VERTIV.

Environet™ Alert

User Manual

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Technical Support Site

If you encounter any installation or operational issues with your product, check the pertinent section of this manual to see if the issue can be resolved by following outlined procedures.

Visit https://www.vertiv.com/en-us/support/ for additional assistance.

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1 Overview

Vertiv™ Environet™ Alert provides a single, highly customizable, point-of-access for SNMP and Modbus TCP monitoring of critical infrastructure at facilities either small and local or large and remote.

Environet™ Alert's connectivity keeps tabs on myriad devices from Vertiv and multiple other manufacturers.

This versatility permits the software to provide monitoring, trending, alarming, and customized views of thousands of monitored data points collected across facilities and present the aggregated results through a visually rich graphical user interface.

The software is easily customizable so that users can get critical information quickly from key performance indicators to ensure that the equipment is performing reliably and efficiently.

1.1 Examples in Manual

The information in this document represents a basic system. Because the software is customized to fit individual needs, systems may vary. As a result, some of the information in this user guide may not reflect your customized system.

Examples of boards, sites, groups, and devices in this document are not representative of an actual installation.

1.2 Initial Setup by Vertiv Services

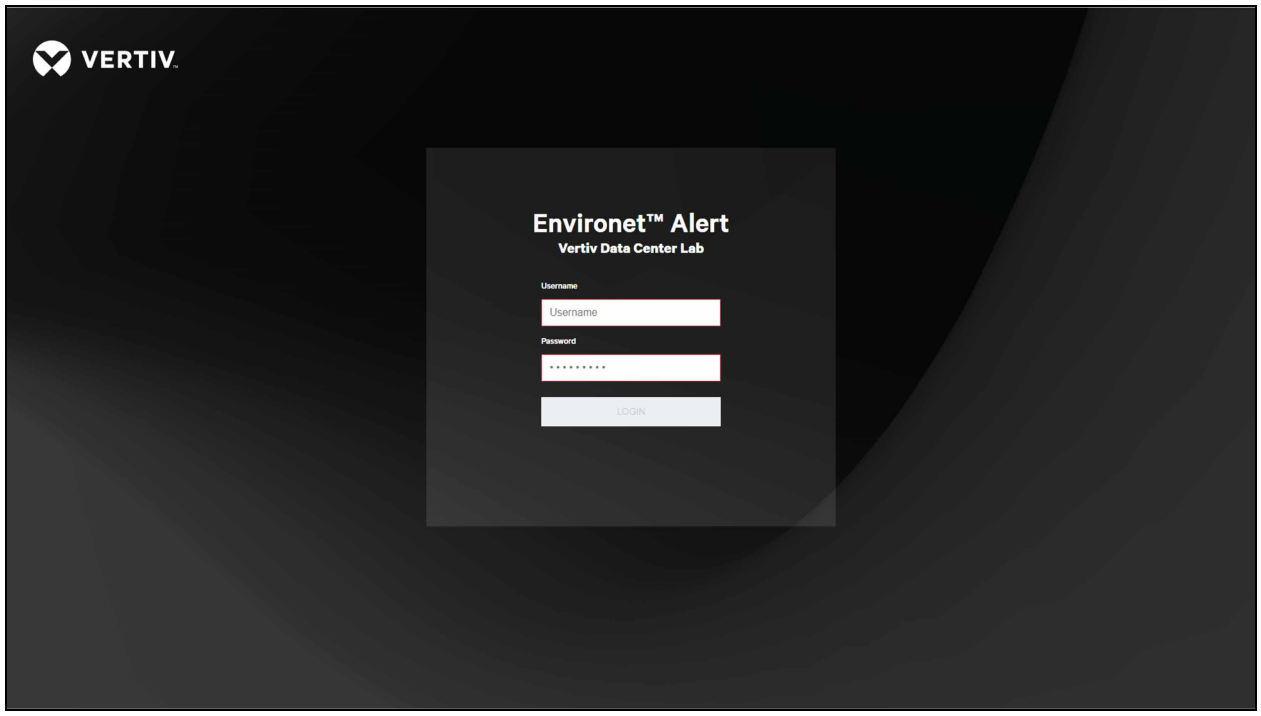
Vertiv Services installs the software and configures it according to customer specifications. Training and assistance on operations are available from Vertiv.

1.3 Login Page

To access the Environet™ Alert login page:

1. Enter the Host device IP address (such as 192.168.1.100) or the fully qualified domain name (such as environet.geistglobal.com) in your web browser's address bar. The host device IP address is unique for each system. It can be obtained from your system administrator.
2. Enter the username and password in the corresponding text boxes and click the *Login* button.

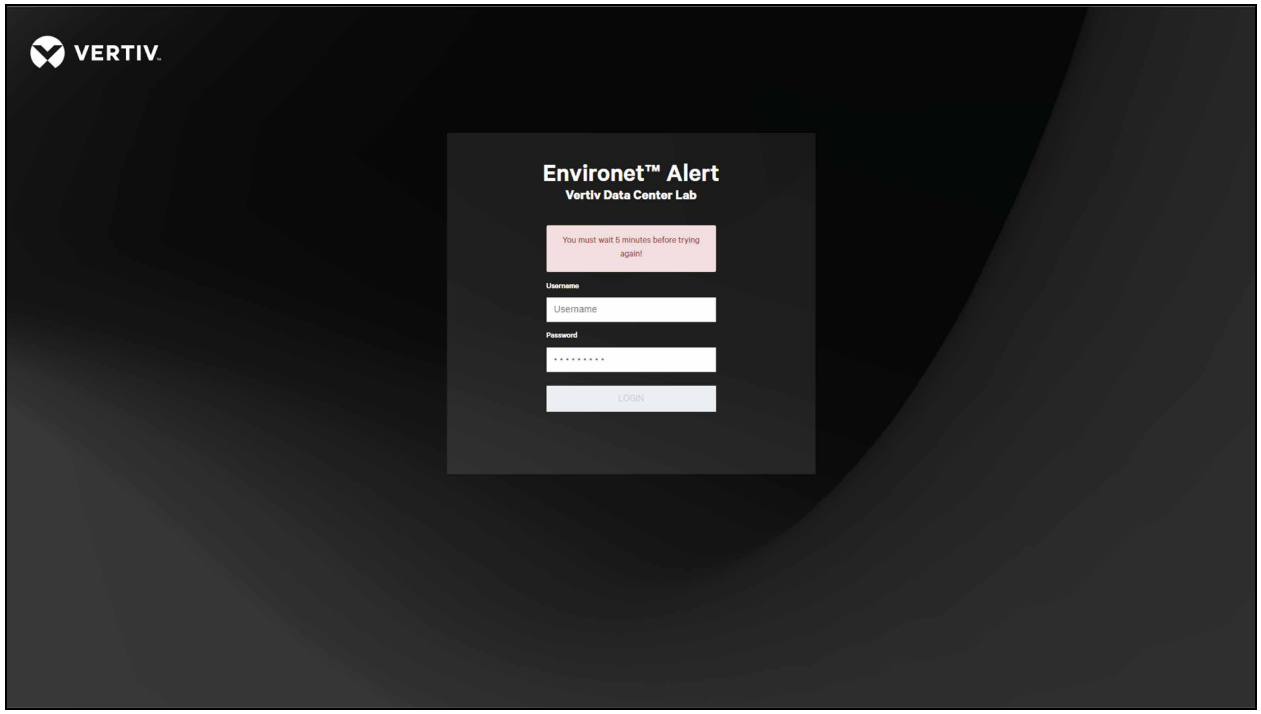
Figure 1.1 Vertiv™ Environet™ Alert Login Page



1.3.1 Login Extra Security Step Feature

If the user introduces the wrong credentials 3 times in a row, then user need to wait 5 minutes before trying again.

Figure 1.2 Login Extra Security Step Feature

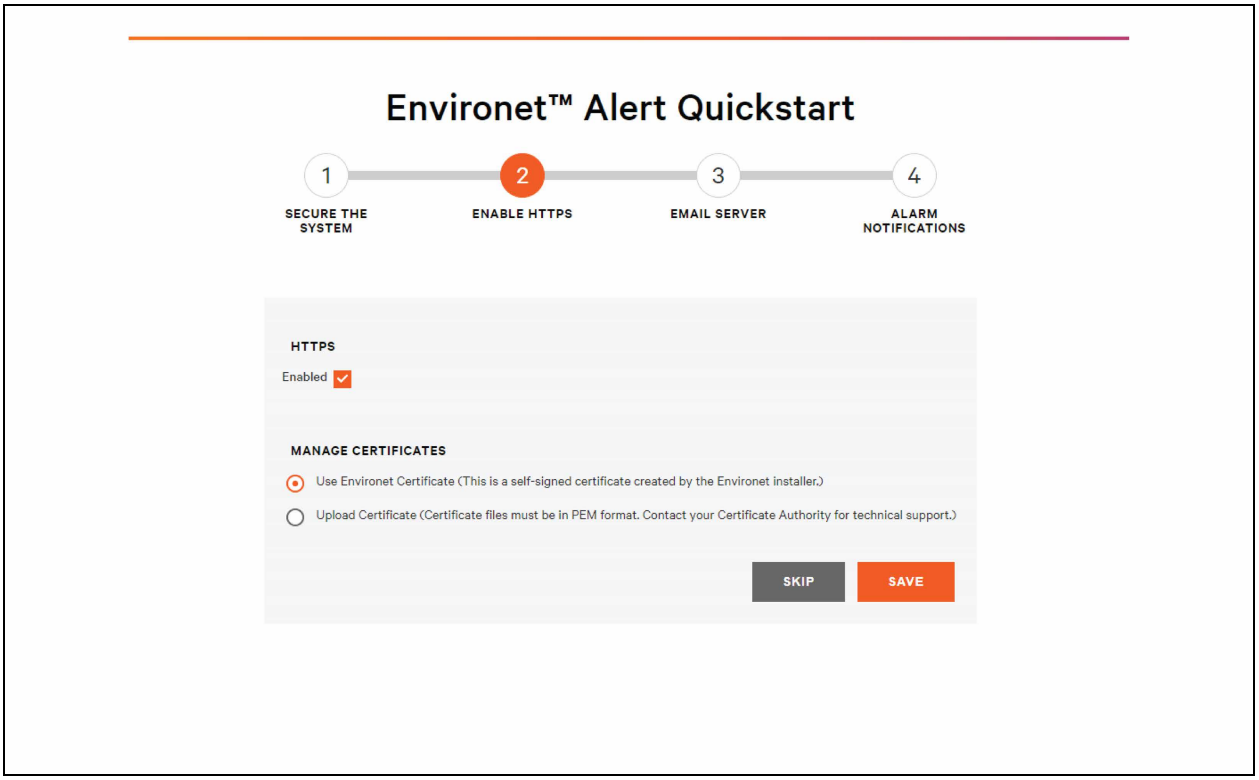


In order overstep this, the user needs to open a new browser.

1.3.2 New Security Step on Quick-Start Feature

Upon fresh installation, during the quick setup, there is a new security step where the user can enable the https option and manage certificates.

Figure 1.3 Vertiv™ Environet™ Alert Quickstart



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2 Home Page Components

At login, the Vertiv™ Environet™ Alert home page displays the main navigation bar on the left of the page and the boards in the dashboard view. The software has numerous hyperlinks to additional information. Mouseover a linked icon or text to see a tool tip about the information available.

2.1 Home Page Icons

The home page of Environet™ Alert displays system data at a glance using icons. The software displays the icons in color if a device is in that icon's status. If no device is in a particular status, the icon will be grayed out. A summary of the information in the Device Statuses pane is displayed at the top right corner of the screen. The conditions shown below would prompt the software to display an Alarm icon with a **1** and an Information icon with a **1**.

Figure 2.1 Device Status Icons

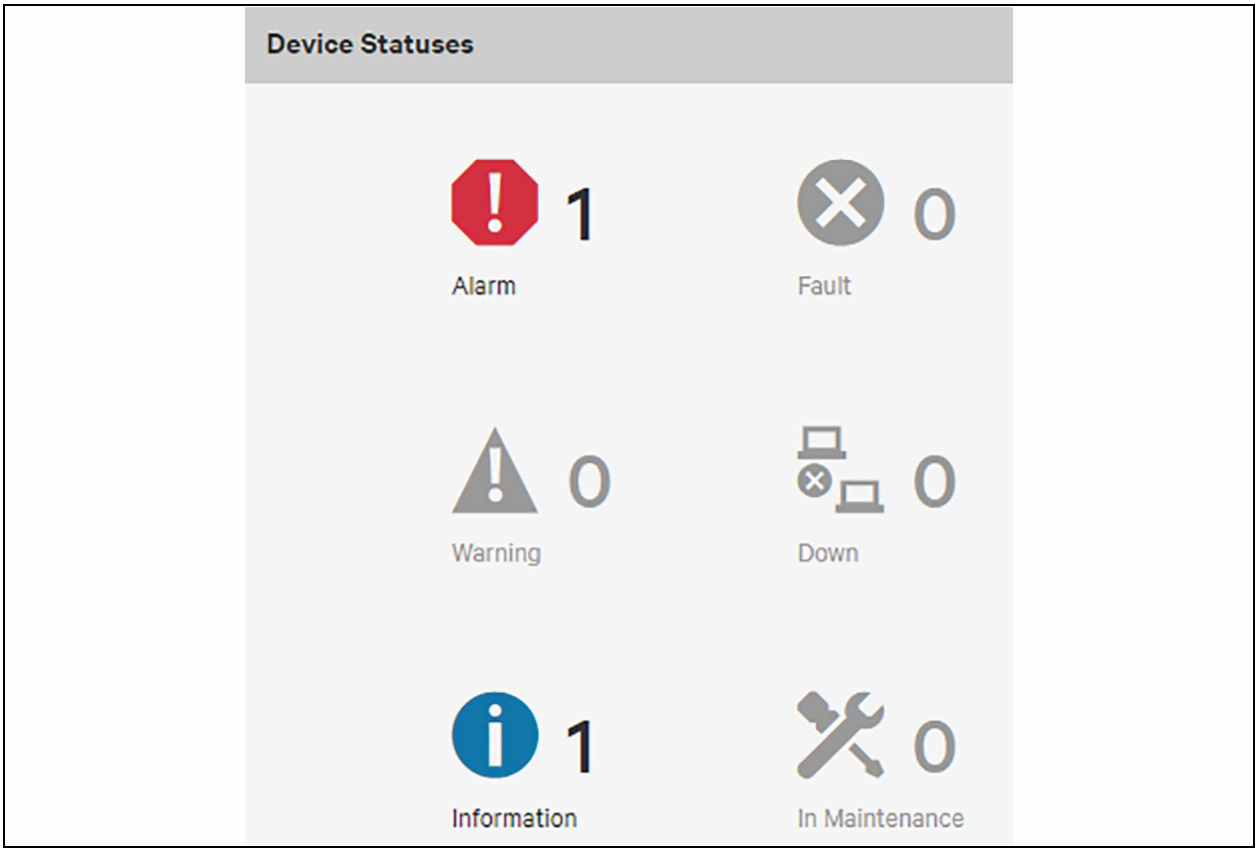


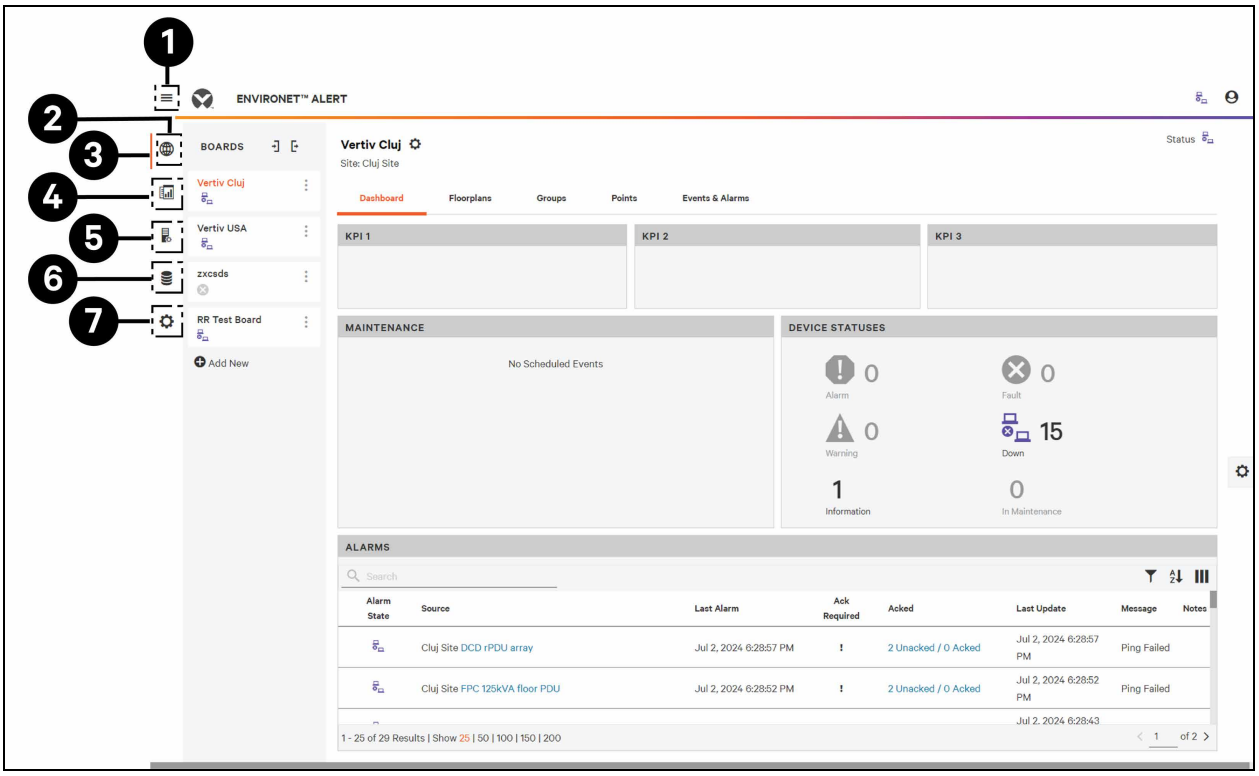
Table 2.1 Device Status Icons

Icon	Name	Description
	Alarm	Red octagon exclamation point
	Fault	Circle with an X; dark gray when active
	Warning	Yellow triangle exclamation point
	Communication Loss	Purple computers with an **x**: Device
	Information	Blue circle **i**: all are SNMP traps
	Maintenance	Blue wrenches; number of devices in maintenance beside icon

2.2 Navigation Bar

The navigation bar displays icon links to Boards, Analytics, Equipment, and Database and History, System Administration. An orange bar at the left edge of the page indicates which navigation icon is active. Orange text indicates which board is being displayed; the board United States is being displayed in the Figure 2.2 below. To toggle the navigation bar open and closed, click the three horizontal lines above the navigation bar.

Figure 2.2 Navigation Bar



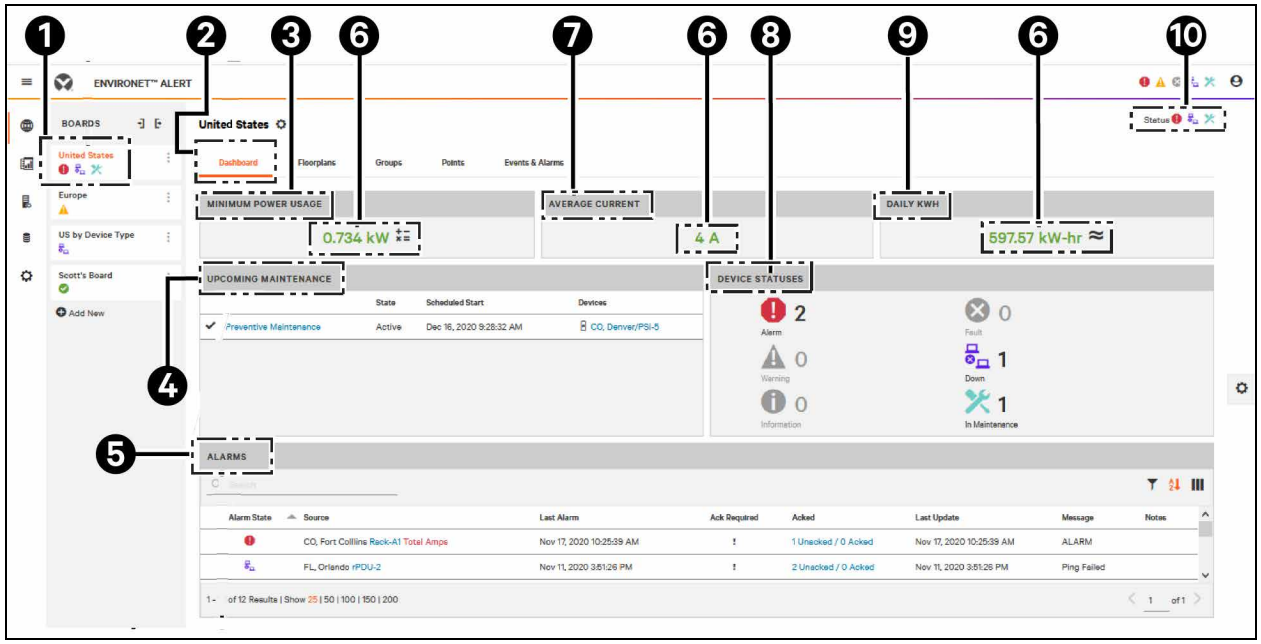
Item	Description
1	Toggle navigation bar open and closed.
2	Boards icon displays boards, top of hierarchy.
3	Active navigation bar section indicator.
4	Analytics icon displays setup to generate reports for analyzing operational status.
5	Equipment icon; displays all monitored equipment.
6	Database and history
7	System administrator icon; permits changing all system settings.

2.3 Dashboard View

The Dashboard is the default display of important information about monitored sites and devices. The Dashboard is quickly and simply customizable to include additional or different information. Refer to Figure 2.3 on the next page to see the features that can be changed.

The default view shows key performance indicators, alarms, device status, and scheduled maintenance.

Figure 2.3 Default Dashboard View



Item	Description
1	Boards
2	Current view: Dashboard
3	Key performance indicator: Total kW shown; different systems will have different KPIs.
4	Scheduled maintenance
5	Alarms, warnings and notifications
6	Key performance Indicator value; click to open point configuration, kW shown, but different systems will have different KPIs.
7	Key performance indicator: Average site kW shown; different systems will have different KPIs.
8	Device status icons panel
9	Key performance indicator: Average site load shown; different systems will have different KPIs.
10	Status icons

2.4 Floorplan View

Vertiv™ Environet™ Alert can be configured to have floorplan navigation and information displayed.

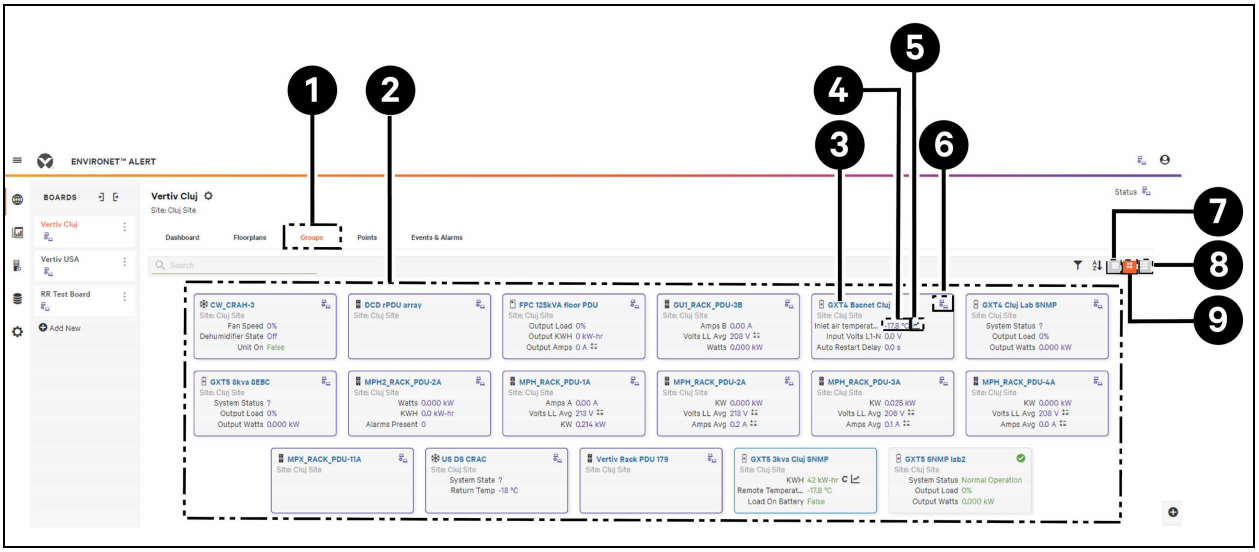
Figure 2.4 Floorplans Tab

NOTE: Refer to Floorplans on page 113 for more details.

2.5 Groups View

Environet™ Alert show sites in Groups, as shown in Figure 2.5 below. Clicking the group name displays additional information about that group; clicking the card name on subsequent cards permits navigating to a particular installation or to a particular device.

Figure 2.5 Groups Tab



Item	Description
1	Groups menu item
2	Groups in the United States board shown as cards.
3	Group name hyper linked to component locations and devices.
4	Items that have been set as KPIs for the group.
5	Trend icon; indicates that trending has been set up for this data.
6	Status icon for group
7	Display groups as small cards
8	Display groups as a list
9	Display groups as large cards

2.6 Points View

The software's Points view permits changing how and when it reports alarms and notifications. For example, users can enable or disable notification for high Total kW at a site or change alarm classification for a group of alarms.

Clicking a row in the Points view opens the modification page. In Figure 2.6 below, for example, the Points view shows:

- Total kW: Kilowatts used by a Board.
- Total Amps: Amps used by a Board.
- Avg Site kW: Average kilowatts used by a Site.
- Avg Site Load: Average load at a Site.

NOTE: These points may be displayed in any order.

Figure 2.6 Points View

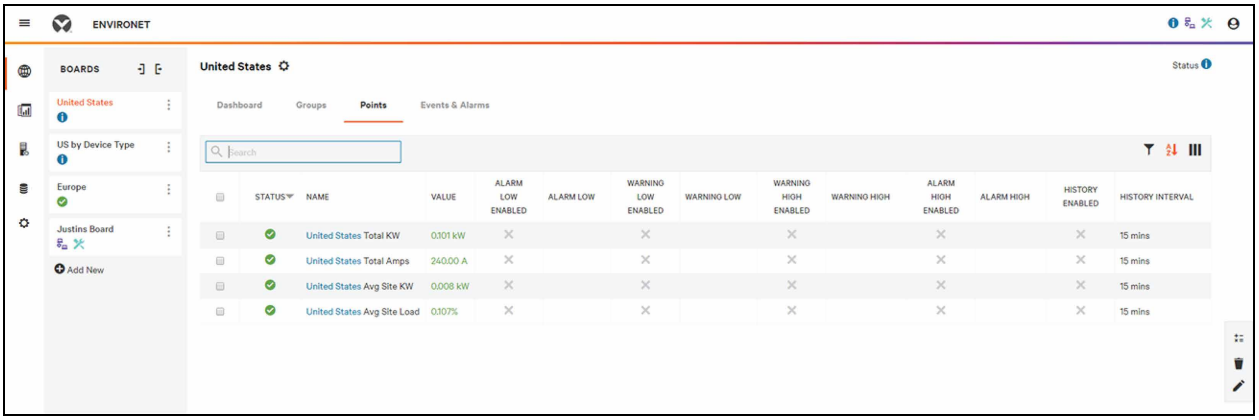
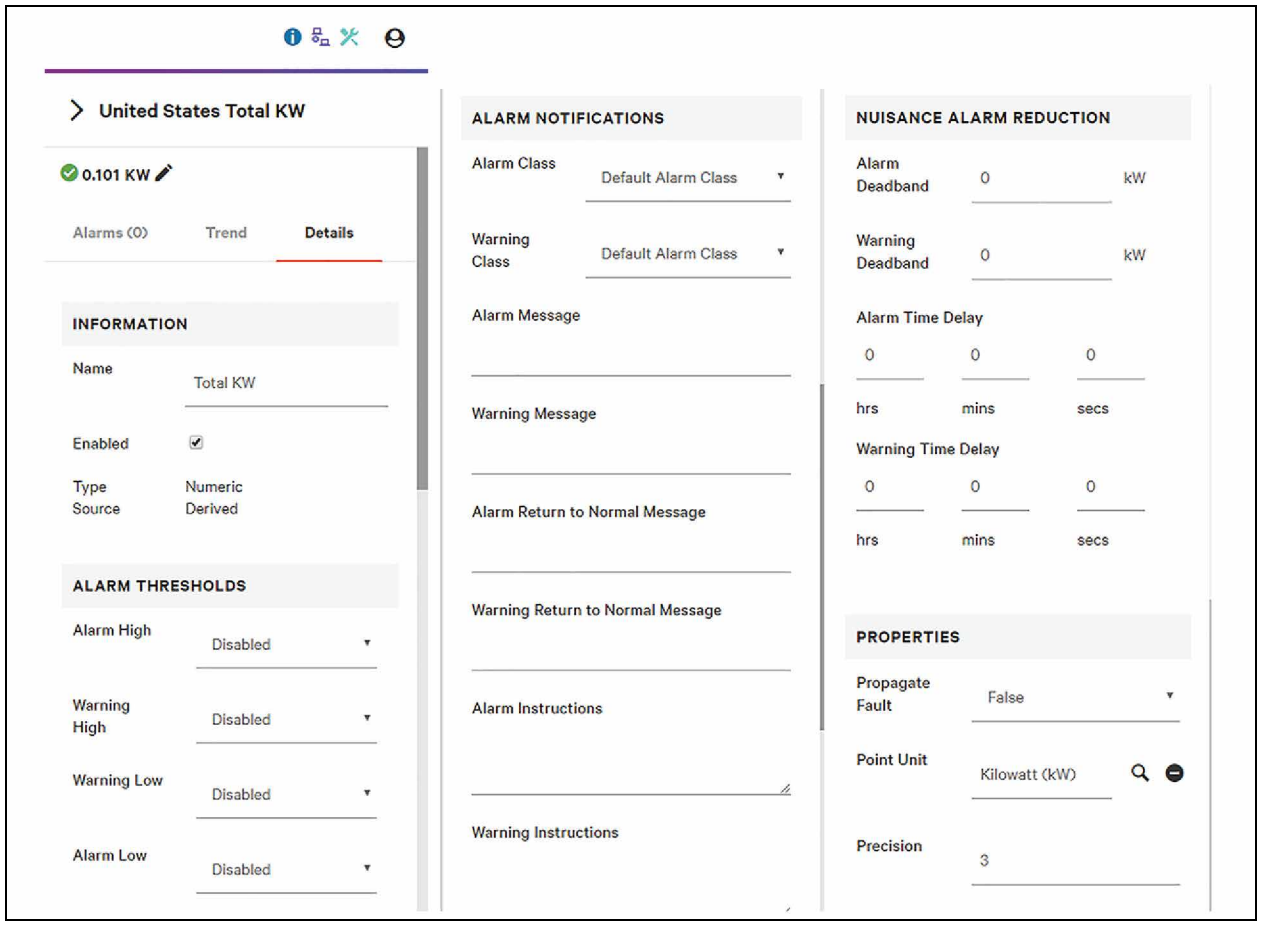


Figure 2.7 Points Modification



Clicking any row opens the modification page for the point that row is displaying.

2.6.1 Information

If a point does not show a value, information for that point has not been enabled; enabling instructs the Vertiv™ Environet™ Alert software to collect and report a value. To enable the value for a Point, click on the row and click the checkbox from the Enabled box under the INFORMATION section and click *Save*. Rename the point by clicking on the name, entering in a new name and clicking *Save*.

2.6.2 Alarm Thresholds

Alarm thresholds may be enabled or disabled by choosing Enabled or Disabled in the ALARM THRESHOLDS section. Enabling an alarm threshold (Alarm High, Warning High, Warning Low and Alarm Low) instructs the software to display alerts about the enabled conditions. Changing from Enabled to Disabled or from Disabled to Enabled requires clicking on the *Save* button.

Enabling an alarm prompts Vertiv™ Environet™ Alert to display a line for the threshold where the software will issue an alert.

NOTE: Vertiv recommends entering threshold values for all calculated points. If a threshold is not entered for a calculated point, Environet™ Alert will set the threshold at 0.

2.6.3 Alarm Notifications

Vertiv™ Environet™ Alert will send notifications for enabled alarms and warnings. Users can choose the level at which notifications will be sent:

- Default Alarm Class
- Critical Alarm Class
- Warning Alarm Class
- Status Alarm Class
- Info Alarm Class

Notification messages may be entered or standard notifications may be accepted. Recipients may also be sent instructions on their responses to a notification.

2.6.4 Nuisance Alarm Reduction

Normal power supply and usage may cause notifications. These nuisance notifications may be minimized in the NUISANCE ALARM REDUCTION section.

The Alarm Deadband and Warning Deadband settings permit entering a range of values that will be ignored and for which no notifications will be sent.

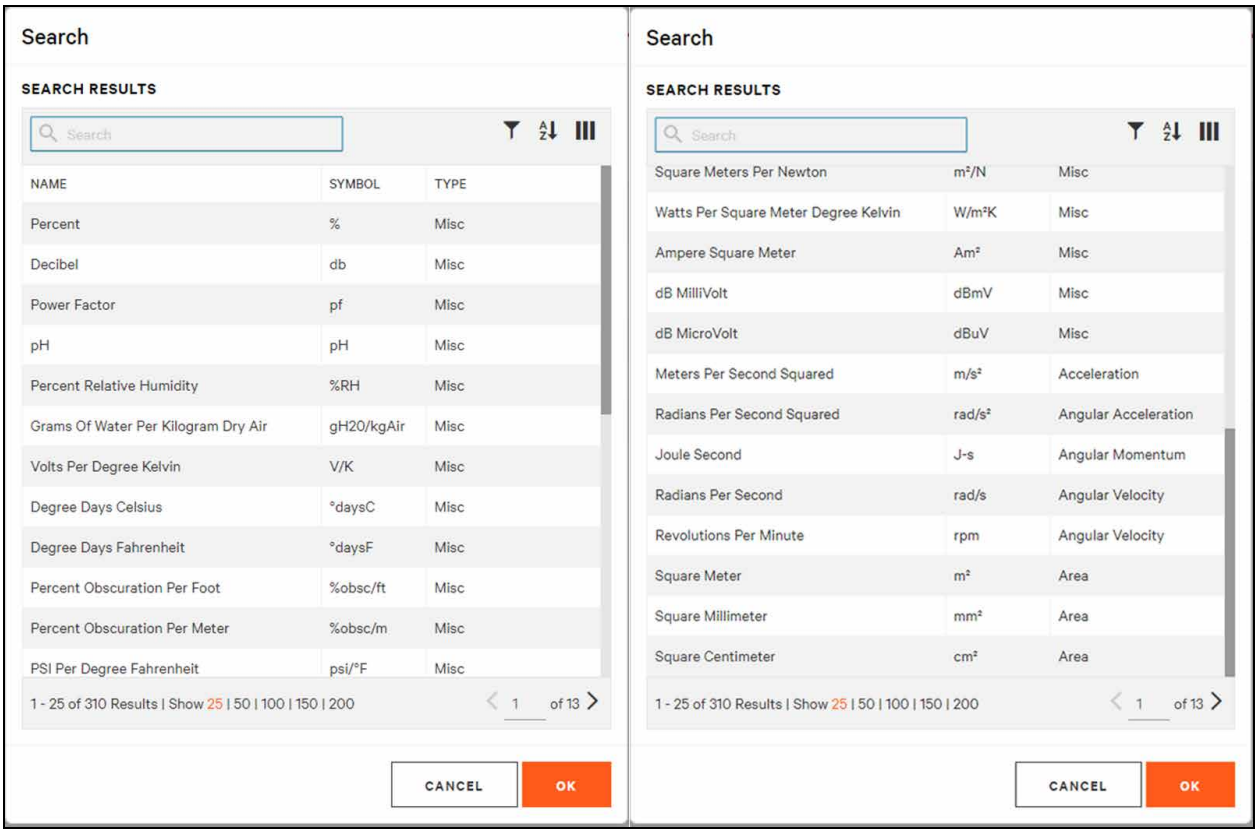
NOTE: Deadband defines the value that a point must return to normal by in order to exit an alarm state. For example, if the high alarm threshold is 100 and there is a deadband of 5, the point will not exit the alarm state until the value returns to 95.

Users may also choose a delay for alarms and warnings. This determines how long a condition must exist before Environet™ Alert will issue a notification.

2.6.5 Properties

- Propagate Fault: It may be set to True or False. When true, the point and it's parent device will show a fault status if the point goes into fault (not communicating for some reason). This status will be ignored when false.
- Point Unit: Unit displayed may be entered manually or chosen from a search (see Figure 2.8 on the facing page).
- Precision: Precision is the number of places beyond the decimal point. A point with a precision of 0 would like like this: 66. Where a precision of 3 would look like this: 66.666.

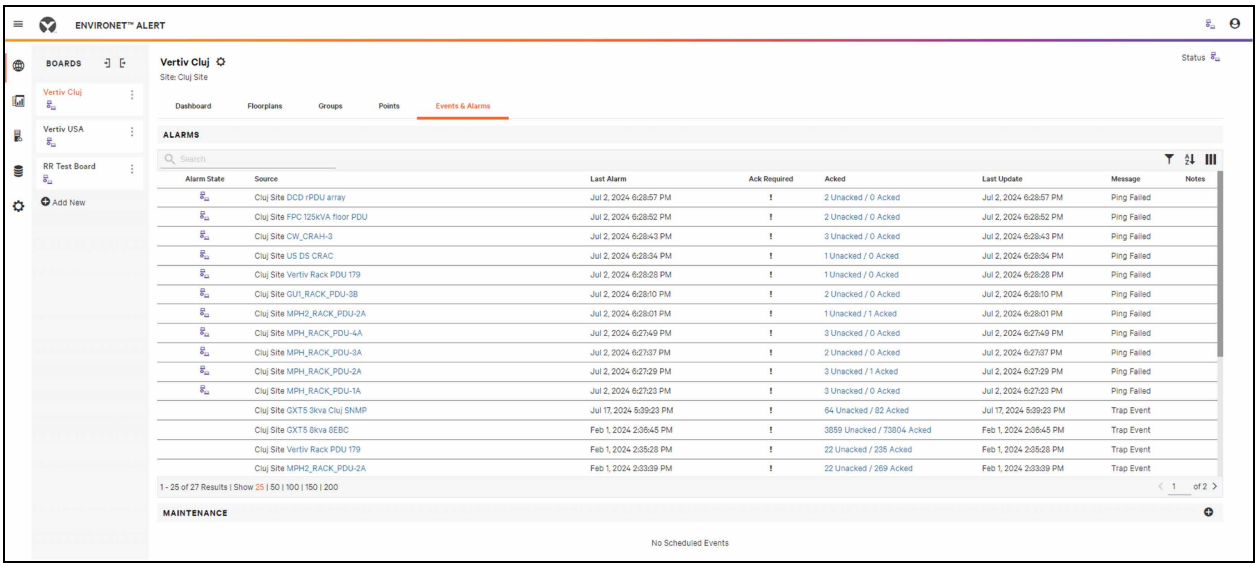
Figure 2.8 Point Unit Search



2.7 Events and Alarms View

Vertiv™ Environet™ Alert keeps users abreast of conditions at all monitored sites by displaying status icons in the device's Status page of the Dashboard and under the Alarms pane. Also, no matter what view is displayed, the software shows status icons in the upper right corner of the screen. Details about any device's status is available on the software's Events and Alarms page.

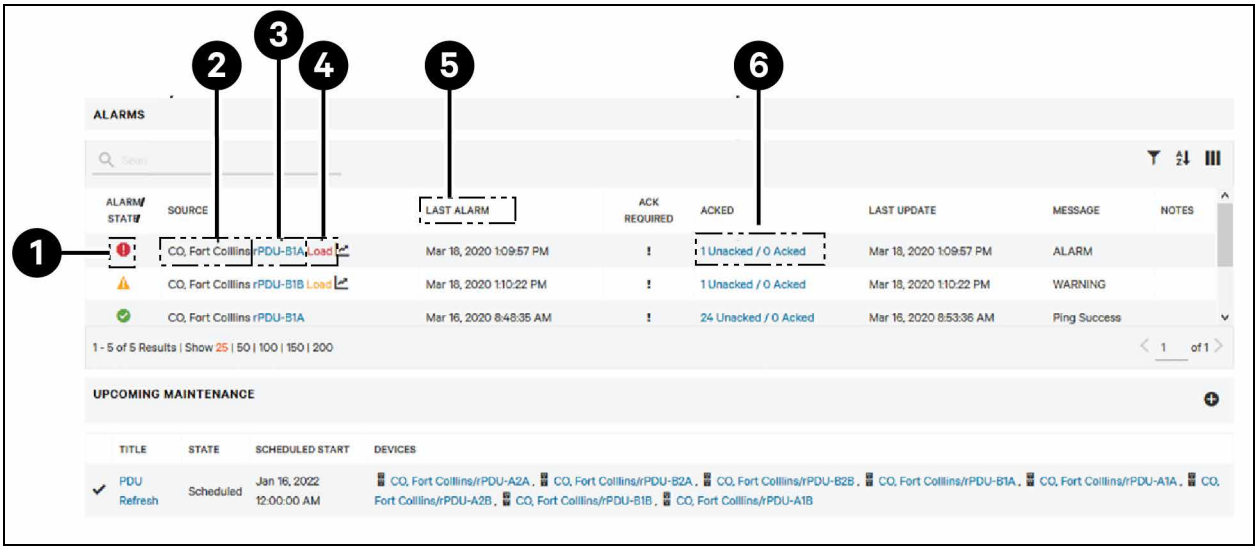
Figure 2.9 Events and Alarms



Information about alarms may be sorted by any heading on the page. The default view shows the most serious alarm at the top of the list. Alarms may be acknowledged by clicking the icon in most views.

Alarm sources for devices are site name, device name and point name. Exceptions to that are device level events, such as maintenance events, communication failures and traps.

Figure 2.10 Events and Alarms—Details



Item	Description
1	Alarm icon: Click the icon to acknowledge the alarm.
2	Source column: The top item in this view is the site, all devices will have an associated site as part of their source.
3	Device part of the alarm source: Clicking this navigates to the device.

Item	Description
4	Load supplied by the Device: Clicking *Load* opens the point configuration menu.
5	The time the last alarm occurred.
6	Listing of alarms and whether the alarms are acknowledged clicking this opens the alarms record page.

2.8 Boards and Groups—The Organizing Elements

Vertiv™ Environet™ Alert uses Boards and Groups to organize equipment, simplifying the task of locating any particular device. Boards and Groups are similar in function to folders in a file cabinet or on a computer. Putting devices, such as PDUs, rPDUs and sensors under logically named boards permits finding them quickly for monitoring and managing a system.

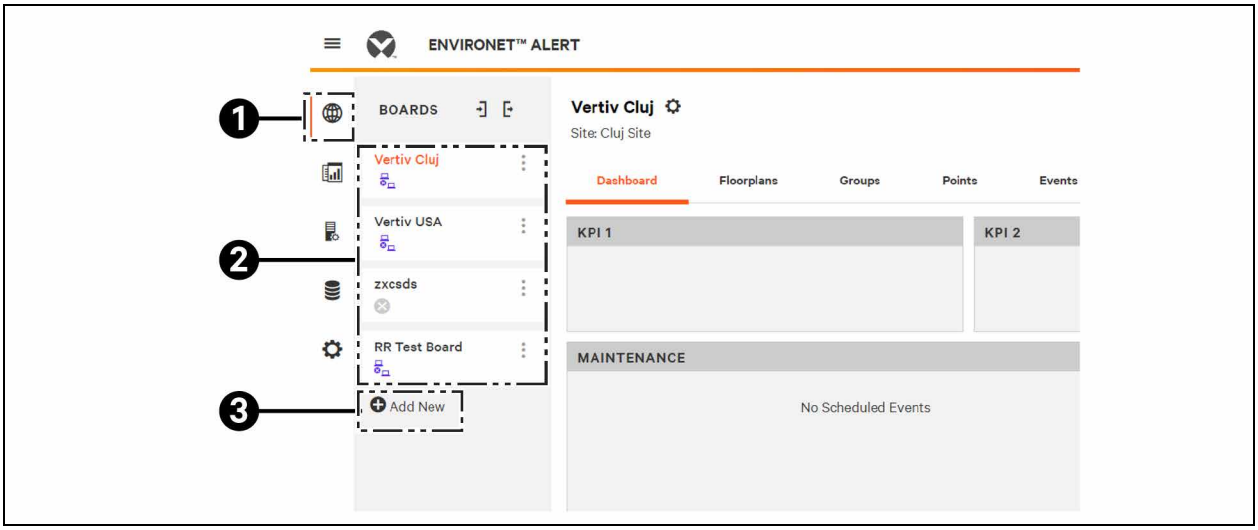
Placing devices in groups that are incorporated into boards further eases navigating to a particular device for monitoring or maintenance.

The first sensor, connected to an rPDU in the second rack, in the fourth row in a facility in the group of Fort Collins, CO., which is on the Board United States, is easy to find with Environet™ Alert's methodology.

