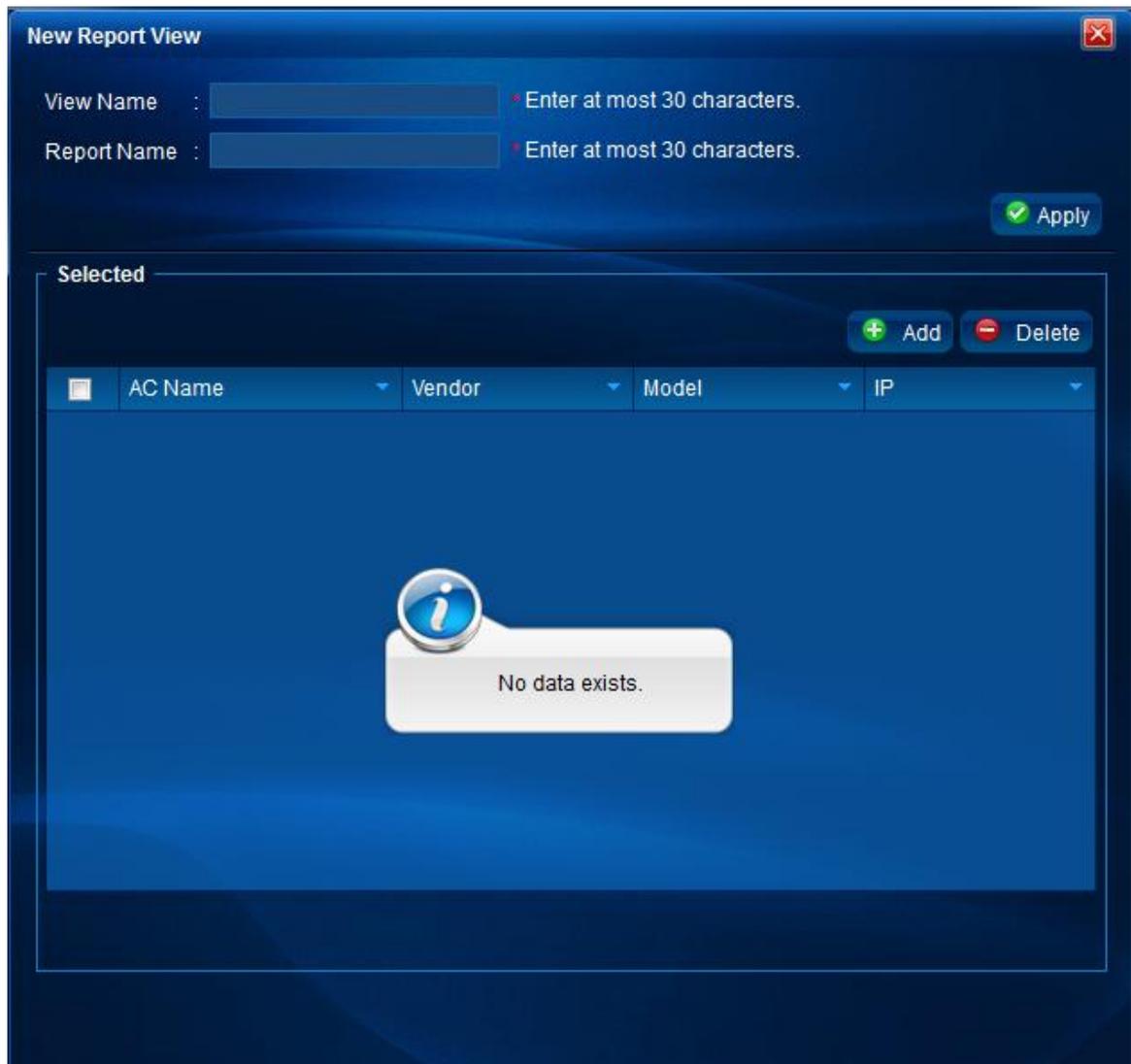
Note: The email address of the subscriber must be specified.

4.12.7.2 User Statistics Report

1. The user statistics report records the statistics of the AC users.

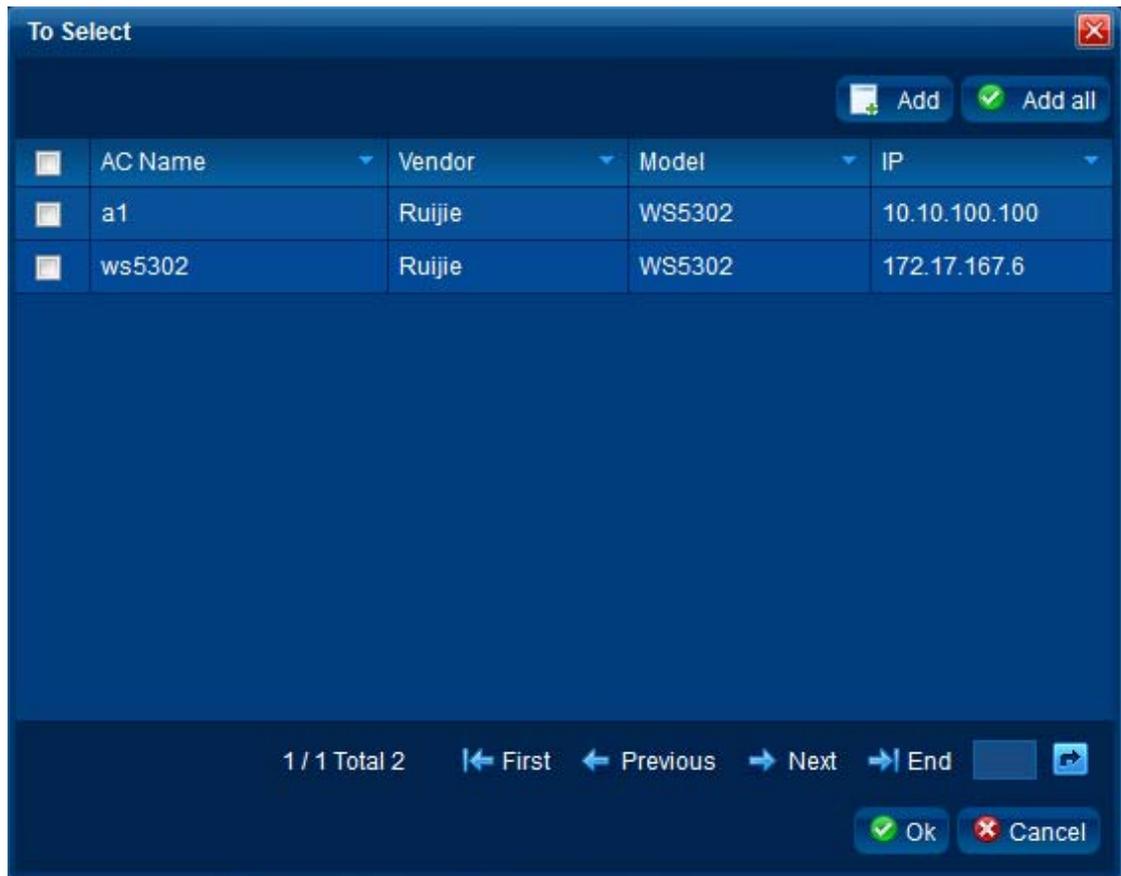
2. are used to create, delete, edit, and subscribe to a statistics report.

1) Creating a statistics report

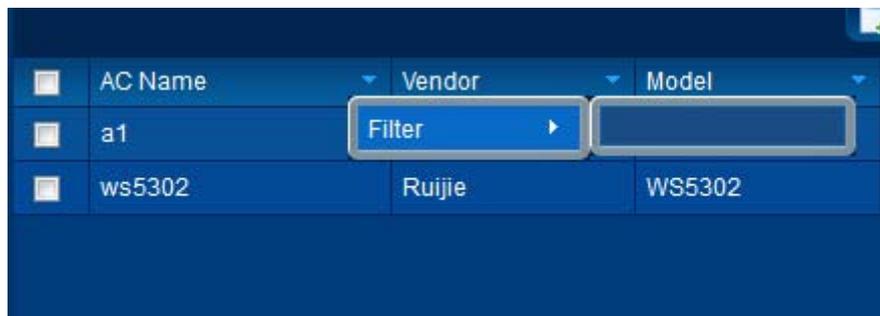


Specify the view name and report name, and then click **Apply**. Then, you can select resources.

Click . The **To Select** page is displayed.



You can filter resources by column name. Click the triangle button next to a column name, and the **Filter** menu is displayed.



On the statistics reports page of wireless management, you do not need to click **Apply** in **Basic Information** after you add a resource. The setting applies automatically after you close the configuration page.

In addition, you do not need to click **Apply** after deleting associated resources.

	AC Name	Vendor	Model	IP
<input type="checkbox"/>	ws5302	Ruijie	WS5302	-
<input type="checkbox"/>	ac	Ruijie	WS3302	-
<input type="checkbox"/>	abc	Ruijie	WS5302	-

2) Editing a report

Report Management -> User quantity statistical report

View : Please select

Time range : User

From 2013-04-21 18:29 To 2013-

Select the report view and click  to edit the report. The page for editing a report is the same as the page for creating a report.

3) Deleting a report

Report Management -> User quantity statistical report

View : Please select

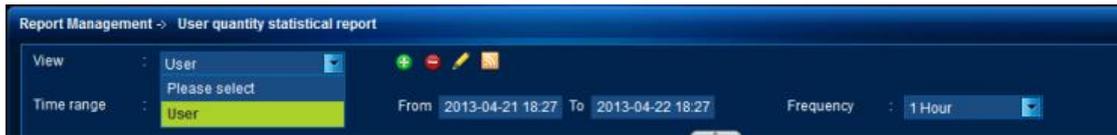
Time range : User

From 2013-04-21 18:29 To 2013-

Select the report view and click  to delete the report.

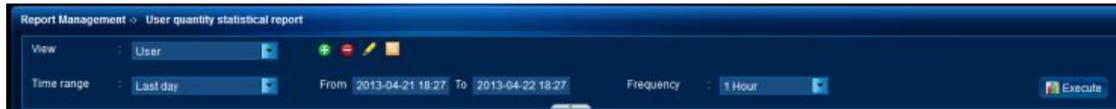
Note: When a report is deleted, the subscription relationship of the report is also deleted.