Devices may be placed in more than one board, offering multiple places to access a device. In the example in **Figure 2.11** below, the first board (United States) includes devices in different geographic locations.

Some or all the same devices could also be included in the US by Device Type board. When the second board is selected, groups within it organize the devices into power distribution and cooling, for example. When selecting these groups, the devices can be organized into more specific types such as rack power or UPS units.

Figure 2.11 Board Naming Structure



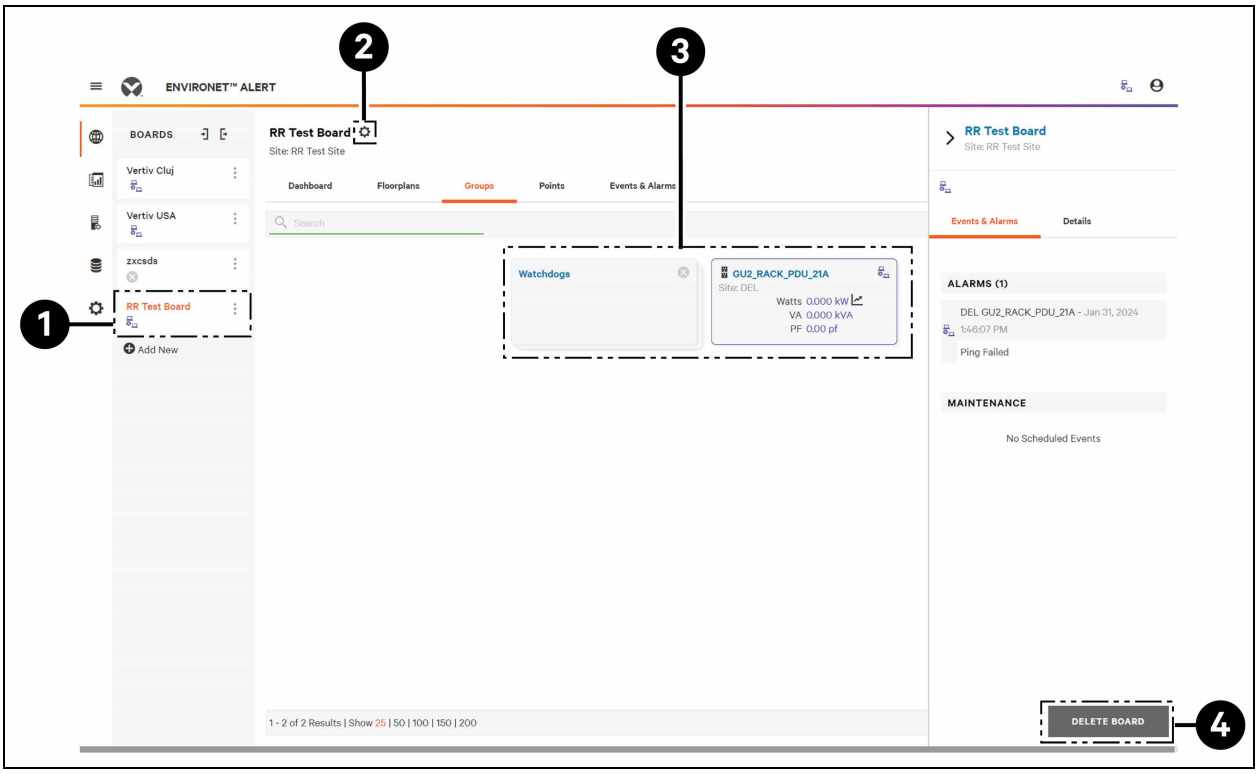
Item	Description
1	Board icon
2	Boards
3	Add new board

2.9 Boards

2.9.1 Boards with Limited Devices

Boards may also be created so that the user can quickly view data about devices of particular interest. In Figure 2.12 below, a user has created a board and included just the devices they are responsible for.

Figure 2.12 Board with Specific Devices

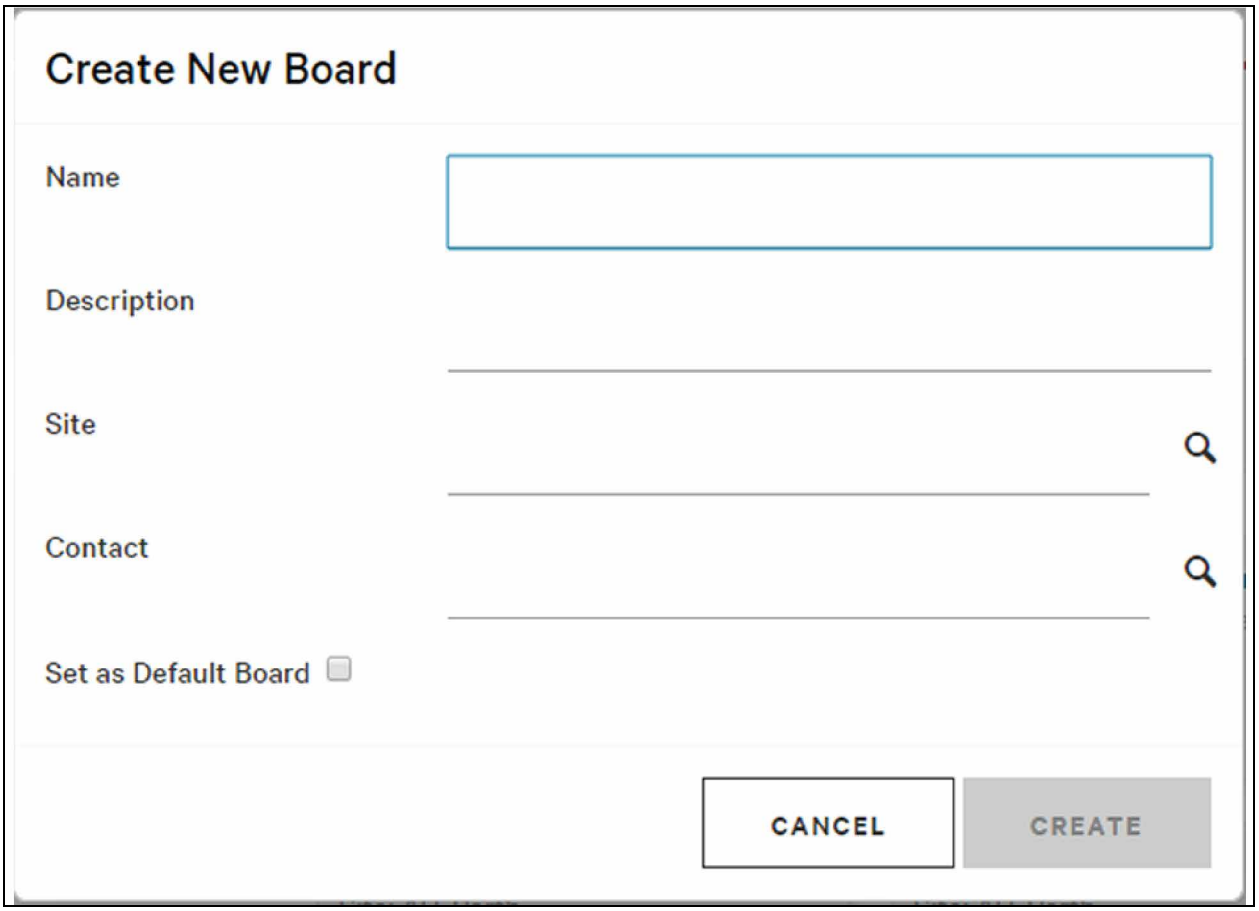


Item	Description
1	Selected board in list.
2	Selected board; edit icon clicked.
3	Devices in selected board. Clicking a device opens a link at the bottom of the screen to remove it from the group.
4	Delete board icon

2.9.2 Create a Board

To create a Board, click *+ Add New* below the boards list (see Figure 2.11 on the previous page). Create New Board dialog opens; fill in the board's name, description, site, contact and whether it is a default board (default board is displayed at login).

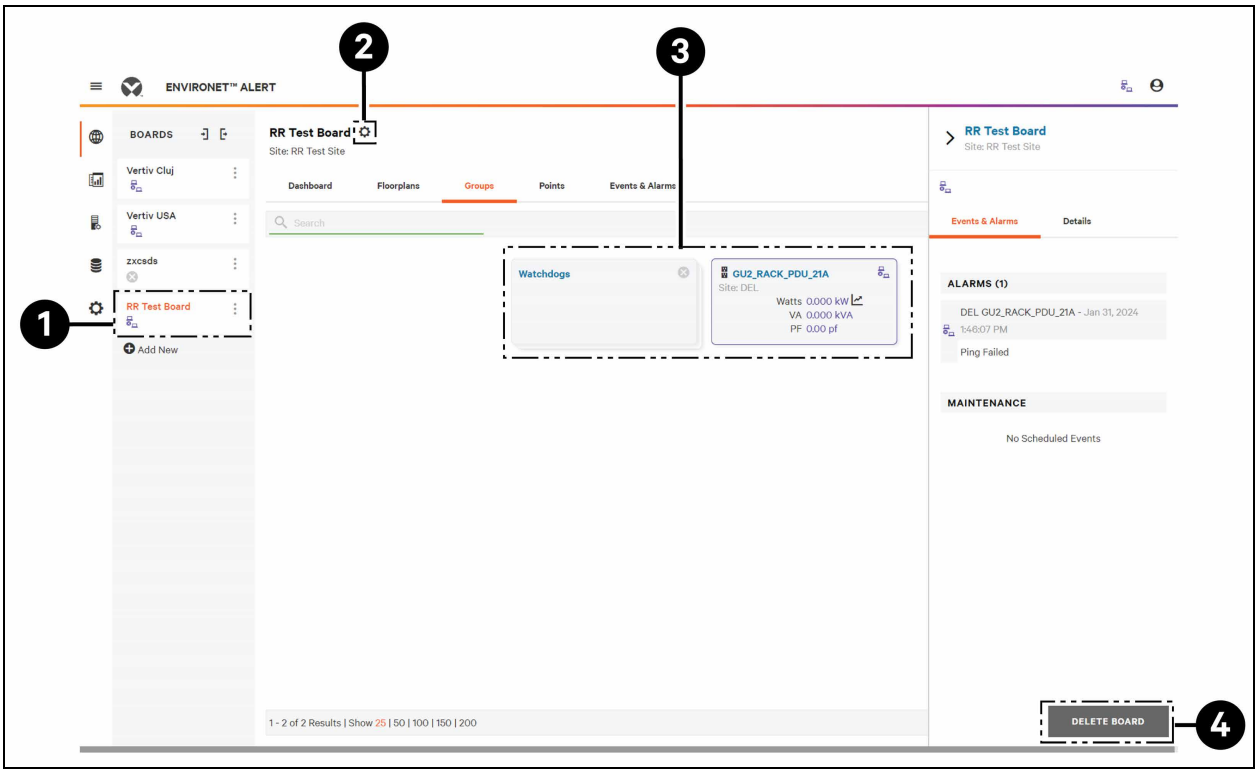
Figure 2.13 Create a Board



2.9.3 Edit or Delete a Board

Boards are not static items. After creation, they may be altered as facilities change or needs arise. To edit or delete a board, select a *Board* and click on the gear icon and either delete the board. or select *Details* and make changes to it.

Figure 2.14 Edit or Delete a Board

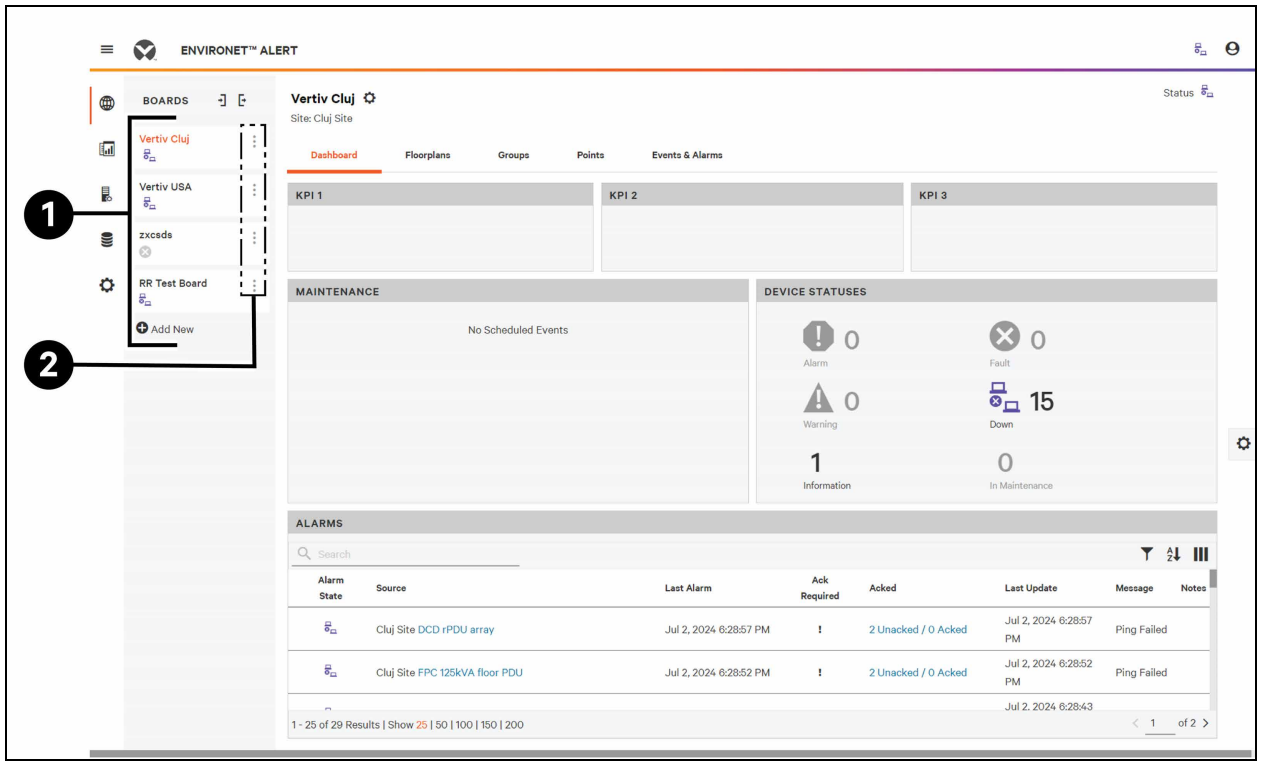


Item	Description
1	Board
2	Edit board icon
3	Groups in the United States Board shown as cards
4	Delete board button

2.9.4 Rearrange Boards

Boards can be reordered by grabbing the three small dots and dragging the board to the correct location in the list. This reordering will change the view for all users.

Figure 2.15 Rearranging Boards



Item	Description
1	Boards
2	Icon to shift boards up or down in the list.

2.10 Groups

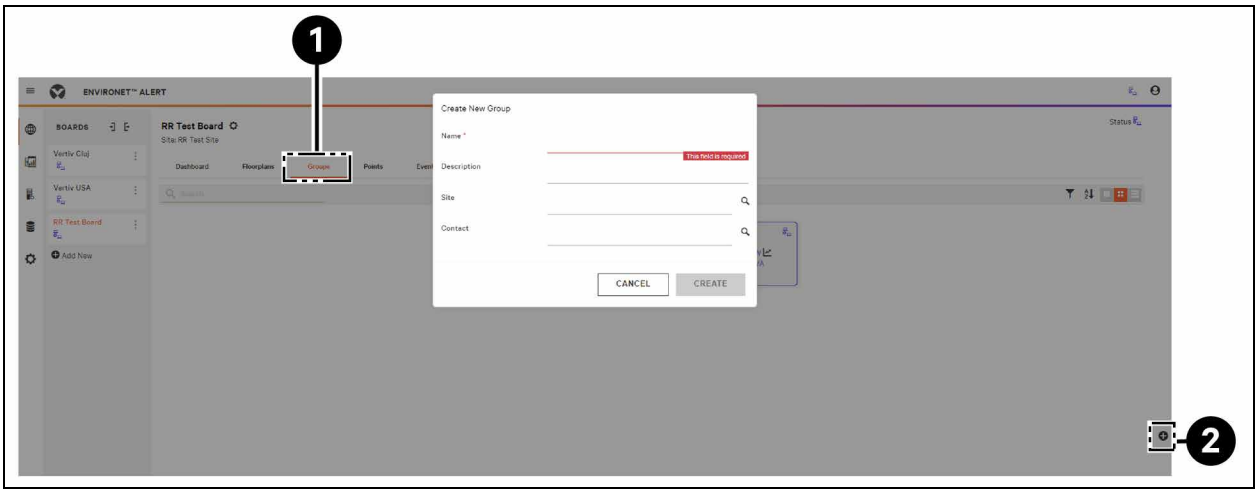
2.10.1 Create a Group

Groups permit further organizing of monitored information about devices, such as rPDUs, that can be included in boards.

To create a group:

1. Select the Board where the group will be created.
2. Click on *Groups*.
3. Click on the + (plus) icon at the right edge of the screen.
4. Select *New Group*.
5. Enter the necessary information in the dialogue that opens.

Figure 2.16 Create a Group



Item	Description
1	Groups view selected.
2	Add new group icon.

2.10.2 Edit or Delete a Group

Groups are easily manipulated. Adding devices to a Group, editing a Group and deleting a Group take only a few steps.

From the Groups view, click the + (plus) icon for this menu:

- Add Items to a Group
- New Group
- New Device
- New Rack

2.10.3 Delete a Group

To delete a group:

1. Click on the group to be deleted.
2. Select *Details* on the dialogue that opens and, at the bottom of the page, click *DELETE GROUP*.

This will remove all members of the group, but the Racks and Devices they represent will remain in the system. Those components can then be added to new Groups or Boards.

2.11 Setting Key Performance Indicators on Boards or Groups

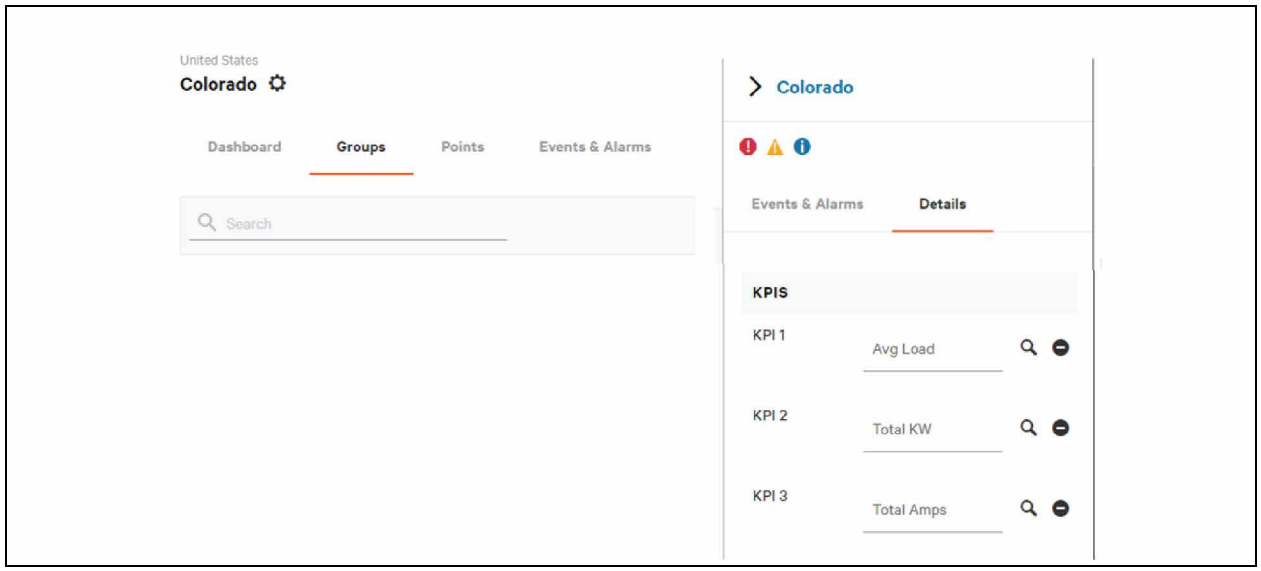
Similar to devices and racks Groups and Boards can have Key Performance Indicators, or KPIs, assigned to them. These KPIs can be any monitored value or a calculated point, such as the average load of all the devices in the group.

To set a KPI:

1. Select the gear icon next to the Board or Group name.

2. Select the *Details* tab in the fly-out, and scroll down to the KPIs. Use the search icon to find the points to be assigned. See Creating Calculated Points on page 64 for details on how to create Points.

Figure 2.17 Set KPIs

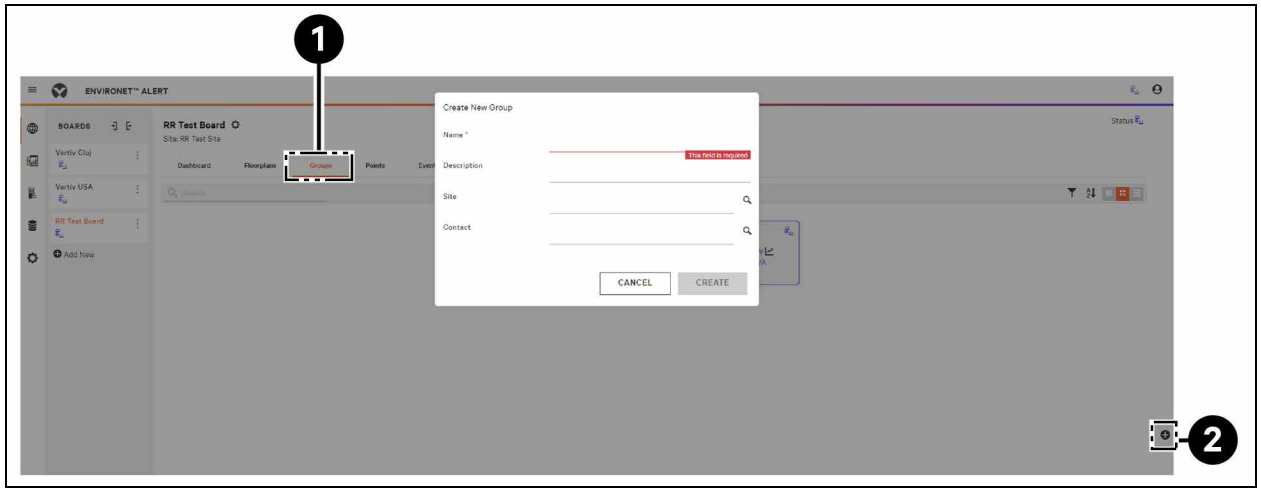


2.12 Adding Devices and Racks to Boards or Groups

Clicking the + (plus) icon on a Board or Group yields Vertiv™ Environet™ Alert two ways to add devices or racks to the monitoring system:

- Add Items to Group: Allows searching the system for existing devices and racks to be added to the Group or Board.
- New Device/New Rack: Allows integrating new devices or racks into the system and placing them in the Group or Board.

Figure 2.18 Add Devices or Racks to Boards or Groups



Item	Description
1	Groups view selected.
2	+ (plus) icon (add new)

3 Analytics

The Analytics section of Vertiv™ Environet™ Alert allows grouping data into visualizations and adding them to reports for efficient analysis and interpretation.

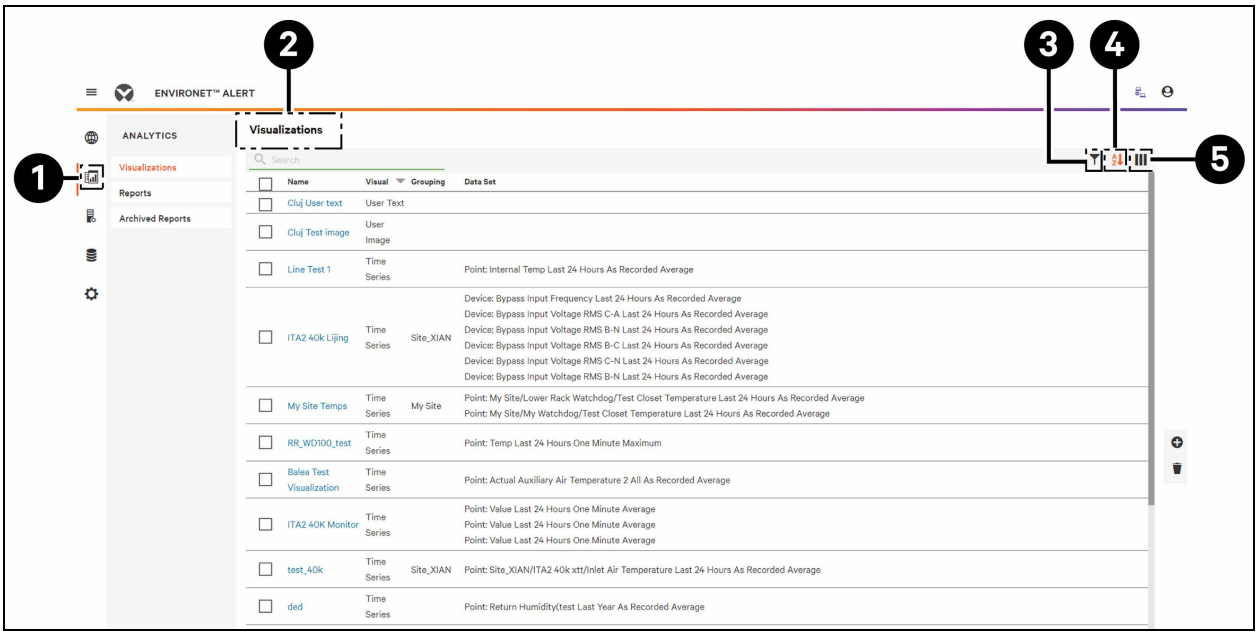
Environet™ Alert's analytics engine works on the concept of reports being created from visualizations or graphical representations of historical data. A variety of visualizations offer flexibility in defining and visualizing data sets; reports are built by dragging and dropping visualizations onto a report page layout.

The Analytics section comprises:

- **Visualizations:** Location where graphics can be created before being added to a report.
- **Reports:** Location where full reports can be viewed, scheduled, and exported.
- **Archived Reports:** Repository for older reports.

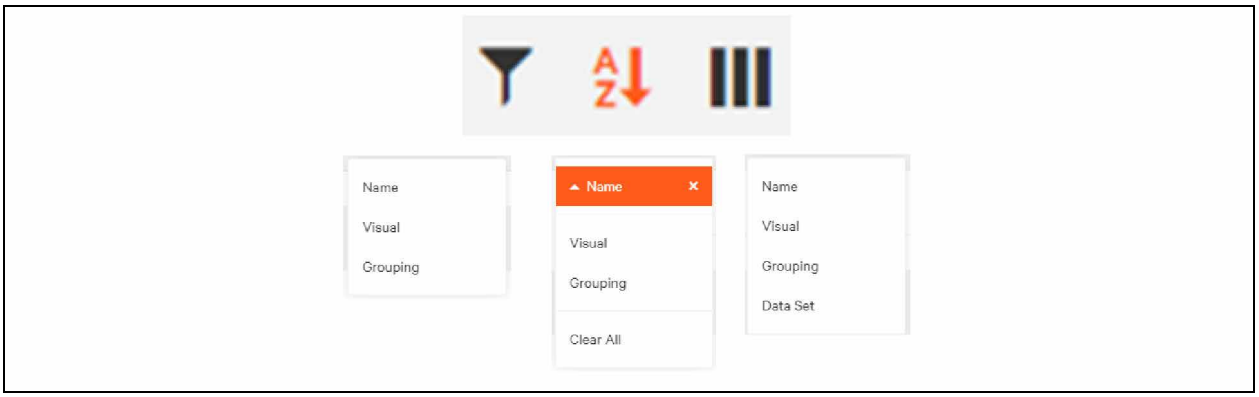
The top right icons allow you to filter and sort data and to adjust the columns being viewed.

Figure 3.1 Analytics—Visualizations Menu



Item	Description
1	Analytics menu
2	Visualizations tab
3	Filter icon (See **Figure 3.2** on the next page for choices)
4	Sort by icon (See **Figure 3.2** on the next page for choices)
5	Columns icon (See **Figure 3.2** on the next page for choices)

Figure 3.2 Filter, Sort By, and Columns Icons

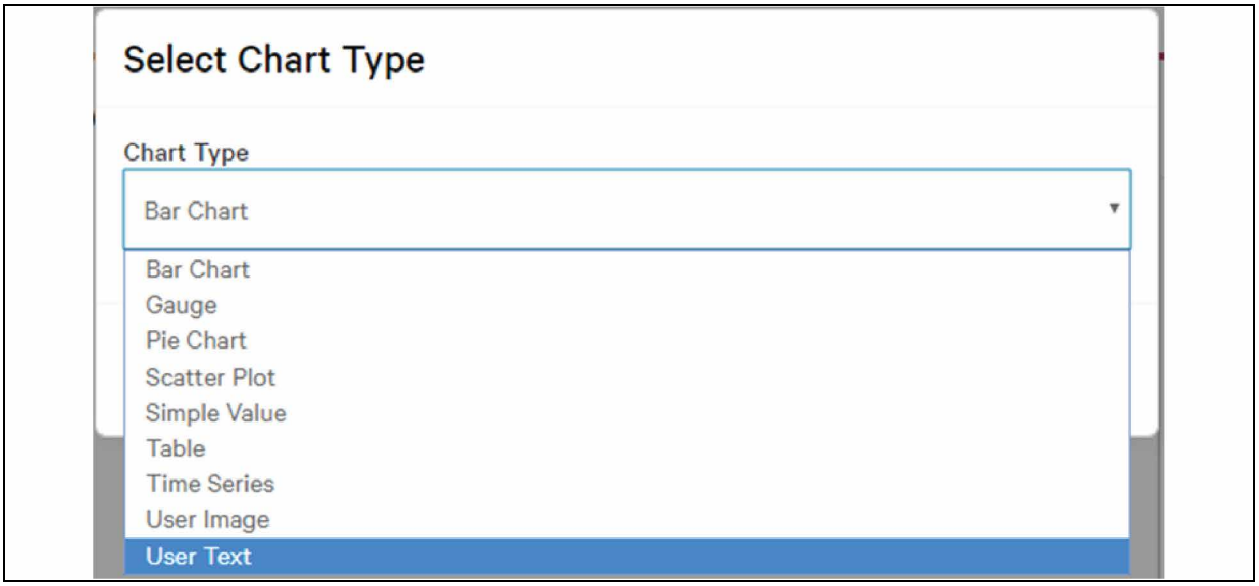


- **Filter:** Select data by Name, Visual and Grouping. Use the logic statements to find data. Select *Match Any Criteria* to expand your search by selecting data that matches any piece of your filer criteria.
- **Sort By:** Sort resulting data by Name, Visual and Grouping. You can choose more than one Sort By criteria.
- **Columns :** Use the Columns icon to hide data columns from view in your results.

3.1 Visualizations

Use visualization to graphically represent data for efficient interpretation and analysis. On the *Visualizations* page, select the + (plus) icon to add a new visualization.

Figure 3.3 Choose the Type of Visualization

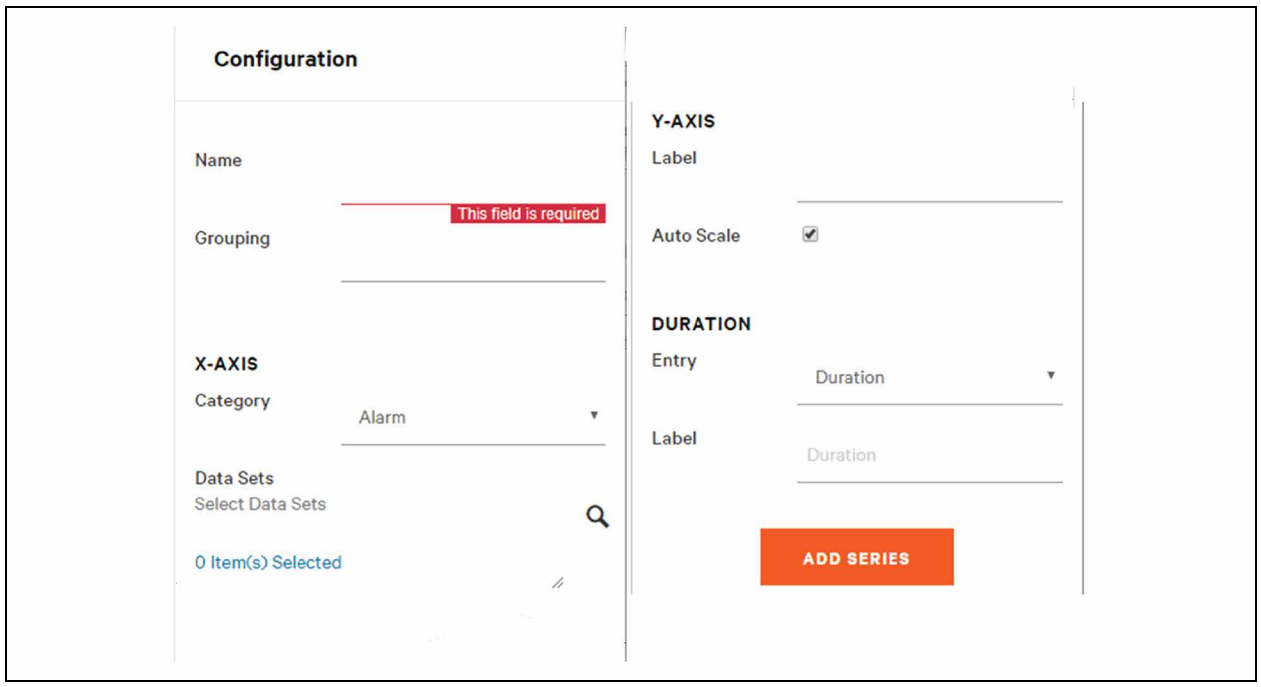


Select the type of visualization from the drop-down menu:

- **Bar Chart:** Best for displaying categories of data.
- **Gauge:** Best for showing a single value within context of its range. A gauge visualization might show the current temperature for a single CRAC unit.

- **Pie Chart:** Best for showing how parts constitute a whole. A pie chart visualization might show the number of racks in four separate data center locations as part of the total number of racks.
- **Scatter Plot:** Best for showing the correlation between two data series.
- **Simple Value:** Best for showing a single value from a data point in the system. A single value visualization might display the number of free front RU spaces for single rack or kW at the rack, row, or room.
- **Table:** Best for showing tabular data. A table visualization might display the names, locations, available RU space, and volts of multiple racks.
- **Time Series:** Best for showing changes over a period of time. A time series visualization might show the daily kW-hr for multiple circuits over a month-long span.
- **User Image:** Best for displaying an image, such as a company logo.
- **User Text:** Best for displaying user-defined text, such as a company name or address.

Figure 3.4 Visualization Parameters



1. After selecting the type of visualization you want to create, input the name.
2. Add the grouping where the visualization will be listed (optional).
3. Select the time frame and interval that will be used for the visualization
4. Click on the magnifying glass to select the data set (such as devices, racks, work orders).

NOTE: NAME(*) asterisk may be used as a wild card when searching.

5. If applicable, input Label.
6. Click *Update Preview*. The update preview button provides a current preview of the visualization.
7. Click *Save and Close* or *Save As*.

IMPORTANT! Be sure to scroll to the bottom of the list of parameters to ensure that all possible parameters are filled out.

3.2 Reports

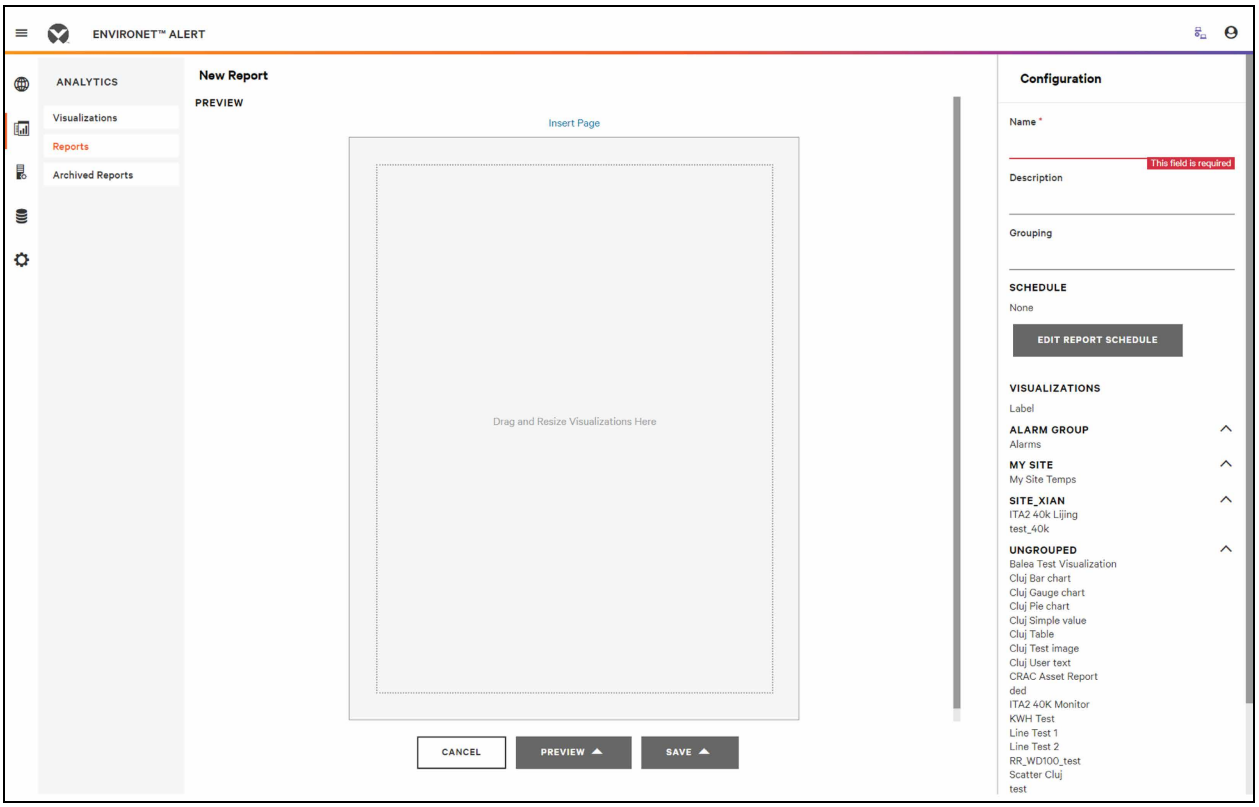
The Reports section allows summarizing your data and scheduling the resulting reports to be sent out daily, weekly or monthly. You can send them via an email and/or choose a file path where they are saved. To build a report, drag and drop visualizations into a report layout.

3.2.1 Creating a Report

To create a report, you must first create data visualizations to add to your report.

In the Reports section, select the + (plus) icon to add a report. Fill out the name, description and grouping.

Figure 3.5 Create a Report by Dragging and Dropping Visualizations on to the Page



Select the visualizations to include in your report. In the right-hand configuration window, you will find the visualizations that have been created. Each visualization will be organized according to its assigned grouping. Visualizations that do not have an assigned grouping will be in the ungrouped section.

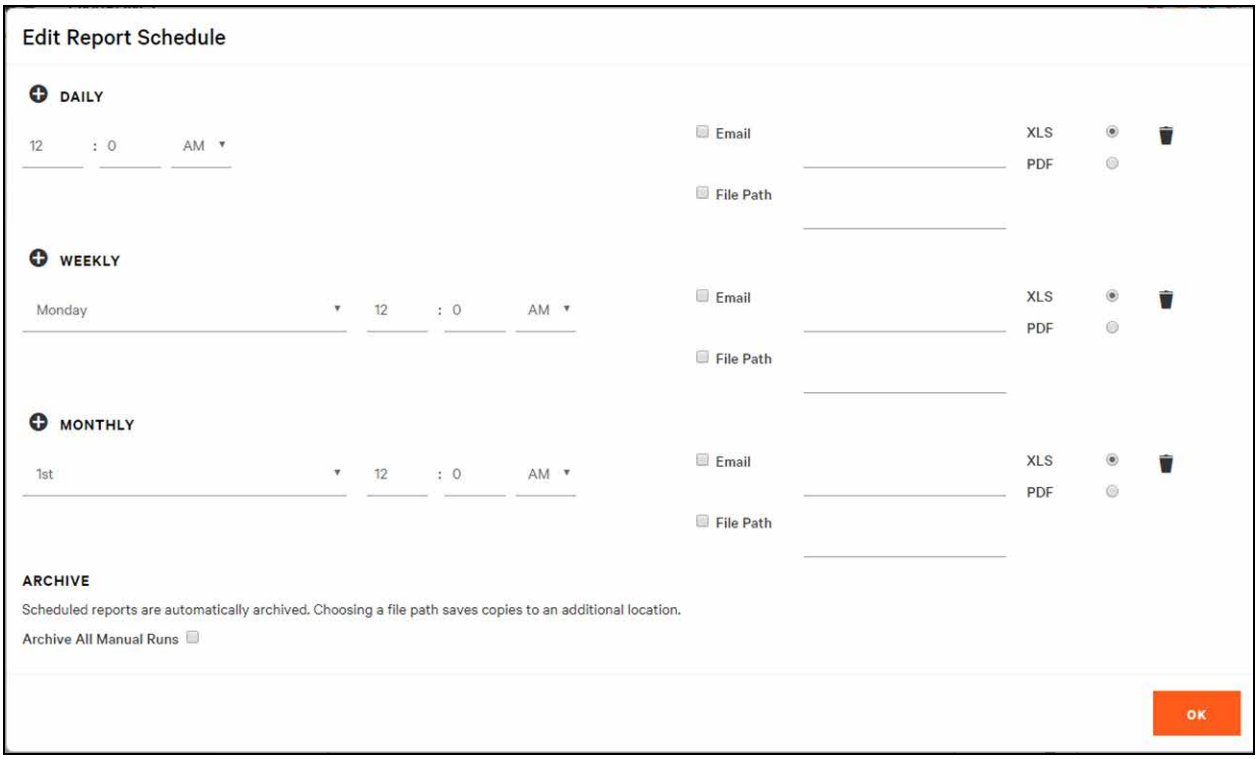
Drag and drop the pertinent visualizations onto the report. Use the orange circle at the bottom right of each visualization to adjust the size of the visualization. Use the gray circle with the **-** (minus sign) to remove data from the report.

Use the Preview button to review your report in PDF or spreadsheet format. Use the Save button to save your work.

3.3 Scheduling a Report

To schedule a report, click the *Edit Report Schedule* button on right side of the screen while creating a report or viewing an existing report (see Creating a Report above).

Figure 3.6 Edit Report Schedule



Use the dark circles with + (plus) icons to expand the choices for daily, weekly and monthly. Select the frequency for the report to be sent out, when it will be sent and whether it will be emailed, saved to a file location or both. Choose the report's format, PDF or Microsoft Excel spreadsheet.

If you would like manually run reports to be automatically archived, check the *Archive All Manual Runs* checkbox. Keep in mind that scheduled reports are automatically archived. Choosing the file path saves copies to an additional location.

3.4 Archived Reports

This is where archived reports are stored. Scheduled reports are automatically archived. Manually run reports will not be archived unless the checkbox in the report configuration is selected.

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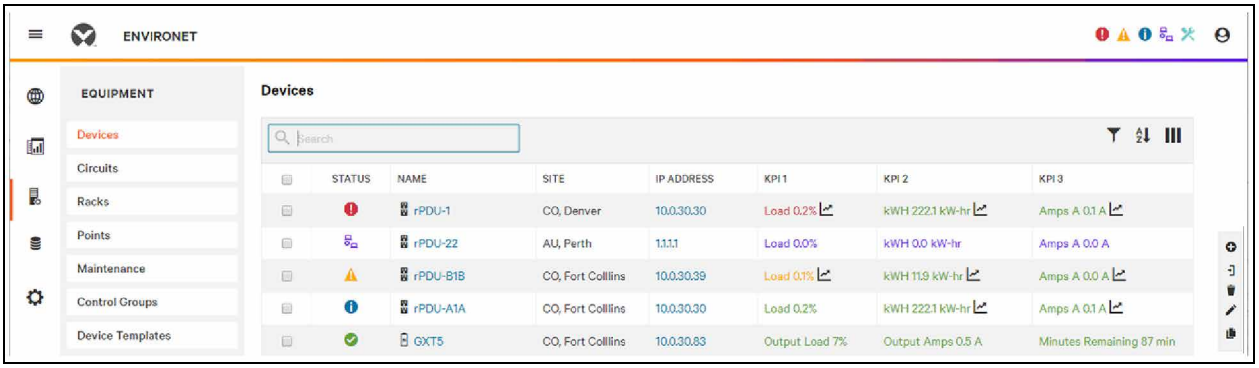
4 Equipment

4.1 Devices

The Devices tab permits viewing, creating and editing devices in the Vertiv™ Environet™ Alert system. To get to the tab, click the Equipment icon in the navigation bar.

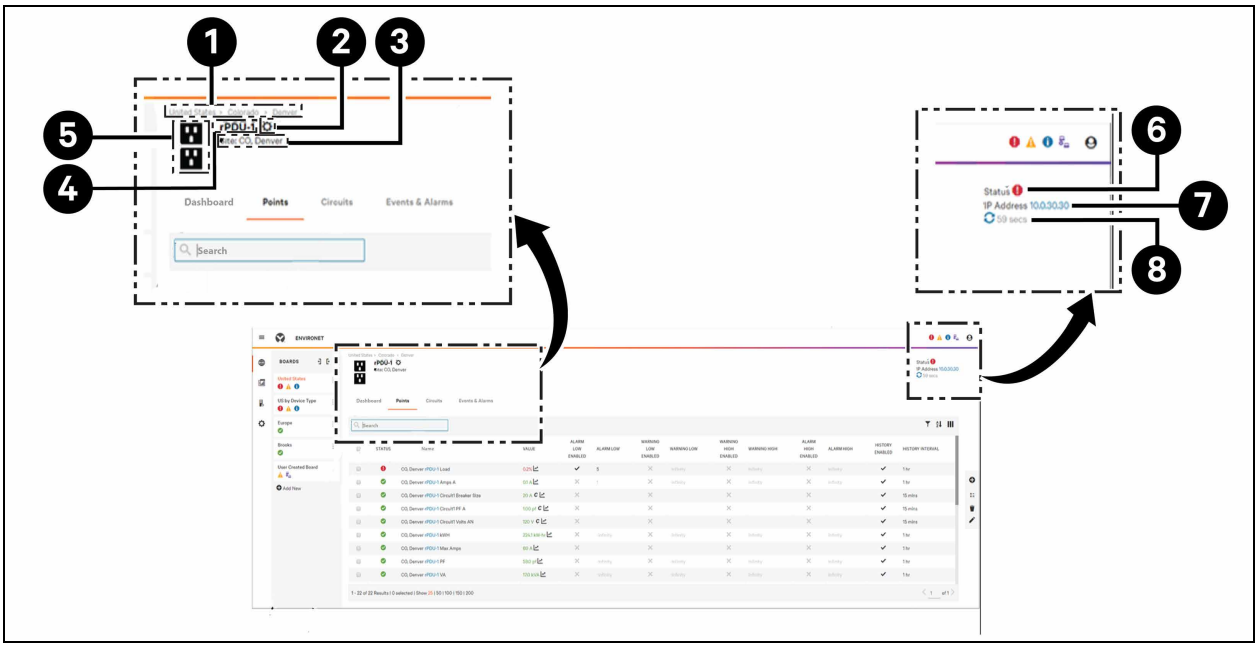
Figure 4.1 View Devices Tab



4.1.1 Viewing Devices—Device Header

Each device will have a header with key information about the device.

Figure 4.2 Device Header



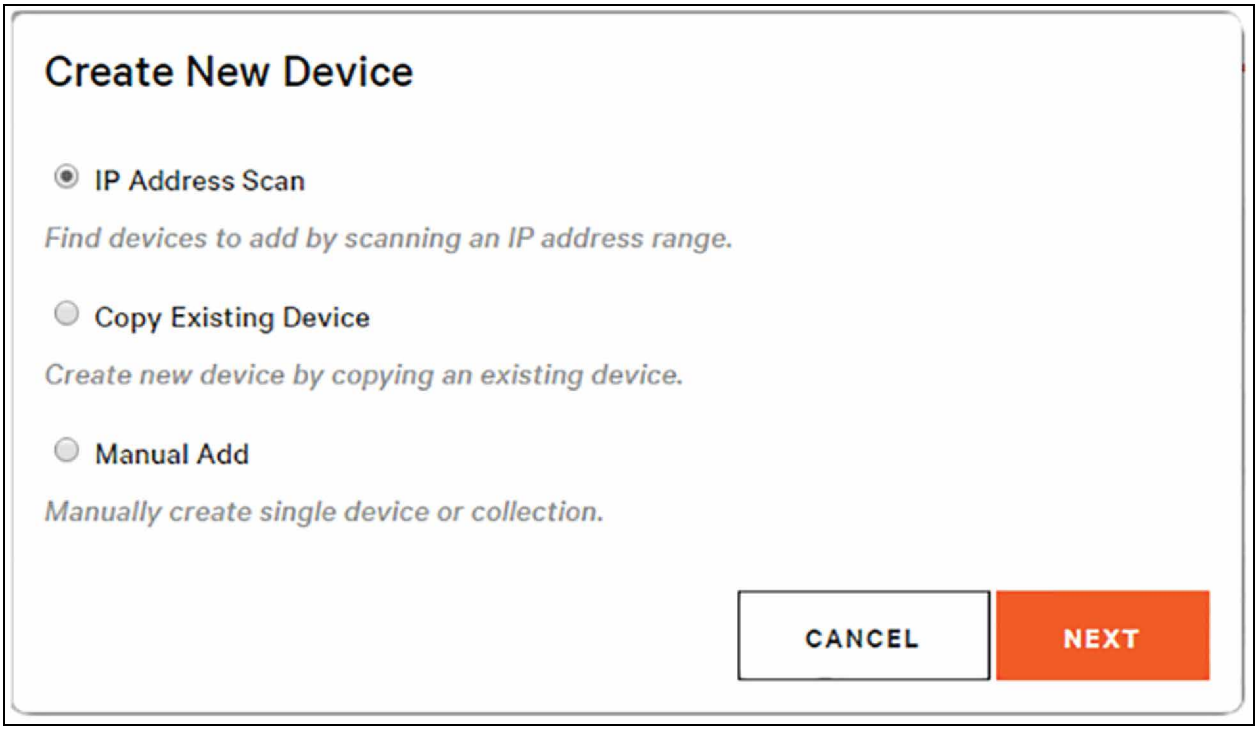
Item	Description
1	**Device name:** The device name is shown next to the device type icon
2	**Gear icon:** The gear icon beside the device name can be clicked to display a dialogue where the device's details can be accessed for configuration.
3	**Site:** Below the device name, the site the device is associated to will be displayed.
4	**Bread Crumb:** When navigating to a device via boards, the top of the device header will show the boards and groups used to navigate. The bread crumbs can be used as hyperlinks to navigate through the Board.
5	**Device Type Icon:** There will be an icon that represents the device type assigned to the device (In the example, the device is an rPDU).
6	**Status:** The device's current status is displayed.
7	**IP Address:** The IP address of the device is displayed. The IP address is a hyperlink; clicking it opens the device interface in a new tab.
8	**Time Since Last Poll:** Below the IP address the time since the last SNMP poll is displayed. By hovering over the time the timestamp of the last poll can be viewed. If the last time is clicked it will force poll the device and update all of the points.

4.1.2 Adding Devices

SNMP, ModbusTCP and devices may be added to the Vertiv™ Environet™ Alert system by scanning for the device's IP address, by copying existing devices and entering the new data and by manually entering the devices information. Each method begins by selecting the + (plus) icon and choosing the method to be used.

Another method is to import a file with information about the device. Refer to Creating Devices Using CSV Import on page 33 .

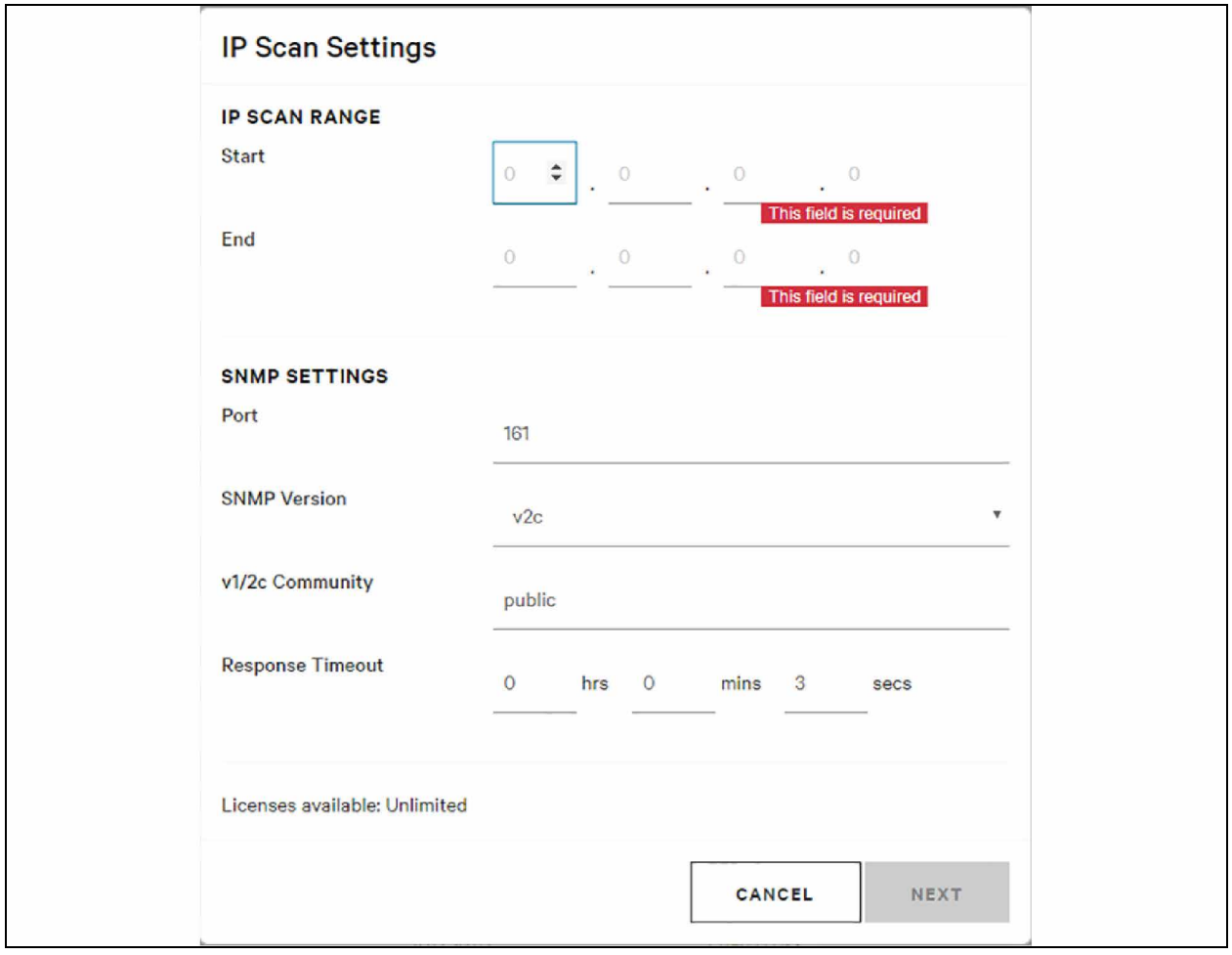
Figure 4.3 Create New Device



Adding devices by IP scan

1. To add a device via an IP Scan, select *IP Address Scan* and click the *Next* button.
2. Fill out the IP Scan Range and SNMP, ModbusTCP or BACnet IP settings.
3. Click the *Next* button. The system will scan the IP range and find all devices with an IP address in the specified range.
4. Select the devices you want to add from the list.
5. Click *Add Selected Devices*.
6. Fill in the device details.
7. Click *OK*.

Figure 4.4 Add Device by IP Scan



Adding Devices by Copying an Existing Device

To add devices:

1. Select *Copy Existing Device* and click the *Next* button.
2. Fill out the device information for the new device. Be sure to use the scroll to fill out all information.
   a. **Name:** Unique device name.

b. **Site:** Location the device is associated to.

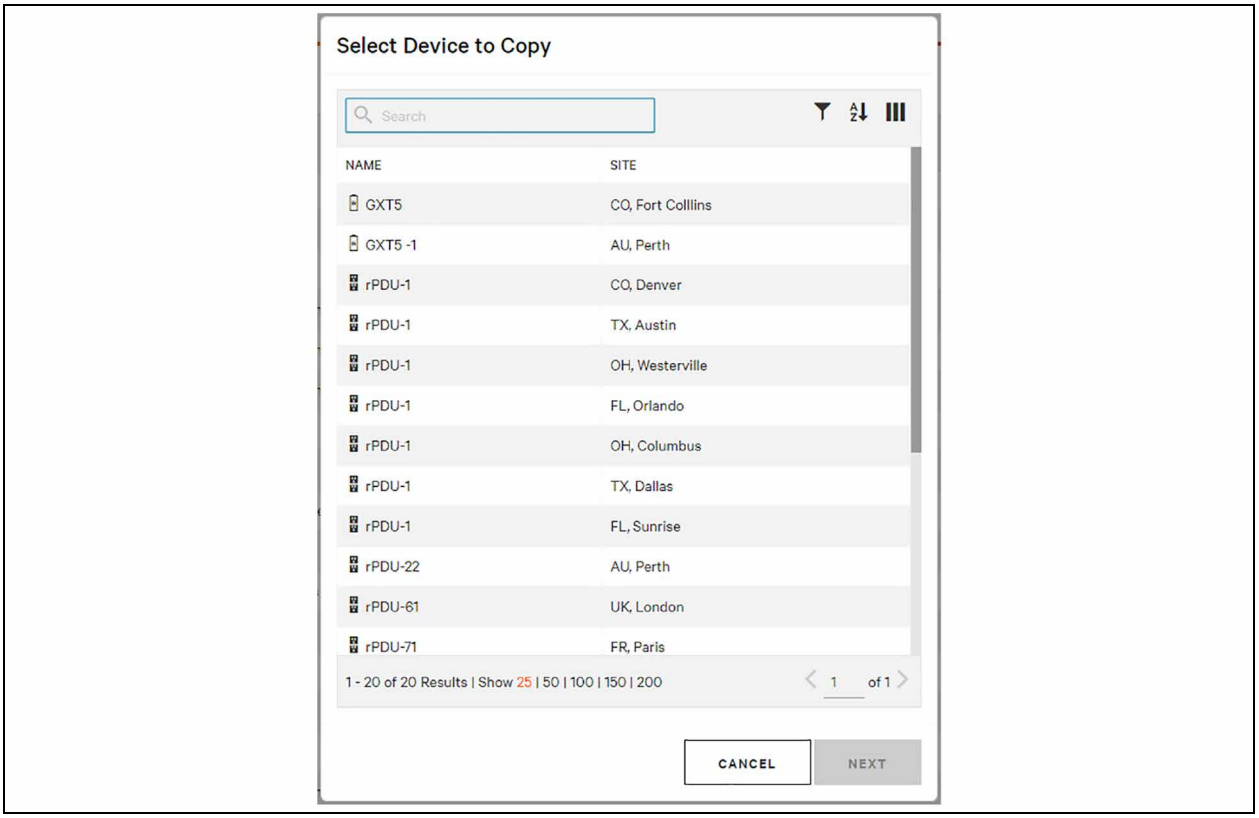
c. **IP Address:** The IP address that Vertiv™ Environet™ Alert is attempting to communicate to via SNMP for this device.

d. **Enabled:** Shows whether the unit is to be communicating via SNMP to Environet™ Alert or not. If the status is set to True, then the software expects the unit to be responding via SNMP and will display Down as the status if no SNMP response is received. If this is set to False, then Environet™ Alert will mark the device as Disabled and not attempt any communication with the device.

e. **Device Details:** This section allows you to fill out the Device type, Location, Model number, Serial number, Date of installation, Date of manufacture, and Contact details.

3. Click the *OK* button.

Figure 4.5 Adding Devices by Copying an Existing Device

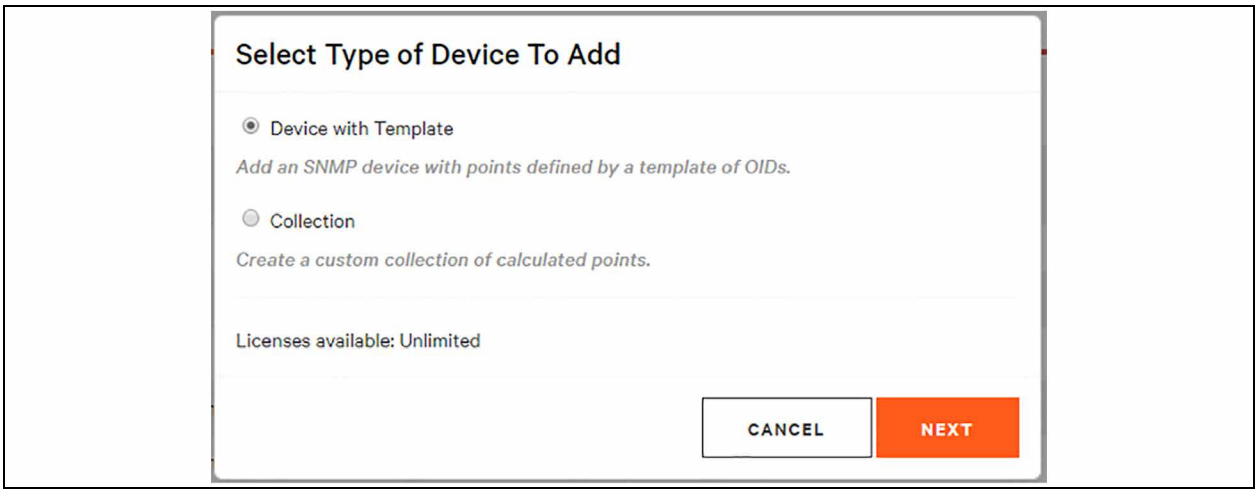


Adding Devices by Manually Adding Identifying Data

To add devices:

1. Select *Manual Add* and click the *Next* button.
2. To manually add a device using a *Device Template*, click *Device with Template*. To add a collection (a group of calculated points), select *Collection*.
3. The add a device with template, fill out the required device data.
4. Upload the template to use or use the search function to find an existing system template.

Figure 4.6 Adding Devices by Manually Adding Identifying Data

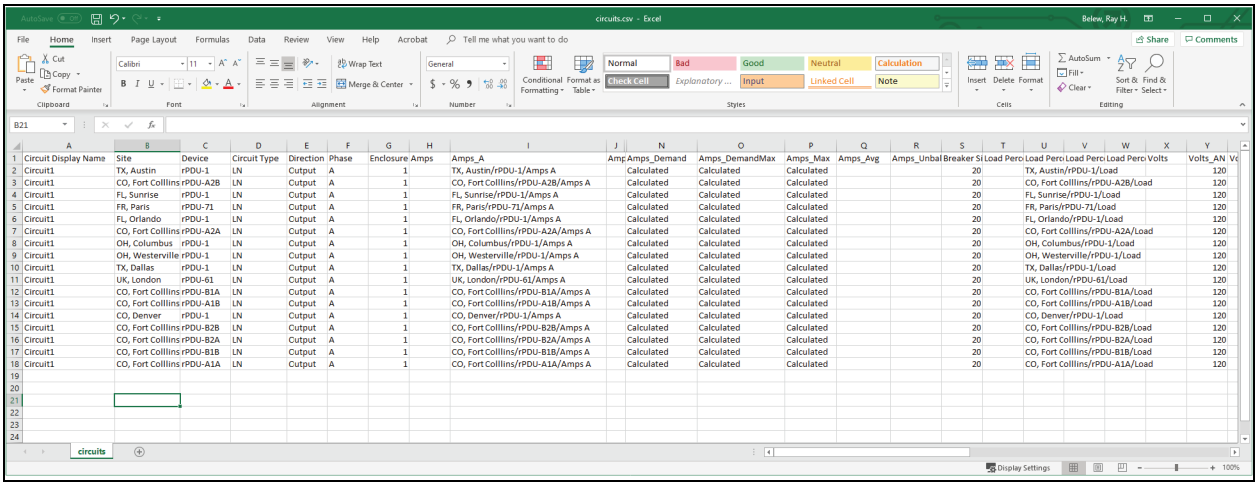


Creating Devices Using CSV Import

To add devices by CSV import:

1. Create a properly formatted **.csv** file to import. This can be done by exporting a similar device from the system and duplicating the device in the **.csv** file or modifying it as needed.
2. A new column will need to be added to the **.csv** file called Device Template. In this column, each device must have an entry specifying the name of the template that will be used to create the device. Refer to Device Templates on page 73.
3. Click the Import icon and select *Import*.
4. Click *Browse* and select the **.csv** file to import.
5. Click *Open*. The validate points options will check the new device against the template selected and add only the points that are currently valid on the device. This should be used if the device is online. If validate points is unchecked, all the points from the template will be added to the device even if they are not valid points on the device.
6. Click *OK*.

Figure 4.7 CSV File of Circuits—Example Only



Collections—Adding Devices by Manually Adding Identifying Data

Collections allow users to apply formulas to groups of points to create new, meaningful values for interpretation. Examples of collections would be rack, row or room kW, where you can select individual kW readings from multiple sources (such as rack PDUs) and create a sum of all the live kW data into a new point. Collections consist of Input Points, which are used in the calculation to create the Output Points.

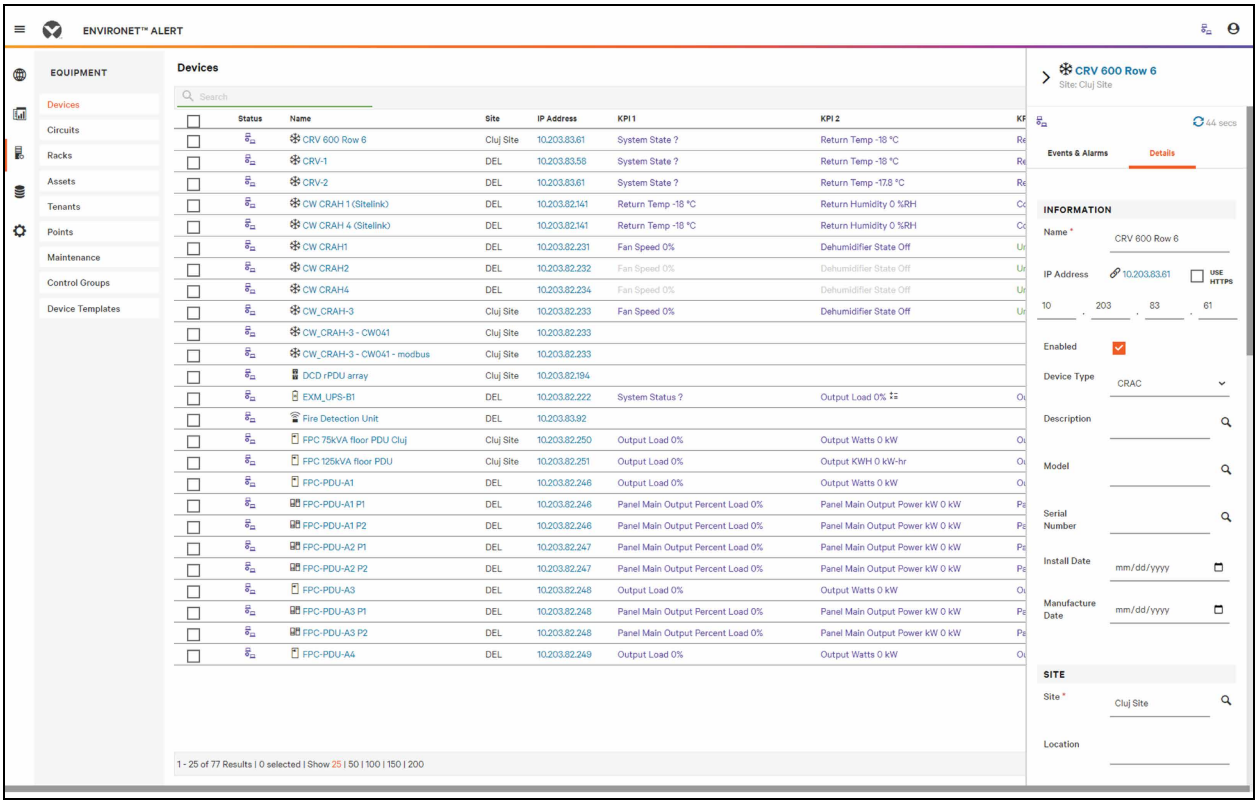
1. Click *Add* from the Device view.
2. Select *Manual Add* and click *Next*.
3. Select *Collection* and click *Next* .
4. Configure the site, name, and device details for the collection and select *Create*.
5. After creating the new collection, the Edit Collection window opens. Refer to Creating Calculated Points on page 64 for information.

4.1.3 Edit Devices

Edit a Single Device

The configuration for a single device can be accessed by clicking the Equipment icon, clicking the row or card for the device or using the Edit (gear) icon, then selecting the *Details* tab.

Figure 4.8 Device Details



Field descriptions:

- Information

    - **Name:** The name the system will use for the device.
    - **IP Address:** The address that the system will use to gather SNMP data from the device.
    - **Enabled:** When checked the device is active in the system.
    - **Device Type:** The type of device the system will use for the device.
    - **Description, Model, Serial Number, Install Date, and Manufacture Date**: User-entered fields to track metadata about the device.
- Site
    - **Site:** The site that the device is associated with.
    - **Location:** A user entered field to describe the physical location of the device.
- **Contact:** A contact that is associated to the device.
- ModbusTCP
    - **Port:** The network port that the device will communicate to the system on.
    - **Device Address:** The IP address of the device.
    - **Ping Address:** The point address that the system will use to determine if the device is online.
    - **Ping Address Data Type:** Defines the type of data the system should expect when pinging the Ping Address.
    - **Ping Address Reg Type:** Defines the type of Modbus register the ping address is using.
    - **Float Byte Order:** Sets what order the bytes of a register will be read.
    - **Long Byte Order:** Sets what order the bytes of a register will be read when you long registers.
    - **Rx Process Mode:** Sets the receive process mode.
- BACnet IP
    - **Port:** The network port that the device will communicate to the system on.
    - **Network Number:** The unique BACnet number on the network.
    - **Object ID:** The object identifier of the device on the BACnet network number.
- SNMP
    - **Poll Enabled:** When checked the device will be polled on a frequency determined by the Poll Frequency field.
    - **Poll Frequency:** Determine the timeframe for how often the device will be polled.
    - **Poll Response Timeout:** This field determines how long the system will wait to get a response from a device it is polling.
    - **Retry Count:** Determines the number of times that the system will retry polling the device if it does not receive a response with in the Poll Response Timeout setting.
    - **Port:** The network port that the device will communicate to the system on.
    - **SNMP Version:** The SNMP version that the system will use to communicate to the device with.
    - **Community String:** The community string the system will use to communicate to the device with.
    - **Ping OIDs:** The Object Identifier the system will use to determine if the device is available on the network.
- SNMP Traps
    - **SNMP Traps Enabled:** When checked the system will listen for Traps coming from the device.

NOTE: The Trap Recipient must be enabled. Refer to Traps on page 91.

    - **Force SNMP Poll:** When checked the system will poll all the points for the device if it receives a trap for that device.

NOTE: Force SNMP Poll will cause the device to be polled even if SNMP polling is disabled for the device.

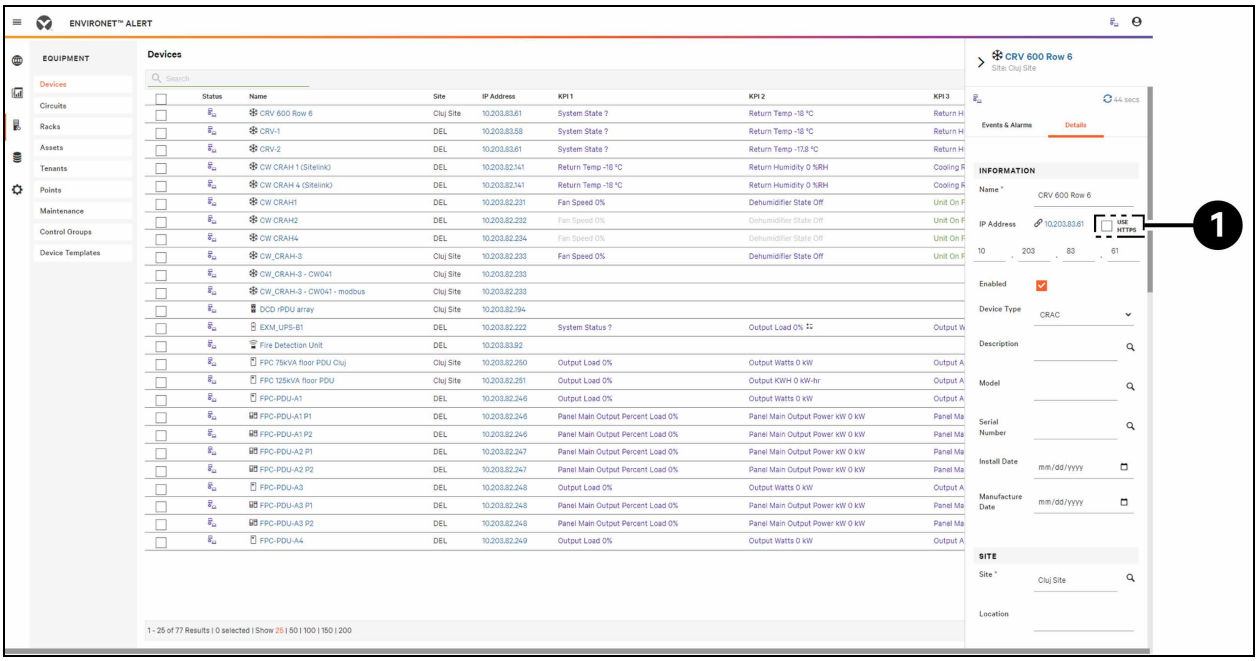
- **Trap Alarm Class:** Determines which Alarm Class traps for the device will be placed in. If the Alarm Class sends notifications then traps will be sent as email notifications.

- **MIB File:** When the appropriate MIB file for the device is loaded and selected the system will attempt to process the content of Traps into readable language.
- Device Template
  - **Last Template:** The last template used to validate points on the device. This could also be the template the device was created from or, if the device was created using the copy feature, the name of the device it was copied from.
  - **Update Points with Template:** When checked there will be the ability to select a template. Once *Save* is selected, the system will run validate points with the selected template.
- **KPIs:** Allows for the configuration of the device's KPIs.

Use HTTPS On Devices Feature

In the device flyout, next to the IP address, the user can now enable **USE HTTPS** so that when redirected to the IP, the browser will use https protocol.

Figure 4.9 Use HTTPS



Item	Description
1	Use HTTPS

Edit Multiple Devices

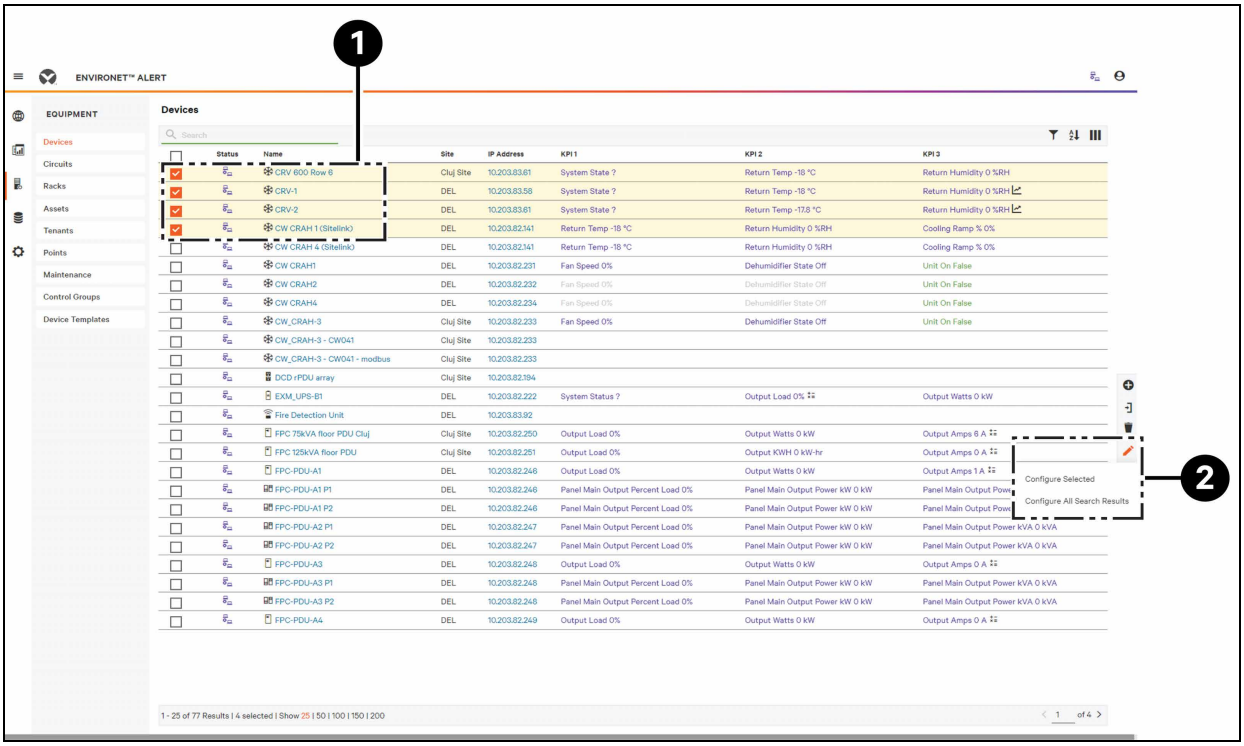
Multiple devices may be configured or edited collectively by selecting the devices and using the edit (pencil) icon.

Devices can also be edited in groups by exporting the devices to a **.csv** file, modifying the data in the **.csv** file and importing it.

NOTE: Device names must be edited individually; they cannot be edited in a batch.

NOTE: When editing BACnet IP, ModbusTCP and SNMP devices at the same time, only the network settings that are common to the protocols that are available.

Figure 4.10 Editing Multiple Devices

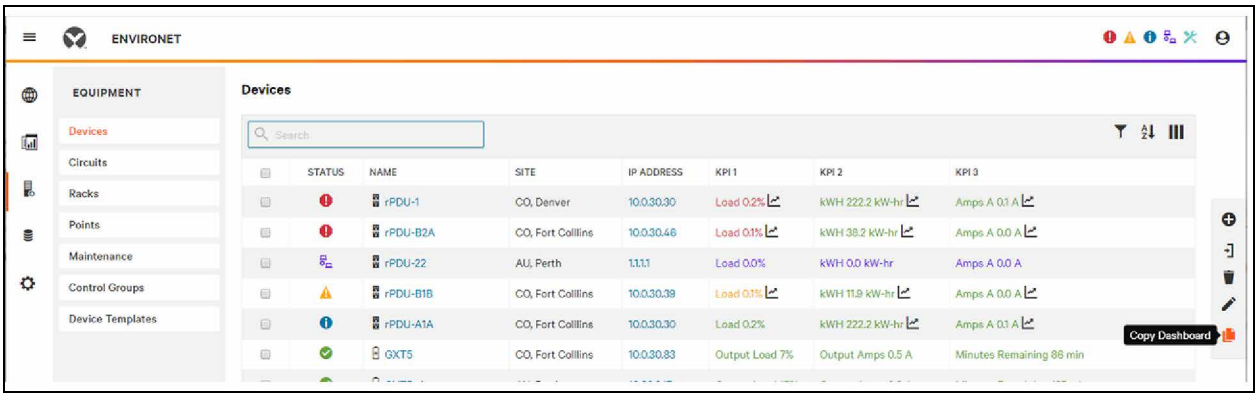


Item	Description
1	Selected devices to be edited
2	Edit (pencil) icon; offers choice of configure selected and configure all search results

Copy Device Dashboard

If a custom device dashboard has been created, it can be copied to other devices that have the same points using the Copy Dashboard icon at the right side of the screen.

Figure 4.11 Copy Dashboard



Deleting a Device

One or more devices can be deleted by selecting the devices and using the Trash (delete) icon.

Vertiv™ Environet™ Alert offers three options when selecting delete.

- Disable the device, so the points and trends associated to the device can still be retrieved or used in reports.
- Disable the device and move the device, to an archive site.
- Delete the device and all references to it.

4.1.4 Dashboard Tab

The Dashboard for each device can be viewed by selecting the *Dashboard* tab. See Dashboard View on page 7 for information on editing dashboards and Copy Device Dashboard on the previous pagefor copying dashboards.

4.1.5 Points Tab

For most devices the Points tab will be the default tab selected when navigating to a device. This list allows viewing and managing all the points for the device.

NOTE: BCMs and Racks will default to a Summary tab.

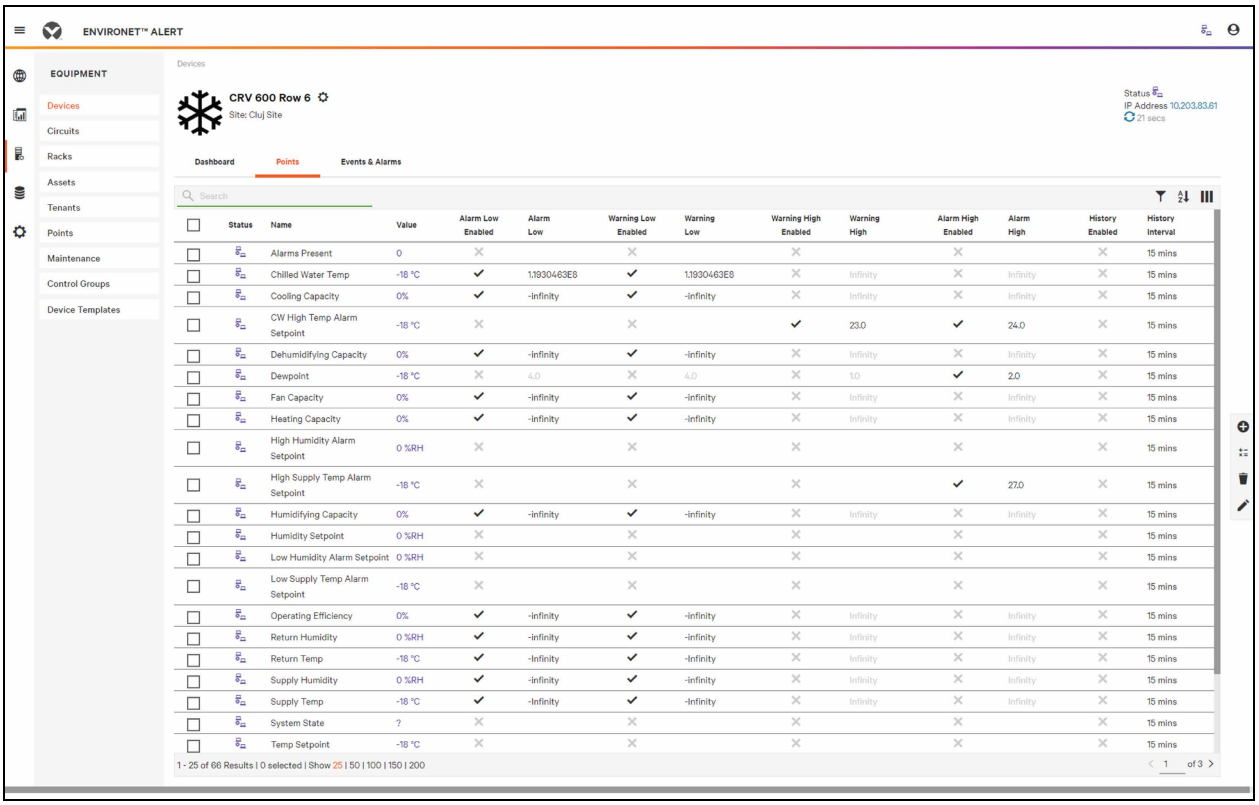
Functions that can be performed from the Points tab include:

- Add an SNMP point using the + (plus) icon.
- Create a calculated point using the mathematical icon. Refer to Calculating Electrical Points on page 42.
- Delete a point using the Trash (delete) icon.

NOTE: Circuit points cannot be deleted.

- **Edit:** Individual points can be edited by clicking the row for the point.
- **Bulk Edit:** Points can be bulk edited by selecting multiple points and using the pencil icon.

Figure 4.12 Points Tab



4.1.6 Events and Alarms Tab

All devices will have an Events and Alarms tabs. The alarms portion will show all active or unacknowledged alarms for the device. (see Alarm Database on page 75). The Upcoming Maintenance section allow for viewing and creating maintenance events for the device. Reference Maintenance on page 67.

4.1.7 Circuits Tab

All devices that have circuits will have the Circuits Tab. This tab allows for view, adding, and removing circuits from the device. Refer Circuits below.

4.2 Circuits

Vertiv™ Environet™ Alert allows grouping power measurements into circuits. Circuits are a way to group these points for easy association to Racks. The Circuits view is a tool for adding, managing, and removing all of the Circuits in the system. However, circuits can be edited from any place in the system that they are visible.

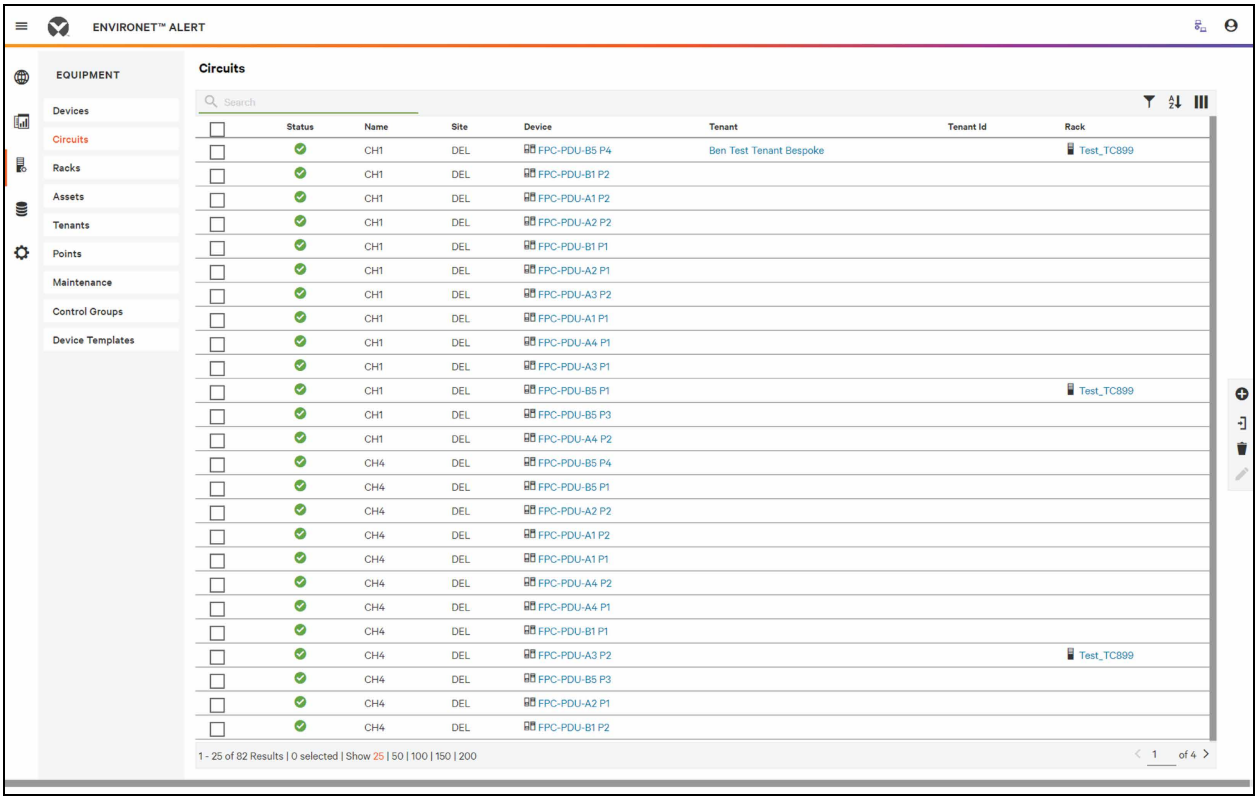
4.2.1 Circuit Types

There are five types of circuits as shown in Table 4.1 on the next page:

Table 4.1 Circuit Types

Circuit Type	Phases	Type	Poles
Single-Phase, Line-Neutral	1	LN	1
Single-Phase, Line-Line	1	LL	2
Single Phase	1	LLN	2
Three-Phase Delta	3	LLL	3
Three-Phase Wye	3	LLLN	3

Figure 4.13 Circuits Menu



4.2.2 Electrical Measurements and Vertiv™ Environet™ Alert Points

Each circuit can have up to four points of measurement for each of the standard electrical measurements listed Table 4.2 on the facing page.

Each point of measurement can be read in from a device, set to a constant value by user input, or calculated, if an estimated electrical calculation is available (see Calculating Electrical Points on page 42).