4) Subscribing to a report

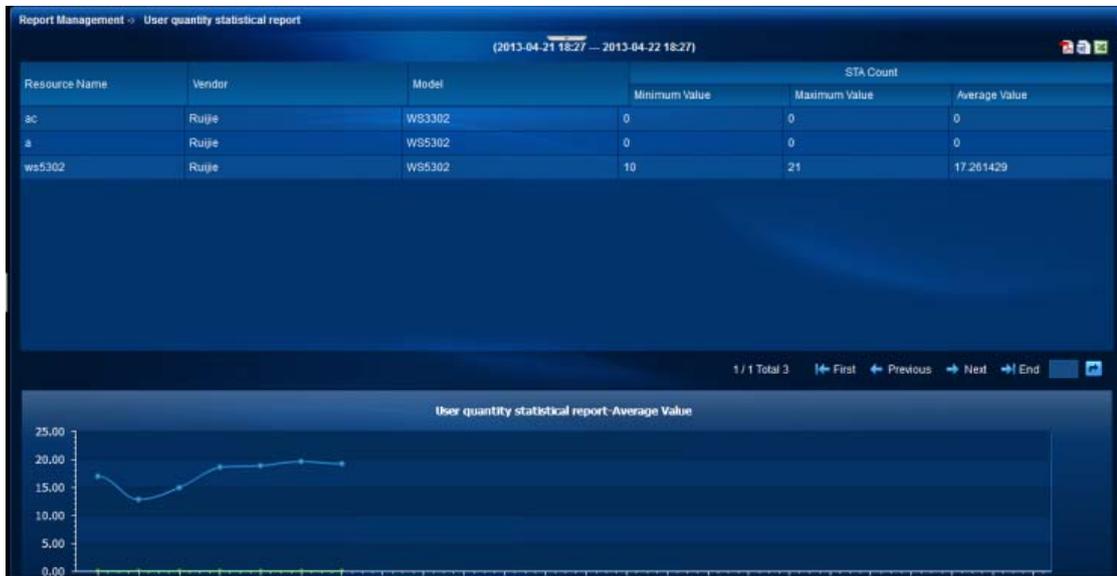


Select the report view and click  to subscribe to the report. The subscription method is the same as that for resource statistics reports.

3. Execute the report.



1) Select **View**, **Time range** and **Frequency**, and click  to execute and generate a report.



2) After a report is executed, you can export the results.

4.12.7.3 AP Availability Ratio Detail Report

1. This report provides the statistics of available duration, unavailable duration, and availability ratio of the fit APs on the AC.
2. The methods for adding, editing, deleting, subscribing to, and executing reports are the same as the methods for user statistics reports.



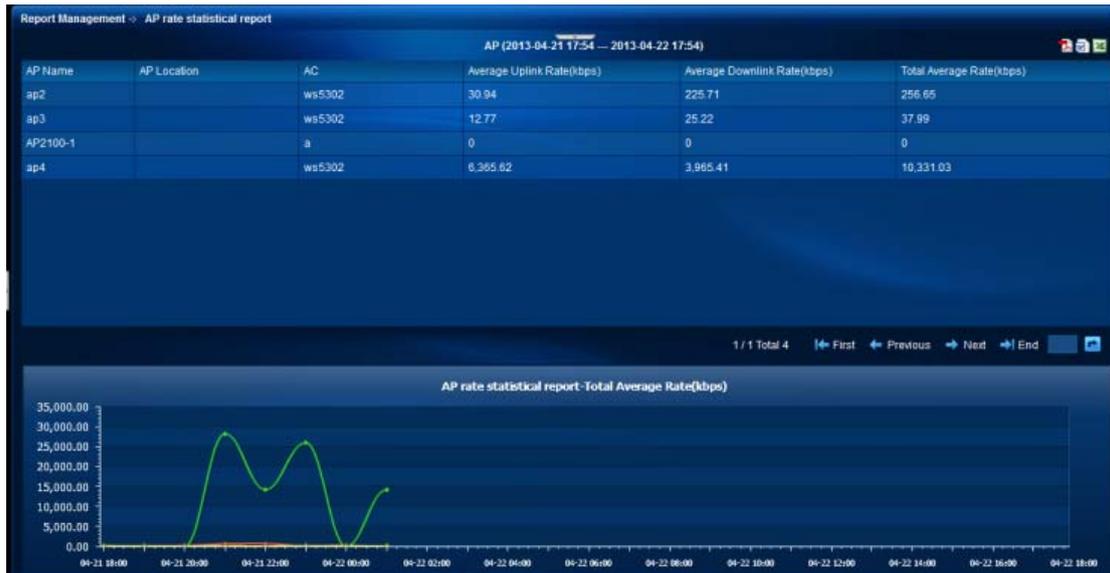
4.12.7.4 AC Rate Statistics Report

1. This report provides statistics of AC rate.
2. The methods for adding, editing, deleting, subscribing to, and executing reports are the same as the methods for user statistics reports.



4.12.7.5 AP Rate Statistics Report

1. This report provides statistics of AP rate.
2. The methods for adding, editing, deleting, subscribing to, and executing reports are the same as the methods for user statistics reports.

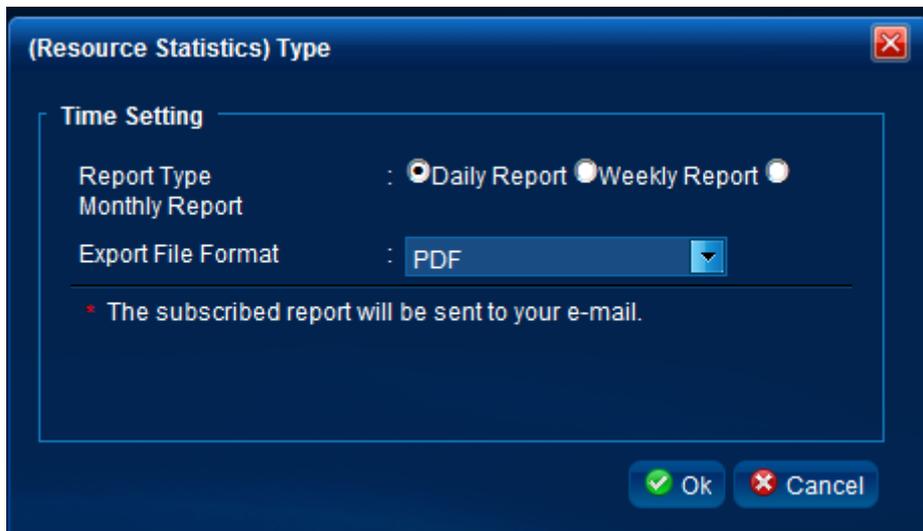


4.12.7.6 My Subscription

1. **My Subscription** displays the subscription information of the current user.



2. Click  to cancel subscription to a report.
3. Select a subscription record and edit it.



4.12.8 Wireless Configuration

On the **Wireless Configuration** page, you can complete two functions:

Log in to the device to directly configure the device or configure backup (including the **Discover & Set AC, More AC Settings, and Backup Settings** tabs).

Configure geographic locations and allocate locations to fit APs (**Set Hotspot** tab).

4.12.8.1 Discover & Set AC

On this page, you can perform AC remote login settings (Telnet or SSH). Currently, this function is valid only for Ruijie AC devices.



1. Add & Set

- 1.1. Click . The page for adding the AC is displayed.



Note: Before setting an AC to be remotely connected, discover the AC and add it to the resource library. This page lists all ACs in the resource library.

- 1.2 If the AC to be remotely connected is not in the resource library, click  to discover it.



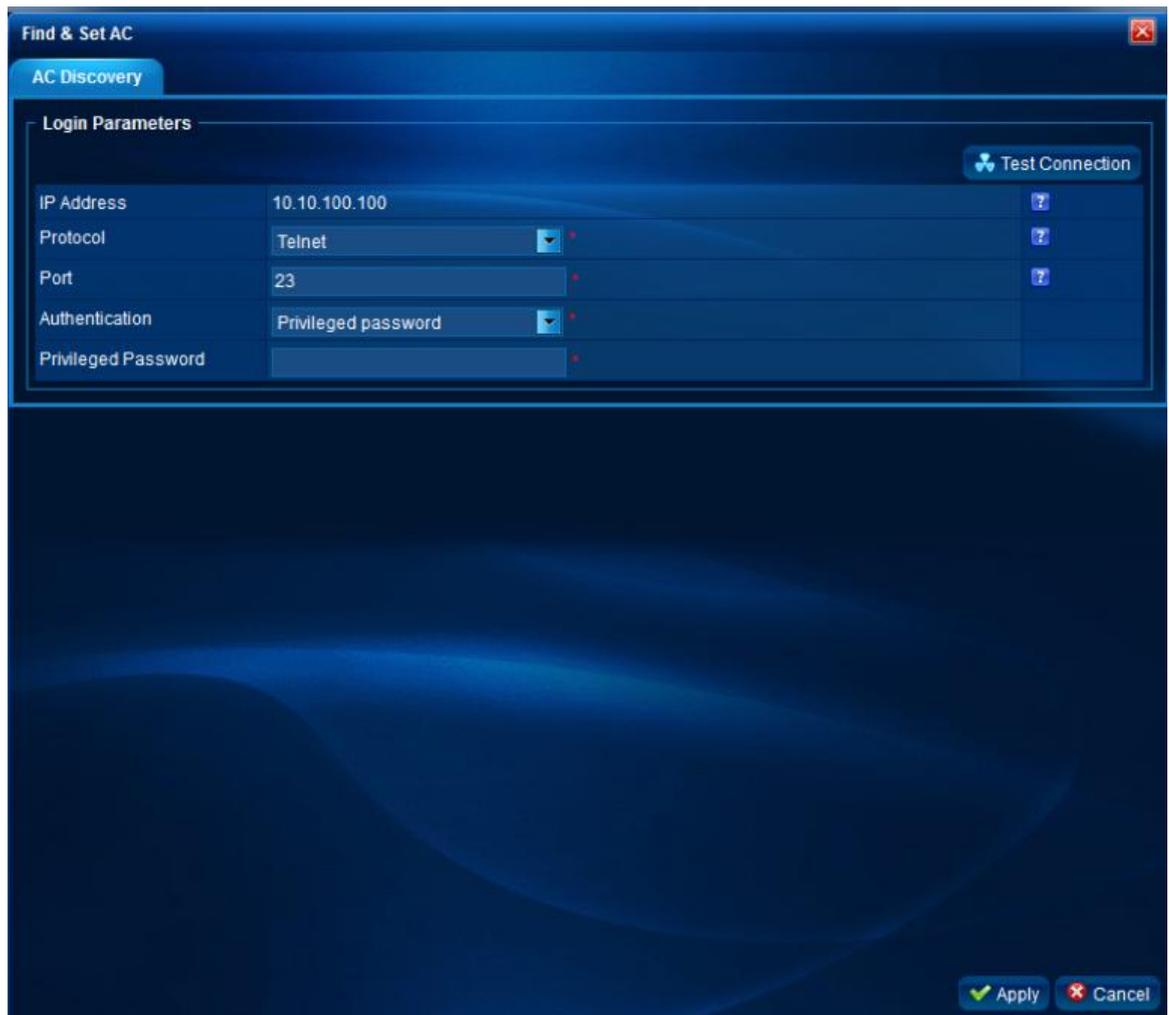
The image shows a 'Discoveries' dialog box with a dark blue background. It contains several configuration fields:

- DCS**: A dropdown menu showing 'DCS_172.17.160.239_53'.
- IP Address**: An empty text input field with a help icon.
- SNMP Version**: A dropdown menu showing 'SNMP v2' with a help icon.
- Port**: A text input field containing '161' with a help icon.
- Read-Only Community**: An empty text input field with a help icon.
- Read-Write Community**: An empty text input field with a help icon.