Table 4.2 Standard Electrical Measurements

Point	Definition
Amps	The current draw of the circuit, subcircuit, or phase.
Amps N	The current draw of the neutral leg of the circuit.
Amps Earth	The current draw of the ground of earth leg of the circuit.
Amps Demand	The average current measured over a particular window of time. The value of this property is the result from the last completed demand window.
Amps Demand Max	The maximum amps demand measured since the last time this value was reset.
Amps Max	The maximum current measured since the last time this value was reset.
Amps Avg	The average current of a polyphase circuit's individual lines.
Amps Unbalance	The differential current between phases of a polyphase circuit with respect to average current.
Breaker Size	The current rating of the circuit breaker. Maybe expressed in max or derated amps. There is only one breaker size stated for a polyphase circuit because all phases are protected at the same level.
Load Percent	The ratio of Amps to breaker size, expressed as a percentage, for all circuit types. For polyphase circuits, the maximum amps in any single line should be used.
Volts LN	The electrical potential, expressed in volts, from aline to neutral measurement.
Volts LL	The electrical potential, expressed in volts, from aline to line measurement.
Volts LN Avg	The average voltage of a polyphase circuit's individual LN values.
Volts LL Avg	The average voltage of a polyphase circuit's individual LL values.
Volts Unbalance	The differential voltage between phases of a polyphase circuit with respect to average voltage. Either LN or LL volts properties maybe used for this calculation, depending on what is available (but the two must not be mixed in the same calculation—it is one or the other).
PF	The ratio of the actual electrical power, measured in watts, dissipated by an AC circuit to the product of the r.m.s. values of current and voltage. The difference between the two is caused by reactance in the circuit and represents power that does no useful work.
Phase Angle	The angle between the current waveform and the voltage waveform.
kW	The actual power of the circuit, for all circuit types. For single phase circuits, this is simply the real power used by the circuit. For polyphase circuits, this is the straight arithmetic sum of the individual phase kW values.
kW Demand	The average kW measured over a particular window of time. The value of this property is the result from the last completed demand window.
kW Demand Max	The maximum kW demand measured since the last time this value was reset.
kW Max	The maximum kW measured since the last time this value was reset.
kWh	The kilowatt-hours of the circuit, for all circuit types. For single phase circuits, this is simply the energy used by the circuit. For polyphase circuits, this is effectively the straight arithmetic sum of the individual phase kWh values.
kVA	The apparent power of the circuit, for all circuit types. For single phase circuits, this is simply the apparent power used by the circuit. For polyphase circuits, this is the straight arithmetic sum of the individual phase kVA values.
kVAR	The reactive power of the circuit, for all circuit types. Reactive power exists in an AC circuit when the current and voltage are not in phase.
Frequency	The number of cycles per second in the alternating current (ac) sine wave of the circuit.

4.2.3 Calculating Electrical Points

Many of the electrical points of measurement can be calculated if enough inputs are defined. An input for a calculation can be defined as a constant, a value read from a device, or a separately calculated point. If a point listed below has all of the available inputs, then a value will be calculated for the appropriate circuit type.

Table 4.3 Calculations Table

Name	Variable	Formula	LN	LL	LLN	LLL	LLLN
Amps Average	amps_avg	(Amps phase sum) / (number of poles)			X	X	X
Amps Unbalance	amps_ unbalance	((max|Amps phase value - Amps_Avg|) / Amps_Avg) * 100			X	X	X
Load Percent	load_percent	((maxAmps phase value) / BreakerSize) * 100			X	X	X
Load Percent x (Per Phase)	load_percent_ x	(Amps_X / BreakerSize) * 100	X	X	X	X	X
Volts LN Average	volts_ln_avg	(Volts_LN sum) / (number of poles)			X		X
Volts LL Average	volts_ll_avg	(Volts_LL sum) / (number of poles)			>	X	X
Volts xN (LN - Per Phase)	volts_xn	(kVA_X * 1000) / Amps	X		X		X
Volts xN (LN - Per Phase)	volts_xn;	(kW_X * 1000) / (Amps_X * PF_X)	X		X		X
Volts xN (LN - Per Phase)	volts_xy	(kVA_X * 1000) / Amps X		X			
Volts xy(LL - Per Phase)	volts_xy	(kW_X * 1000) / (Amps_X * PF_X)		X			
Volts xy(LL - Per Phase)	volts_xy	(kVA_X * 1000 * 1.732) / Amps_X				X	X
Volts xy(LL - Per Phase)	volts_xy	(kW_X * 1000 * 1.732) / (Amps_X * PF_X)				X	X
Volts Unbalance	volts_ unbalance	((max|Volts_LN - Volts_LNAvg|) / Volts_ LNAvg) * 100			X		X
Volts Unbalance	volts_ unbalance	((max|Volts_LL - Volts_LLAvg|) / Volts_LLAvg) * 100				X	X
PF	pf	kW/ kVA			X	X	X
PF x(Per Phase)	pf_x	kW_X / kVA_X	X	X	X	X	X
kW	kW	(kW phase sum)			X	X	X
kW	kW	(3 * Volts_LNAvg * Amps_Avg * PF) / 1000					X
kW	kW	(1.732 * Volts_LLAvg * Amps_Avg * PF) /1000				X	X
kWx(Per Phase)	kW_x	(Volts_XN * Amps_X * PF_X) / 1000	X		X		X
kWx(Per Phase)	kW_x	(Volts_XY * Amps_X * PF_X) / 1000		X			
kWx(Per Phase)	kW_x	((Volts_XY * Amps_X * PF_X) / 1.732) /1000				X	X
kWh	kWh	(kWh phase sum)			X	X	X

Table 4.3 Calculations Table (continued)

Name	Variable	Formula	LN	LL	LLN	LLL	LLLN
kWh	kWh	(Previous kWh) +(kW* Hours)	X	X	X	X	X
kWh x(Per Phase)	kWh_x	(Previous kWh_X) +(kW_X * Hours)			X	X	X
kVA	kVA	(kVA phase sum)					X
kVA	kVA	(3 * Volts_LNAvg * Amps_Avg)/1000					X
kVA	kVA	(1.732 * Volts_LLAvg * Amps_Avg) /1000				X	X
kVA x (Per Phase)	kVA_x	(Volts_XN * Amps_X) / 1000	X		X		X
kVA x(Per Phase)	kVA_x	(Volts_XY * Amps_X) / 1000		X			
kVA x(Per Phase)	kVA_x	(kW_X / PF_X)	X	X	X	X	X

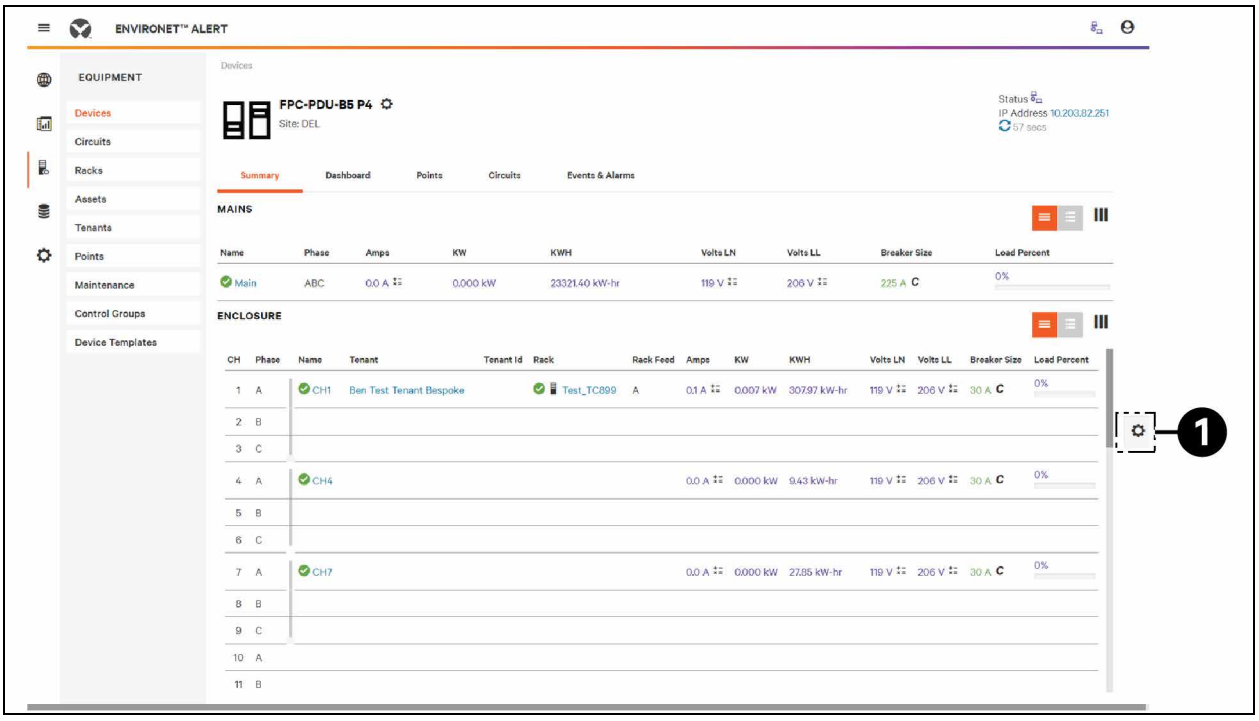
4.2.4 Circuit Enclosures

Circuit enclosures are part of devices set to BCM (Branch Circuit Monitoring) and provide places to put circuits, a phase layout (ABC, CBA, or other) and a column layout with particular position layouts.

This can be liked to a breaker panel; it allows linking circuits into two-pole and three-pole circuits.

Configuring Circuit Enclosures

Figure 4.14 Circuit Enclosure

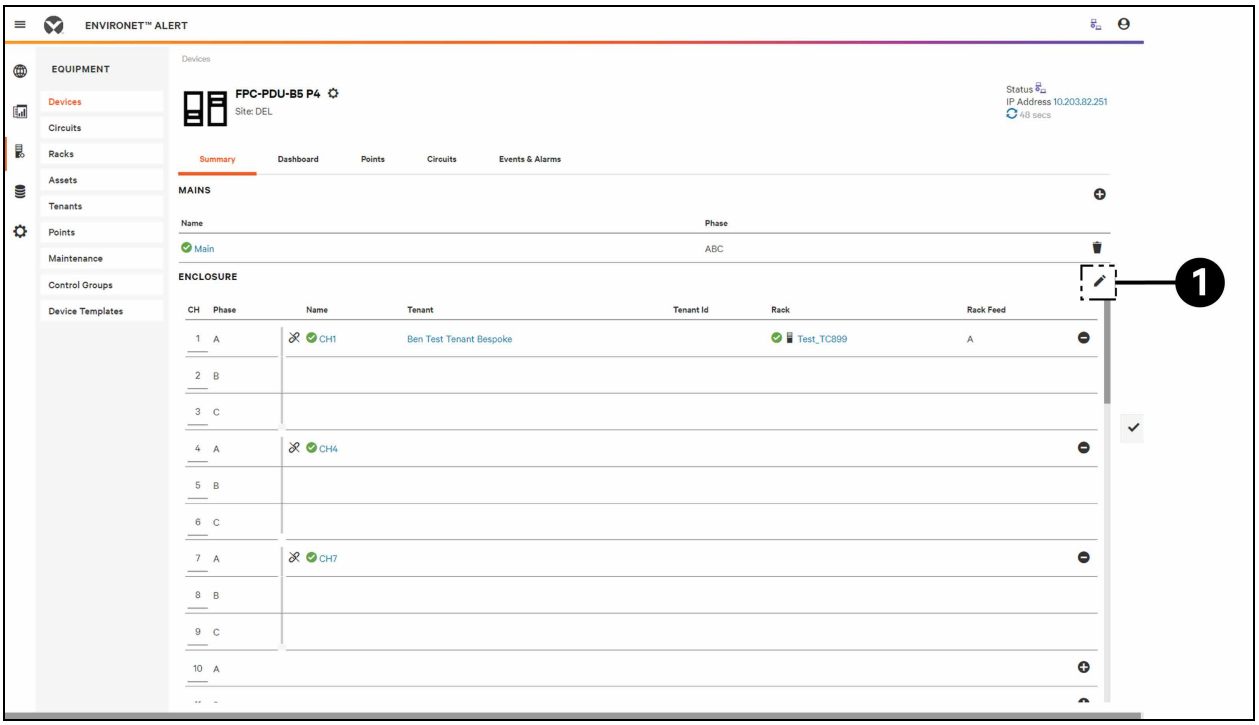


Item	Description
1	Edit enclosure icon

To configure a circuit enclosure:

1. Navigate to the BCM.
2. Click gear icon.

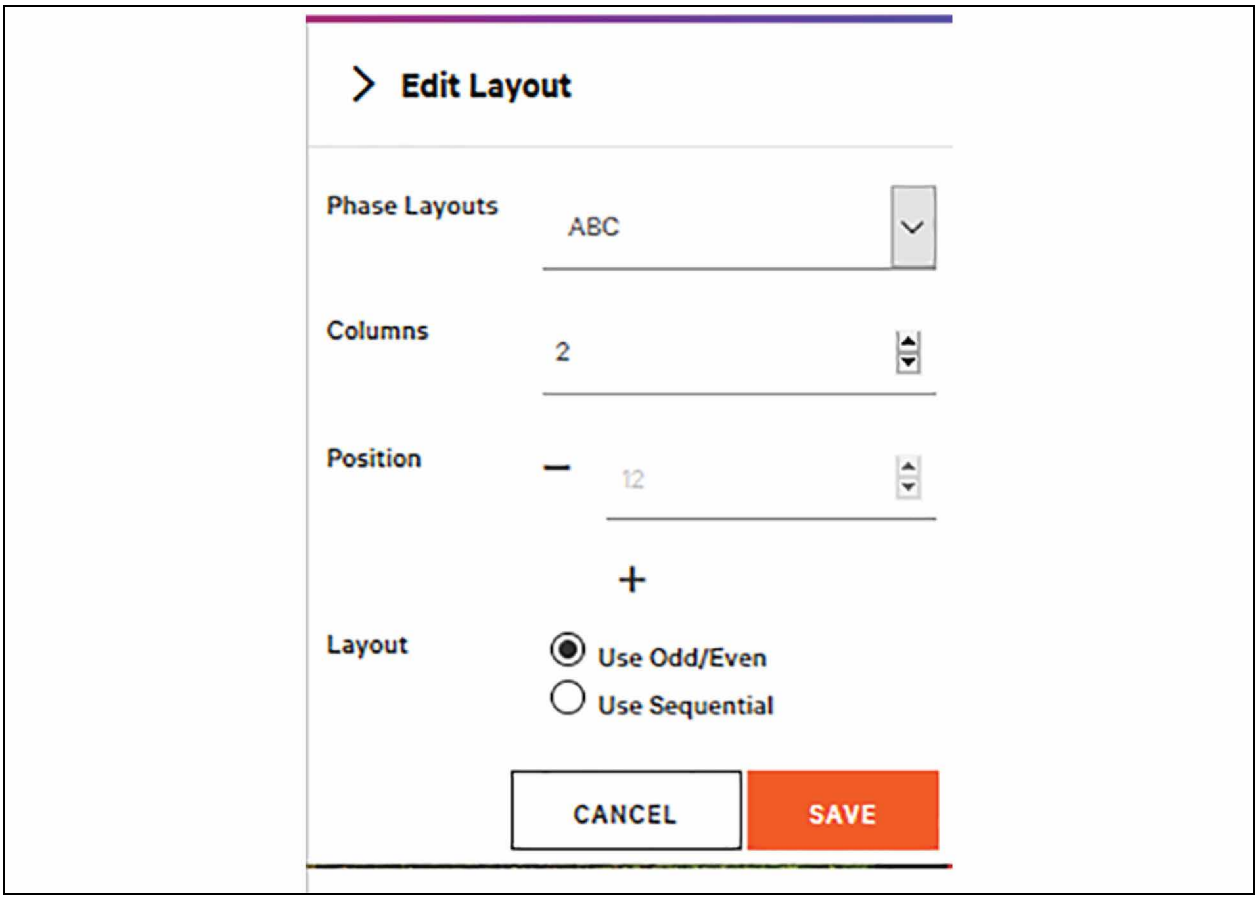
Figure 4.15 Edit Layout



Item	Description
1	Edit layout icon

Use the pencil icon to edit the layout.

Figure 4.16 Edit Layout

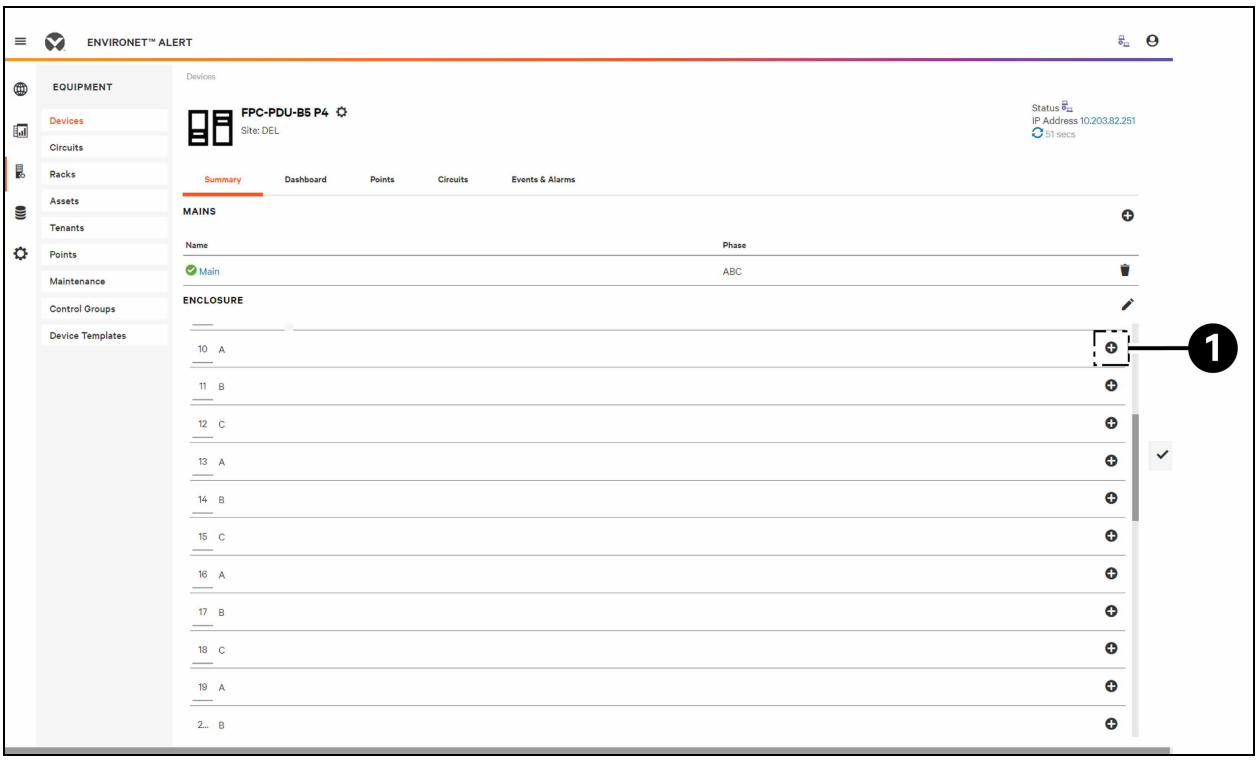


1. Select the appropriate phase layout. Phase layouts are the phase designations that are used for each phase. Custom phase layouts can be created by directly editing the panel.
2. Set the number of columns for the panel. A standard panel has two columns.
3. Set the number of positions in the panel. A standard panel has 42 positions.
4. The CH Order is the order in which the position numbering is laid out per the number of columns. The options are:
    - Sequential: This numbers the positions in a sequential manner, starting with the left-most column and going top to bottom.
    - Odd/Even: This numbers the positions with odd position numbers going down the first column, and even position numbers going down the second column. This is best suited for a two-column layout.

You now have circuit positions that can be configured; see the following sections for creating circuits.

4.2.5 Creating Circuits

Figure 4.17 Adding Circuits

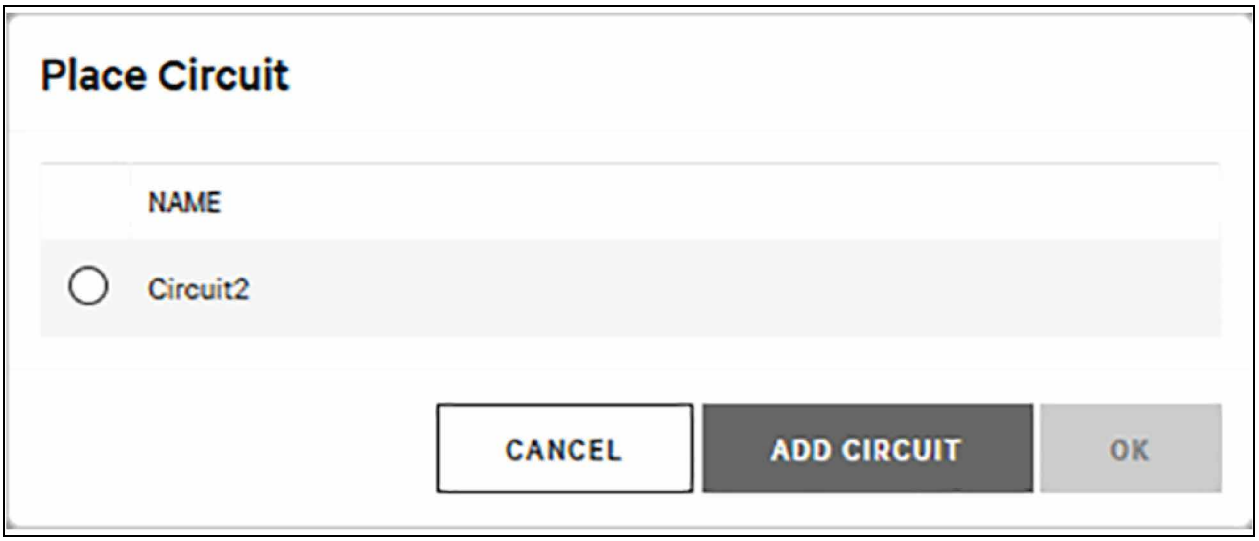


Item	Description
1	Add circuit icon

To create a add/circuit:

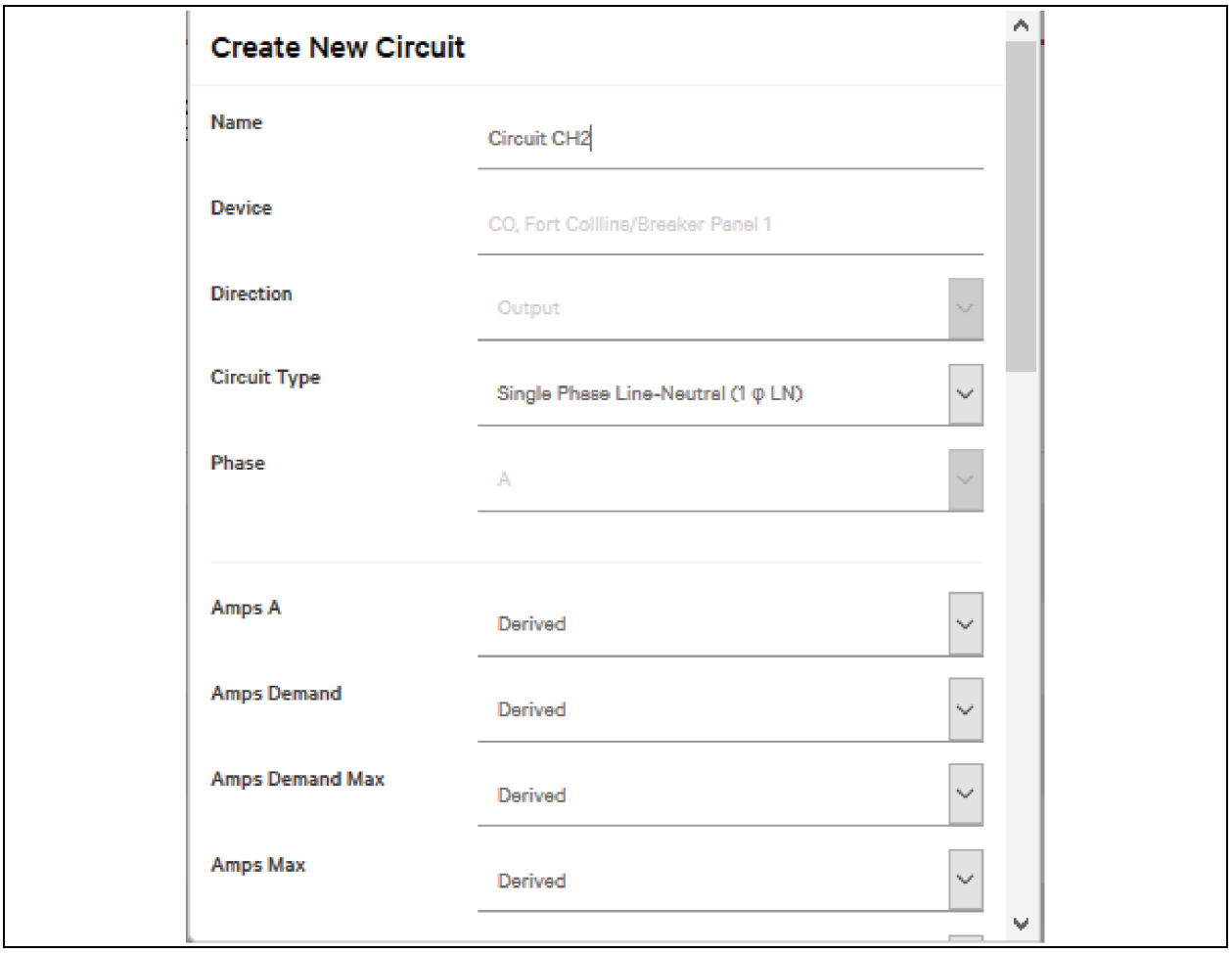
1. Navigate to the BCM.
2. Click the gear icon to edit the panel.
3. Next to an empty circuit position, click the + (plus) icon.

Figure 4.18 Place Circuit



If there are existing circuits that have not been placed in the panel, they can be selected and placed. If a new circuit is required then Add Circuit can be selected.

Figure 4.19 Create New Circuit



In the Create New Circuit dialogue enter the following information:

- **Name:** This is a text field for the name of the circuit. The circuit can have any name, which can be used to search for the circuit in other Vertiv™ Environet™ Alert features.
- **Device:** The circuit is automatically be placed on this device. This cannot be changed.
- **Direction:** This is the direction, or type, of circuit. An Input circuit is the input to the circuit enclosure that feeds the subcircuits. An output circuit is the subcircuit or branch circuit that is being created in this step. This cannot be edited.
- **Circuit Type:** Select the type of circuit being created (see Circuit Types on page 39).
- **Phase:** This is the phase of the circuit position. This is dependent on the panel layout configuration and cannot be edited.
- **Points:** Select the inputs for each electrical measurement point. These can be one of the following input types:
  - **From Device:** Select a point that is already read from the device. These are generally actual measurements from an intelligent electrical meter of some kind. After selecting, use the search button with the magnifying glass icon.
  - **Constant:** Enter a value to use for calculations. This value will not be read from a device and will only be updated by manually changing this constant value.

- **Calculated (if applicable):** Electrical measurement points that have an associated calculation (see Calculating Electrical Points on page 42) will automatically be attempted to be calculated, whether or not this input type is selected. Upon editing a circuit, if a point can be calculated, the calculated type will be displayed.
- **Rack:** Select the feed and rack. A rack can be found by typing into the box next to the feed box. Any matching racks by name will be displayed. Select one of these racks. The search pop-up can also be used by clicking on the magnifying glass icon. From here, search for a select a rack that this circuit feeds. Only one rack may be associated to a circuit.

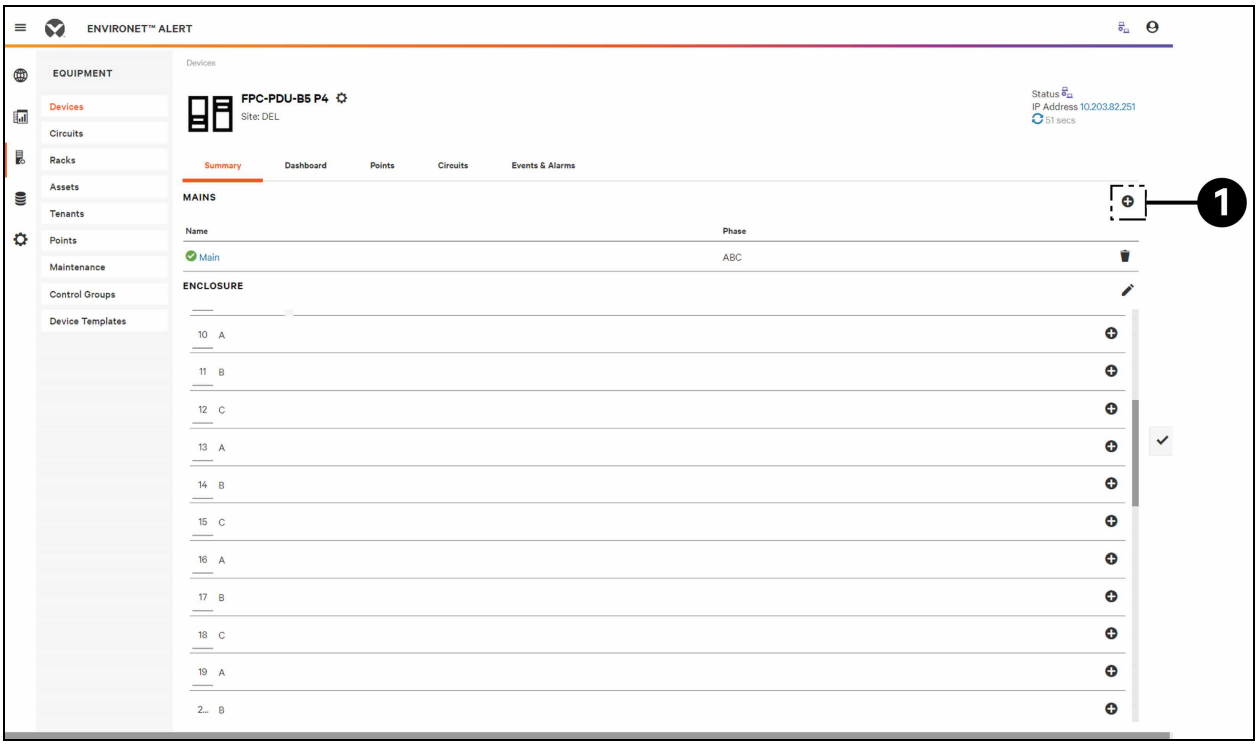
- Click *OK* to create the circuit.

Creating a Mains Circuit

To create a mains circuit:

1. Navigate to Branch Circuit Monitoring.
2. Click the Gear icon to edit.
3. Click the + (plus) icon at the top to Add Main.

Figure 4.20 Create a Mains Circuit



Item	Description
1	Add main icon

4. Enter this information:

- **Display Name:** This is a text field for the name of the circuit. The circuit can have any name and it can be used to search for the circuit in other Environet features.
- **Device:** The circuit will automatically be placed on this device. This cannot be edited.

- **Direction:** This is the direction, or type, of circuit. An input circuit is the mains, which is the input to the circuit enclosure that feeds the sub-circuits. An output circuit is the sub-circuit or branch circuit that is being created in this step. This cannot be edited.
- **Type:** Select the type of circuit being created (see Circuit Types on page 39).
- **Phase:** This is the phase of the circuit position. This is dependent on the panel layout configuration and cannot be edited.
- **Points:** Select the inputs for each electrical measurement point. These can be one of the following input types:
  - **From Device:** Select a point that is already read from the device. These are generally actual measurements from an intelligent electrical meter of some kind. After selecting, use the search button with the magnifying glass icon.
  - **Constant:** Enter a value to use for calculations. This value will not be read from a device and will only be updated by manually changing this constant value. Constants cannot be trended or alarmed upon.
  - **Calculated (if applicable):** Electrical measurement points that have an associated calculation (see Calculating Electrical Points on page 42) are automatically attempted to be calculated, whether or not this input type is selected. Upon editing a circuit, if a point can be calculated, the calculated type is displayed.

5. Click *OK* to create the circuit.

Adding and Updating Circuits in Bulk via CSV Import/Export

The Circuits page allows exporting circuits to a comma-separated-value file. Circuits can then be changed and their settings updated by using the import/export icon to import this **.csv** file back into Vertiv™ Environet™ Alert. Circuits can also be created through the **.csv** import if a newly named circuit is added to the spreadsheet in a compatible, unused position.

Notes about the CSV Circuit List

- Circuits are identified by the unique combination of Circuit Display Name, Location and Device. This prevents renaming circuits through **.csv** import.
- When assigning Circuits to Racks there must be a feed associated to the circuit. Therefore, feeds must be created at a rack before importing the Circuit. Refer to Editing Circuits and Feeds on page 52. When creating circuits through **.csv** import, you must first have a circuit enclosure configured with available positions. Circuit enclosure positions are not created through **.csv** import.
- When referencing from Device points, you must use the Site/Device/Point name combination. For example, if a point called Amps is under a device called RPP-A that is in site DEN, then you must reference DEN/RPP-A/Amps.
- When referencing a constant, use the integer value in the cell in the **.csv**. For example, if updating the breaker size for a circuit from 10 amps to 20 amps, change the cell value to 20.
- Not all columns must be present for the import. If a column does not exist, then that electrical measurement will not be updated or changed.

4.3 Racks

Racks in Environet™ Alert are representations of a physical rack that contains such assets as servers and storage devices. These racks are intended to be created in the Racks section, a submenu of the Equipment menu. The Racks feature contains a detailed list view of racks and includes the ability to add, import, delete, copy or edit racks.

4.3.1 Add Racks—Manually Add a Rack

1. Navigate to the Racks view.
2. Select the + (plus) icon to add a rack.

3. Use the editable fields to enter the rack data. The only required fields are the name of the rack and the Site where the rack belongs. These must be unique to avoid conflicts in the system. Other fields that can be filled in include location, model, serial number, total KW capacity, rack U space and contact.
4. Click *Create* to save the new rack in the database or click *Cancel* to exit the pop-up screen without saving.

NOTE: The Rack U front and rear heights both default to 42U. The Rack U can be modified to any value.

4.3.2 Add Racks—CSV Import

To add a .csv file of racks:

1. Click on the Import icon.
2. Format the .csv to match the Column headers in the system.

4.3.3 Edit Racks

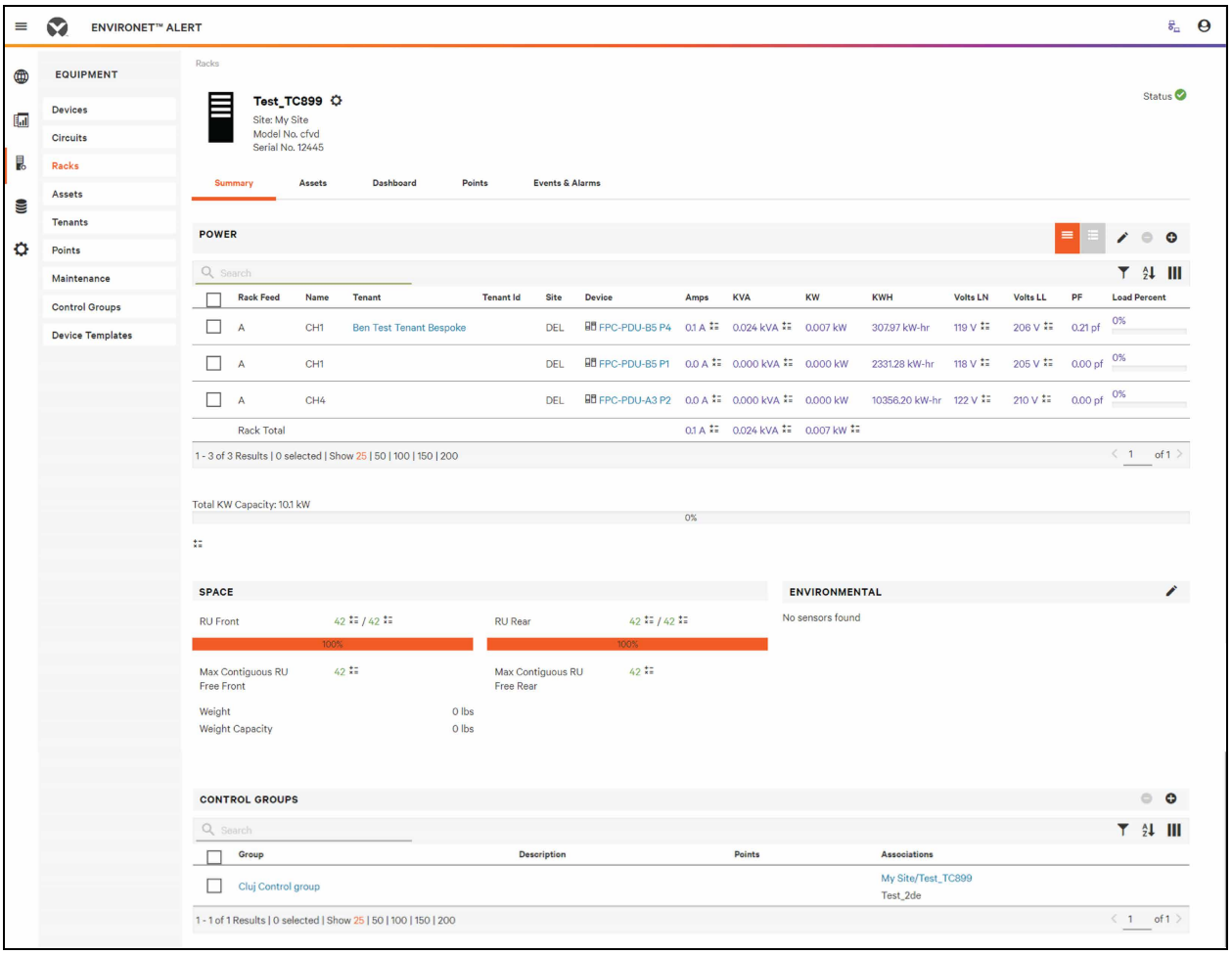
A single Rack can be edited by using the fly-out dialog and selecting the *Details* tab.

To edit more than one rack at a time, export the Racks to be edited in a .csv file, alter the appropriate fields and reimport the .csv file.

4.3.4 Rack Summary Tab

When navigating to a Rack, the default view will be the Summary tab. This view helps visualize key data as well as the ability to assign circuits and environmental sensors.

Figure 4.21 Rack Summary Tab

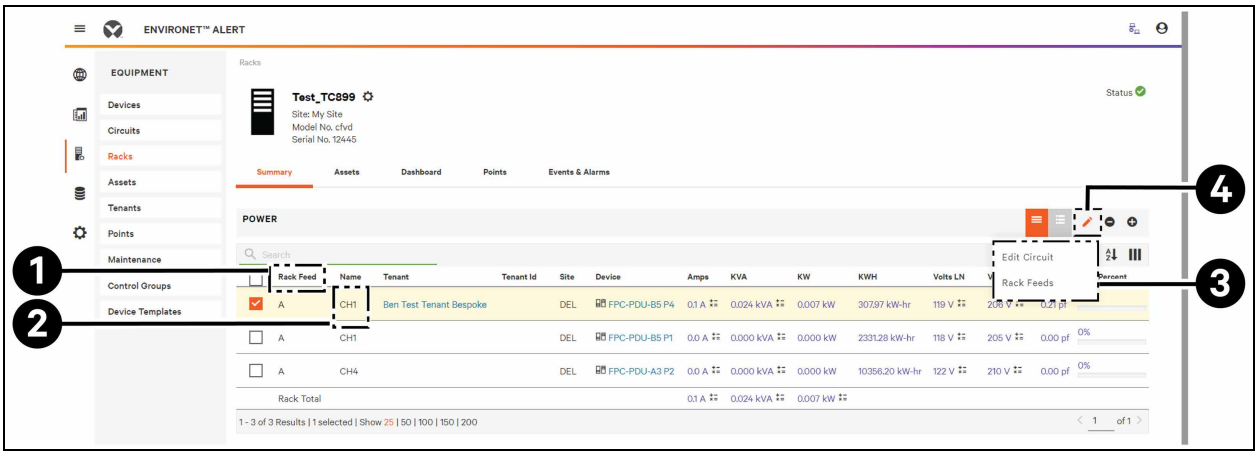


Editing Circuits and Feeds

Feeds and existing Circuits can be edited by selecting the Edit (pencil) icon.

NOTE: All circuits must be associated to a feed. Feeds must be created before associating Circuits to Racks. This can be done on any Rack.

Figure 4.22 Editing Circuits and Rack Feeds



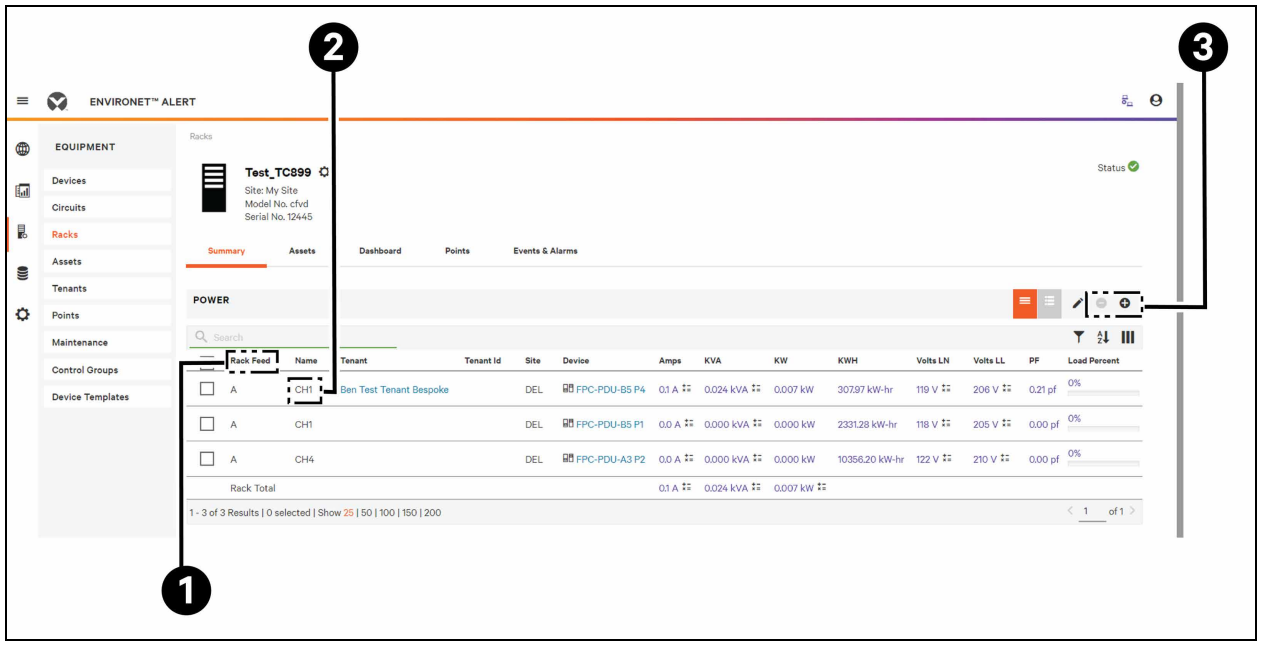
Item	Description
1	Rack feed
2	Circuit selected
3	Choices of objects to edit
4	Edit (pencil) Icon

When editing or creating Feeds, a Feed Name is required. Once a Feed is created, it is available to all Racks. If a Feed Name is changed, it will change the Feed Name for all Racks using that feed.

Adding and Removing Circuits from the Summary Tab

The + (plus) and – (minus) icons can be used to assign or remove circuits from a Rack. Once circuits have been assigned to the Rack feeds, the power portion of the summary will be filled with key metrics for each Circuit as well as Feed totals, and Rack totals.

Figure 4.23 Add or Remove Circuits from the Summary Tab

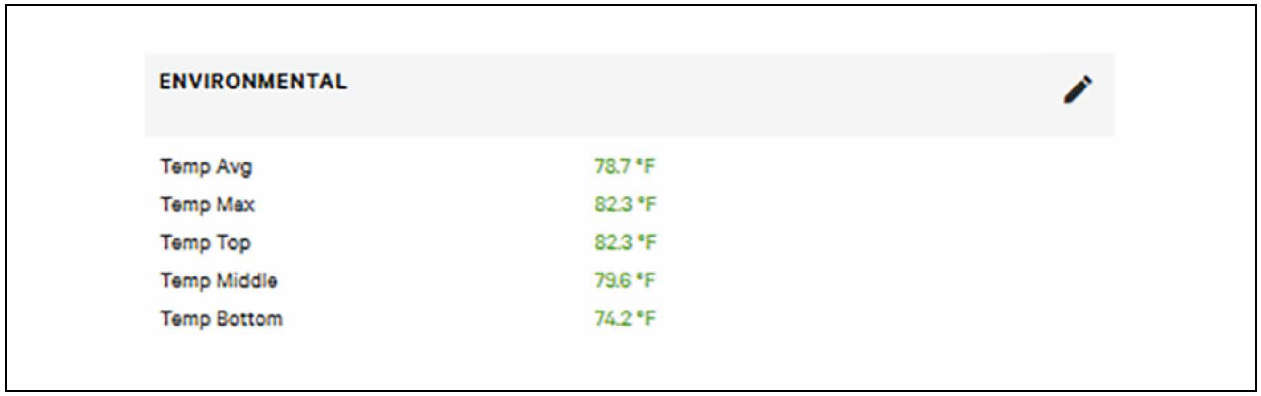


Item	Description
1	Rack feed
2	Circuit name
3	Add and remove circuits icons

Assigning Environmental Sensors to Racks

Temperature points can be added to the Rack by clicking the pencil icon in the Environmental section of the Rack Summary. If Avg. and Max do not exist, these can be created using calculated points. Refer to Creating Calculated Points on page 64.