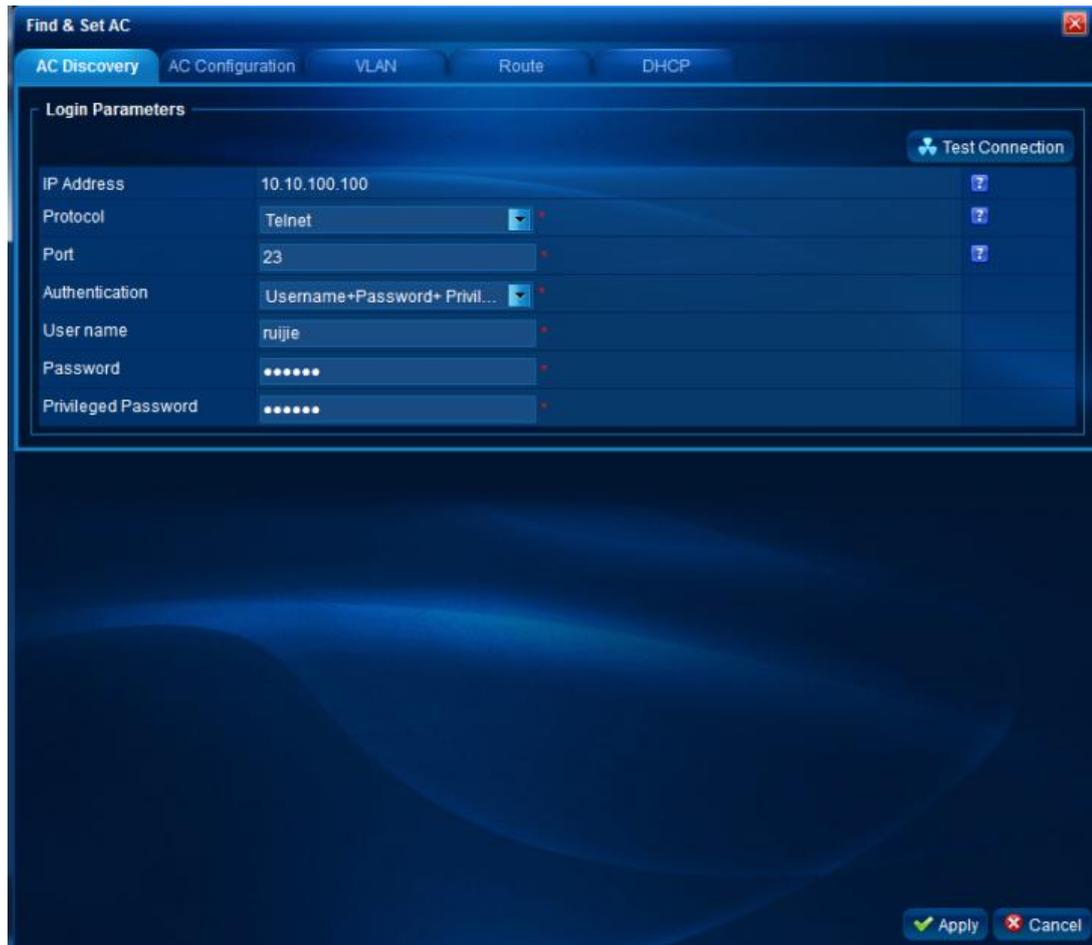
At the bottom right, there are two buttons: 'OK' (with a green checkmark icon) and 'Cancel' (with a red X icon).

After the desired AC is discovered, return to the AC selection list.

- 1.3 Select an AC and click  to configure the AC.



- 1.4 On the **AC Discovery** tab page, select the remote device connection mode and click **Apply**. Four basic configuration tabs appear.



1.5 Click the  tab.



Modify the settings and click  to write the settings to running-config. Click

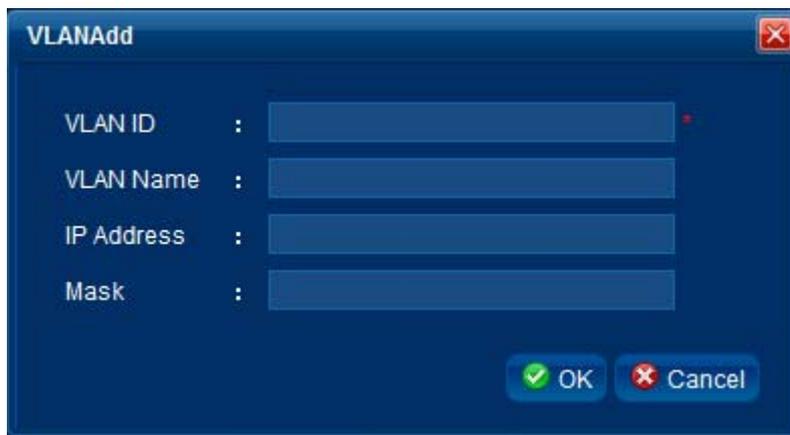
 to refresh the data on the current page.

1.6 Click the  tab.

VLAN ID	VLAN Name	IP Address	Mask	VLAN Interface
1	VLAN0001	10.10.100.100	255.255.255.0	Gi0/1, Gi0/2
2	VLAN0002	-	-	Gi0/1
4	VLAN0003	-	-	Gi0/1, Ca1, Ca2, Ca3
5	VLAN0005	1.23.11.11	255.255.255.0	Gi0/1, Ca1, Ca2, Ca3

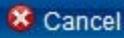
Note: Do not change VLAN configuration arbitrarily. Incorrect VLAN settings may cause failure to connect to the device.

- 1) Click  to add a VLAN and set the IP address of the VLAN interface.

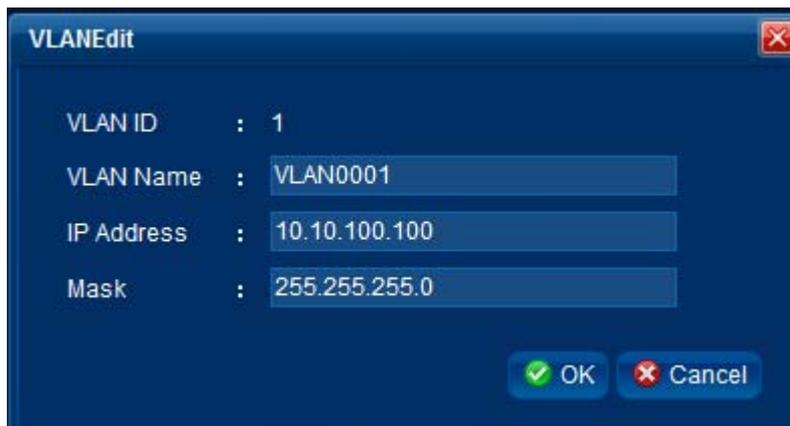


VLANAdd dialog box with the following fields:

- VLAN ID :
- VLAN Name :
- IP Address :
- Mask :

Buttons:  OK  Cancel

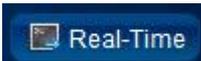
- 2) Select a VLAN and click  to delete the VLAN interface and the VLAN.
- 3) Click a VLAN ID to access the **VLANEdit** page.



VLANEdit dialog box with the following fields:

- VLAN ID : 1
- VLAN Name :
- IP Address :
- Mask :

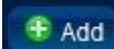
Buttons:  OK  Cancel

- 4) Click  to refresh the data on the current page.

- 1.7 Click the  tab.

	Destination Address	Mask	Next Hop
<input type="checkbox"/>	0.0.0.0	0.0.0.0	10.10.100.1
<input type="checkbox"/>	1.1.1.0	255.255.255.0	10.10.10.12
<input type="checkbox"/>	1.1.1.0	255.255.255.0	255.255.255.2
<input type="checkbox"/>	1.1.1.128	255.255.255.128	4.4.4.5

Note: Do not change VLAN configuration arbitrarily. Incorrect VLAN settings may cause failure to connect to the device.

- 1) Click  to add a route.

RouteAdd ✖

Destination Address :

Mask :

Next Hop :

- 2) Select a route and click  to delete the route.
- 3) Click a route record, edit the route, and then click **OK**. The route settings will be changed.

RouteEdit ✖

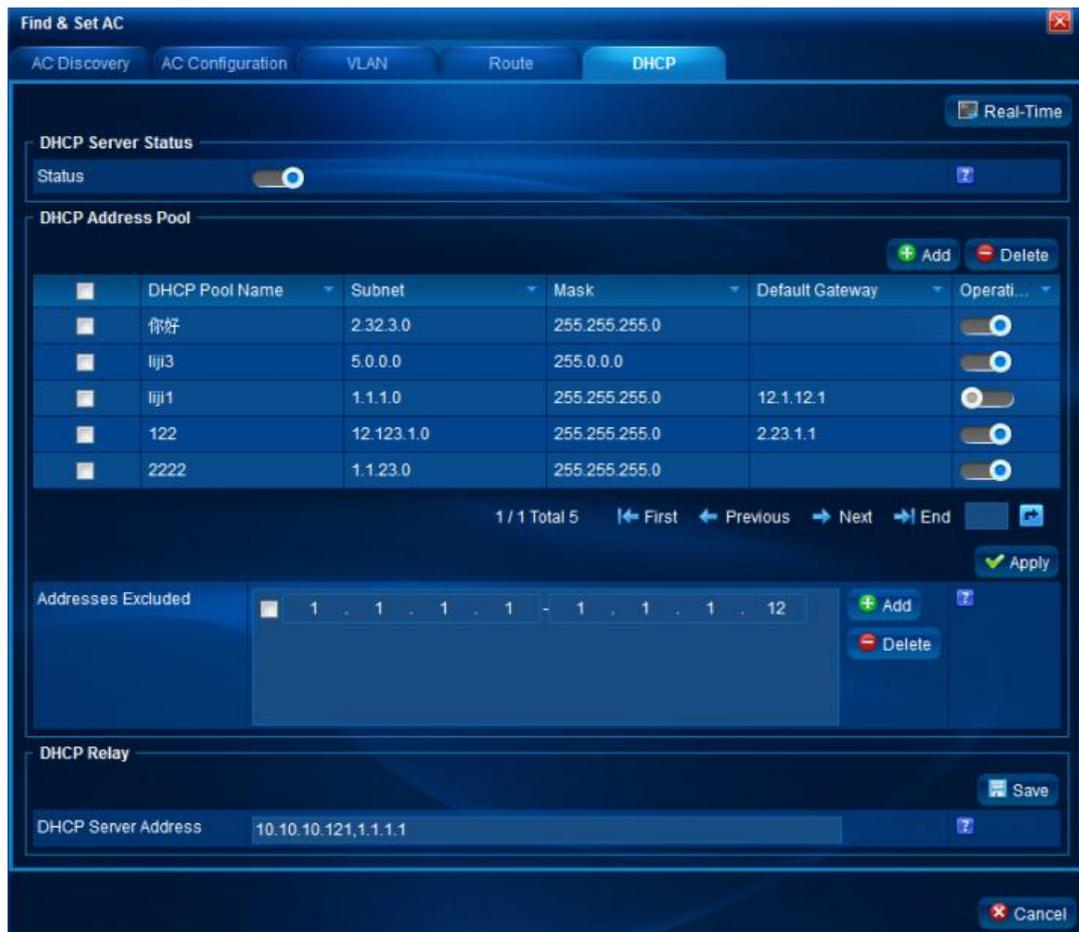
Destination Address :

Mask :

Next Hop :

- 4) Click  to refresh the data on the current page.

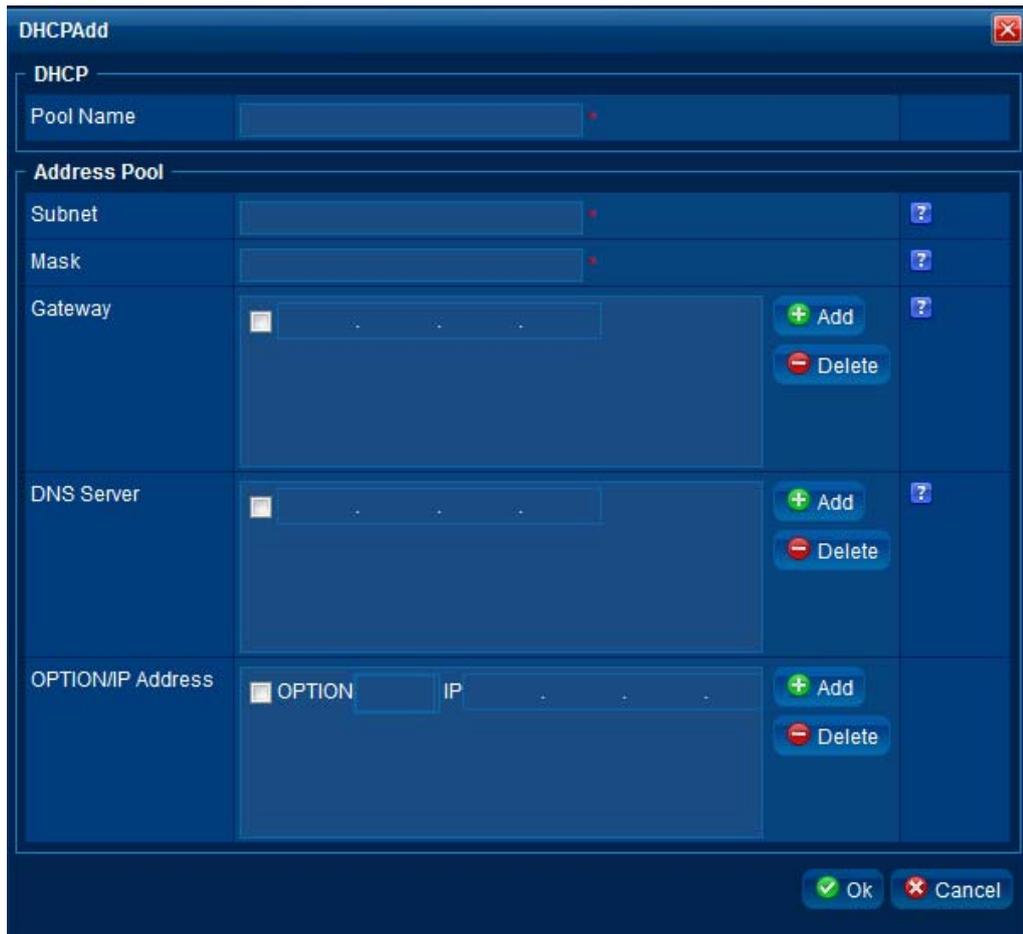
- 1.8 Click the  tab.



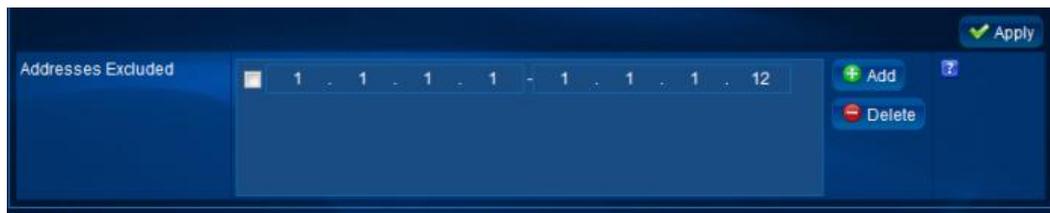
- 1) The DHCP tab page displays DHCP Server Status, DHCP Address Pool, Addresses Excluded, and DHCP Relay.

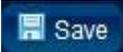
Note: For Ruijie AC devices, if an address pool is configured, the local DHCP server configuration takes effect; if no address pool is configured, the DHCP relay configuration takes effect.

- 2) Click  in DHCP Address Pool to add an address pool.



- 3) On the **DHCP** tab page, you need to click  for the settings to take effect after adding, deleting, or modifying the excluded addresses.



- 4) Multiple DHCP relay servers can be configured. Use a comma (,) to separate the servers in between. After configuring the DHCP relay servers, click  for the configuration to take effect.



- 5) Click  to refresh the data on the current page.

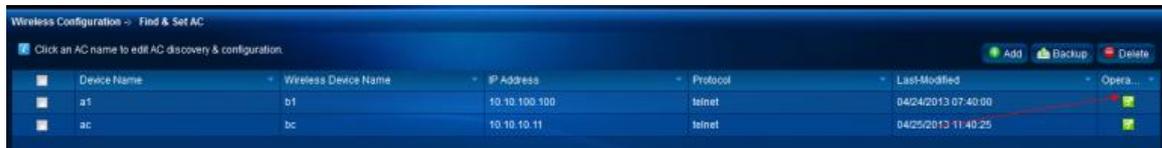
- 1.9 In the Find & Set AC list, click a device for which an AC is added. The edit details page is displayed.



2. Writing into startup-config

Note: The settings on the **Find & Set AC** page and the **More AC Settings** page are only written to running-config of the device. To save the settings permanently, you need to write the settings to startup-config.

In the Find & Set AC list, click the button on the **Operation** column to write running-config into startup-config.



3. Backup

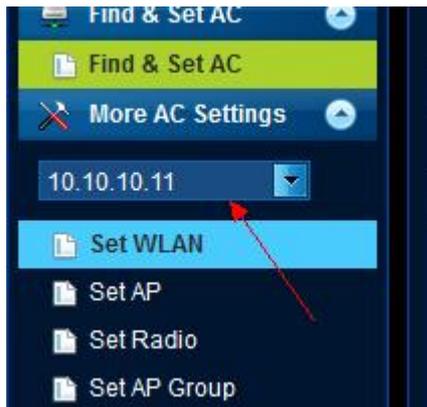
In the Find & Set AC list, select an AC and click  to back up the device settings.

You can download the backup configuration files on the **Backup Settings** page.

4.12.8.2 More AC Settings

You can perform more AC settings on the **More AC Settings** page.

1. In the toolbar on the left, select the IP address of an AC, and then select a menu to access the corresponding page for configuration.



2. Set WLAN

Wireless Configuration > More AC Settings > Set WLAN

WLAN ID	SSID	Broadcast SSID	Authentication
1	lj-wpa1-wpa2-psk	Yes	WPA
234	234	Yes	OPEN
444	444	Yes	WPA
500	lj-wpa2-psk	Yes	WPA
555	555	Yes	OPEN
888	Test	Yes	OPEN
1000	lj-open	Yes	OPEN
1500	lj-wep104	Yes	WEP
2000	lj222	Yes	OPEN

2.1 Click  to add a WLAN.

Add WLAN

WLAN Basic | Mapping | Associated | Availability Status | Weight Rule

Basic Info

WLAN ID:

SSID:

Broadcast SSID: Yes No

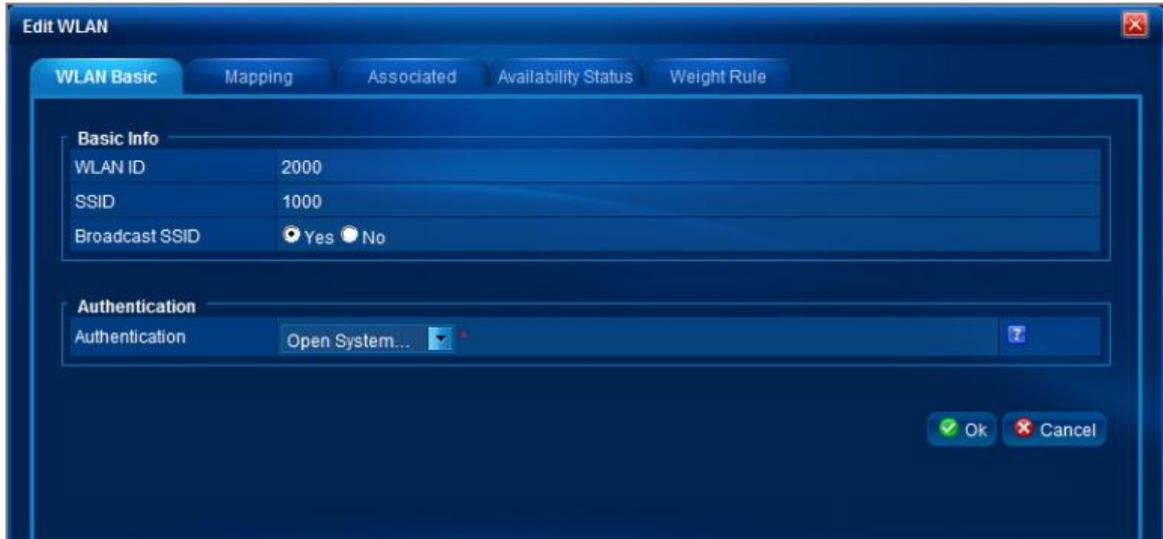
Authentication

Authentication:

Ok Cancel

2.2 In the Set WLAN list, select one or more WLANs and click  to delete the selected WLAN or WLANs.

2.3 In the Set WLAN list, click a WLAN ID to edit the WLAN. On the displayed **Edit WLAN** page, you can perform advanced configuration.