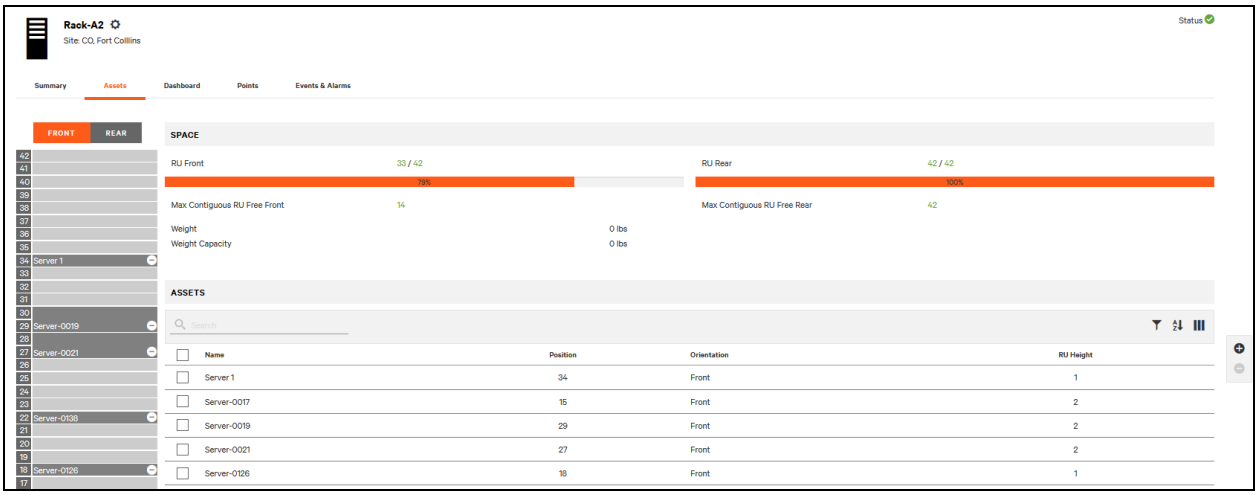
Figure 4.24 Assigning Environmental Sensors



4.3.5 Asset Tab

The rack's Asset tab show an elevation view of the assets associated to the rack as well as other key metrics such as available RU Free Front/Rear, Weight and so on.The elevation view can be switched to show the front or rear assets. Additionally, assets can be added, deleted, or moved in the elevation view.

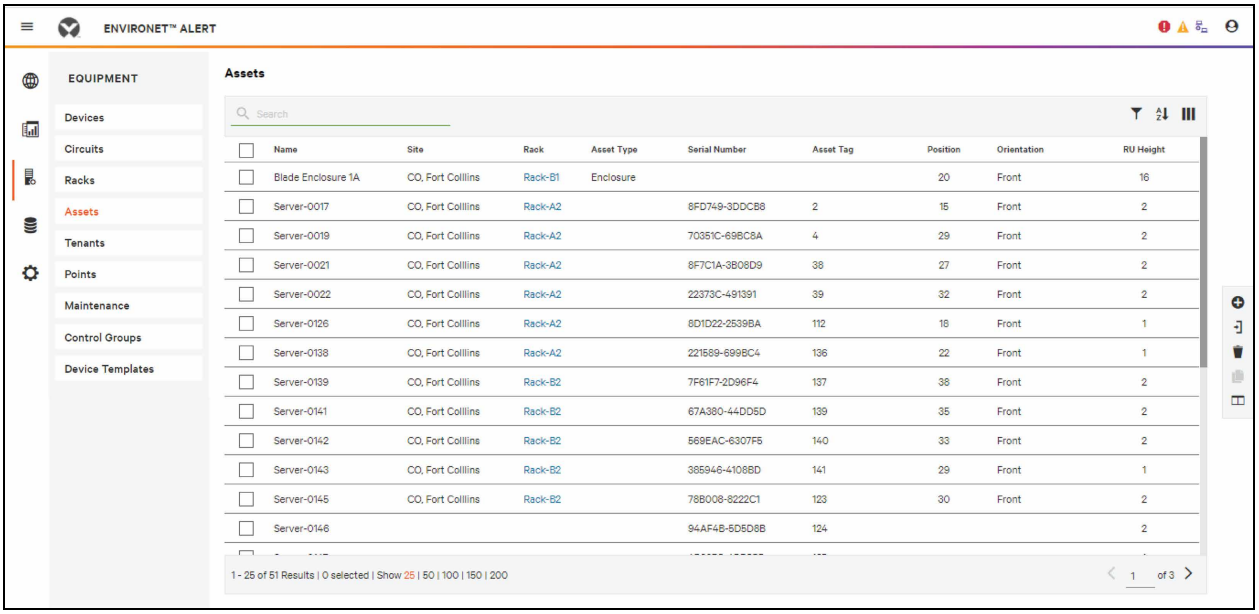
Figure 4.25 Assets Tab



4.4 Assets

Assets in Vertiv™ Environet™ Alert are representations of a physical rack assets that will be associated to Racks within the software. These assets are intended to be created in the Assets section which is accessed as an option under the Equipment menu in Environet™ Alert. The Assets feature contains a detailed list view of assets and includes the ability to add, edit, delete or import/export.

Figure 4.26 Assets



4.4.1 Add Assets—Manually Add an Asset

1. Navigate to the assets view under the Equipment icon.
2. Select the + (plus) icon to add an asset.
3. Use the editable fields to enter the asset data. The only required fields are the Name of the asset and the RU Height. Other fields that can be filled in include Asset Type, Make, Model, Serial Number, Face Plate Power, Install Date and Contact
4. Click *Create* to save the new rack in the database or click *Cancel* to exit the pop-up screen without saving.

NOTE: Assets can be manually created on a rack's Asset tab by hovering over an empty space on the rack elevation view.

Edit Assets

A single asset can be edited by using the fly-out dialog and selecting the *Details* tab.

To edit more than one rack at a time, export the Racks to be edited in a .csv file, alter the appropriate fields and reimport the .csv file.

Assets in Assets (Blade Server Enclosures)

When assets exist inside of other assets, such as a blade server enclosure, the Slots field can be used to define the number of available spaces the parent asset has. Any device with a slot-count greater than 0 will allow other assets to be assigned to those slots.

To delete a single asset or multiple assets:

1. Select the checkboxes at the left of the asset rows and click the *delete* button at the top of the Assets page.
2. To delete all search results within the Assets view, select *Delete All Search Results* from the drop-down menu.
3. To confirm the delete, Click *OK* to confirm the delete.
   -or-
   Click *Cancel* to cancel the delete.

To view asset details:

1. Click the asset's row.
2. Click the *back* button on your browser to exit.

To edit an asset:

1. Click on the asset name in the Asset column.
2. At the top right corner of the Asset Details pane, click *Edit Details*.
3. Make desired changes, including adding a custom field, if desired.
4. Click *OK* to save the changes.
   -or-
   Click *Cancel* to exit without saving.

NOTE: Asset associations to racks are made within the Rack view.

Exporting the Asset Database

On the main Assets screen, you have the ability to export the Asset database into CSV format. You can choose to export the selected assets, all search results or the entire asset database.

To export the asset database:

1. Using the CSV drop-down arrow at the top of the main Assets page, select the desired assets to export.
2. By clicking on any of the following, the CSV file will automatically download within the browser.
    - Export Selected
    - Export All Search Results
    - Export All

Importing the Asset Database

On the main Assets screen have the ability to import assets or edits to existing assets. The template used to import new assets can be created by exporting any number of assets into CSV format, using the Export feature explained about.

To import new assets:

1. Use the exported template within the CSV file and add rows of assets with the desired amount of data entered. Similar to adding a single asset within the Environet interface, Asset Name is required for each asset. Assets with unique Asset Names will be entered as new assets.
2. Save the CSV file.
3. Select Import on the CSV drop-down menu.
4. Racks and Assets 45.
5. Choose the saved CSV file.
6. Click *OK* to import the new assets.
   -or-
   Click *Cancel* to exit without importing.

To make edits to existing assets via import:

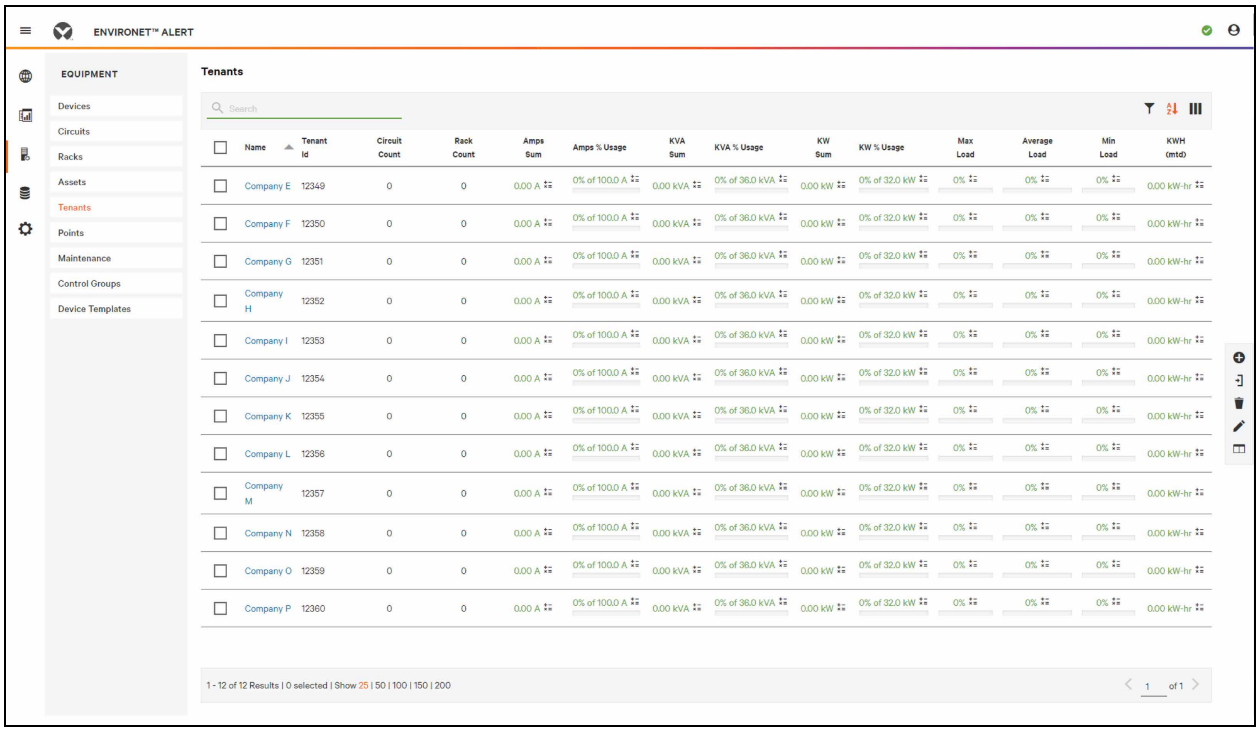
1. Export the assets that you would like to edit.
2. Make the appropriate changes to the assets that are to be edited.
3. Save the CSV file.
4. Select Import on the CSV drop-down menu.
5. Choose the saved CSV file.
6. Click *OK* to import the new assets.
   -or-
   Click *Cancel* to exit without importing.

4.5 Tenants

The Tenants feature allows you to calculate, visualize, and report on power consumption for individual tenants within the data center space. Tenants can represent a customer, department or any other business group that operates and maintains equipment in the data center.

Clicking on *Tenants* on the main left-hand navigation menu bar takes users to the Tenants view.

Figure 4.27 Tenants View



From this view, individual at-a-glance tenant information can be viewed and is paginated for quick navigation.

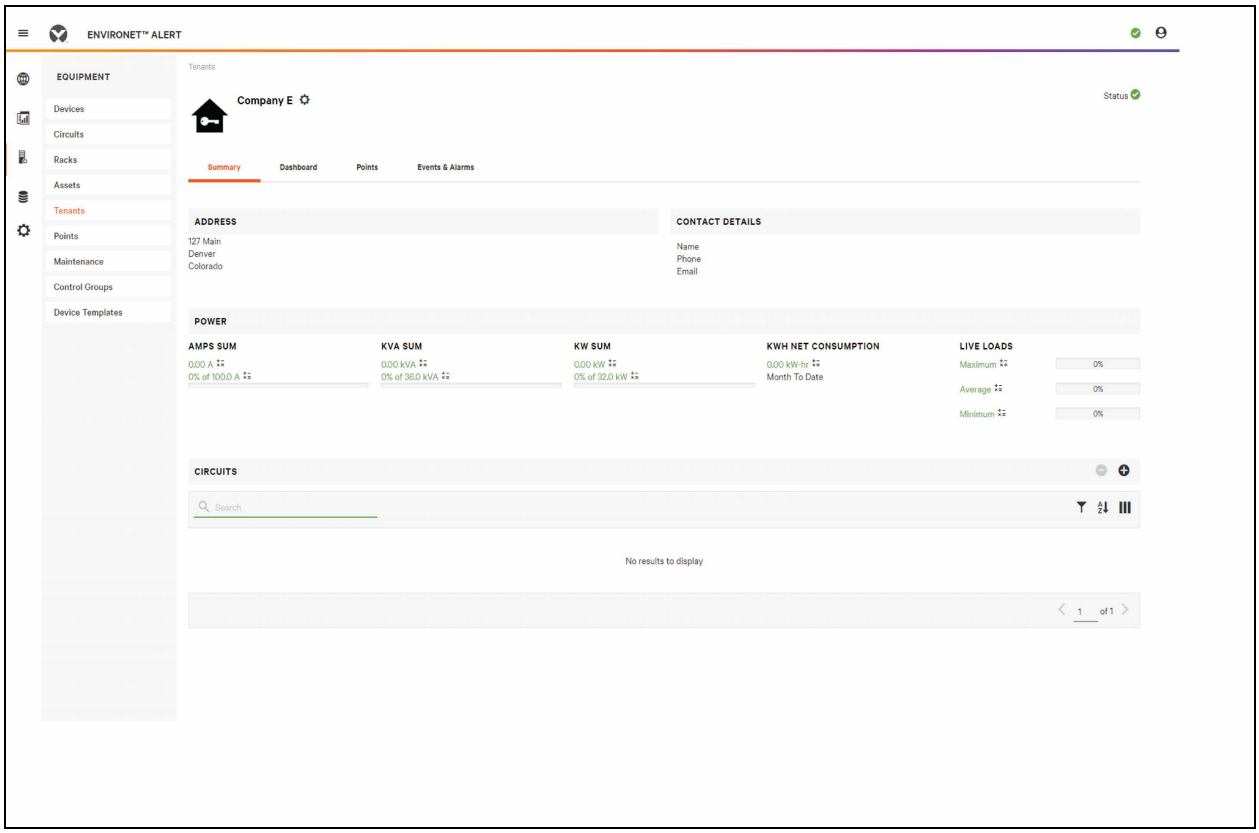
4.5.1 Individual Tenants

To view detailed tenant information:

1. Click on the Tenant Name.
2. From this page, you can navigate to already associated devices, individual circuits or racks by clicking on the appropriate links. You can also edit alarm settings for amps, KVA, KW, KWH and load %, along with their calculated sums.

NOTE: Each of the previously mentioned power metrics are included in reports in the Analytics feature.

Figure 4.28 Individual Tenant View



4.5.2 Edit Tenants

You can associate individual circuits to each tenant in order to accurately track power consumption. To edit allocated power and to make circuit associations:

1. Click *Edit Tenant*.
2. To adjust allocated power for the tenant, adjust the values in Max Amps, Max KVA and Max KW.
3. Setting these limits allows the total draw of all circuits assigned to the tenant to be calculated as a percentage of the tenant's allocated power.
4. Click *Add* to add circuits to the tenant.
5. Using the drop-down criteria allows you to enter specific information for the circuit you would like to assign. Click *Search* when the criteria fields have been populated.
6. Select the circuit or circuits to add to the tenant and click *OK*.
7. On the Edit Tenant view, click *Save* to retain the changes.

   -or-

   Click *Cancel* to cancel the changes. Both actions will take users back to the individual tenant view.

4.5.3 Additional Methods to Associate Circuits

Tenants can also be associated in various places within the Environet system by clicking on a circuit on these views:

- BCM Device View

- Rack
- Tenant

To associate a tenant:

1. Click the individual circuit link and the Edit Circuit pop-up appears.

   -or-

   Enter the Tenant ID or Name in the Tenant field. The system auto-populates the matching tenants.

   -or-

2. Use the search icon to search for a tenant.

   Click *OK* to save the changes.

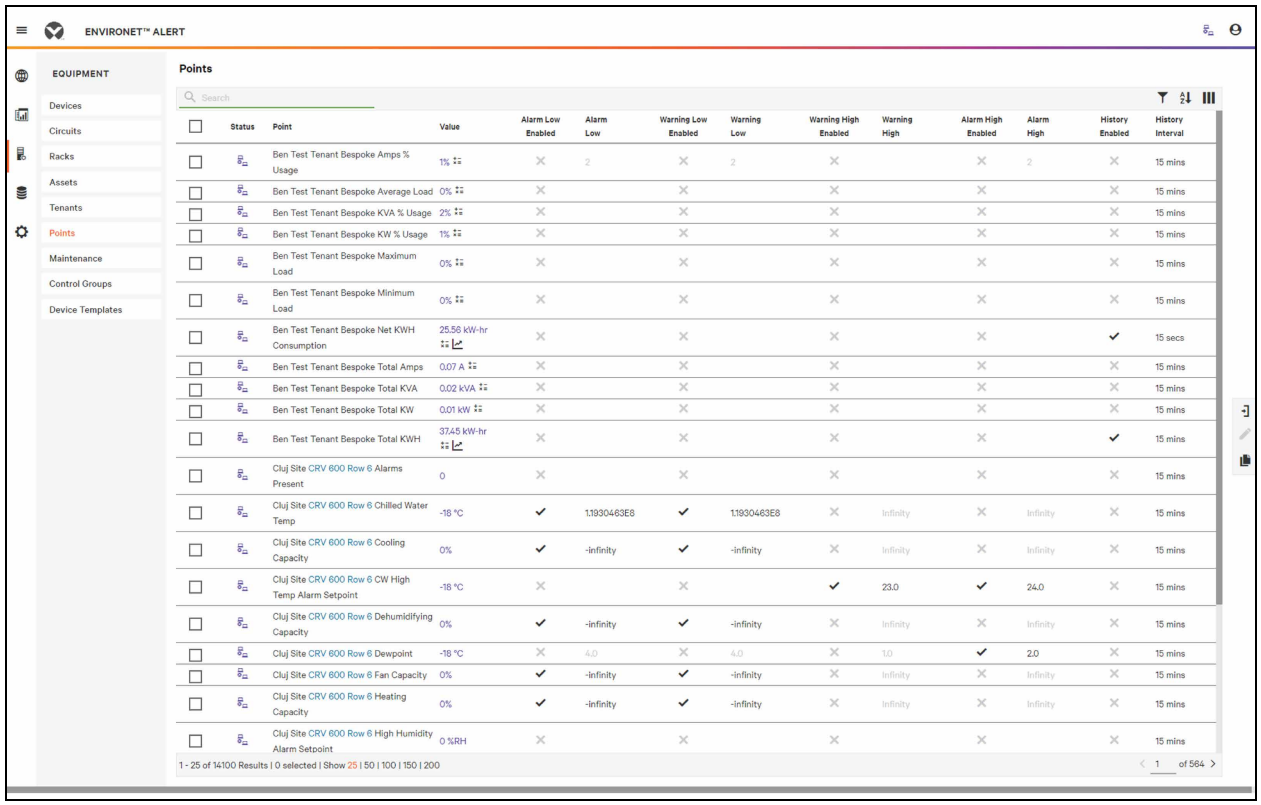
   -or-

   Click *Cancel* to delete recently entered tenant information.

4.6 Points

Points represent the monitored or derived data that the system has available. Points can be managed in many places, including the Points tab of any device or Rack, or any location where the point is visible. However, the Points menu permits viewing and managing all of the points in the system, either singly or collectively.

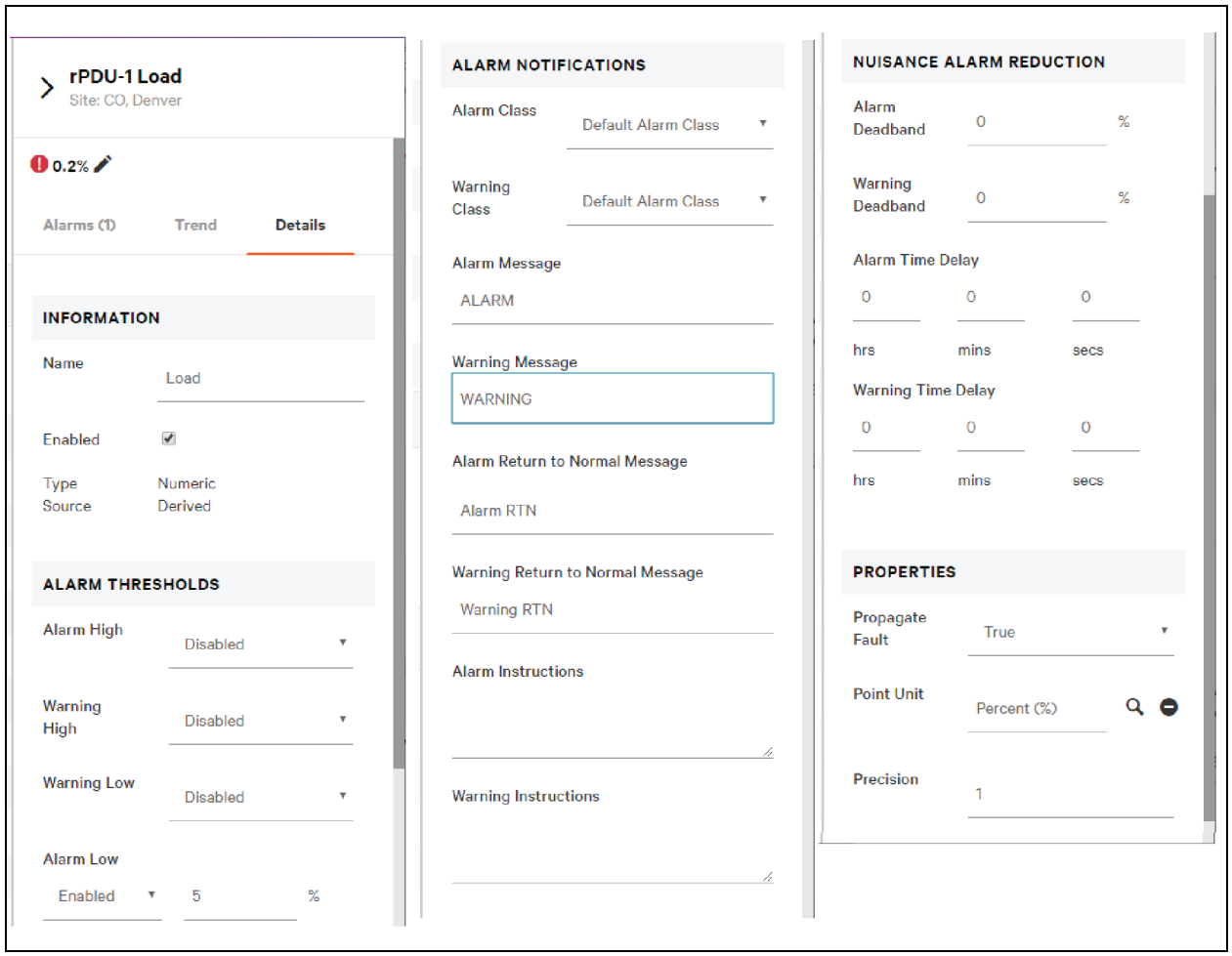
Figure 4.29 Points Menu



4.6.1 Edit a Point

From any location in the system, clicking a point's value will open the point fly-out dialog, where any aspect of the point can be edited. The dialog is displayed in a single column in Vertiv™ Environet™ Alert; and scrolling is required to see all the information. Details Tab—All Information below shows the complete dialog.

Figure 4.30 Details Tab—All Information



Description of fields:

- Information
  - **Name:** The name the system uses for the point.
  - **Enabled:** When checked the system will monitor, alarm and capture histories for the point.
- **Alarm Thresholds:** Allows enabling/disabling alarming and setting the values or states that will generate an alarm. The options for this portion will vary depending on point type.
- Alarm Notifications
  - **Alarm Class:** Defines what Alarm Class Alarms will be associated to.
  - **Warning Class:** Defines what Alarm Class Warnings will be associated to.
  - **Alarm Message:** Text that will be displayed in the alarm console and email notifications when the point goes into alarm.

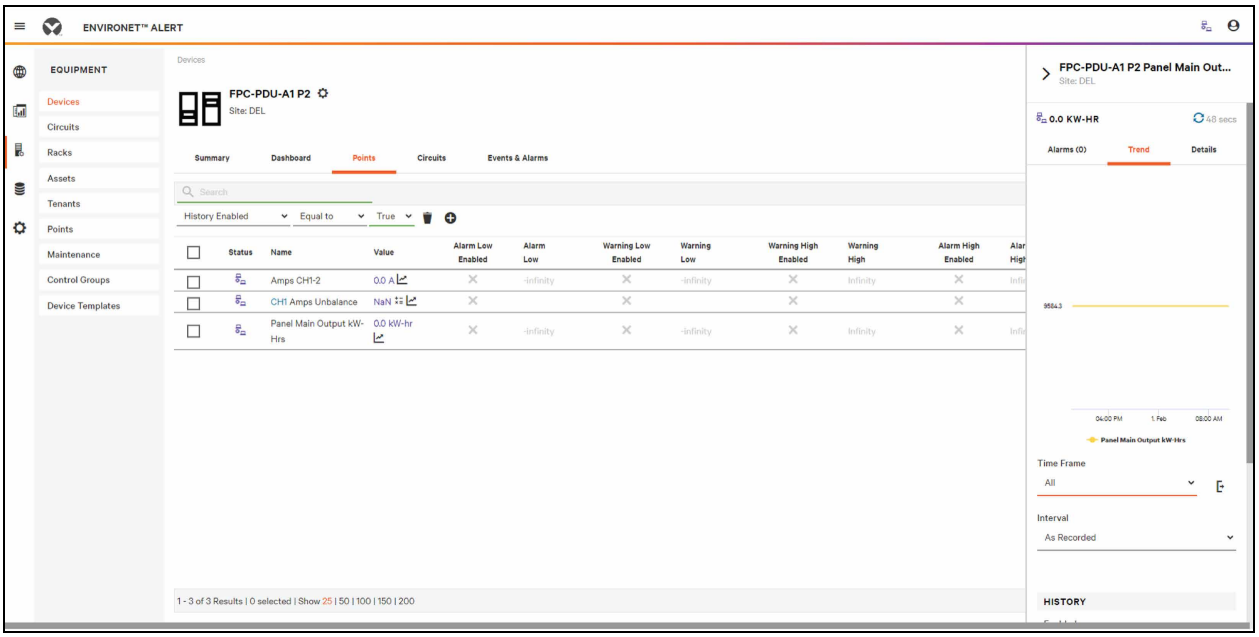
    - **Warning Message:** Text that will be displayed in the alarm console and email notifications when the point goes into warning.
    - **Alarm Instructions:** Text that will be available as part of the alarm record to give instructions about desired actions when the point goes into alarm.
    - **Warning Instructions:** Text that will be available as part of the alarm record to give instructions about desired actions when the point goes into warning.
- **Nuisance Alarm Reduction:** These options will vary depending on point type.
    - **Alarm Deadband:** Used to eliminate nuisance alarms caused when a point value continually crosses the alarm threshold by a small amount. A value that defines what the required change for the point to return to a normal state after going into alarm. Example – A point has an Alarm High threshold of 100 and a deadband of 5. The point value goes to 101 and the point goes into an alarm state. The point value may vary between 99 and 101 many times creating a lot of alarms. The deadband requires that the value return past the alarm threshold by 5 (the deadband setting) in this case, there would only be one alarm and that alarm would return to normal when the value dropped below 95.
    - **Alarm Delay Time:** If the alarm delay time is set then the point must have passed its alarm threshold for the given amount of time before the alarm will become active. This is helpful in reducing alarms that may only happen momentarily and the state is not a concern for a short amount of time.
- **Properties:** Common settings for both SNMP and ModbusTCP points.
    - **Propagate Faults:** Used to show or hide when a point is in Fault.
    - **Point Unit (Numeric Points Only):** The unit of measure that will be associated to the point value.
    - **Precision (Numeric Points Only):** The number of decimal places that the value will show.
    - **Enum Values (Enumerated Points Only):** Used to add or edit the name of Enumerated states.
- **SNMP Settings:** The options for properties will vary depending on the point type.
    - **SNMP OID:** The OID address for the data point.
    - **Value Conversion:** Methods for manipulating the raw data from the device.
        - **Default:** No conversion.
        - **Reverse Polarity:** Used with Boolean points to change the state to the opposite value. True to False or vice versa.
        - **Linear:** When selected there are two option for conversion that can be used together or individually:
            - **Value Offset:** Allows for a positive or negative number that will be added to /subtracted from the raw value.
        - **Value scale:** Allow for a number that will be multiplied by the raw value.
    - **SNMP Data Type:** Defines the type of data expected from the device for the point.
- **Modbus Settings:** The options for properties will vary depending on the point type.
    - **Data Address:** The Modbus register address for the point.
    - **Value Conversion:** Methods for manipulating the raw data from the device.
        - **Default:** No conversion.
        - **Reverse Polarity:** Used with Boolean points to change the state to the opposite value. True to False or vice versa.
        - **Linear:** When selected there are two option for conversion that can be used together or individually:
            - **Value Offset:** Allows for a positive or negative number that will be added to /subtracted from the raw value.
        - **Value Scale:** Allows for a number that will be multiplied by the raw value.
    - **Data Type:** Defines the type of data expected from the device for the point.

- **BACnet Settings:** The options for properties will vary depending on the point type.
  - **Object Type:** Allows for the selection of the type of the point.
  - **Object Instance Number:** The OIN for the specific point can be edited.
  - **Property ID:** Allows for edits to the ID for the point.

4.6.2 Trend Tab

The Trend tab of the point fly-out dialog allows configuring historical trending of the point as well as viewing a line-chart once trending has been established.

Figure 4.31 Trend Tab



Description of fields:

- **Line-chart:** (shown only when history is enabled for the point) Displays a simple chart with the last 24 hours of reading plotted on it.
- **Time Frame:** (shown only when history is enabled for the point) Allows for the time that is shown in the line-chart to be changed.
- **Export Icon:** Allows the line chart to be saved as a Visualization for reports, or for the raw data to be exported as a Microsoft Excel file.
- **Interval :** (shown only when history is enabled for the point) Allows data to be grouped by intervals such as hours, days, or weeks.
- **History:** Sets up how history for the point will be captured.
  - **Enabled:** Determines whether history will be gathered for the point.
  - **Interval:** A time setting that will take a snapshot of the value based on the setting.
  - **Tolerance:** If the tolerance is set then a history will be taken when the value of the point changes by the value of this setting.

- **Max Records:** The number of records that will be kept for the point. Once the maximum record count has been reached then records will be stored in a first-in/first-out manner. This can be set to unlimited if no maximum is desired.

4.6.3 Creating Calculated Points

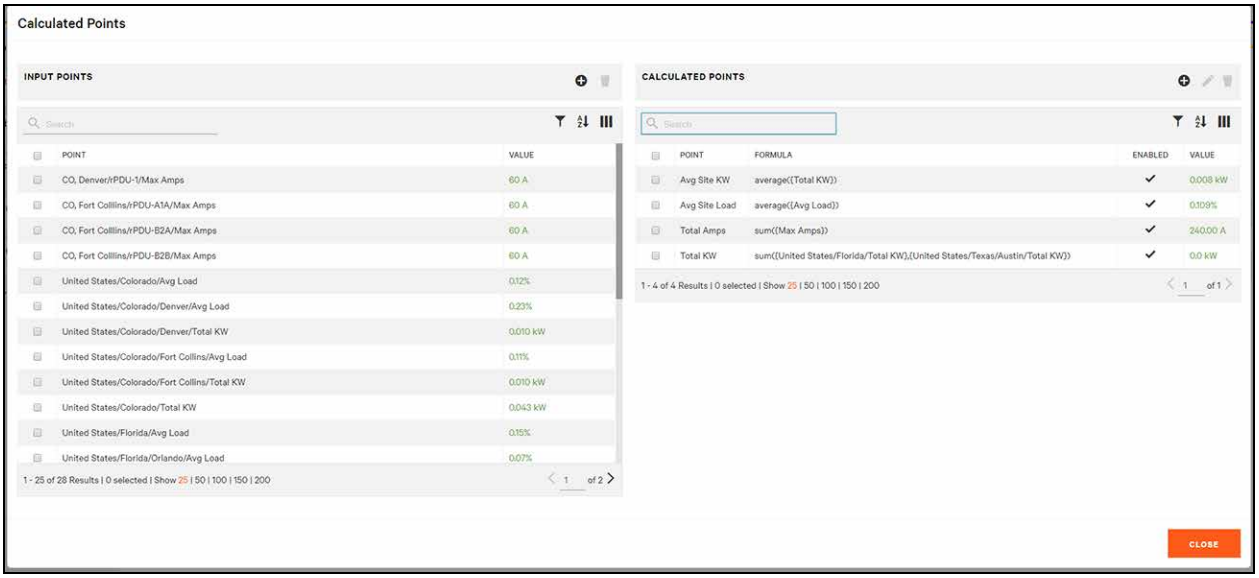
Calculated points can be created by navigating to the Points tab of any device, rack, Group, or Board, and clicking the mathematical icon.

Figure 4.32 Calculated Points

Item	Description
1	Points tab
2	Calculated points icon

NOTE: Calculated points can also be created when creating a collection.

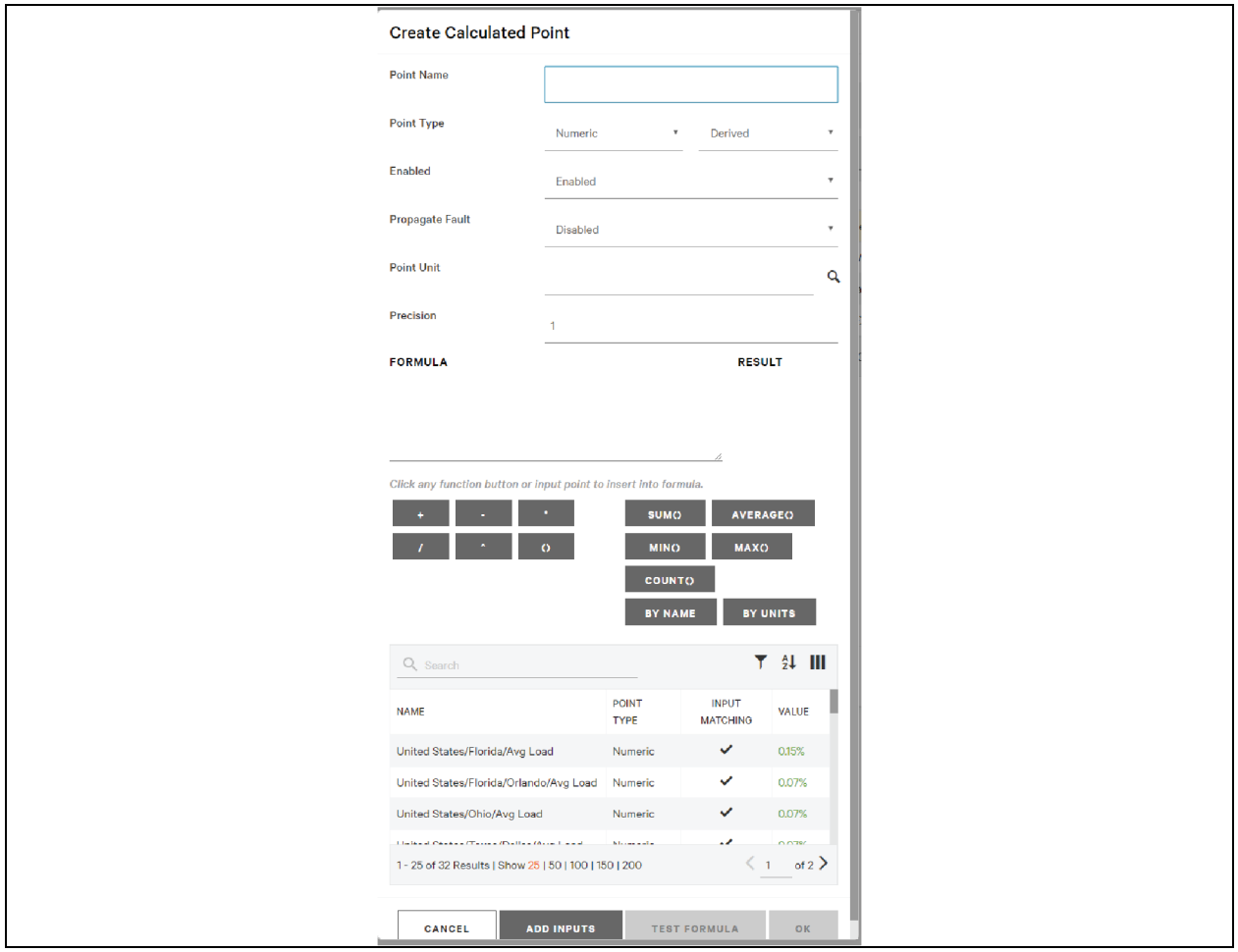
Figure 4.33 Calculated Points Dialogue



The Calculated Points dialogue has two sections:

- **Input points:** All points that are directly related to the object where you are creating the point will be automatically displayed for use in a calculated point. If the points required for inputs are not part of this list, they can be added using the + (plus) icon.
- **Calculated Points:** All existing calculated points will be listed. To create a point, click the + (plus) icon to open the Create Calculated Point dialogue.

Figure 4.34 Create Calculated Point Dialogue



To build a calculated point:

1. Enter the name of the point and the formula type (Numeric, Boolean, Enum, String). Selecting *Enabled* ensures that the collection point is turned On and valid throughout the system.

   Propagate Faults allows input points to affect the status of the calculated point. For example, if an input point goes into fault, then the calculated point will also be in fault.

   Point Unit will set the unit of measurement for the point.

   Precision will set the number of decimal places to be shown. For example, a Precision of 3 might appear as 1.000, and a Precision of 1 might be 1.0.

2. Enter the calculation criteria into the Formula box. When entering formulas, the order that terms are evaluated in can be changed by putting parentheses around the part of the formula that must be evaluated first.

   There are several ways of specifying the points used in the collection functions:

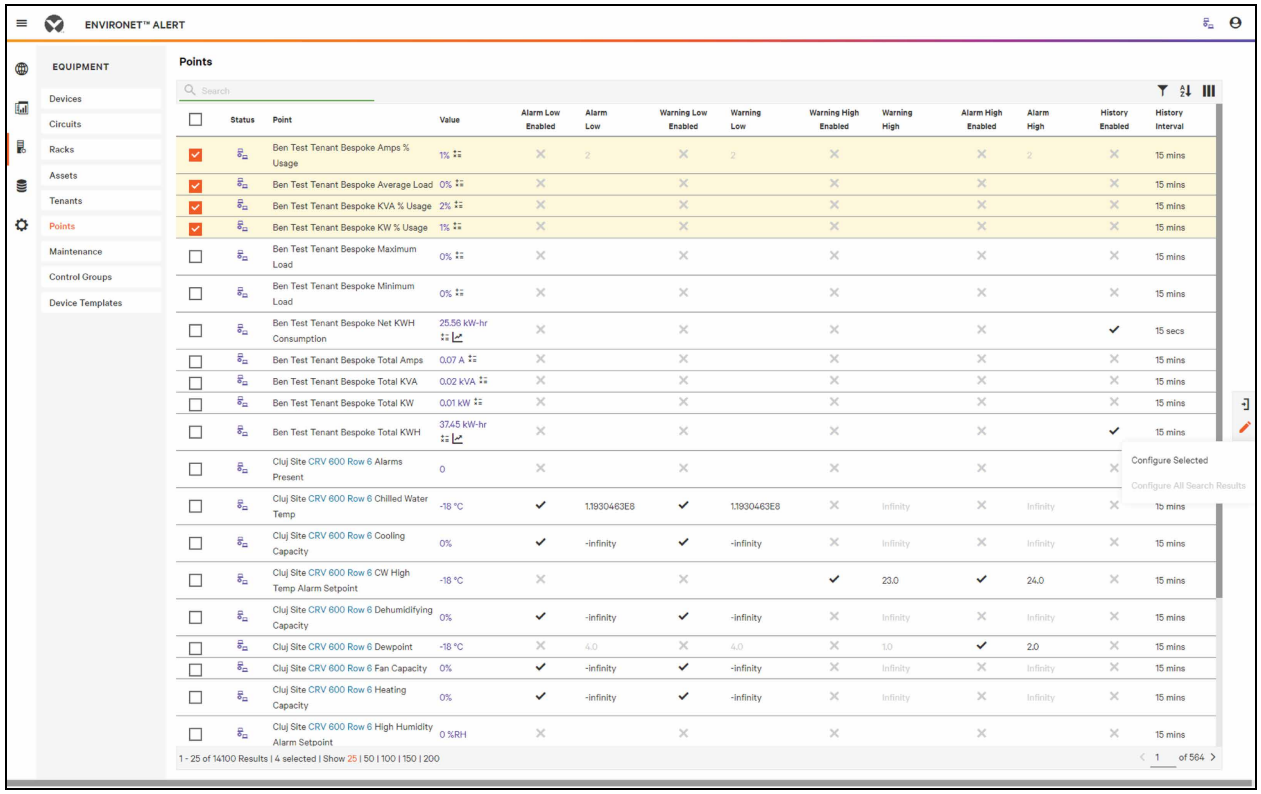
   - The simplest method is to click on the row with the name of the point from the device that will be used.
   - In functions that use lists of points, wildcards may be used. The pattern {AMP*} will match any associated point that starts with AMP. If the pattern starts with the wildcard character, {*Volts} matches any point whose name ends with Volts. This also applies when users want to use all the associated input points of a type. In this case, the pattern would be {*}.
   - For numeric formulas, the facetList() function may also be used and is explained in more detail later in this section.

4.6.4 Batch Point Configuration

Batch Point config shows a table with all points on the system. Points may be filtered with the search bar or by using the Filter icon. You can hide/show columns using the columns icon to the right of the table header.

All setting of points can be edited in a batch from this page. Refer to Edit a Point on page 61. You can configure points by selecting one or more points from the table, then using the pencil icon. To configure all the points from the current search, select *Configure All Search Results*, then click the pencil icon. This displays the configuration window.

Figure 4.35 Batch Point Configuration

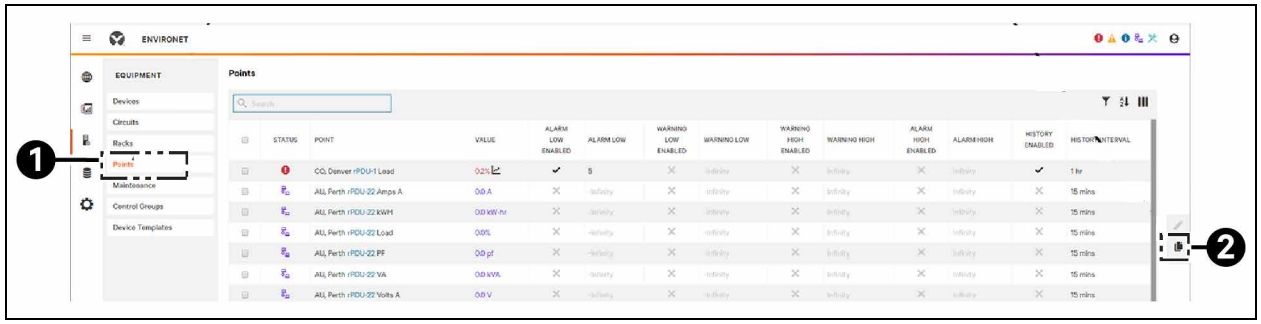


4.6.5 Copy Point Configuration

Copy Config allows the copying the configuration and all settings of a point to one or more other points. Once the Copy Config icon has been selected there will be two options:

- **Point to Point(s):** Permits selecting a single point and copying its configuration to one or more other points.
- **Device to Device(s):** Permits copying the configuration of all points from a device to one or more devices that have the same points.