2.4 Click . The **Mapping** tab page is displayed, where you can set mapping VLANs and AP groups for the WLAN.

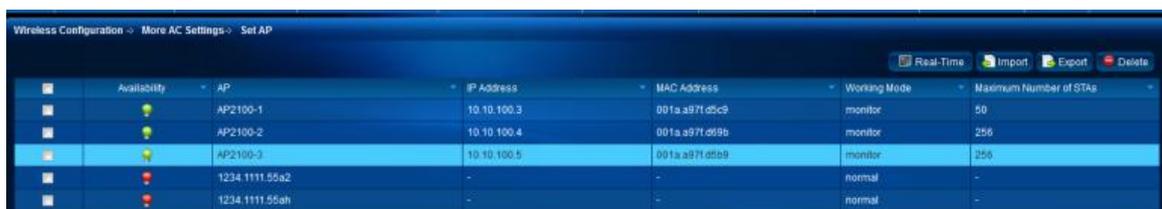


Click  to add mapping or  to delete mapping.

2.5 Click the , , and  tab to set the availability status, health status, and busy status of the WLAN.

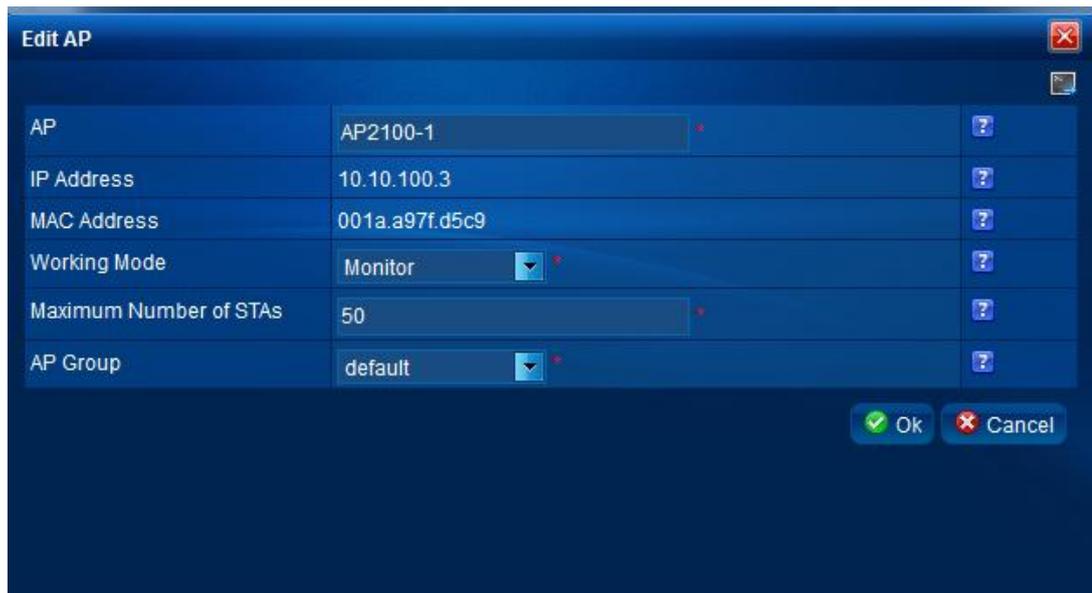
Note: The configurations completed on these three tab pages are monitored by RIIL and not configured on the device. The configurations are the same as those in **Wireless Resource Management > WLAN Service**.

3. Set AP



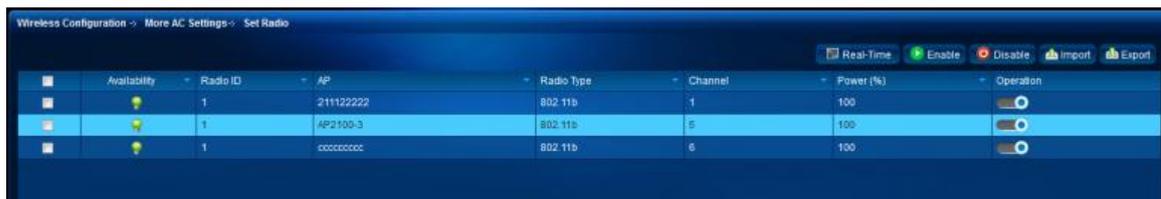
3.1 Select an unavailable AP and click  to delete it.

3.2 Click the name of an available AP to set the AP.



3.3 Click  to obtain the AP configuration on the device in real time.

4. Set Radio



4.1 Select a radio in the list and click  or  to enable or disable the radio.

4.2 Click the operation button in the **Operation** column to enable or disable one radio.

4.3 Click a radio ID to edit the radio.



Radio ID	1
AP	211122222
Country code	AUSTRALIA
Radio Type	802.11b
Channel	1
Power (%)	100
Beacon Period	100

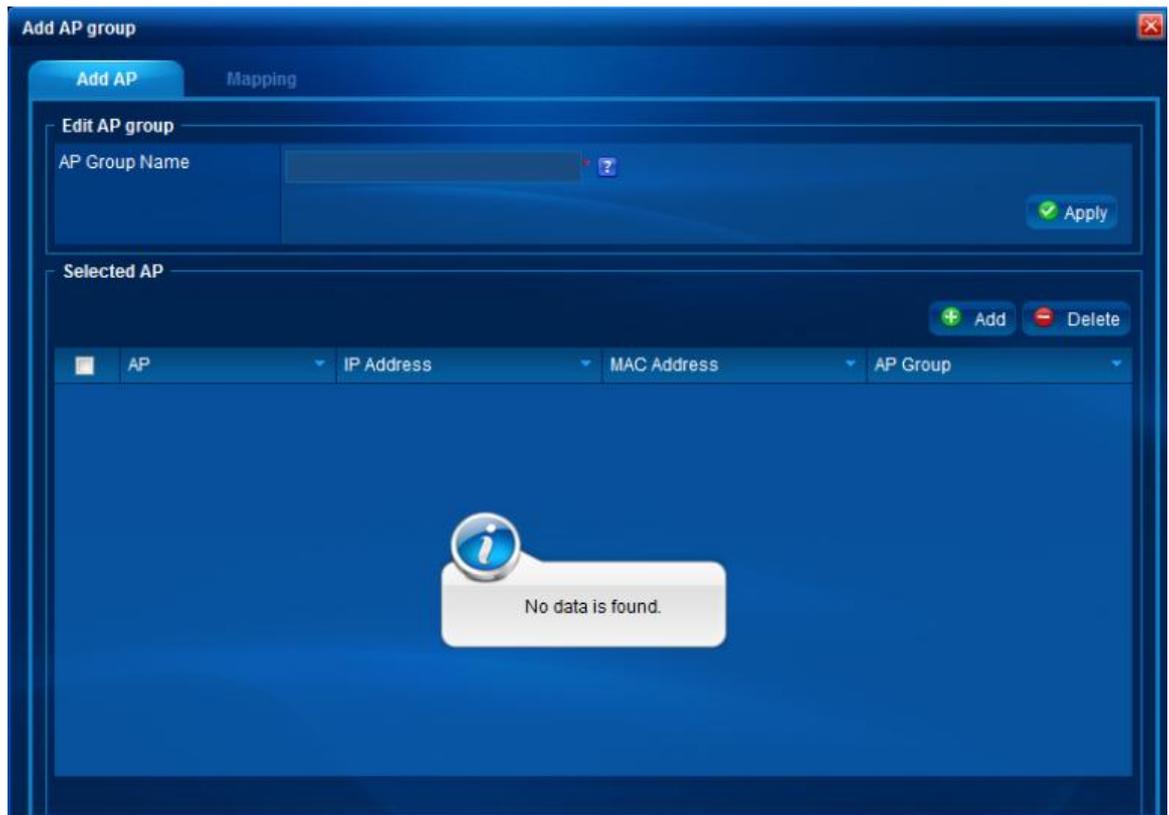
4.3 Click  to obtain the radio information from the device in real time.

5. Set AP Group



5.1 This page lists all AP groups configured on the device.

5.2 Click  to add an AP group.



- 1) Enter the AP group name and click  to create an AP group on the device.
- 2) Add APs to the AP group.
- 3) Click the  tab and configure the WLAN, VLAN, and radio mapping.



- 5.3 Click an AP group name. The **Edit AP Group** page is displayed. Then, you can add APs and associations to the AP group.
- 5.4 Select an AP group and click  to delete the AP group.
- 5.5 Click  to obtain the AP groups in real time.

6. Set Mobility



6.1 You can perform mobility configuration on this page.

6.2 Click  to add a mobile group.



Add Mobility Groups

Mobility Group Name:

Keepalive Count:

Keepalive Interval: (秒)

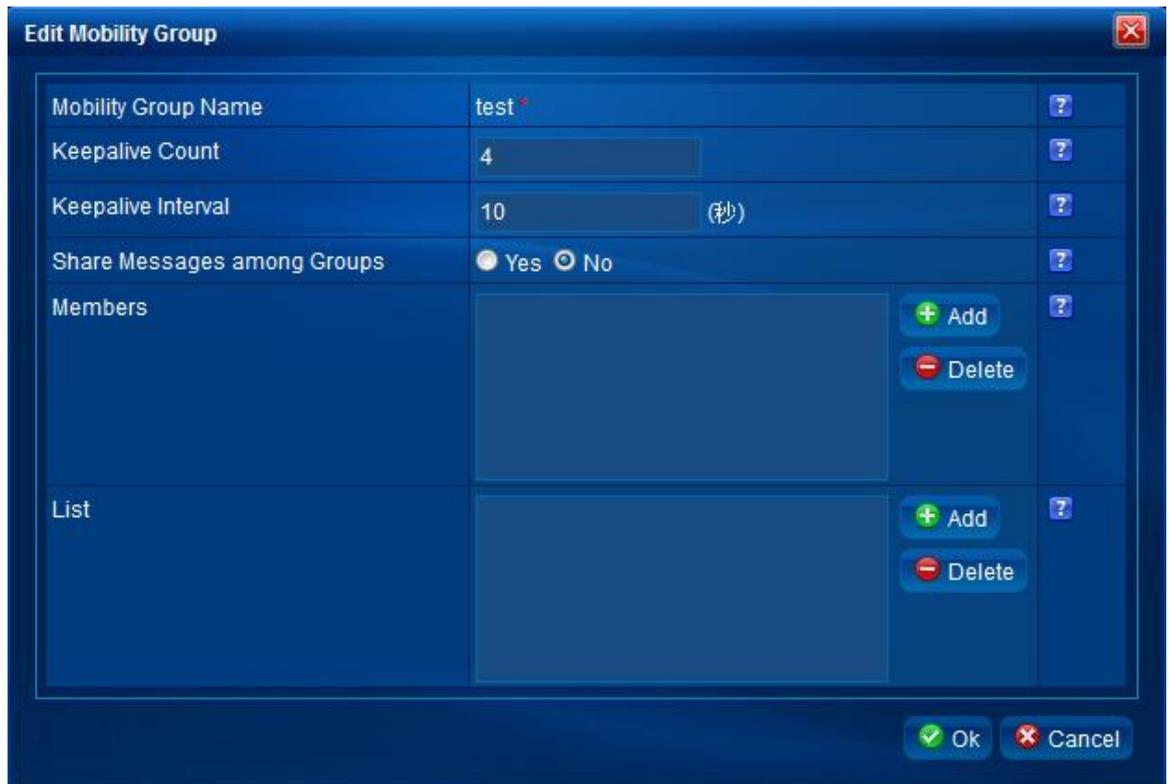
Share Messages among Groups: Yes No

Members:  

List:  

6.3 In the mobility group list, click a mobility group name to edit the mobility group.



6.4 Select a mobility group and click  to delete the mobility group.

6.5 Click  to obtain the mobility groups in real time.

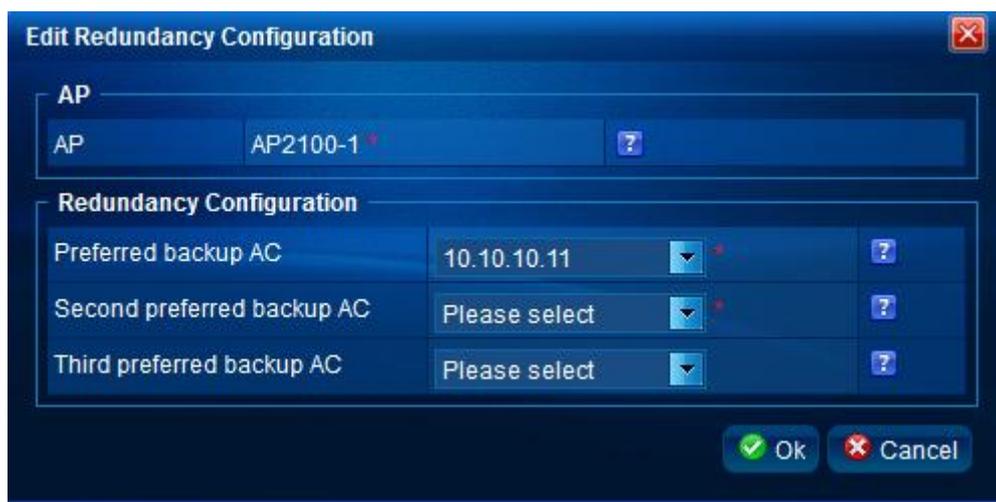
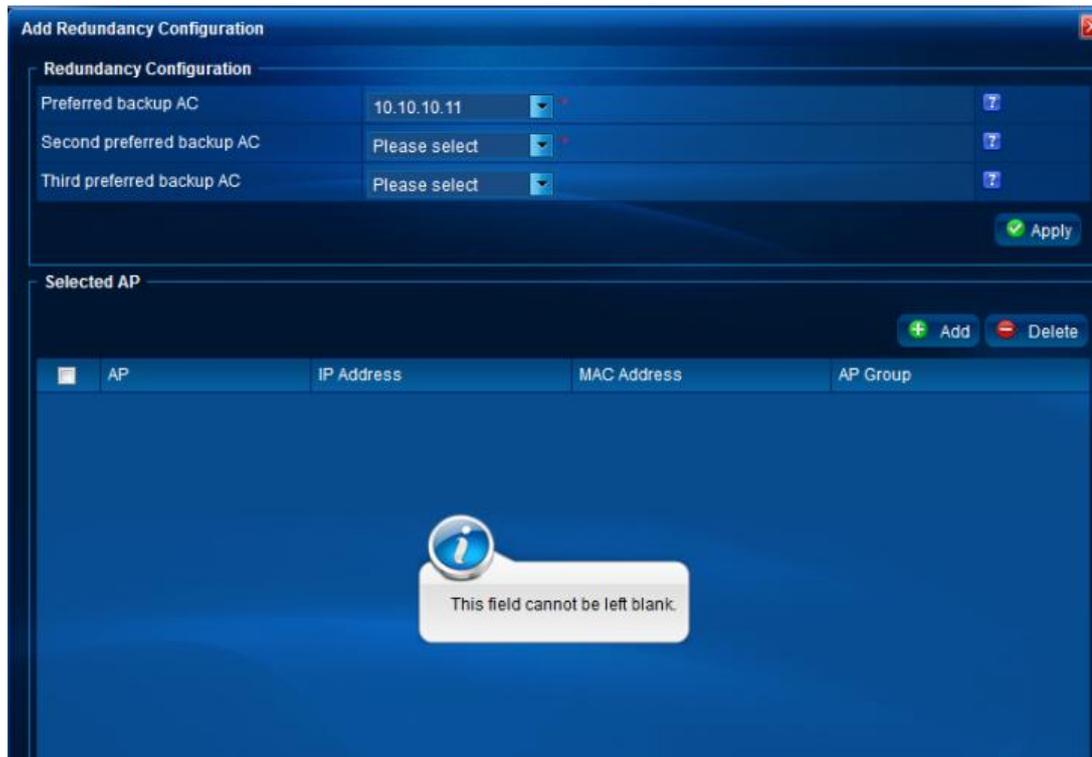
6.6 Click the **Member** column or  to view the mobility group members and the member details.

7. Set Redundancy



7.1 This page displays the redundancy configuration of all APs on an AC.

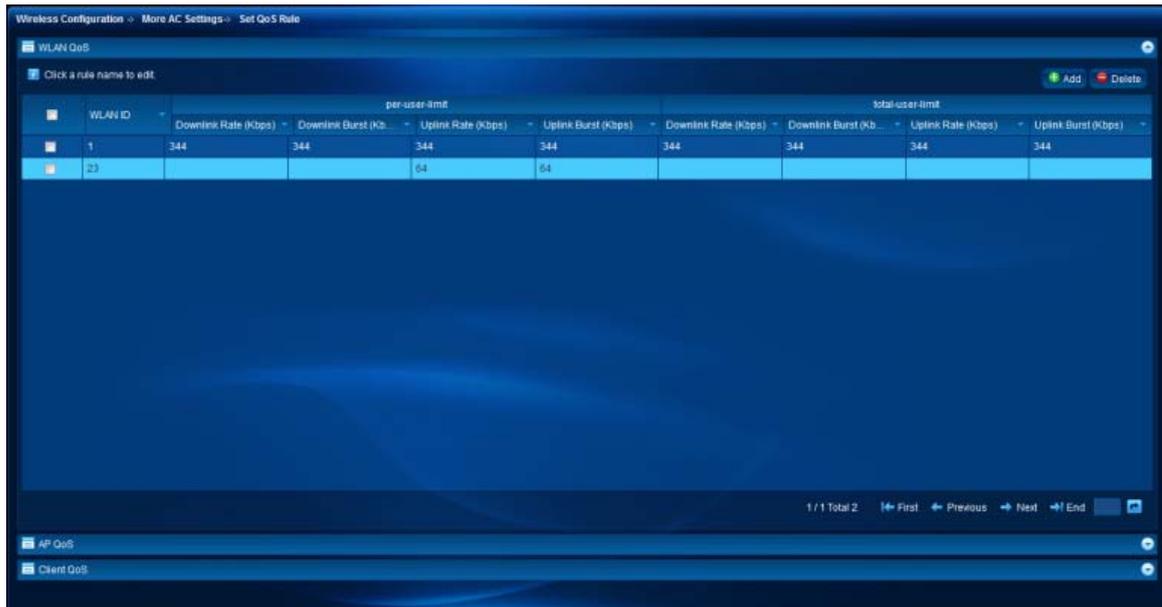
7.2 Click  to configure APs in batches. Click an AP name to configure the AP.



7.3 Select an AP in the redundancy configuration list and click **Delete** to delete the redundancy configuration of the AP.

7.4 Click  to obtain the mobility groups in real time.

8. Set QoS Rule



8.1 RUIL implements QoS rate limit based on WLAN, AP, or user.

8.2 For each category, click  to add a QoS rule.

8.3 For each category, click an ID or a name to edit the QoS rule.

8.4 Setting a WLAN QoS rule



Note: On Ruijie AC device, QoS rate limit is based on 8 kbps. On RUIL, QoS rate limit is based on kbps. Therefore, user configuration data may be different from the actual configuration on the device. For example, the rate configured by the user is 65 kbps, but the actual rate on the device is 64 kbps. The rate displayed by RUIL to users is also 64 kbps.