Figure 4.36 Copy Config

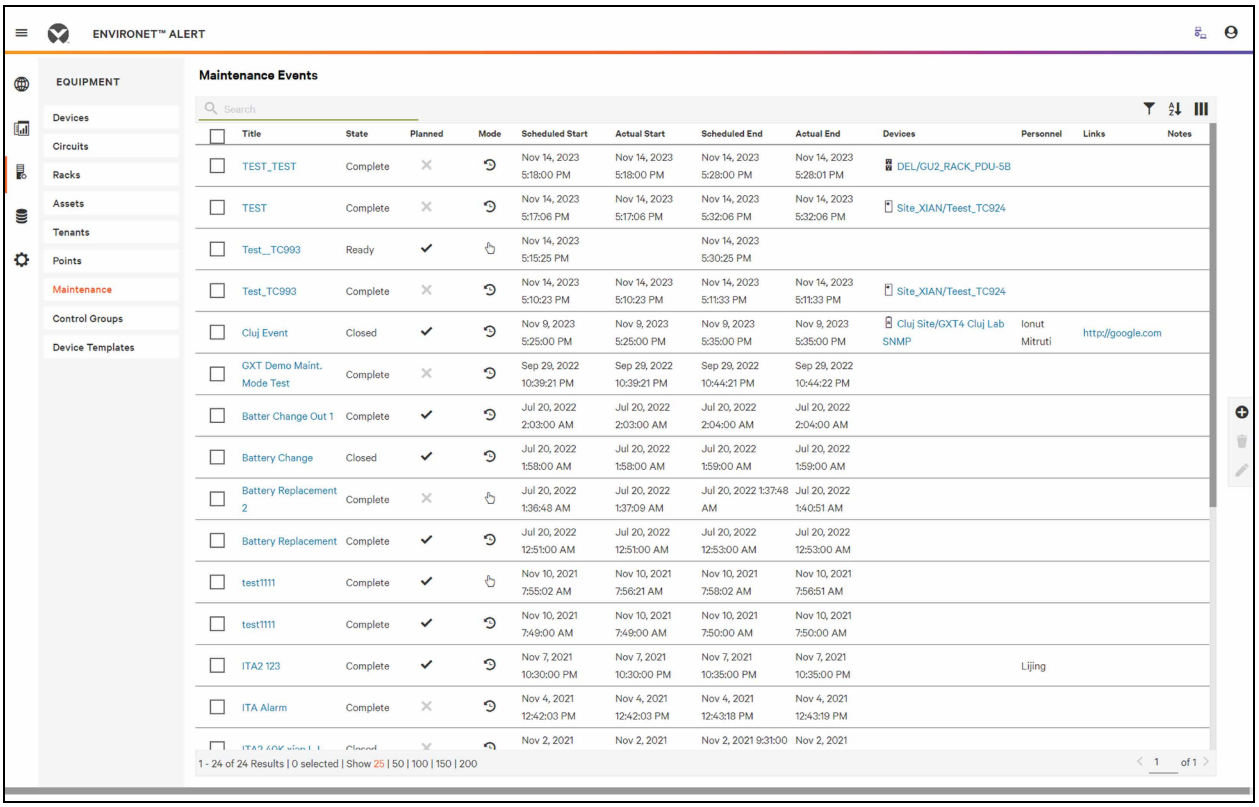


Item	Description
1	Points Tab
2	Copy Config Icon

4.7 Maintenance

Vertiv™ Environet™ Alert has a Maintenance feature for monitored devices that permits suppressing alarms during repairs, upgrades or can be used to prevent nuisance alarms and cluttered logs. A device in maintenance mode will not send out alarms, yet it allows users to see the live values being monitored. Maintenance events can be started immediately or scheduled. Environet™ Alert's Maintenance feature also sends reminders that maintenance is due, documents instructions, schedules recurring maintenance and automatically places selected devices in maintenance mode.

Figure 4.37 Maintenance Tab



An event can be created as either a one-time or recurring maintenance event. Each task can have the following states:

- **Scheduled:** An event that has a date and time associated for automatic entry into maintenance mode.
- **Ready:** Automatically Start and Stop was not selected when the event was created. The event is now ready to be manually started.
- **Active:** An event is in progress.
- **Complete:** The end time for the task has been reached.
- **Closed:** The task is finished, and no more edits will be performed on the task.

4.7.1 Adding a Maintenance Event

To add a Maintenance Event:

1. Select the + (plus) icon to add a maintenance event.
2. Enter the title of the event.
3. Use the drop-down menu to set the Recurrence: Now (event will begin immediately), Once, Weekly, Monthly or Yearly.
4. Set the duration, the amount of time for the maintenance event using the hour and minute boxes.
5. By selecting *Unplanned*, the event is marked as such. This can be helpful for building a report in Analytics to see which events were planned or unplanned.
6. Selecting *Auto Start* allows the event to begin without further action. If **Auto Start** is not selected, then a user must start the event manually even if it has been scheduled.
7. To add devices, fill in the search criteria in the search field.

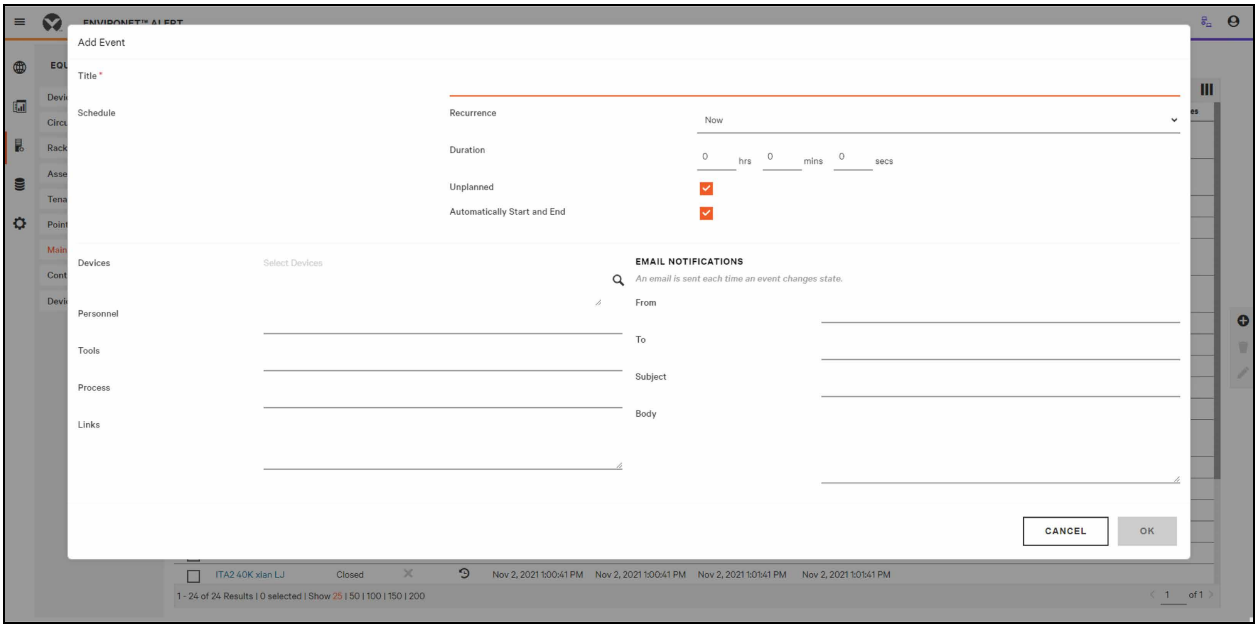
8. Results will populate based on your search criteria.
9. Select a single device or multiple devices using the checkboxes next to the device name.

   -or-

   Clear devices by clicking the *Clear All* button in the selected column.

10. Complete the remaining Personnel, Tools, Process and Links fields.
11. Enter an email address and related information to alert individuals or a group when the maintenance event changes state. Fill in the Subject and Body with pertinent details.
12. Click *OK* to accept.

Figure 4.38 Add a Maintenance Event



4.7.2 Edit a Maintenance Event

Maintenance Events can be edited only if they are not active. Once a Maintenance Event begins, it cannot be edited. Reccurring events can be edited only while they are not active.

1. Select the *Maintenance Event* to edit by clicking on the event's title.
2. The Event details pop-up will display.
3. Revise the event.
4. Click *OK* to save and close or click *Cancel* to discard your changes and close the screen.

4.7.3 Remove a Maintenance Event

Maintenance Events can be deleted only if they have not occurred. Once Maintenance Events occur or start, they cannot be deleted. Select the *Maintenance Event* you want to delete and click the icon Trash (delete) icon. Confirm the deletion.

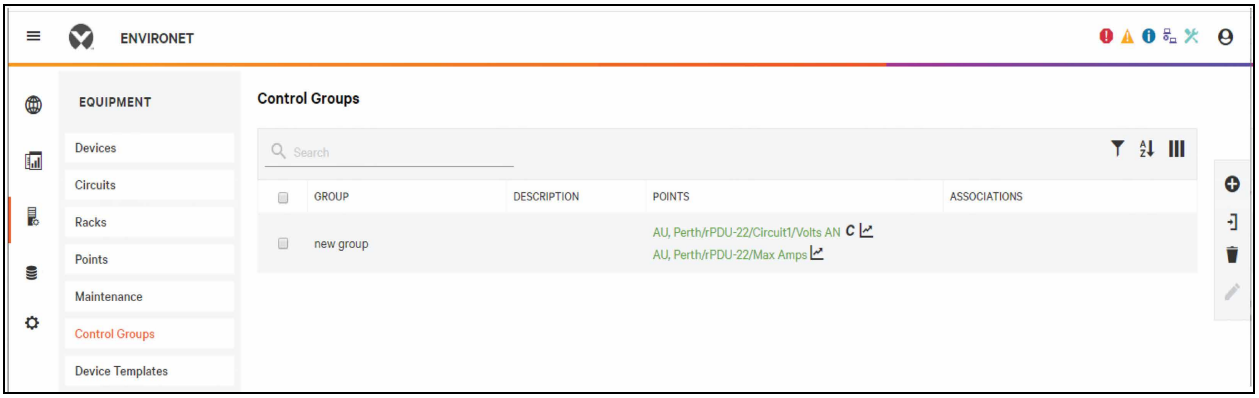
NOTE: This action cannot be undone.

4.8 Control Groups

Control Groups are groups of controllable (also known as writeable) points; when the group is sent a control command, that command goes to all points in the group.

Grouping points makes it possible to perform simultaneous actions required to perform a task. For example, to reboot equipment with redundant power inputs, two outlets must be turned Off and On simultaneously to interrupt power. These points may be grouped so that the power is cycled properly for the reboot.

Figure 4.39 Control Group Menu



4.8.1 Add Control Groups Manually

1. Click the Add icon.
2. Fill in the setting details in the fly-out dialogue, Create a Control Group.

Details Tab

- **Name:** Name the Control Group.
- **Description:** Describe the Control group.

Associations Tab

- **Assign Points:** Put writable points in a control group to allow setting all their values at once. Click this link to search for controllable or writeable points to associate to this control group. Any command given to this control group will be send to all associated points.

NOTE: You can only add like points to a control group.

- **Assign Racks:** Associating a control group to a rack makes the control group accessible from the Rack page. Click this link to search for racks to associate this control group to and allow a link to the control group to appear on the racks' page(s).

Figure 4.40 Create Control Groups Details

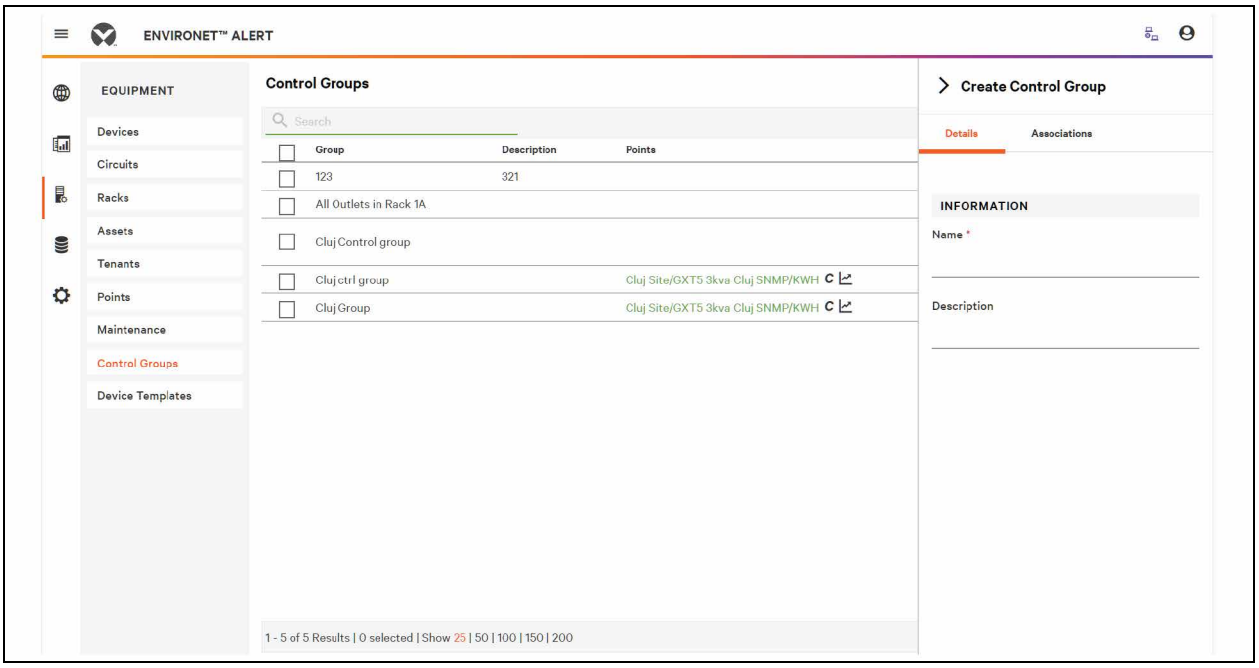
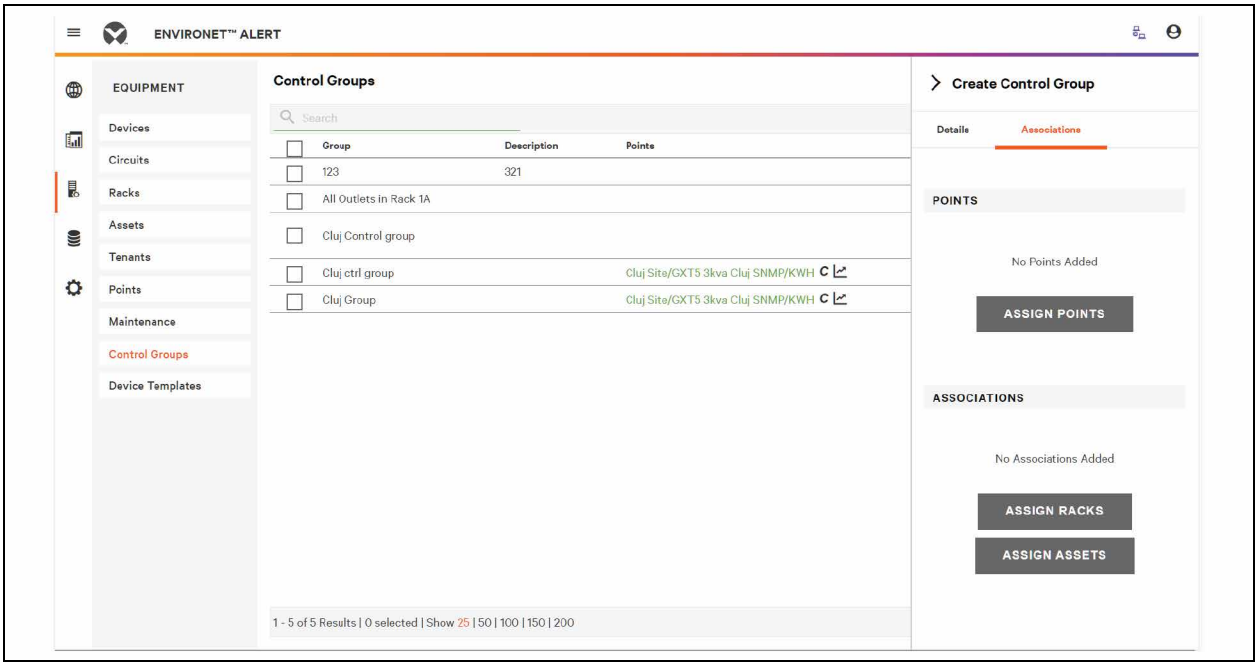


Figure 4.41 Create Control Groups Associations



4.8.2 Add Control Groups by Importing CSV File

Control groups can be created by import a **.csv** file with the relevant information.

1. To add a **.csv** file of control groups, click on the Import icon.

2. Click *Import*.
3. Click *Choose File*.
4. Navigate to the file to be imported and select it.
5. Click *Open*.
6. Click *OK*. Any errors are displayed, or a success message appears if no errors are found.

4.8.3 Edit a Control Group

To edit control group:

1. To edit an existing Control Group, select the group by clicking the checkbox beside it.
2. A fly-out with the Control Groups Details will appear.
3. Make the changes.
4. Click *Save* to apply the changes or click *Cancel* to exit without saving.

4.8.4 Delete a Control Group

To delete one or more control groups:

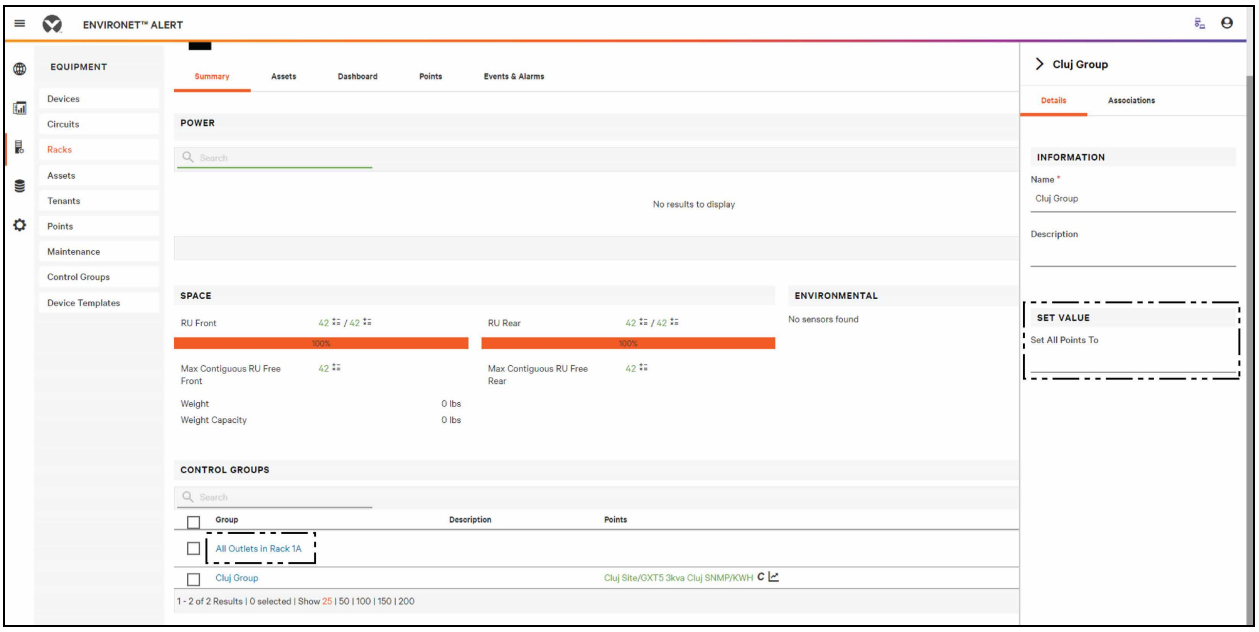
1. Select the checkboxes at the left of all control groups to be deleted.
2. Click the Trash (delete) icon.
3. To delete all search results within the control groups, select *Delete All Search Results* from the drop-down menu next to the Delete button.
4. To delete only the selected control groups, click *Delete Selected*.
5. Click *OK* to confirm the delete or click *Cancel* to exit without saving.

NOTE: This action cannot be undone. If you want to add control groups back to the system you will need to go through the process to add control groups.

4.8.5 Using Control Groups

From any location that Control Groups can be viewed, they can be set by clicking the name of the group. In the fly-out, the Set Value field will send the entered command to the devices.

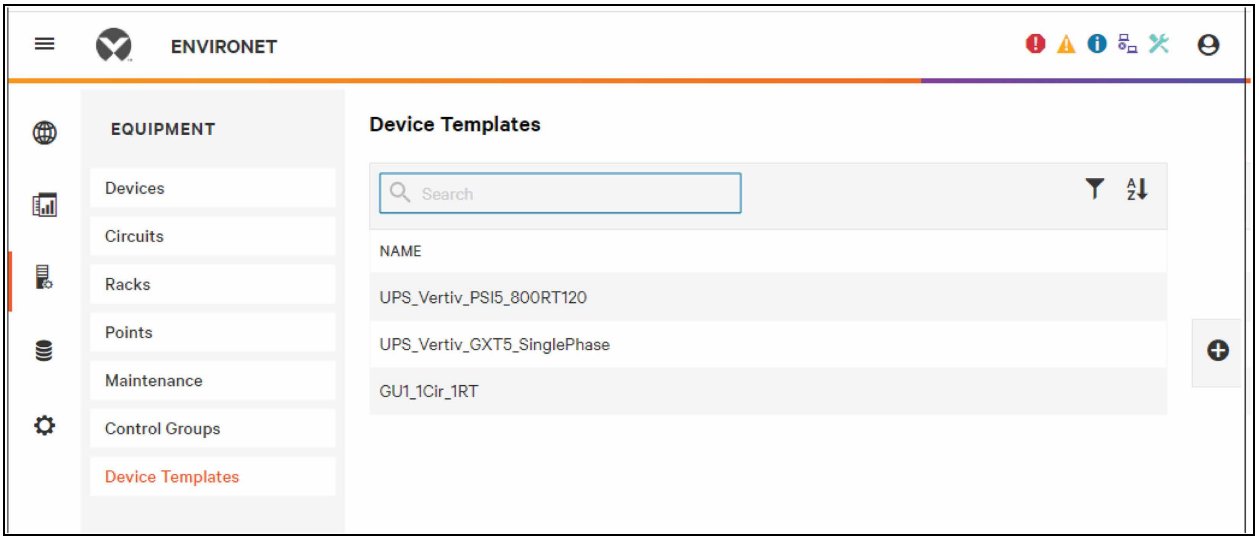
Figure 4.42 Using a Control Group



4.9 Device Templates

Device Templates define the available object IDs for an SNMP device being integrated into the system. These templates can be obtained from your Vertiv representative. Device Templates can be uploaded to the system while integrating devices or directly to the Device Template page at any time.

Figure 4.43 Device Template Menu



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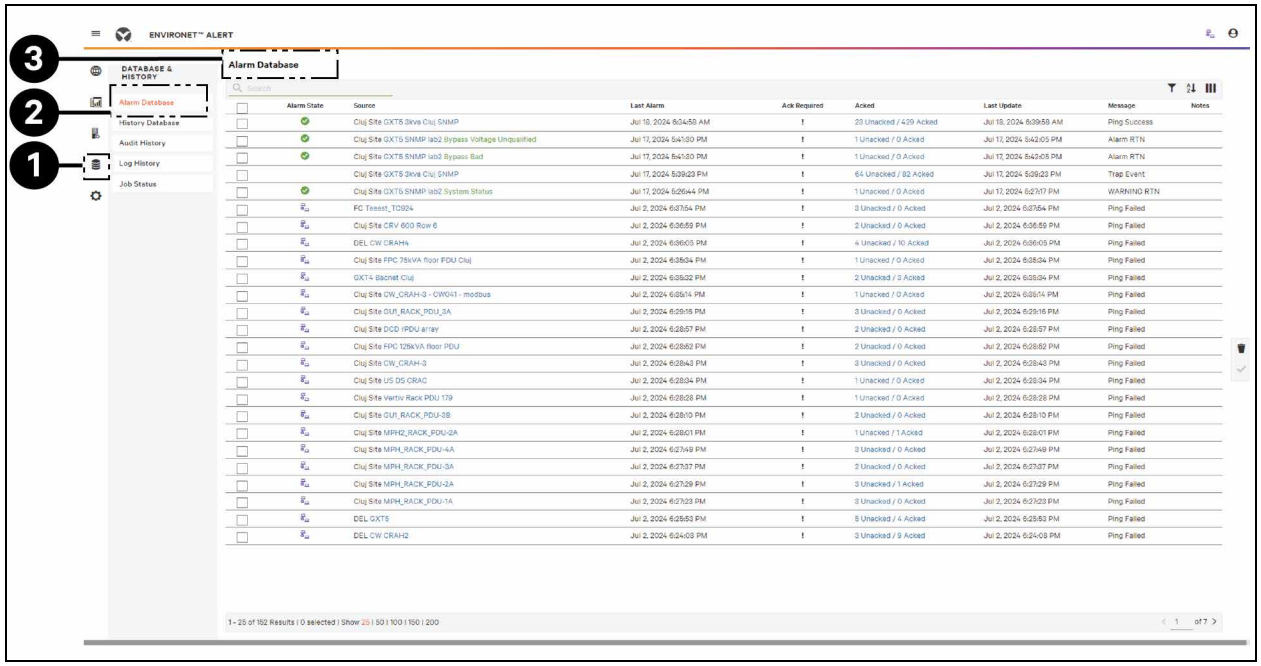
5 Database and History

5.1 Alarm Database

The Alarm Database permits viewing and managing all alarms for the system. This list can be searched, filtered and sorted to find the desired alarms.

Figure 5.1 System Admin—Alarm Database

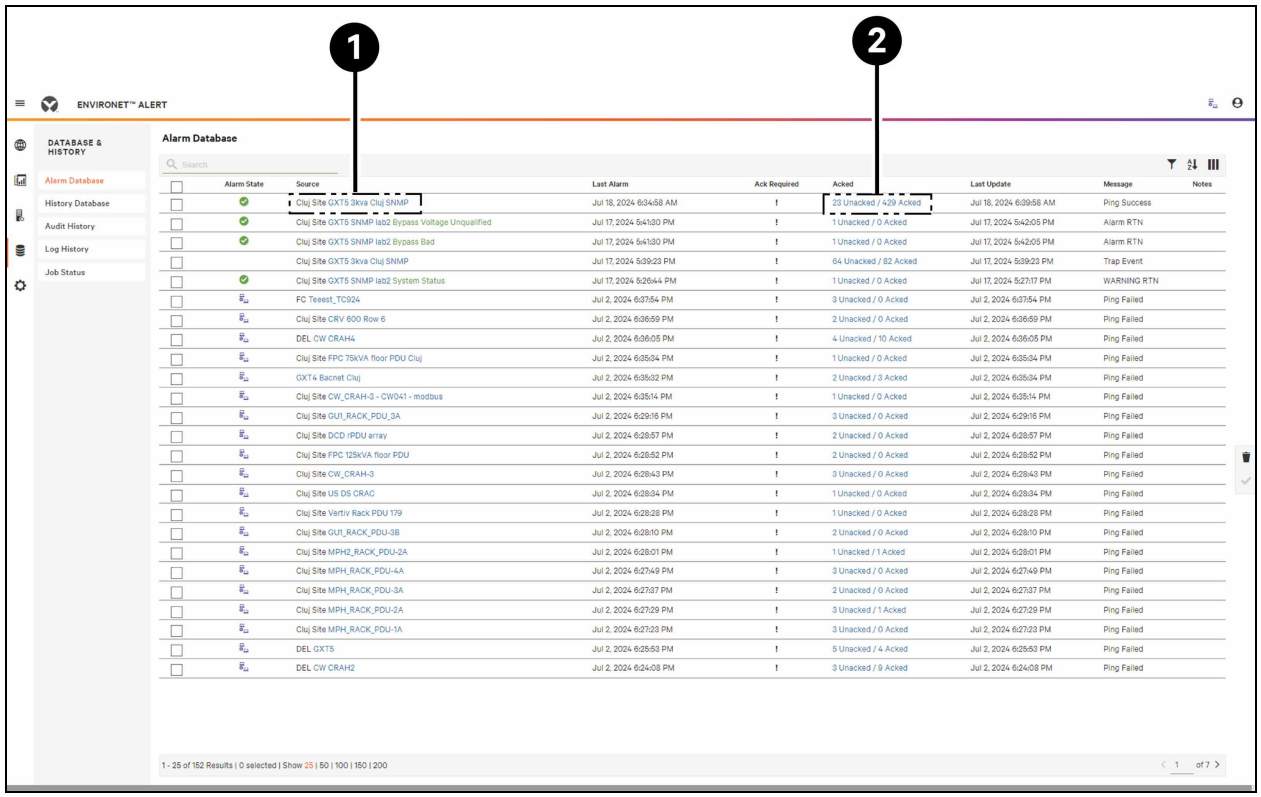


Item	Description
1	Database and history icon
2	Alarm database
3	Alarm database records

5.1.1 Viewing Alarm Records

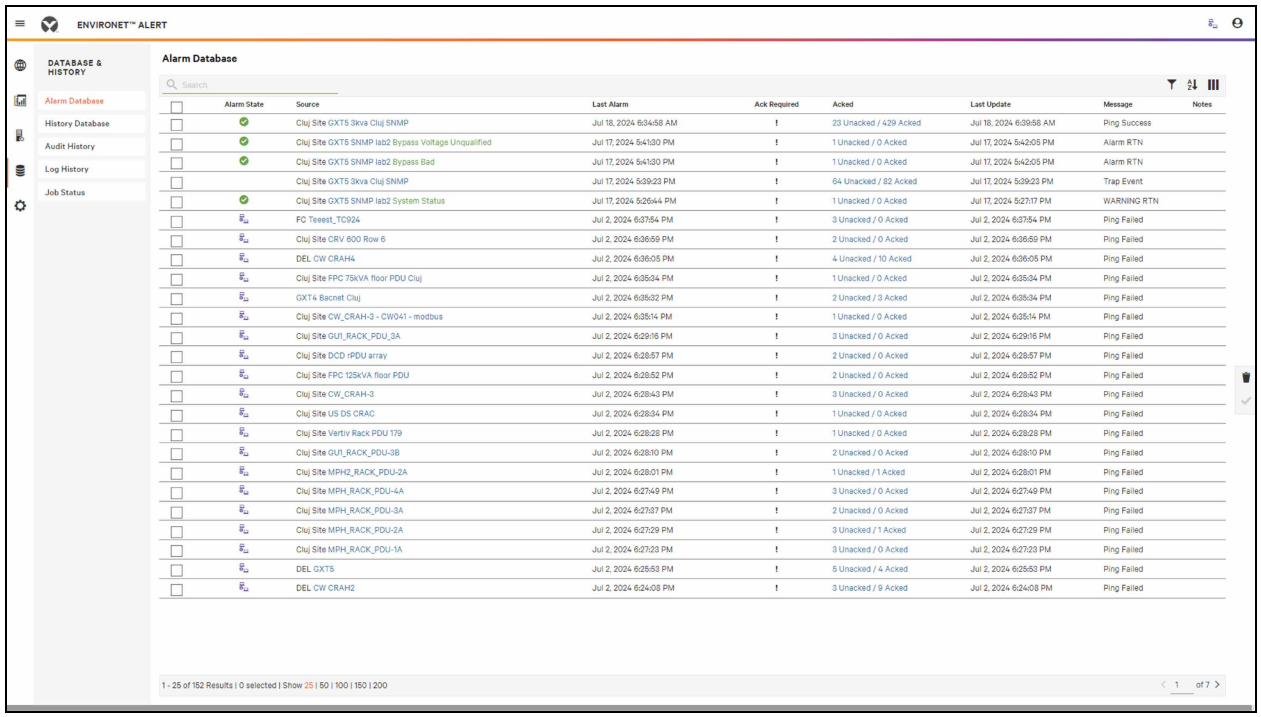
The user can view alarm records for any row by clicking the hyperlink in the Acked column on the row. Vertiv™ Environet™ Alert will display all records for that row that remain in the database.

Figure 5.2 View Alarm Records for Row



Item	Description
1	Device where alarms are to be viewed.
2	Acked column for Alarms and Events.

Figure 5.3 View Alarm Records



From the Alarm Records view, details about each instance of an alarm can be viewed and notes can be added to each instance. In View Alarm Records for Row on the previous page, the user is checking rPDU-42A, which has had 28 acknowledged alarms. Clicking the Acked column entry reveals all remaining alarm records for the rPDU.

To return to the full alarm database, either use the back arrow or click Alarms Database in the navigation bar.

5.1.2 Acknowledging Alarms

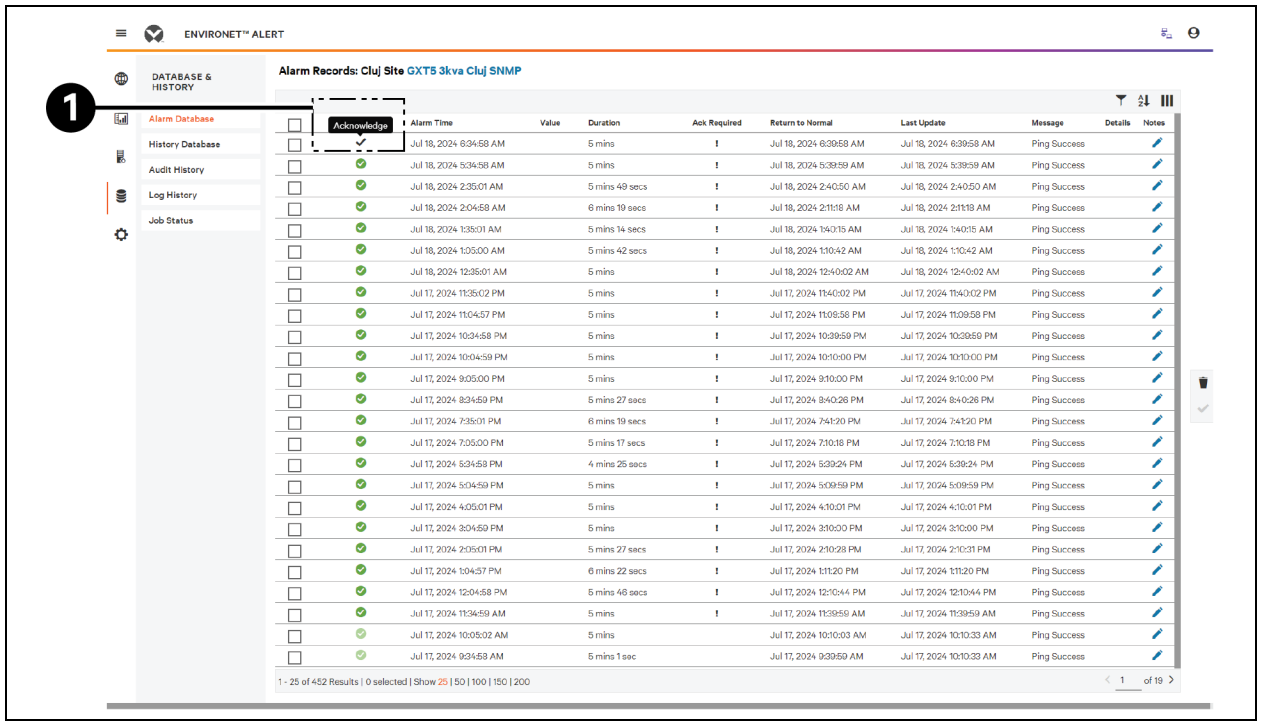
Alarms may be acknowledged in several screens in Vertiv™ Environet™ Alert. Mouseover the alarm state icon and clicking, alarms can be acknowledged. If alarms are acknowledged from the Alarm Database view, then all instances of that alarm will be acknowledged at once. Individual instances can be acknowledged in the Alarm Records view.

Once an alarm is acknowledged the escalated email notifications process for that alarm will be stopped.

Multiple alarms can be acknowledged at one time by using the checkboxes on the left of the list, then clicking the checkmark on the right side.

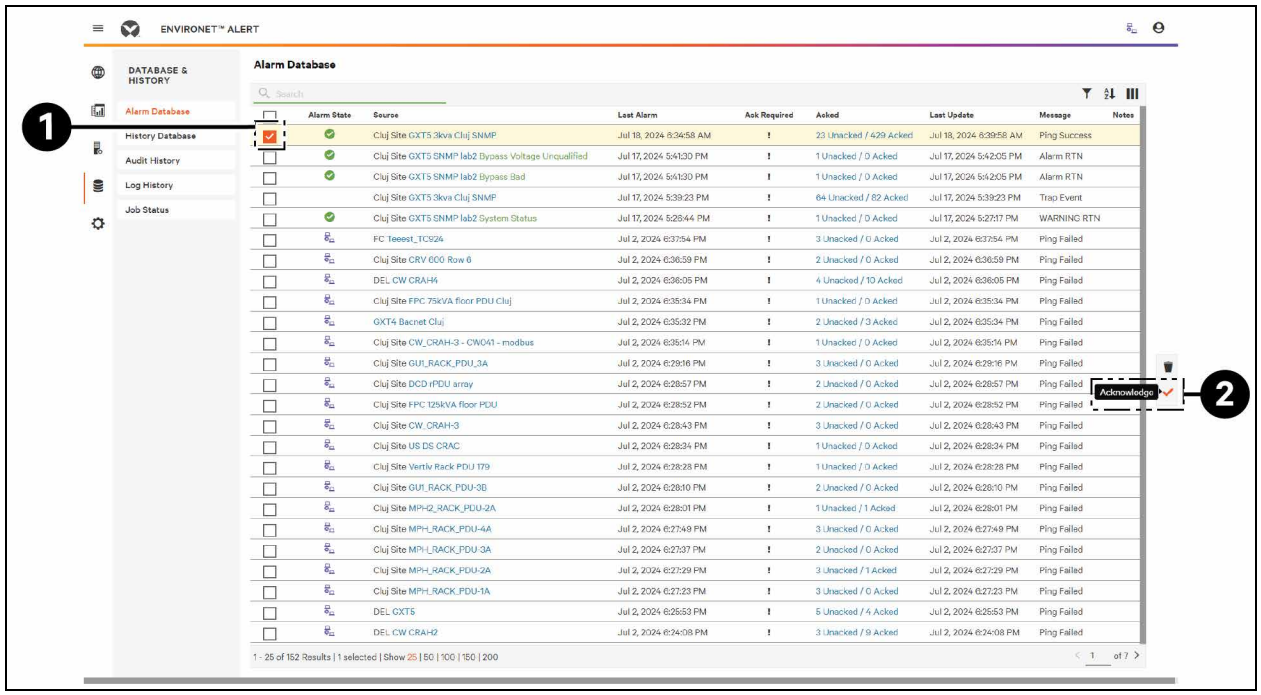
All acknowledged alarms will show a lighter color icon to indicate they have been acknowledged.

Figure 5.4 Methods of Acknowledging Alarms for Individual Instances



Item	Description
1	Acknowledging individual alarm

Figure 5.5 Methods of Acknowledging Alarms for Multiple Alarms



Item	Description
1	Checkbox to select all alarm records
2	Bulk alarm acknowledgement

5.1.3 Deleting Alarm Records

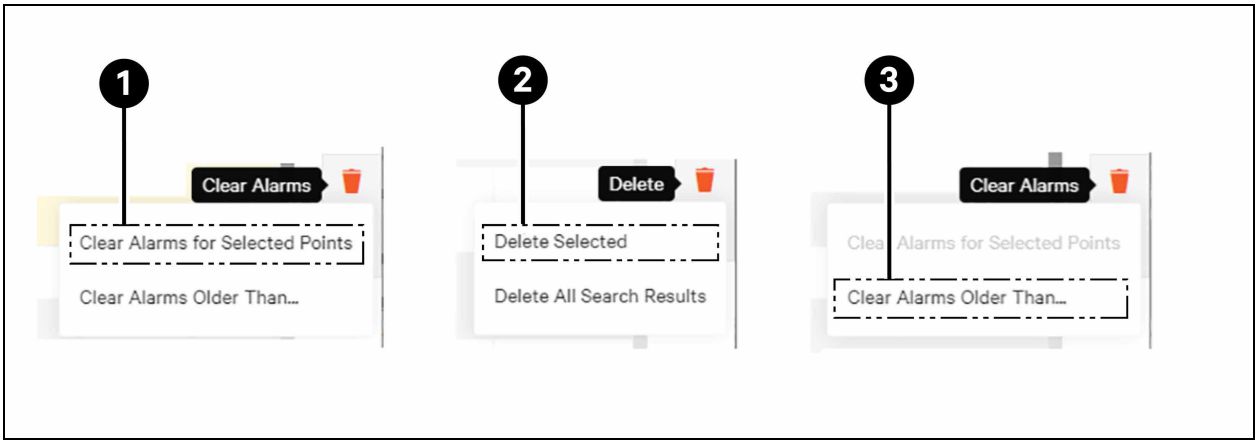
To delete all the alarm records for one or more point, check the box to the left of the alarms to be deleted, then click the Trash (delete) icon and select *Clear Alarms for Selected Points*.

IMPORTANT! Deleting an alarm removes it from the database.

To delete a specific alarm record, navigate to the Alarm Records view, use the checkbox to the left of the alarms to be deleted, then click the Trash (delete) icon and select *Delete Selected*.

All alarms older than a given date or time can be removed at once by navigating to the Alarm Database view, clicking the Trash (delete) icon and selecting *Clear Alarms Older Than…* .

Figure 5.6 Deleting Alarm Records



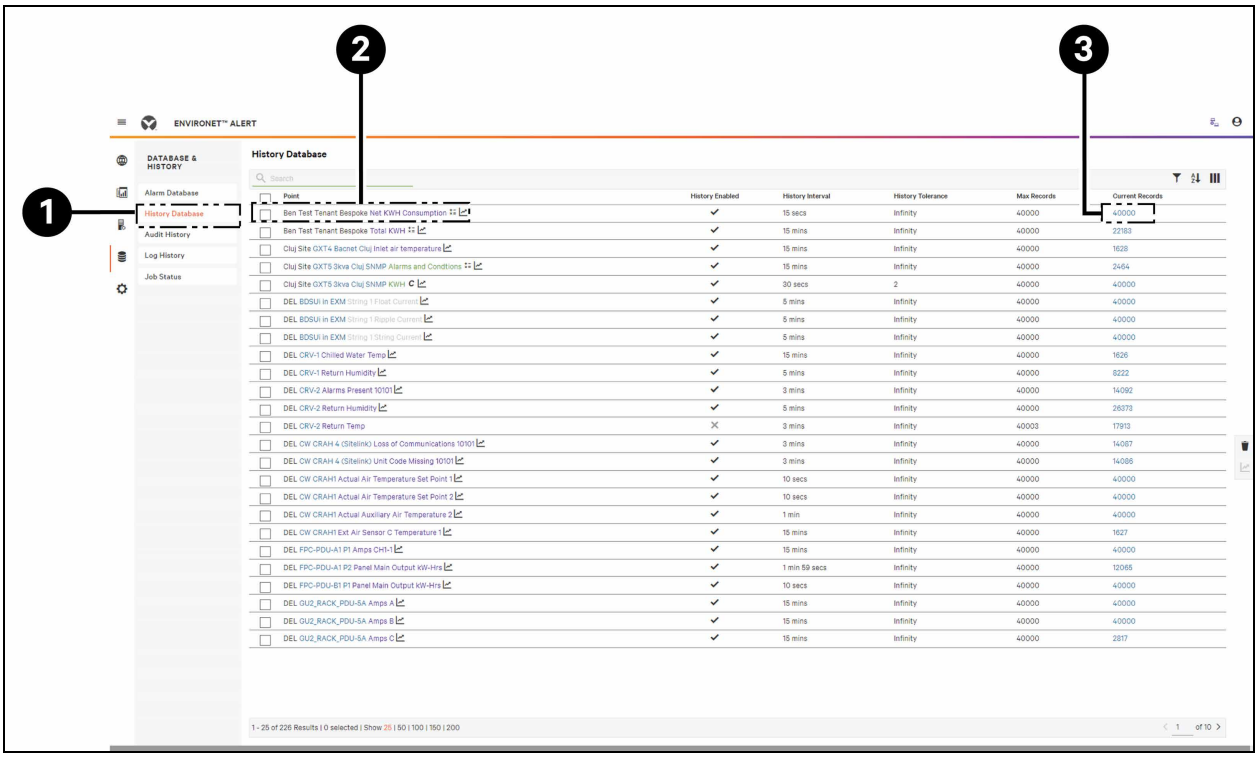
Item	Description
1	Delete all alarm records for one or more point.
2	Delete a specific alarm record.
3	Delete alarms older than a specified date.

5.2 History Database

The History Database permits viewing and managing all the historical records for the entire system. This table can be searched, sorted and filtered to find specific records.

Clicking the hyperlink in the Current Records column shows all historical records for a point.

Figure 5.7 Viewing Records



Item	Description
1	History database chosen from navigation bar.
2	Point to be checked.
3	Hyperlink in current records column to view records about point to be checked.

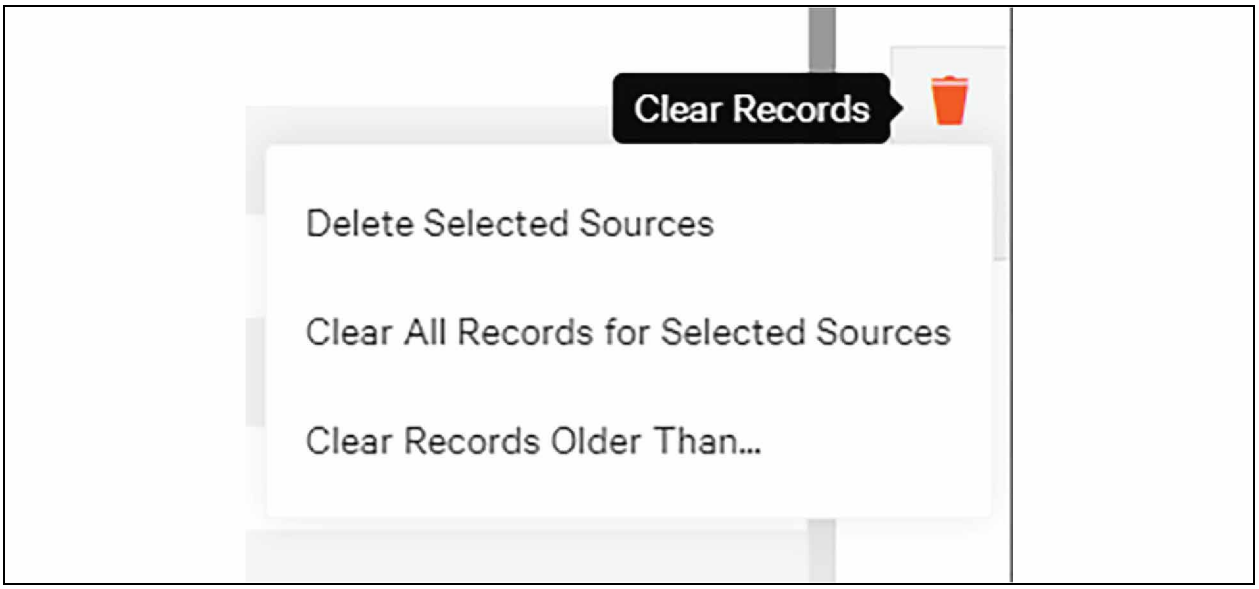
From the History Records view the time stamp and value of each record can be viewed.