8.5 For each category, select a QoS rule and click  to delete the QoS rule.

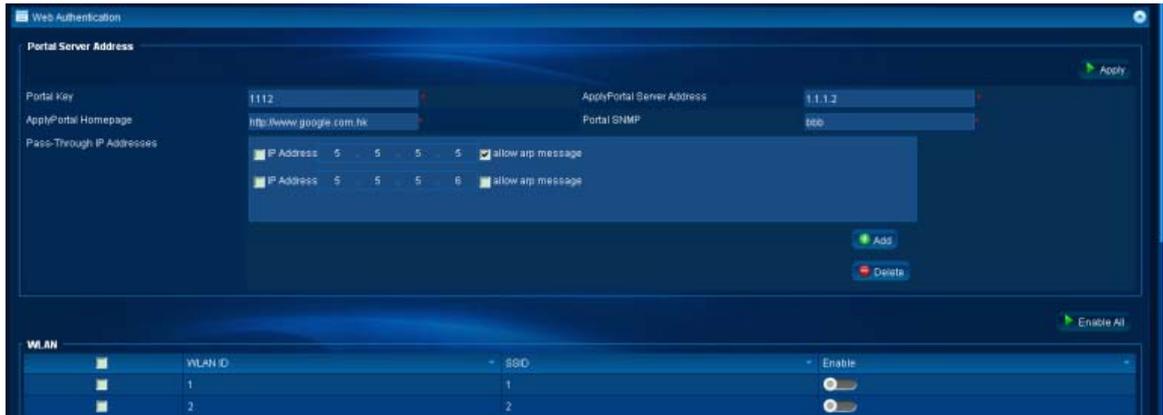
9. User Authentication

RUIL allows you to set two authentication modes separately.

9.1 AAA Authentication



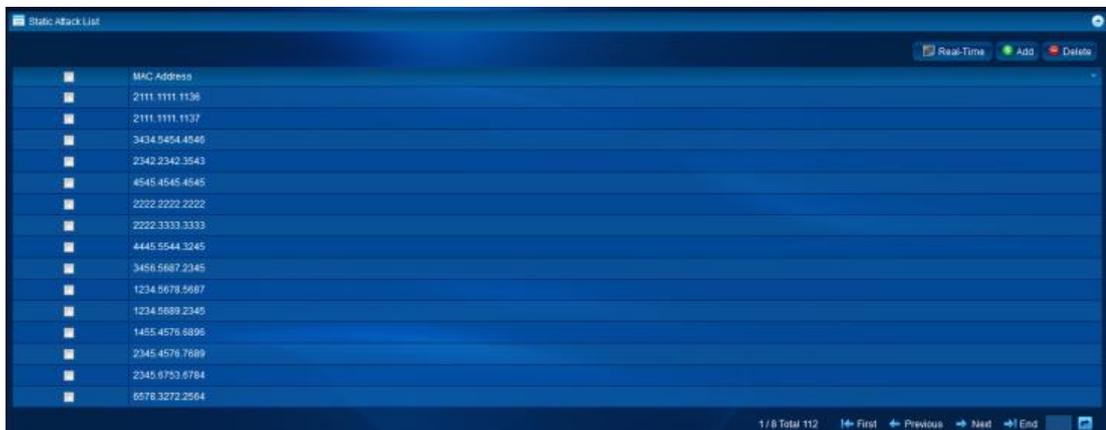
9.2 Web Authentication



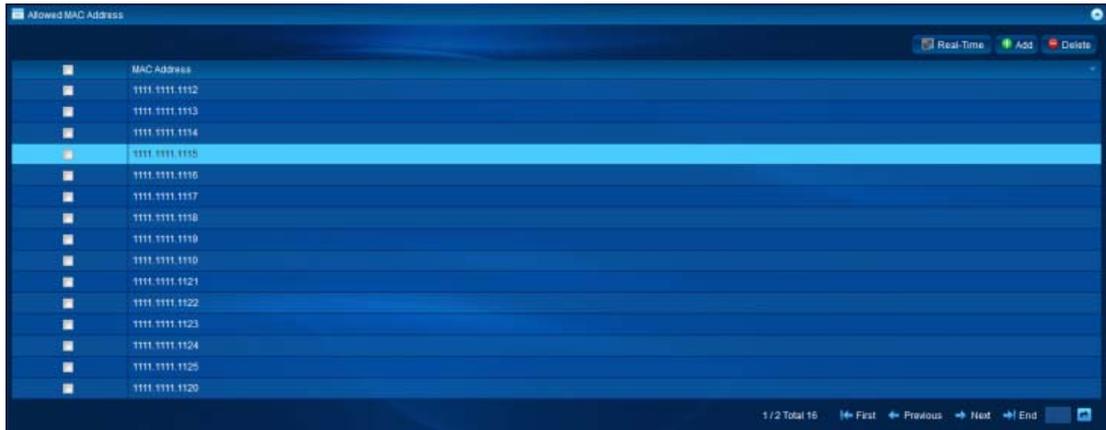
10. Rogue Rule

RIIL allows you to set four kinds of Rogue rules.

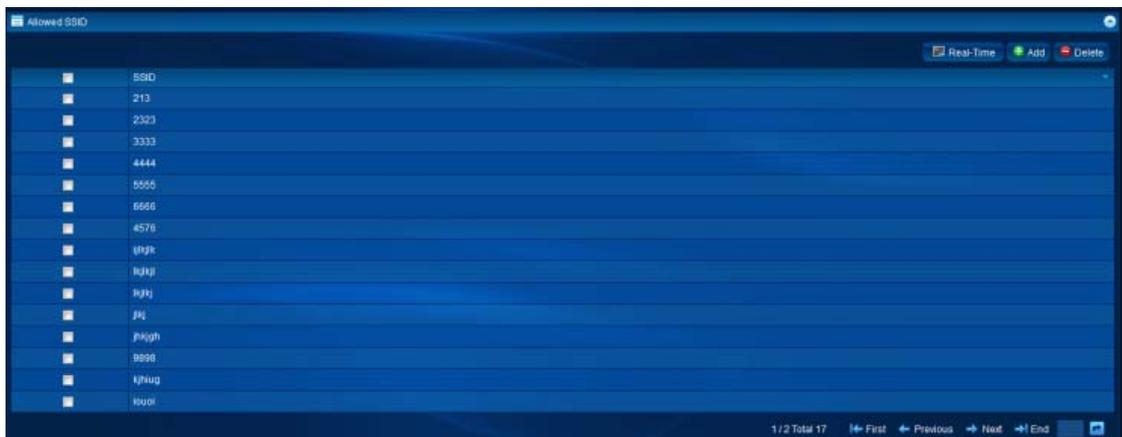
10.1 Static Attack List



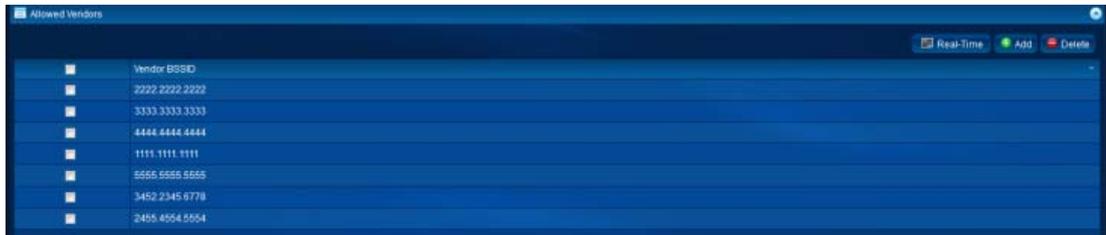
10.2 Allowed MAC Address



10.3 Allowed SSID



10.4 Allowed Vendors

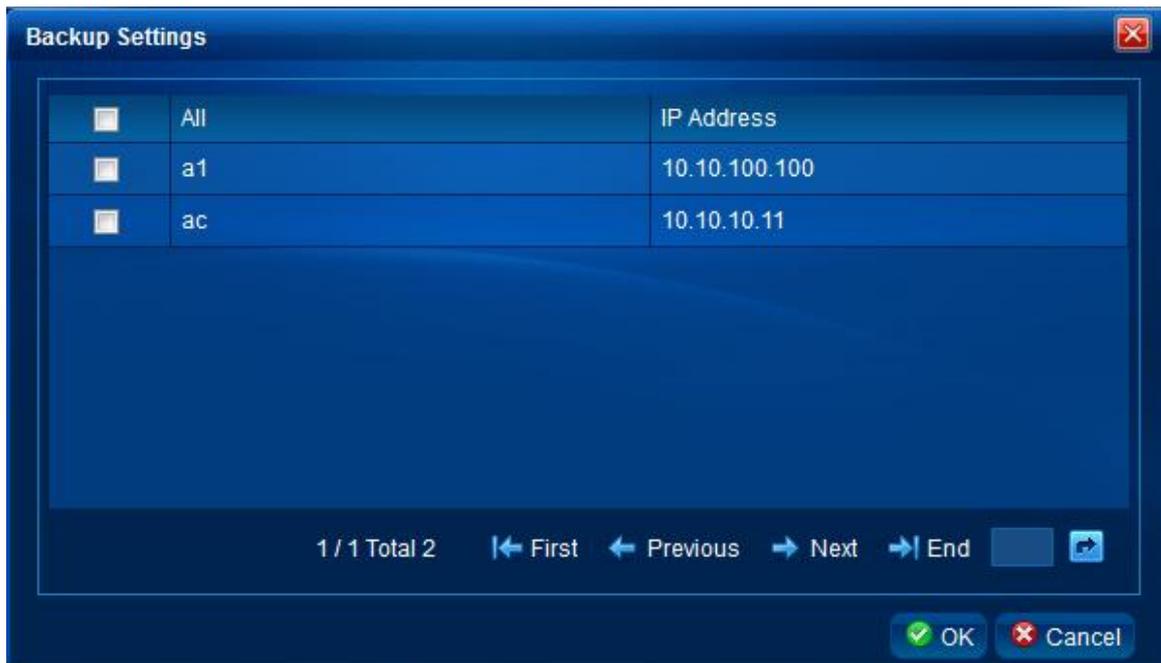


4.12.8.3 Backup Settings

On the **Backup Settings** page, you can back up and download the AC configurations added on the **Find & Set AC** page.



1. Click  and select an AC to back up the configurations of the selected AC.



- In the backup list, click  in the **Operation** column to download the backup file.

Each backup record includes AC running configuration, AC startup configuration, AP running configuration, and AP startup configuration.

- Select a backup record and click  to delete the backup record.

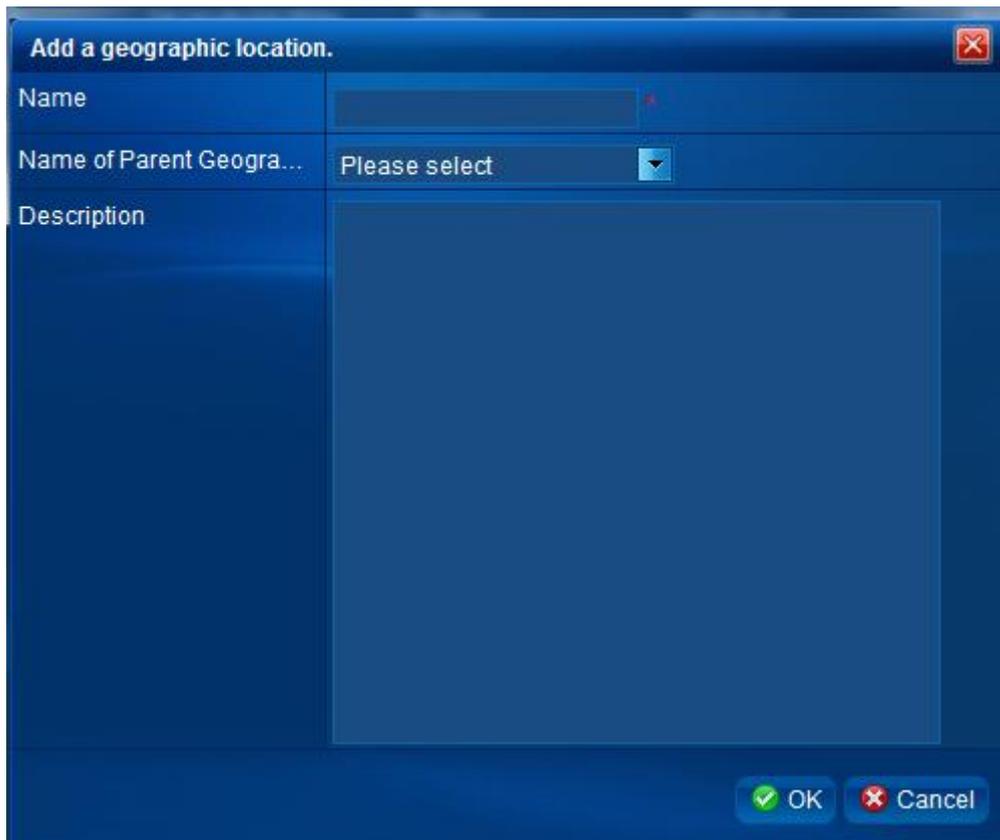
4.12.8.4 Hotspot Configuration

- Before using the wireless topology function, you need to perform hotspot configuration. Hotspot configuration includes geographic location configuration and allocation of geographic locations to fit APs.



- Configuring geographic locations:  in the left toolbar are used to add, delete, and edit a geographic location. The specific operations are the same as geographic location configuration in **System Management**.

Note: You cannot change the selected upper-level location when adding a geographic location. To modify the upper-level location, you need to delete the geographic location and add it again.

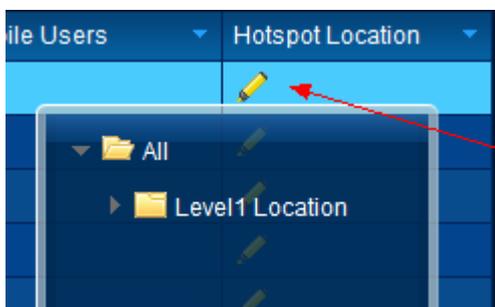


3. Allocating geographic locations to fit APs

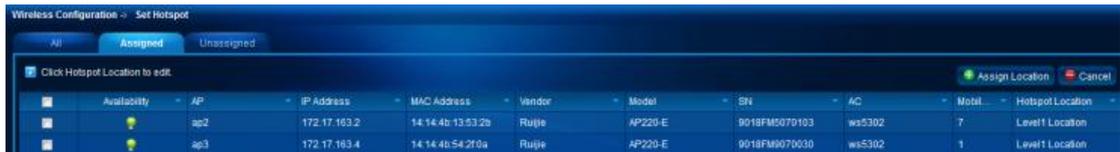
- 1) Click the **All** tab. All fit APs are listed. The **All**, **Assigned**, and **Unassigned** tabs display all APs, APs assigned with locations, and APs without locations respectively.

Availability	AP	IP Address	MAC Address	Vendor	Model	SN	AC	Mobile Users	Hotspot Location
	ap2	172.17.163.2	14:14:4b:13:53:2b	Ruijie	AP220-E	9018FM5070103	ws5302	7	
	ap3	172.17.163.4	14:14:4b:54:2f:0a	Ruijie	AP220-E	9018FM9070030	ws5302	1	
	ap4	172.17.163.5	00:1a:a9:c1:a6:ff	Ruijie	AP220-E	9018EMA072100	ws5302	0	
	AP2100-1	10.10.100.3	00:1a:a8:7f:85:c9	Ruijie	AP220-SE	8684EH4160170	a	0	
	AP2100-2	-	-	Ruijie	AP220-SE	-	a	-	
	AP2100-3	-	-	Ruijie	AP220-SE	-	8	-	

Click the button in the **Hotspot Location** column to directly assign a location to the corresponding AP.

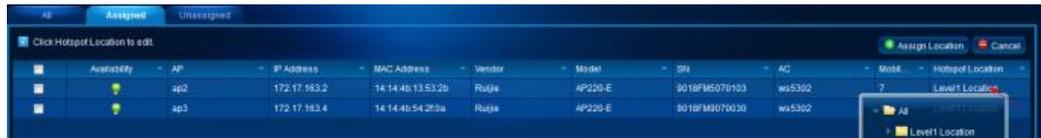


- 2) Click the **Assigned** tab. The APs assigned with a location are listed.



2.1) Click the button in the **Hotspot Location** column to directly assign a location to the corresponding AP.

2.2) Select one or more APs and click to assign a location to the selected AP or APs.



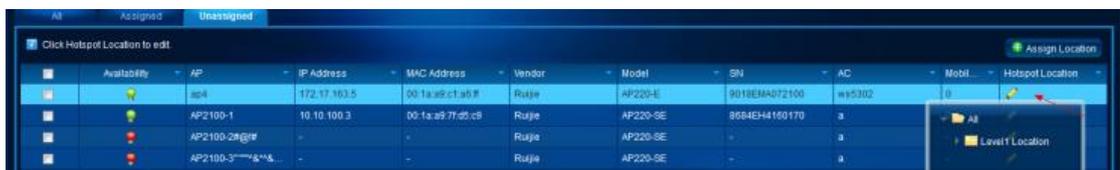
2.3) Select one or more APs and click to unassign the locations from the selected AP or APs. The APs without an assigned location are no longer displayed in the Assigned list.

3) Click the **Unassigned** tab. The APs without a location are listed.

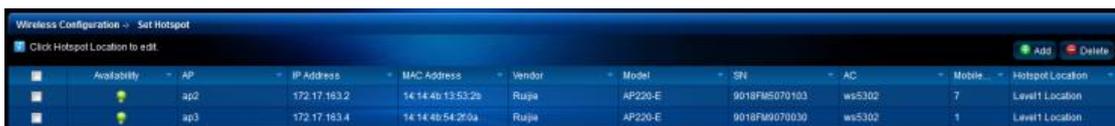


3.1) Click the button in the **Hotspot Location** column to directly assign a location to the corresponding AP.

3.2) Select one or more APs and click to assign a location to the selected AP or APs. The APs with an assigned location are no longer displayed in the Unassigned list.



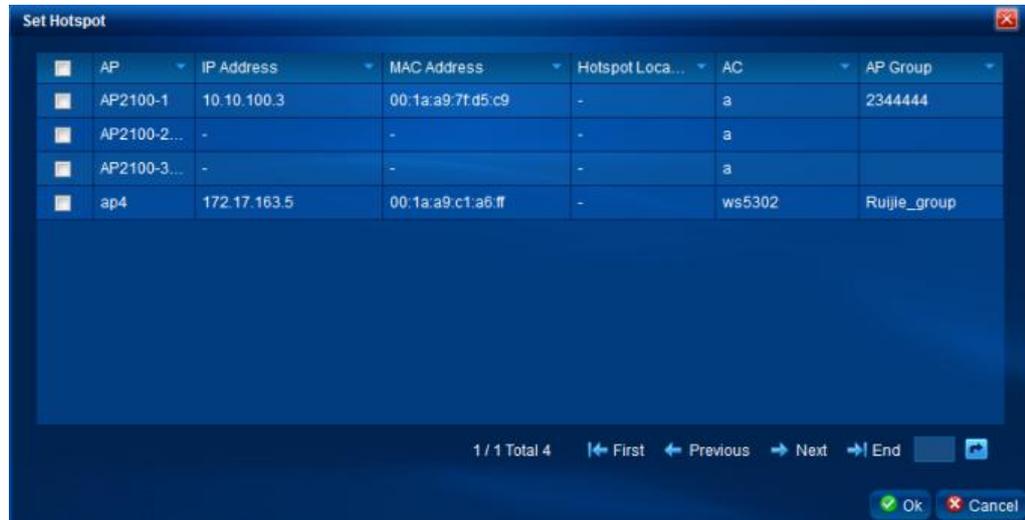
4) After configuring geographic locations, click any node other than All in the tree. The fit APs under the node are listed.



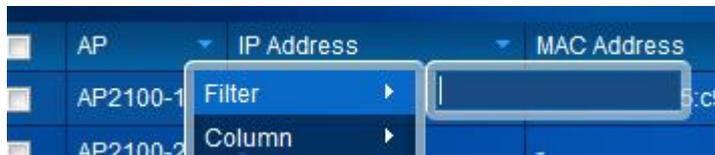
4.1) Click the button in the **Hotspot Location** column to directly assign a location to the corresponding AP.

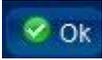
4.2) Select one or more APs and click  to unassign the locations from the selected AP or APs. The APs without an assigned location are no longer displayed in the Assigned list.

4.3) Click . The **Set Hotspot** page is displayed.

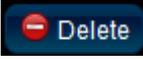


The filter function is available. Click the triangle button next to a column name to use the filter function.



Select an AP in the list and click  to add the AP to the current geographic location.

Click  to add all APs in the list to the current geographic location.

4.4) Select one or more APs in the list and click  to unassign the locations from the selected AP or APs. The APs without an assigned location are no longer displayed in the current geographic location list.

5 Appendix

Appendix A FAQs