5.2.1 Deleting History Records

There are three methods for deleting historical records, each performed through the Trash (delete) icon in the History Database view:

- **Delete Selected Sources:** Deletes all records for any point that has its associated checkbox marked; removes the alarm records view for the point. This should only be used when a point will no longer be used for historical data.
- **Clear All Records for Selected Sources:** Deletes all the records for any point that has the checkbox on the left side marked. The Alarm Records view will remain displayed. This should be used when the point is still used, but the old data is no longer required.
- **Clear Records Older Than...:** Deletes all records for selected points before a specified date. This should be used to clear out old data while maintaining recent records.

Figure 5.8 Deleting Records

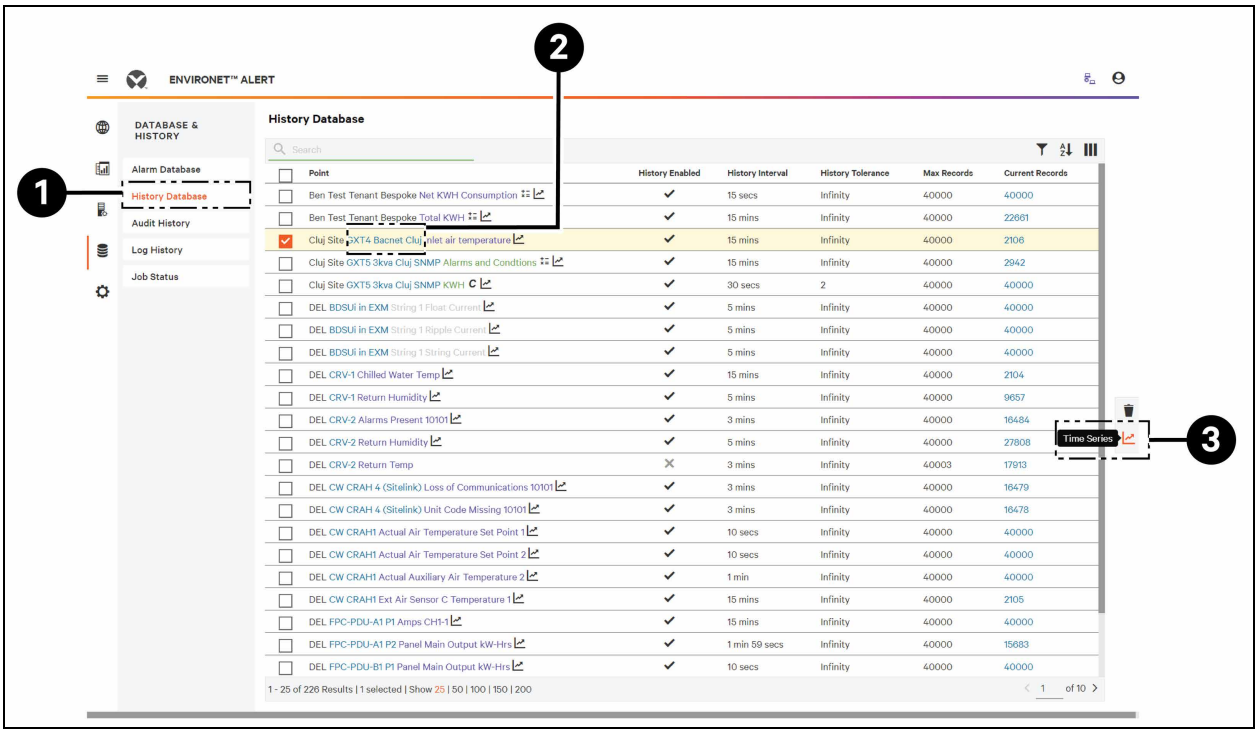


5.2.2 Time Series Function

By selecting one or more history point, users can use the Time Series button to load values into a Time Series Visualization.

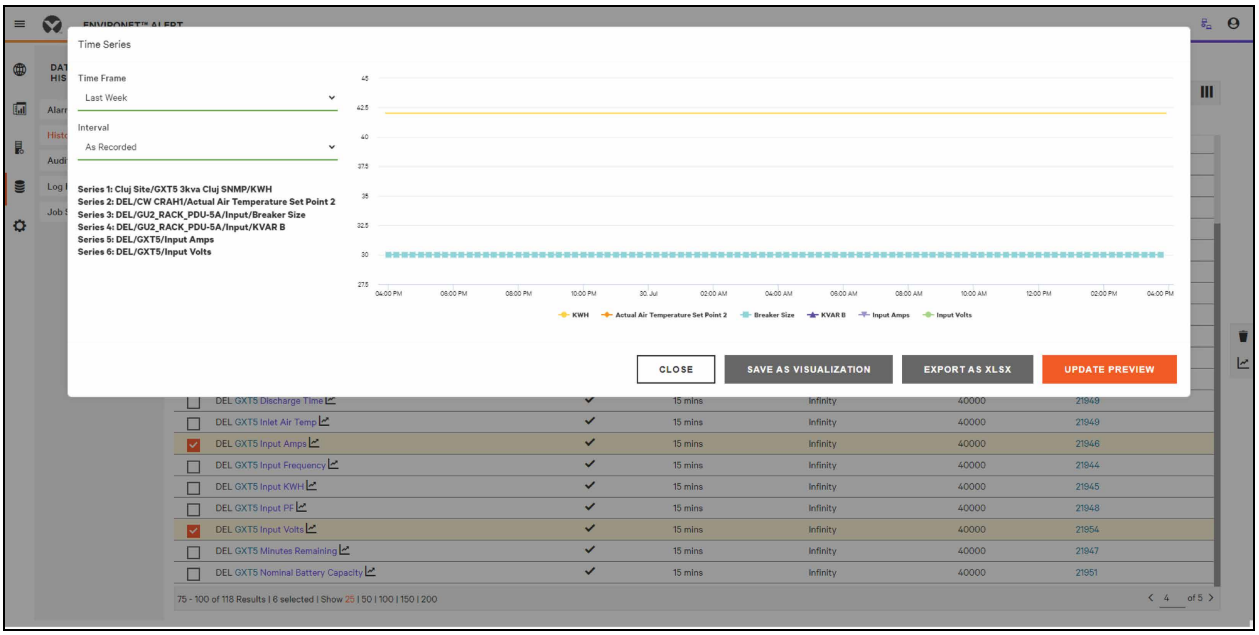
The Time Series can be configured, then saved as a Visualization to be used in a report, or the raw data can be exported as a spreadsheet.

Figure 5.9 Time Series Visualization



Item	Description
1	History database chosen from navigation bar.
2	Device to be checked.
3	Time series icon

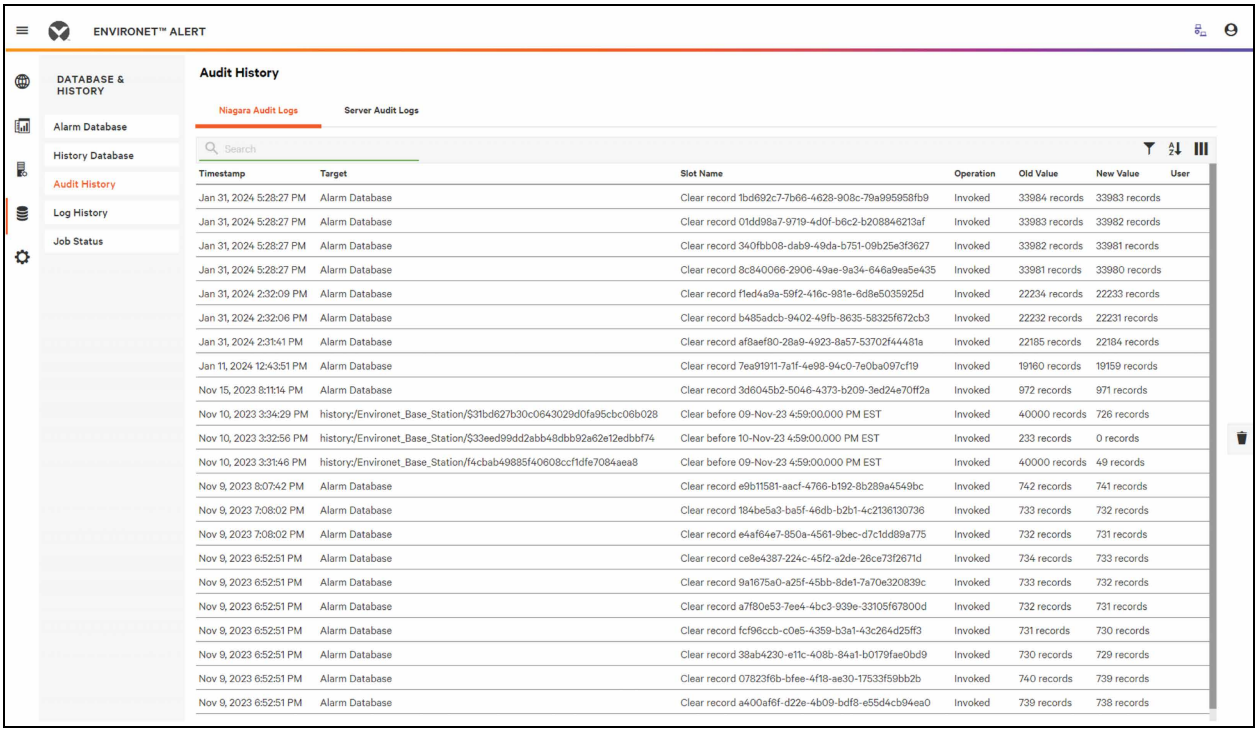
Figure 5.10 Time Series Visualization



5.3 Audit History

The Audit History tab shows user login history and other events such as clearing history and alarm records. These records can be deleted using the Trash (delete) icon.

Figure 5.11 Audit History



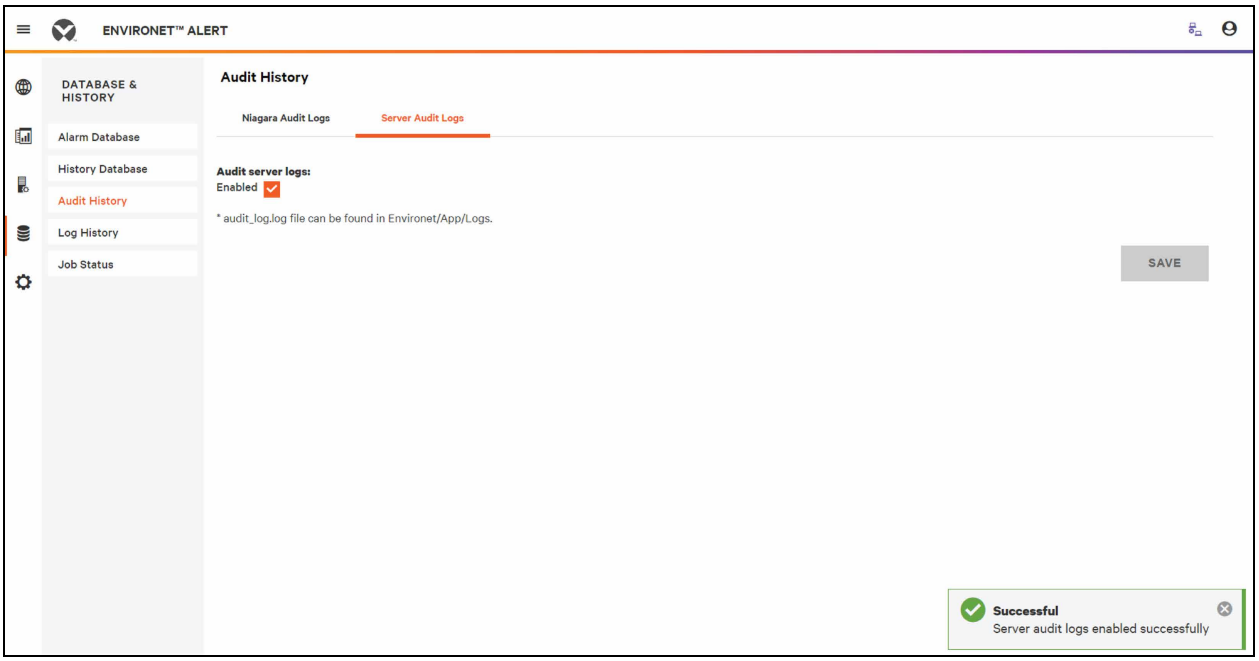
5.3.1 Server Audit Logs Feature

This feature can be enabled from Audit History page.

Figure 5.12 Server Audit Log

Simply check the box and then click *Save*.

Figure 5.13 Enabled Audit History Page

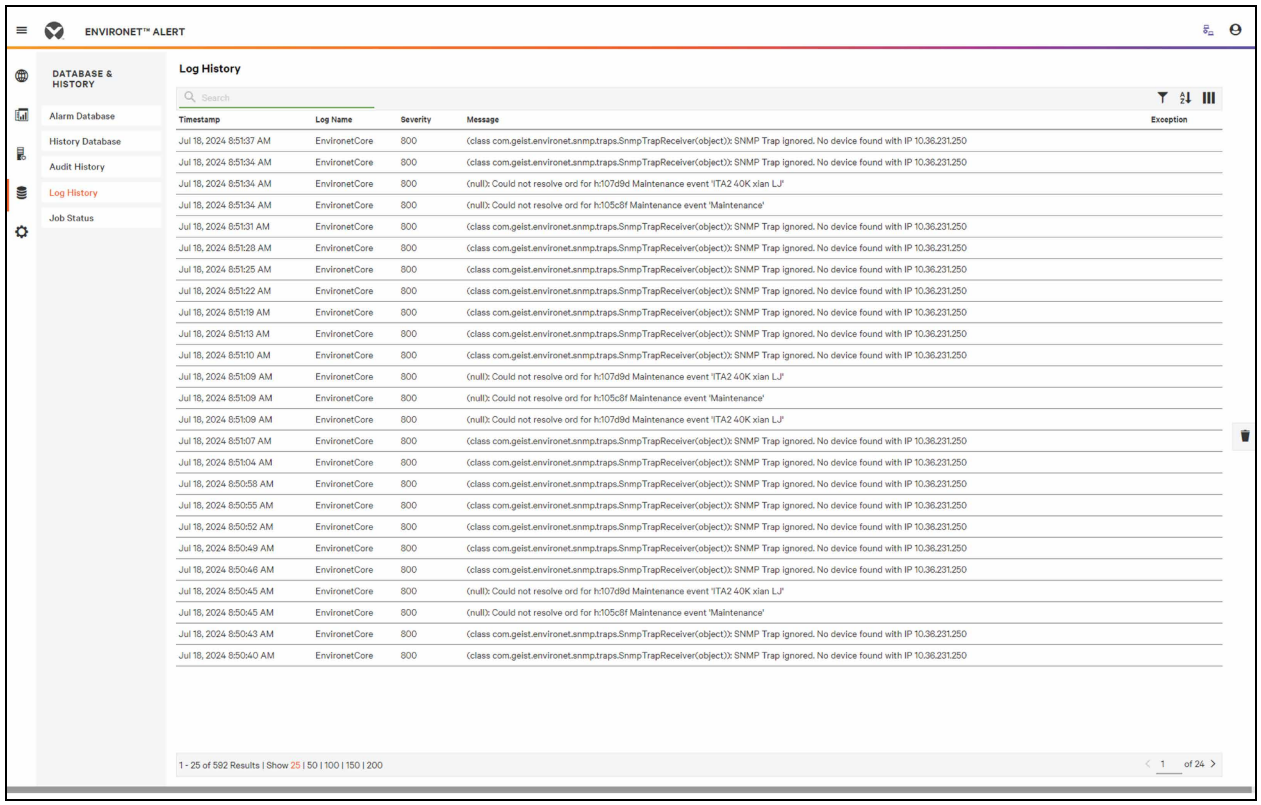


After that a file named audit_log.log will be created in Environet/App/Logs and this is where data from your actions will be stored.

5.4 Log History

The Log History tab shows system level events such as system saves and server restarts. These records can be deleted using the Trash (delete) icon.

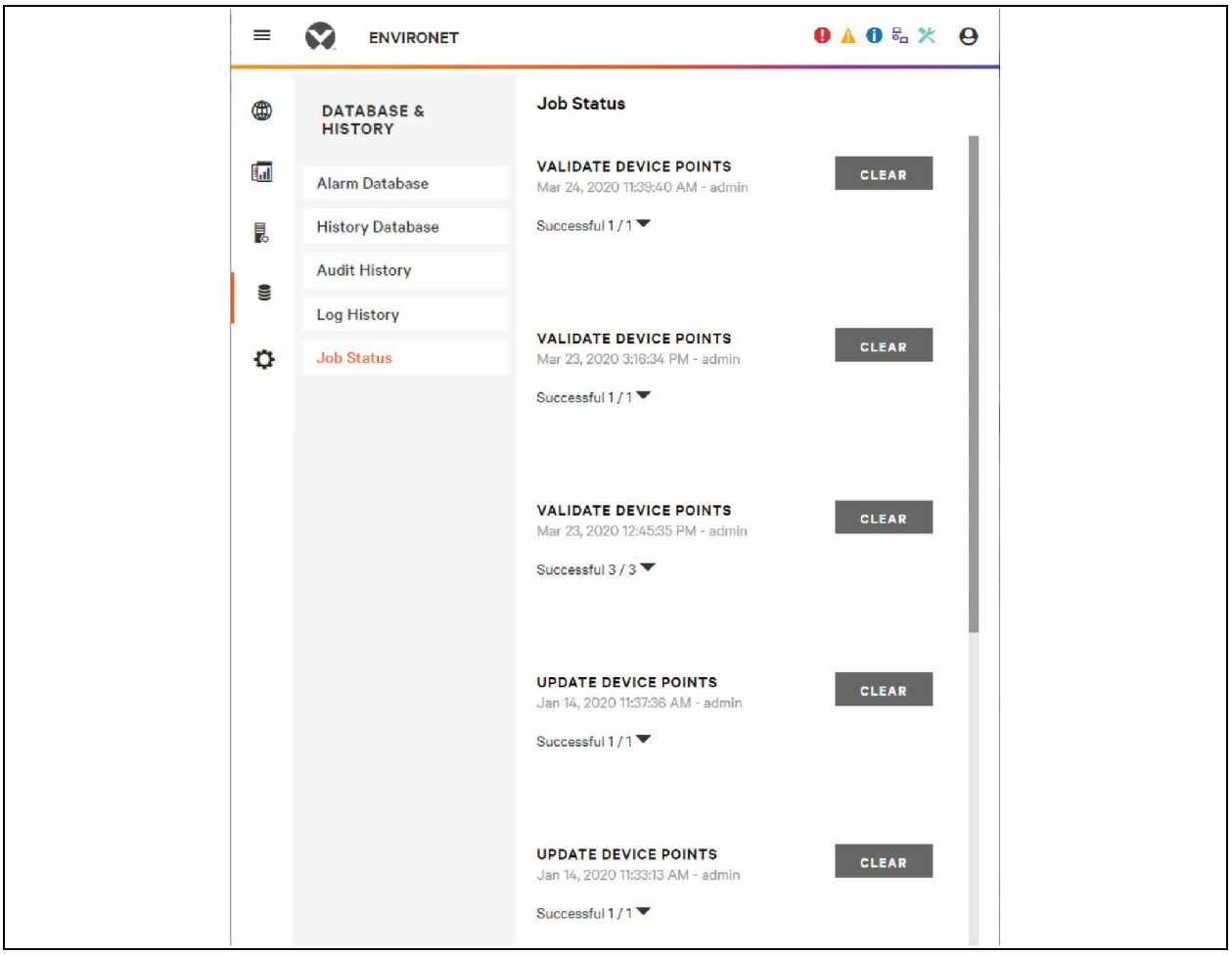
Figure 5.14 Log History



5.5 Job Status

Some system jobs, such as validating points on many devices, can run in the background. Job Status permits viewing the progress and the status of jobs that are running or have run. These records can be removed using the Clear button.

Figure 5.15 Job Status Tab



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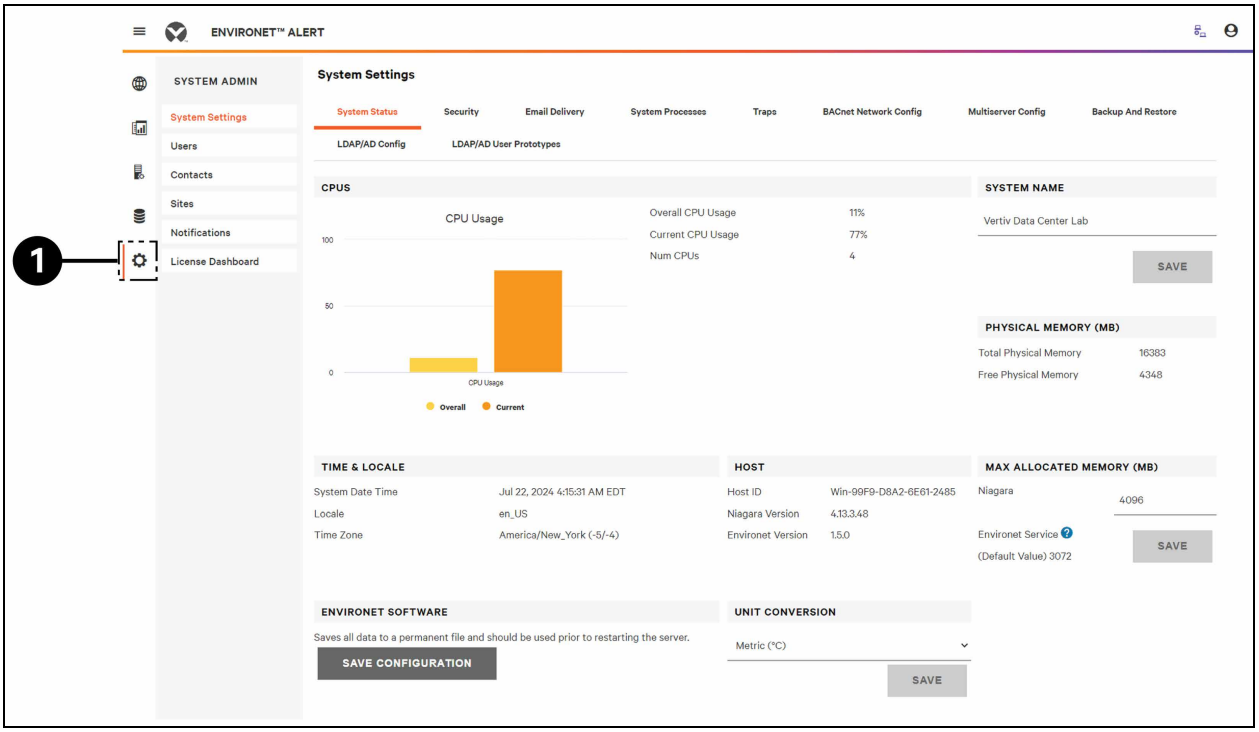
6 System Administration

To change system settings, select the System Admin link at the bottom on the left navigation bar, represented by the gear icon.

Figure 6.1 System Admin Link



Item	Description
1	System admin icon

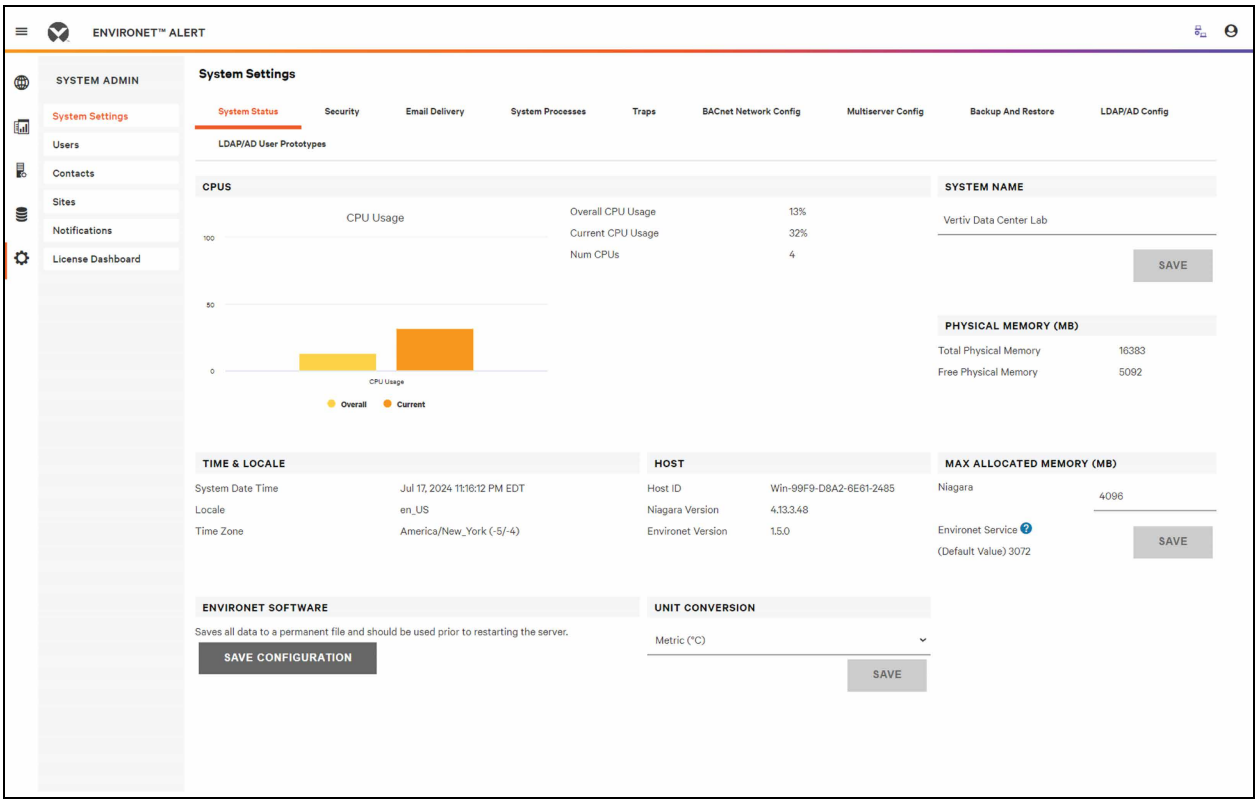
The System Administration page allows users to configure the following options through a series of left-hand submenu links:

- **System Settings:** See System Settings below.
- **Users:** See Users on page 103.
- **Contacts:** See Contacts on page 104.
- **Sites:** See Sites on page 105.
- **Notifications:** See Notifications on page 108.
- **License Dashboard:** See License Dashboard on page 111.

6.1 System Settings

The System Settings tab allows configuring the Vertiv™ Environet™ Alert system and displays several diagnostic elements.

Figure 6.2 System Settings Tab



6.1.1 System Status

The system status tab shows basic information about the software and server. It also gives some basic controls.

System status information:

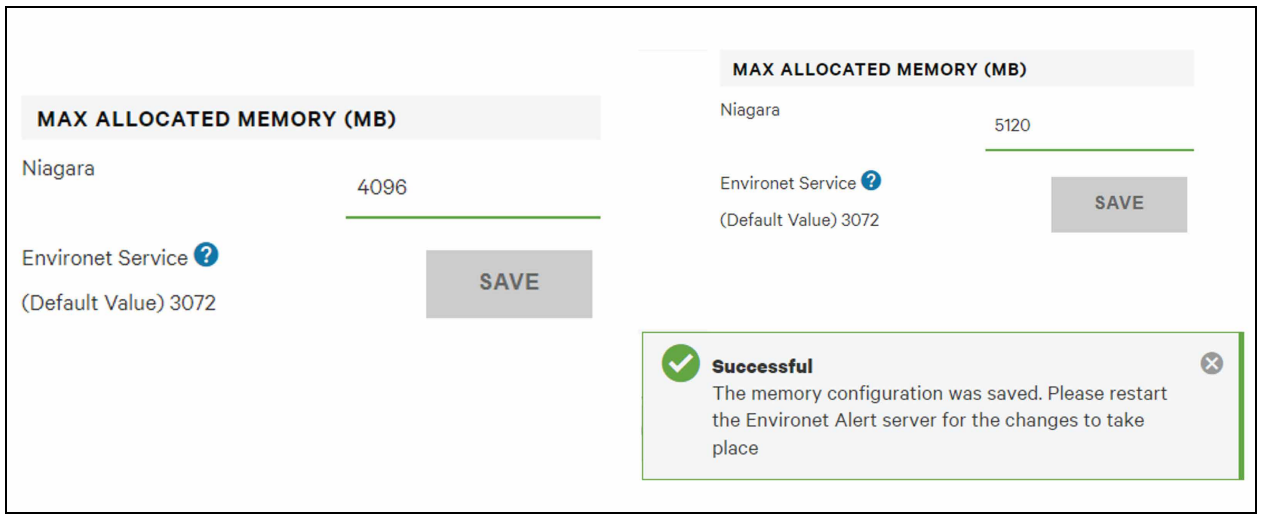
- **CPUS:** Show basic metrics about the performance of the server's CPUs.
- **System Name:** When set, the system name will label the login page for the system with the entered text.
- **Java:** Shows basic information about the Java Runtime Environment.
- **Time & Locale:** Shows information about the server's time and Time Zone settings.
- **Host:** Shows information regarding the system software platform.
- **Local Daemon:** Shows the status of the Local Daemon.
- **Physical Memory:** Shows basic metrics about the server's memory.
- **Max Allocated Memory:** Allows the user to change memory allocation for Niagara Service. See Max Allocated Memory on the facing page to change memory allocation for the Environet service.
- **Engine Watchdog:** For support use only.
- **Saving:** Shows information about how the system is backing up portions of the configuration.
- **Environet Software:** Controls for the system.
- **Save Configuration:** Saves the current configuration.

NOTE: The Environet™ Alert software permanently saves all end user configuration every hour. If the software or the server must be restarted, it is essential that the Save Configuration function is used prior. This will ensure that any recent user changes are saved.

- Unit Conversion: Allows the user to choose to convert any data point in the system to either Fahrenheit or Celsius. The selections are as follows:
  - None: Will not convert F or C data points and each point will default to the setting as dictated by the device template.
  - English (F): Will convert data points system wide to Fahrenheit.
  - Metrci (C): Will convert data points system wide to Celsius.

Max Allocated Memory

Figure 6.3 Max Allocated Memory



To increase the maximum memory allocated for the Environet Service:

1. Open a command/powershell window (as Administrator) on the Environet Alert installation path (for example, C:\Environet\app\bin).
2. Run the following command: environet-service.exe //US//"Environet Service" --JvmMx 10240 and Click *Yes* if the User Account Control window will appear.
3. This will allocate up to 10 GB (10240, as displayed in the example above) of RAM for Tomcat. If you want more, add a multiple number of 1024 (1G) (such as for 16GB > 16384, for 12GB > 12288, for 20GB > 20480).

CAUTION: Leave at least 20% of Total RAM for Windows. That means for a system with 32 GB RAM, we will consider only up to 26 GB available for Environet Alert (Niagara and Environet Service).

6.1.2 Security (HTTPS)

Vertiv™ Environet™ Alert has the ability to enable HTTPS connections for the user's web browsers. When enabled there are options to use the self-signed Environet™ Alert Certificate or upload a user provided certificate. User certificates can be signed or unsigned but must match the stated file types (.key, .cert) to function.

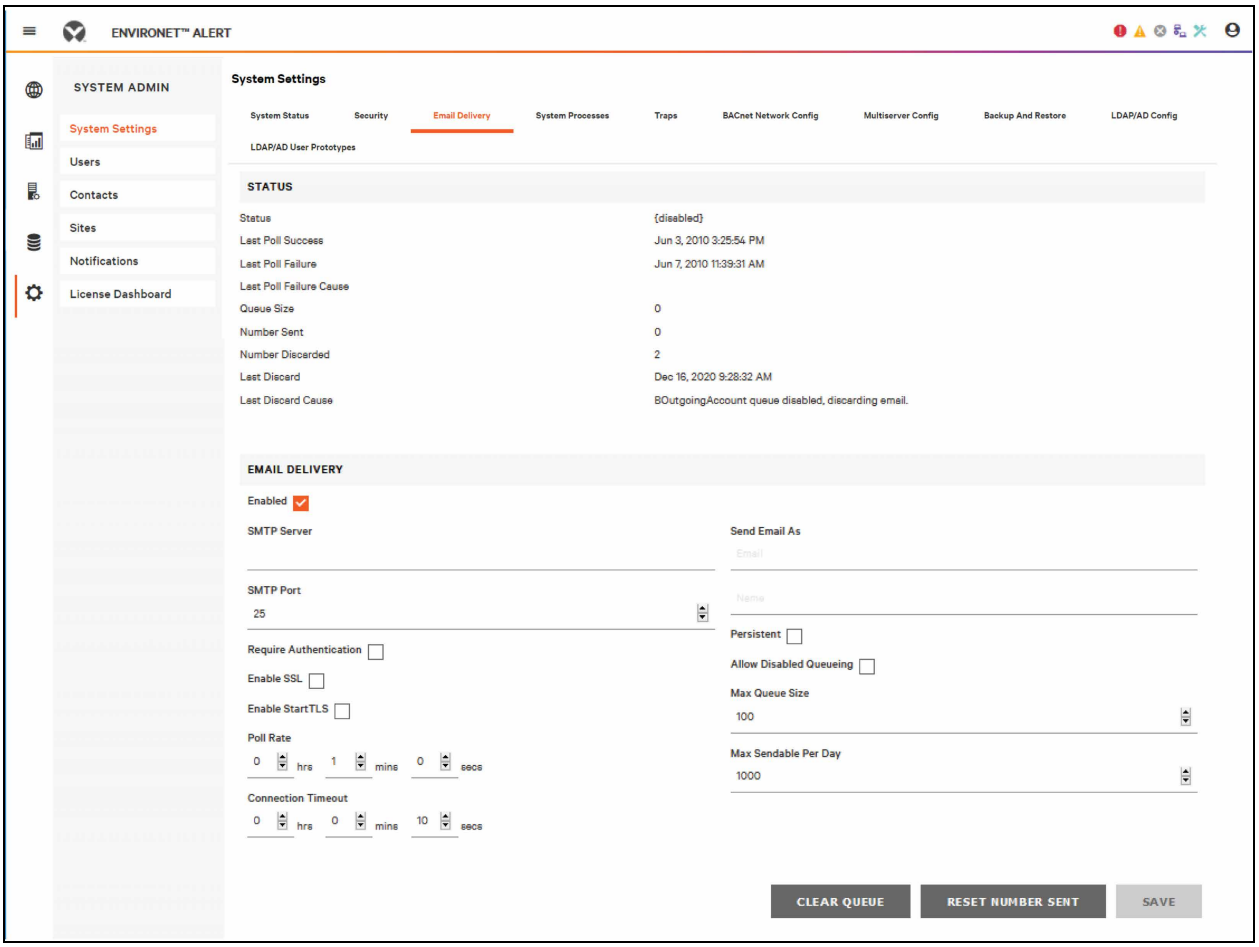
6.1.3 Email Delivery

The Email Delivery tab permits setting email preferences, including connecting to an email server. The tab also shows statistics about email delivery.

Email delivery configuration settings:

- Enabled: Checking this box enables sending emails.
- SMTP Server: The IP address or hostname of the email server that will be used for outgoing emails.
- Required Authentication: This checkbox is used when the email server requires authentication. Once the box is checked it will be required that a valid email address and password are entered.
- Poll Rate: Sets how often the system will check the queue for emails that need to be sent.
- Debug: Support use only.
- Enable SSL: When using Secure Socket Layer for email.
- Connect Timeout: Sets how long the system will attempt to connect to the email server when there are emails waiting to be sent.
- Send Email As: When emails are sent from the system this entry will be shown as the sender of the email. Example: donotreply@environet.com.
- Persistent: Saves all outgoing emails to the server.
- Persistence Directory: Designates the folder where emails will be saved when Persistent is enabled.
- Allow Disabled Queueing: When this is enabled, emails will remain in queue when the email service is disabled and sent when the service is re-enabled. If this is not enabled, then all emails will be discarded when the email service is disabled.
- Max Queue Size: Sets the maximum number of emails that can be in queue. If the system attempts to add more emails to the queue than the value of this setting than additional emails will be discarded.
- Max Sendable Per Day: Limits the number of emails that can be sent in a day. If the system attempts to send more than the limit, then the additional emails will be discarded.

Figure 6.4 Email Delivery Settings



6.1.4 System Processes

The settings on the System Processes tabs are for support use only. Consult your Vertiv representative before changing these settings.

6.1.5 Traps

The Trap Recipient tab allows configuring the system to receive SNMP traps.

Trap Recipient settings:

- **Enabled:** Permits the system to listen for Traps.
- **Traps Port:** Determines what network port traps will be received on.
- **Trap Threads:** Support use only.
- **v3 Settings:** Used in with SNMP v3 traps. These settings should match the device settings.

NOTE: When the Trap Recipient is enabled and functioning properly, SNMP Traps will be received and delivered via an email notification. To receive Traps for a device, the SNMP Traps Enabled must be selected within the individual device settings under SNMP Settings.

Trap sender settings:

- **Enabled:** Permits the system to send Traps.
- **IP Address:** Identifies the server that Vertiv™ Environet™ Alert will send Traps to.
- **Traps Port:** Determines the port that Traps will be sent from.
- **SNMP Version:** Select from v1, v2c and v3.
- **Community:** User ID or password used in the SNMP trap communication
- **Response Timeout**
- **Notification Type:** Select from V1 Trap, Trap and Inform.
- **v3 Settings:** Used in with SNMP v3 traps. These settings should match the device settings.

NOTE: When the Trap Sender is enabled and functioning properly, SNMP Traps will be sent as dictated by Alarm Class. Send Traps must be enabled within the Details section of the Alarm Class in System Admin>Notifications. After making the selection within the Alarm Class settings, each data point within the system that uses that Alarm Class will send a Trap when warning or alarm is triggered.

Figure 6.5 Trap Recipient Settings

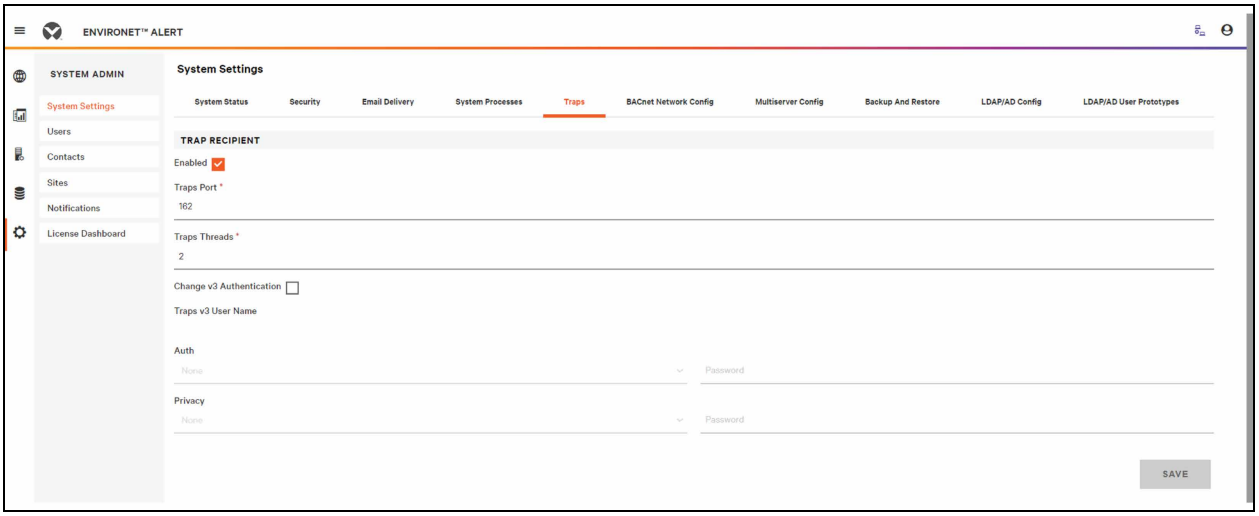
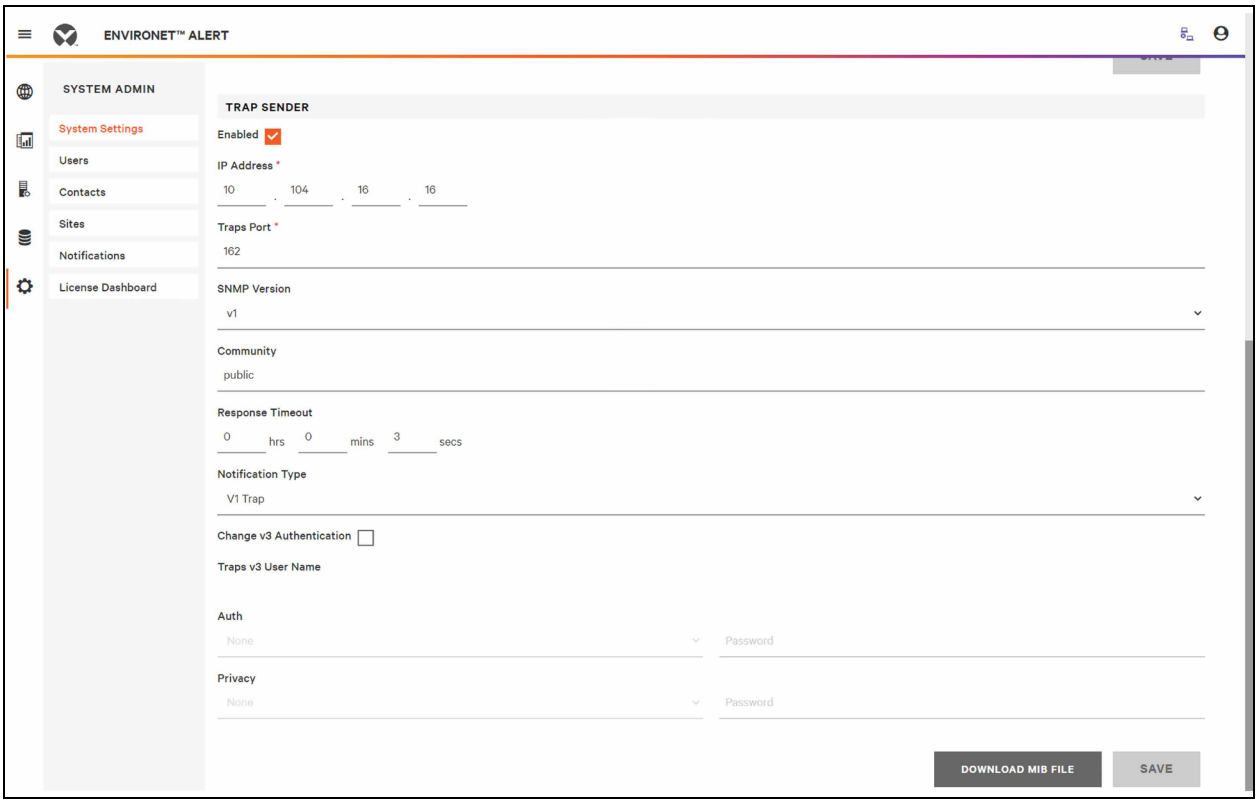


Figure 6.6 Trap Sender Setting



6.1.6 BACnet Network Configuration

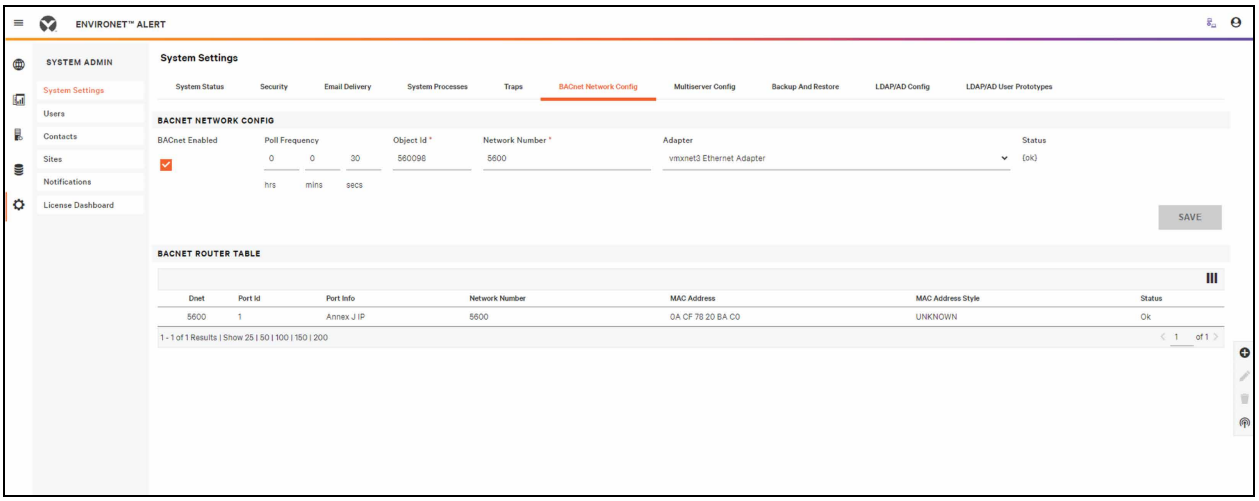
This tab allows for the configuration of the BACnet IP network. This will need to be setup when BACnet IP devices are being added to Vertiv™ Environet™ Alert. The settings include:

- Enabling/disabling the BACnet network by selecting or deselecting the BACNet Enabled checkbox
- Poll Frequency settings for how often to poll the network for updated point data
- Object ID
- Network Number
- Adapter
- Status of the network

BACnet Table Feature

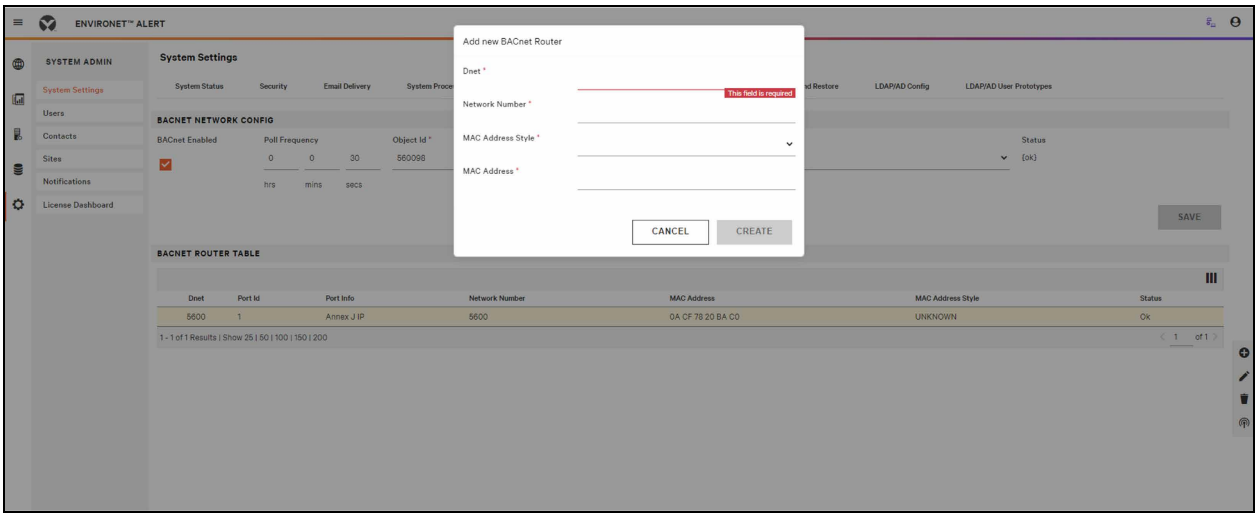
In System Settings > BACnet Network Config, there is an extra table in the lower part of the page that displays BACnet routers.

Figure 6.7 BACnet Router Table



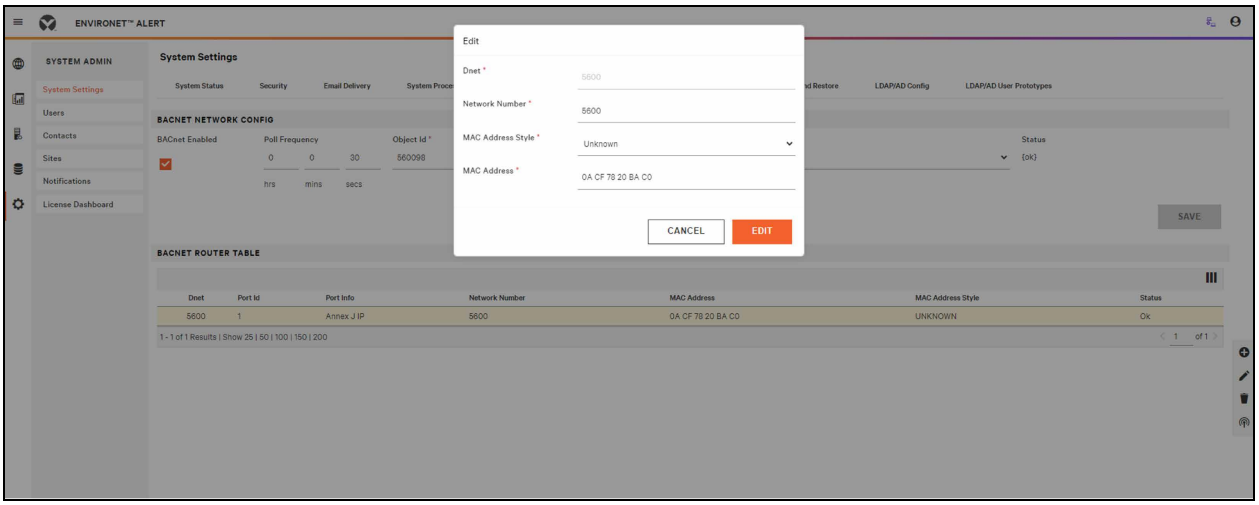
By clicking + (plus) icon user can add new BACnet routers.

Figure 6.8 Add New BACnet Router



If the user selects a row and clicks on the pencil, user can edit routers.

Figure 6.9 Edit BACnet Feature



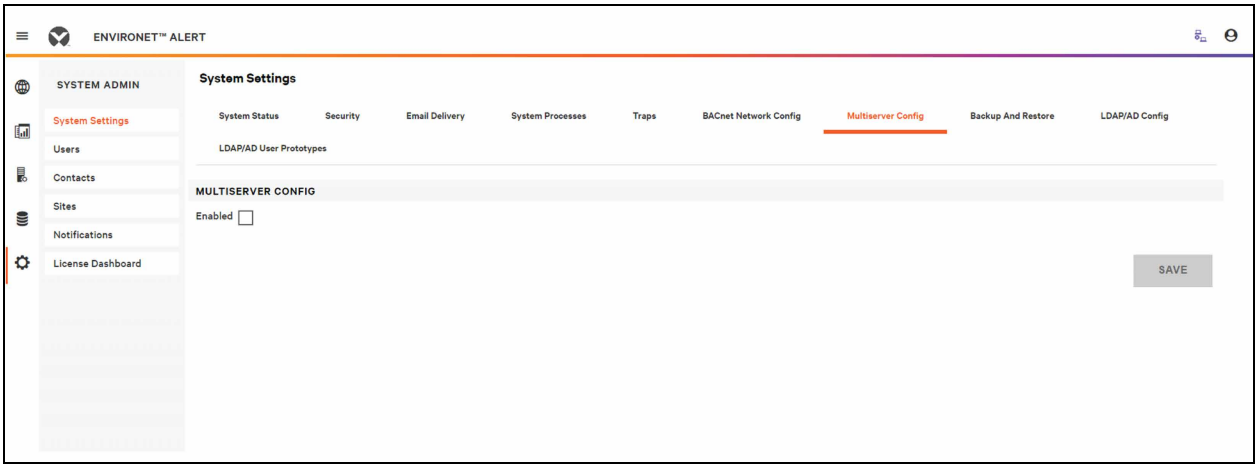
If the user selects a row and clicks on the Trash (delete) icon, user can delete routers.

Also, clicking the last item on the menu (after selecting a row) triggers a discovery action.

6.1.7 Multiserver Feature

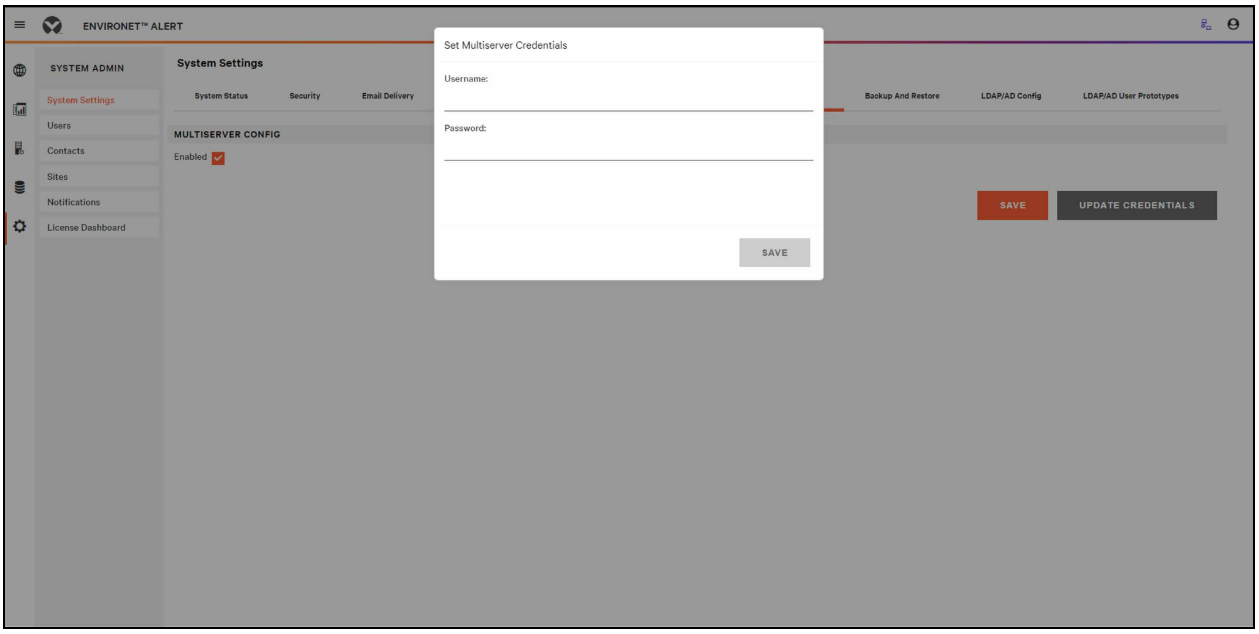
In System Settings, there is a new tab Multiserver Configuration. From Multiserver Configuration page, click the checkbox to enable multiserver configuration.

Figure 6.10 Multiserver Feature



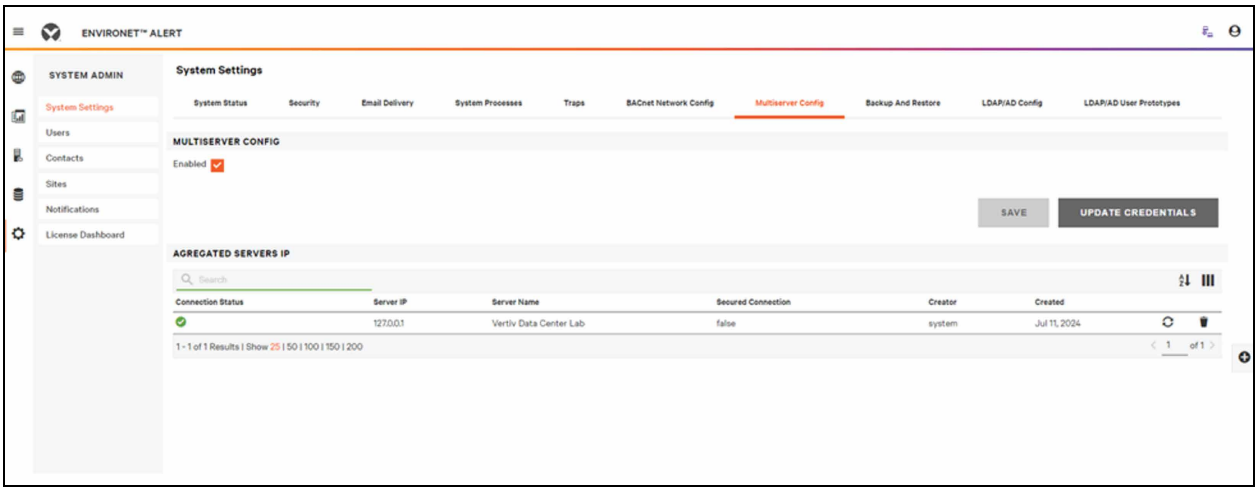
Upon first enabling this feature, the user is required to set a username and password that will be used to connect all aggregated servers.

Figure 6.11 Set Multiserver Credentials



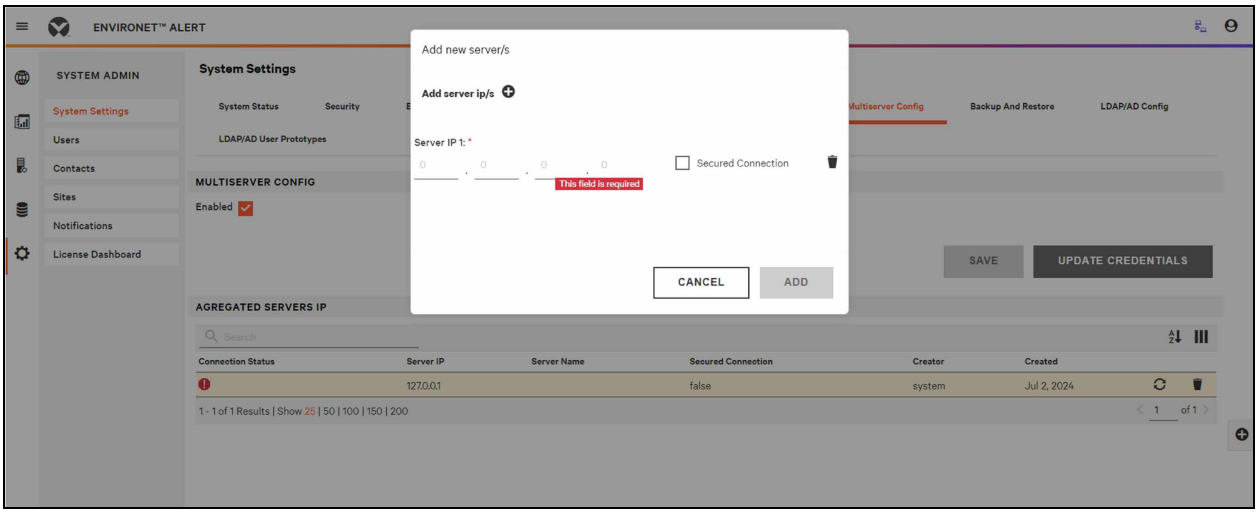
After setting the credentials and clicking *Save*, a table with all aggregated servers will be displayed (the local server is added by default and cannot be deleted).

Figure 6.12 Aggregated Servers IP Table



In order to add new servers to the aggregators, click + (plus) icon on the right of the page and add as many servers as user need (secured connection enabled means user will access the server using https protocol).

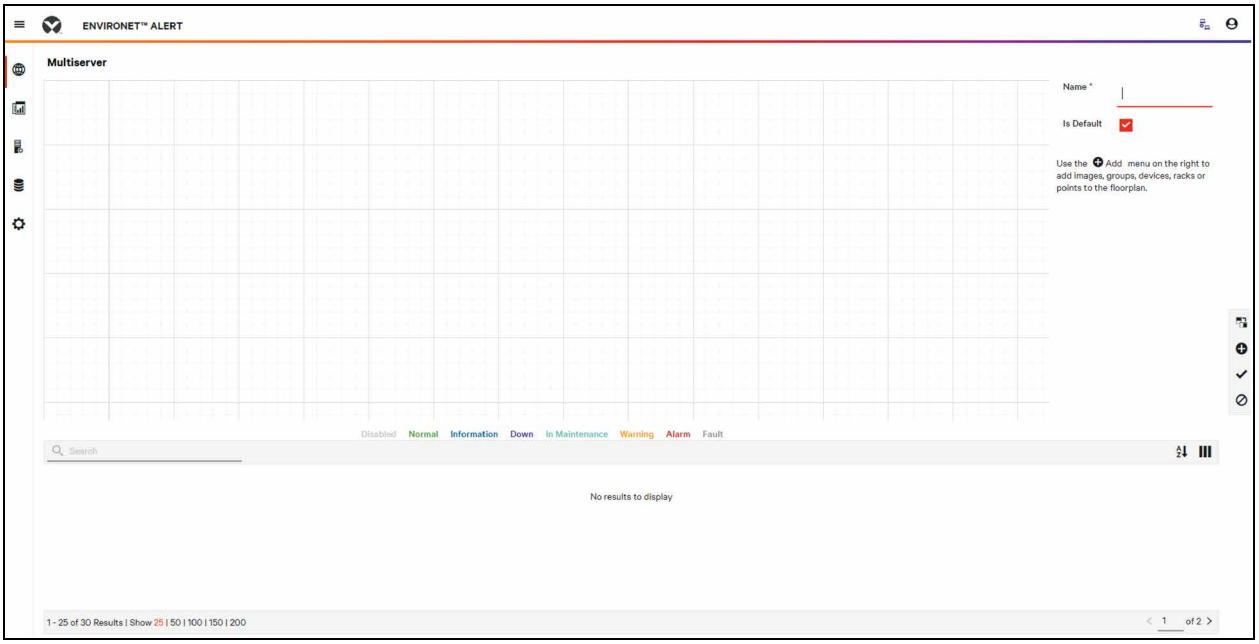
Figure 6.13 Add New Servers



After configuring the new feature, a new board **Multiserver** pinned at the top of the list on the Boards page. The status showing on the Multiserver board is the status cumulated for all the servers present on the floorplan.

Initially, it is empty and we can start adding images and servers to it by clicking **Edit Floorplan** in the right corner of the page and then following the steps.

Figure 6.14 Edit the Floorplan



To add from existing list created in Configuration:

1. Click on the + (plus) icon and select the *Add Server*.
2. Enter the server's name in the Search Tab and click the checkbox that user need to add.
3. Click *OK*.

Figure 6.15 Add a Server or Image

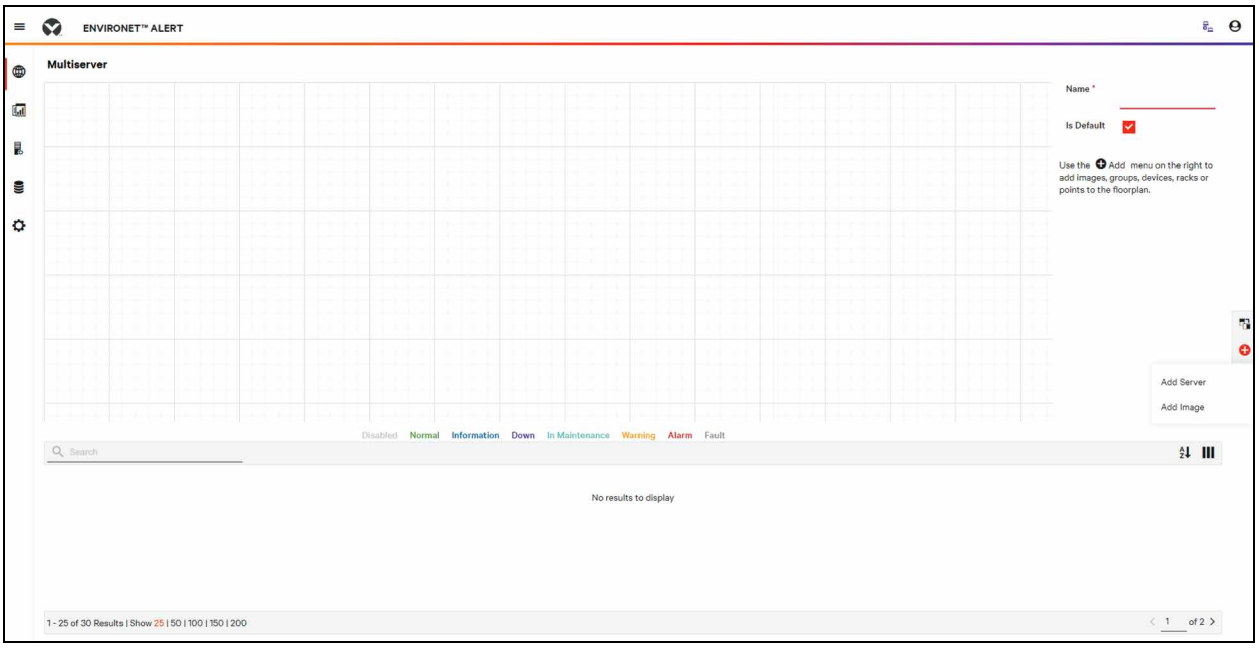


Figure 6.16 Select Server

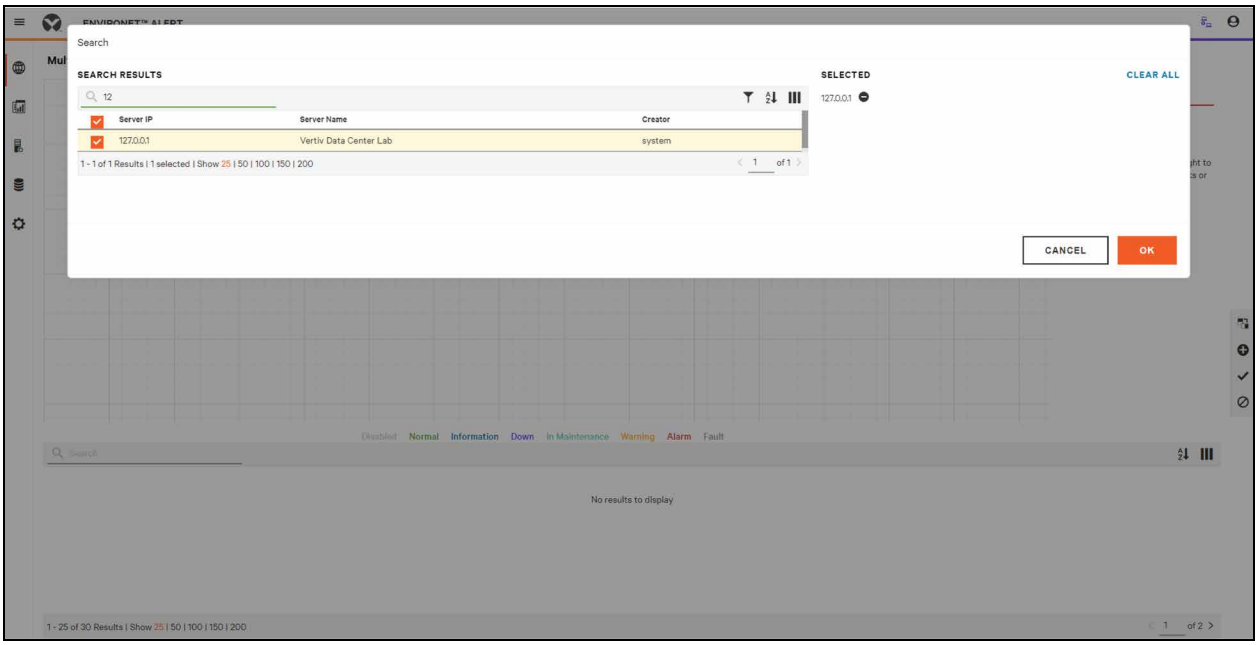
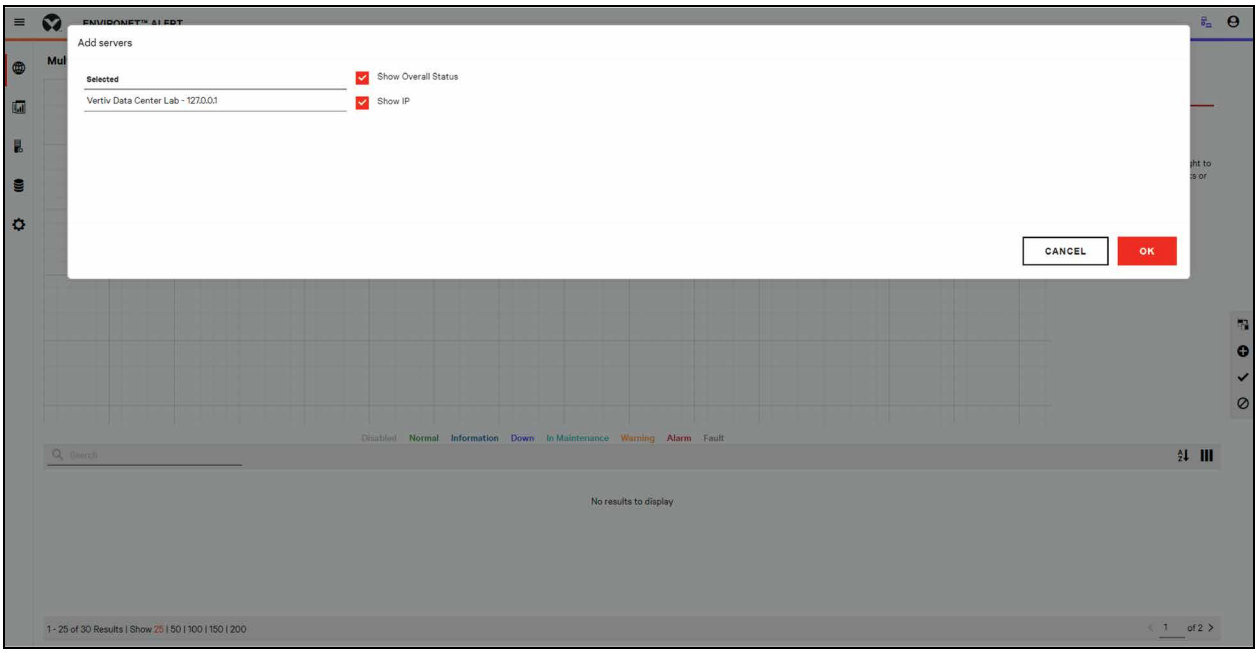


Figure 6.17 Selected Server



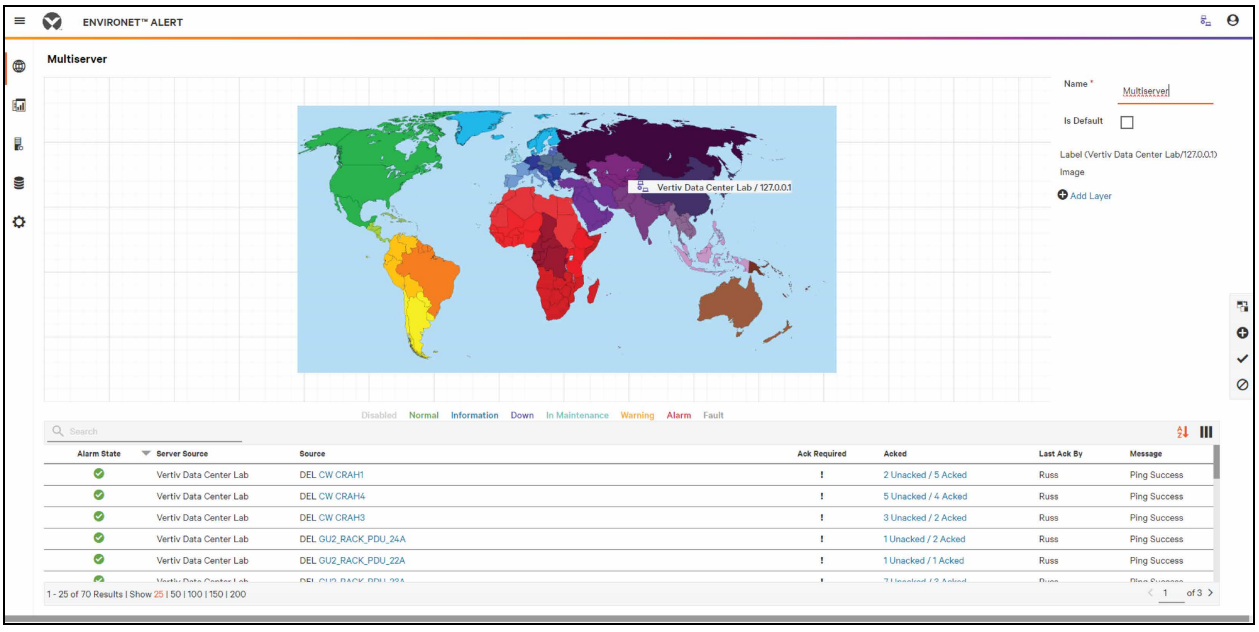
Server name is always displayed but you can choose weather to display or not the status and the IP.

After any kind of changes, user need to save the view (just like for a regular view).

After adding servers:

- The server will appear on the floorplan (by clicking it the user is redirected to the server's IP in a new tab).
- In the lower part of the page, a table with aggregated alarms (from all servers added to the floorplan) will be displayed.

Figure 6.18 List of Aggregated Alarms on Servers

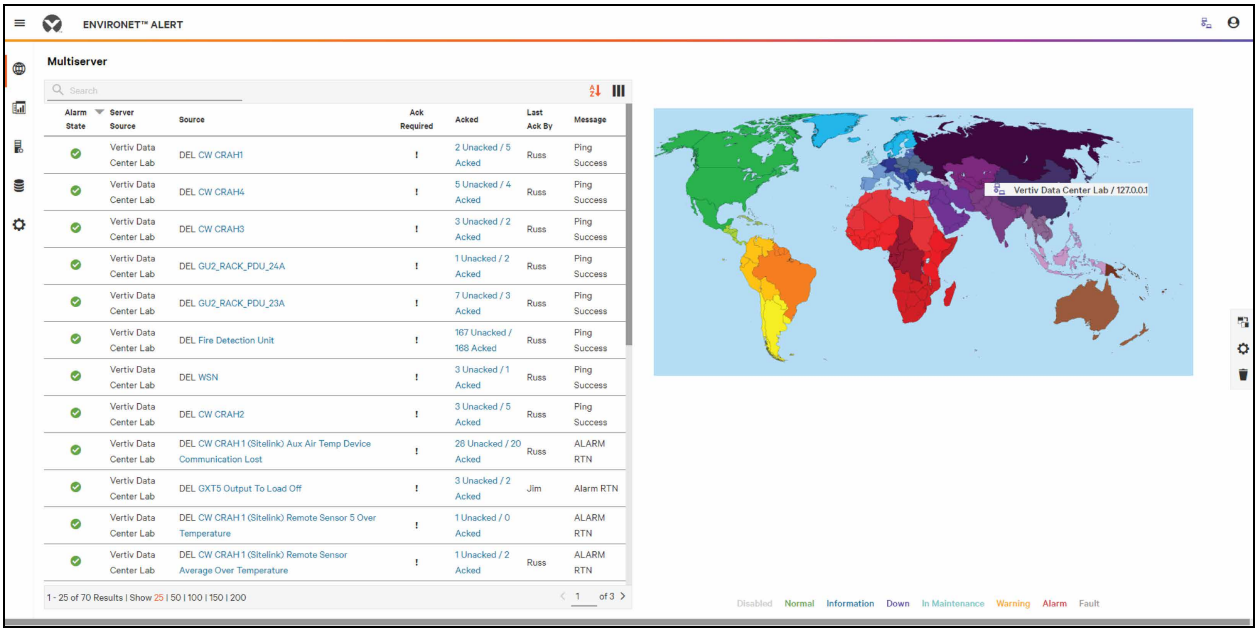


The user can:

- Sort alarms
- Acknowledge alarms (click on icons in Alarm Status column)
- Click on links that will redirect the user the server's IP for more details. (Source and Acked columns)

By clicking on the upper item in the right vertical menu, user can swap the display style.

Figure 6.19 List of Servers



6.1.8 Backup and Restore

- **Backup:** Will take a snapshot of the system that will be stored on the server. There is an option to save histories with the snapshot which will make the backup larger.
- **Restore:** Will take the selected backup (from the **Backup** file folder within the Vertiv™ Environet™ Alert install location) and restore the configuration to that state.

NOTE: The Environet™ Alert system will not be available while restoring from a backup.

LDAP/AD

Environet™ Alert allows users to be managed from a domain via Active Directory, LDAP v2, or LDAP v3 connections. In Environet™ Alert, administrators will be able to set up the connection and allow access or permissions based on properties in an LDAP database. To do this, an administrator must first configure **LDAP/AD Config** to tell Environet™ Alert how to connect to the LDAP server to authenticate users. The second part is to configure the **LDAP/AD User Prototypes** to establish how users will be assigned permission levels within Environet™ Alert. Options and settings include:

1. Type:
   - Active Directory
   - LDAP v2
   - LDAP v3
2. Connection Pooling Enable/Disable

3. Connection URL
4. Use of SSL
5. Attributes for User Login, User Base, Email, Full Name, Prototype
6. Cache Expiration
7. Connection Timeout
8. Domain

When a user logs into Environet™ Alert, the system will first check if a local user already exists with that username. If no username exists, the system will attempt to authenticate the user to the server defined under the LDAP/AD Config screen. If authenticated, Environet™ Alert will then attempt to match the user to a prototype defined under LDAP/AD User Prototypes screen. If no prototype is matched but the user was successfully authenticated to the LDAP server, then Environet™ Alert will configure the permissions for the user based on the Default Prototype. The default prototype may be set to any permission level and may even be disabled to not allow any users that isn't explicitly matched to another prototype to access Environet™ Alert.

6.1.9 LDAP/AD Config

An administrator will configure the properties based on their unique LDAP server setup. See below for property definitions.

LDAP v2	LDAP v3	Active Directory	Property	Value	Description
LDAP v2	LDAP v3	Active Directory	Enable Connection Pooling	true or false	Setting this property to true allows connections to be shared and reused. This can improve performance.
LDAP v2	LDAP v3	Active Directory	Connection URL	ldap://your.domain.net or ldap://your.domain.net:nnn	Identifies the URL (your.domain.net) for the LDAP server. Standard LDAP ports are 389, or 636 (if using SSL). If the server uses a non-standard port, include the port (your.domain.net:nnn) in the URL, for example, ldap://your.domain.net.999.
LDAP v2	LDAP v3	Active Directory	SSL	true or false	Enables and disables secure communication.
LDAP v2	LDAP v3	Active Directory	User Login Attr	Text For AD this value defaults to sAMAccountName.	Identifies the specific attribute in the LDAP directory to store the LDAP user logon name. For AD servers this is always sAMAccountName. For OpenLDAP servers, it would be uid.
LDAP v2	LDAP v3	Active Directory	User Base	Domain components	Identifies the sub-tree of the LDAP server in which users who can access this station are found. At the very least it must contain the domain components of the server's domain, for example: DC=domain, CD=net
LDAP v2	LDAP v3	Active Directory	Email Attribute	The AD default value is: mail.	Identifies the specific attribute in the LDAP directory to store the user's LDAP email address. This value populates theEnvironet™ Alert user's Email property.
LDAP v2	LDAP v3	Active Directory	Full Name Attribute	The AD default value is: name.	Identifies the specific attribute in the LDAP directory to store the user's full name. This value populates the Environet™ Alert user's Full Name property.

LDAP v2	LDAP v3	Active Directory	Property	Value	Description
LDAP v2	LDAP v3	Active Directory	Prototype Attribute	The AD default is memberOf.	Identifies the User Prototype with which the system populates a new user's local properties. If this property is blank or the name does not match any user prototype, the system uses the Default Prototype to populate local user properties. If a user belongs to multiple user groups (user prototypes), the top-to-bottom order of prototypes determines which prototype the system uses. If the value of a user prototype property changes, the system dynamically updates user properties accordingly.
LDAP v2	LDAP v3	Active Directory	Cache Expiration	Date and time	Defines a future date after which the system no longer stores a user's password in cache. When an LDAP server is unavailable a user can still log on with the cached credentials until this date and time.
LDAP v2	LDAP v3	Active Directory	Connection Timeout	time	Determines the length of time Environet Alert attempts to connect to the LDAP server before the connection fails. This time should be not too short to cause false connection failures, but not so long as to cause excessive delays when a server is down.
	LDAP v3		Bind Format	BFormat (Baja Format) syntax with a default value of %userName%	This property applies to Ldap V3 only. Every LDAP server is different. For the most part, a user base and logon name are sufficient to find a user in the LDAP directory. However, when using DIGEST authentication, it may be necessary to specify the exact format of the logon name to send to the server. In Active Directory (AD) 2000, this might be: %username%@domain.com. Later versions of AD would reject this format, however, they would accept username based on how the server stores passwords. Bind Format allows you to specify how to send the name to the server, for example, using a BFormat this property would be:%username%@domain.net or cn=%username,%userBase%.
LDAP v2	LDAP v3		Connection User	text	Defines the user name for the initial LDAP server connection. It may be required if users, who will be logging in, are in different sub-trees of the LDAP directory. If the LDAP server supports anonymous connections, leave this property empty (blank). When used, requires a valid user name in the LDAP server. The system uses this name to connect to the server for authentication.
LDAP v2	LDAP v3		Connection Pwd	text	The password for the user specified in property Connection User. When used, requires a valid password in the LDAP server. The system uses this password to connect to the server for authentication.
	LDAP v3		Authentication Mechanism	Simple, CRAM-MD5, and DIGEST-MD5	LDAP v3 supports SASL (Simple Authentication and Security Layer) mechanisms. Sends the user name and password to the server in clear text while CRAM-MD5 and DIGEST-MD5 obscures the password for security.
	LDAP v3	Active Directory	Domain	text	Supplies the domain name used to contact the LDAP server.

LDAP/AD User Prototypes

The user prototypes are created where the name of each prototype object will correlate to the property defined in the LDAP/AD Config screen for the Prototype Attribute. This is typically memberOf for Active Directory which will cause Environet Alert to match a Prototype name to a group name that the AD user is a member of.

6.2 Users

Users is a tool to create and manage access to the system.

6.2.1 User Settings

When creating or editing a user the following settings will be available:

- Username: The name the user will login to the system with.
- Password: The password the user logs in with.
- Full Name: The full name of the user.
- Email: The email address of the user.
- Enabled: Gives the user access to the system. If the box in not checked, the user will not have access.
- Never Expires: Gives the user permanent access to the system. If this is unchecked, then an expiration date must be set.
- Permissions: There are three levels of permissions:
  - Read/Write: Can view and change all aspects of the system.
  - Read Only: Can view all aspects of the system but cannot make changes.
  - Read/Acknowledge: Can view all aspects of the system and can acknowledge alarms but cannot make changes.
- Auto Logoff: When this is unchecked the user will never be logged out of the system when they are idle. When this is checked, the user will be logged out after being idle for the Auto Logoff Period.
- Auto Logoff Period: Sets the amount of time a user can be idle before they will be automatically logged off.
- Audible Alerts Enabled: When this is checked, the user will hear an audible alert whenever viewing an alarm table with active alarms.
- Status Popup Alerts Enabled: When this is checked, the user will get a popup notification when a new alarm or maintenance status is present.

6.2.2 Adding a User

There are two ways to add a user:

- Selecting the + (plus) icon: Selecting the + (plus) icon displays a form that can be filled out to add a new user.
- Duplicate a User: Selecting the duplicate icon permits using an existing user as a template to add a new user.

6.2.3 Editing Users

One or more users can be edited by selecting the checkbox next to the users and then using the pencil icon to open the edit dialogue.

6.2.4 Deleting Users

Using the Trash (delete) icon gives two options for removing users:

- **Delete Selected:** Removes all users that have their checkbox selected.
- **Delete All Search Results:** Removes all users that match a filter criterion.

6.3 Contacts

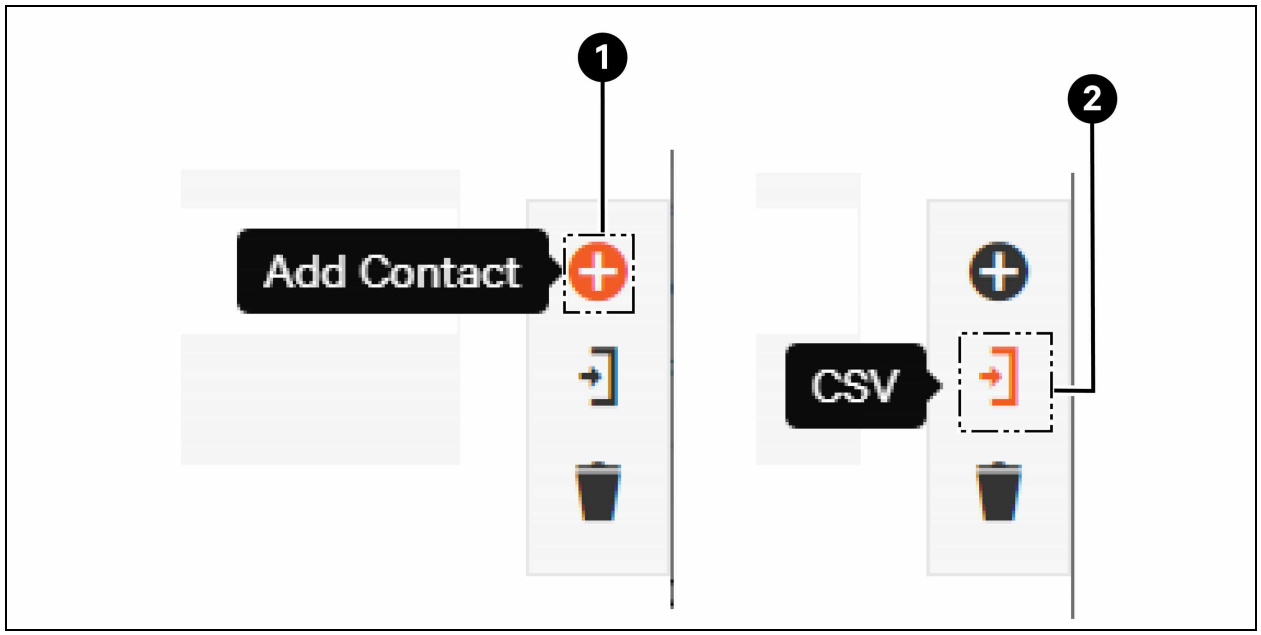
Contacts works like the application on a smartphone, holding information about people responsible for various sites or equipment. Contacts in Vertiv™ Environet™ Alert goes further, however, enabling users to associate people in the list to devices, racks, sites, boards or groups. The contact person's information may be made available when viewing these objects in the software.

6.3.1 Adding Contacts

To add Contacts to the system:

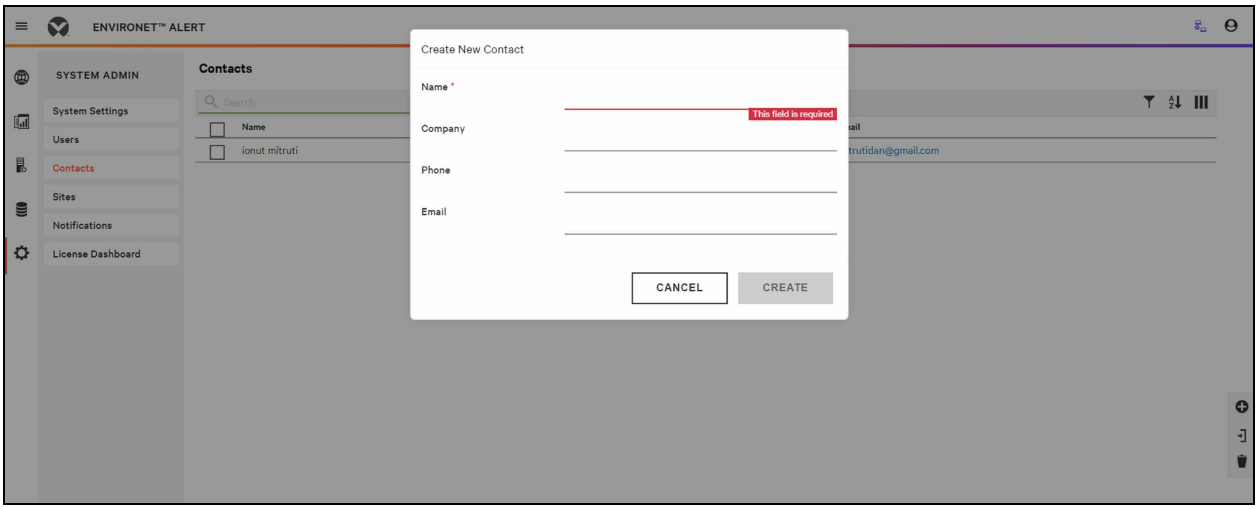
- **Using the + (plus) icon:** Selecting the + (plus) icon displays a form where the new user's information (name, company, phone number and email address) may be entered.
- **Import a CSV:** Selecting the Import/Export icon and choosing Import, permits importing a **.csv** file adding one or more Contacts.

Figure 6.20 Adding One or More Contacts



Item	Description
1	Plus sign icon, add one contact.
2	Import icon, add one or more contacts by importing a **.csv** file.

Figure 6.21 Creating a Contact



6.3.2 Edit Contacts

Clicking anywhere in the Contacts row displays a dialogue that allows information about the Contact to be edited.

6.3.3 Deleting Contacts

Selecting the Trash (delete) icon displays two options to delete Contacts:

- **Delete Selected:** Deletes any contact with it checkbox selected.
- **Delete All Search Results:** Deletes all Contacts that match a filter criterion.

6.4 Sites

The Sites function is used to add and manage the system's locations, such as a server farm in Colorado Springs, CO. All devices and must have an associated site. The Site name will become part of the unique identifier for alarms and history records: Site Name > Device Name > Point Name.

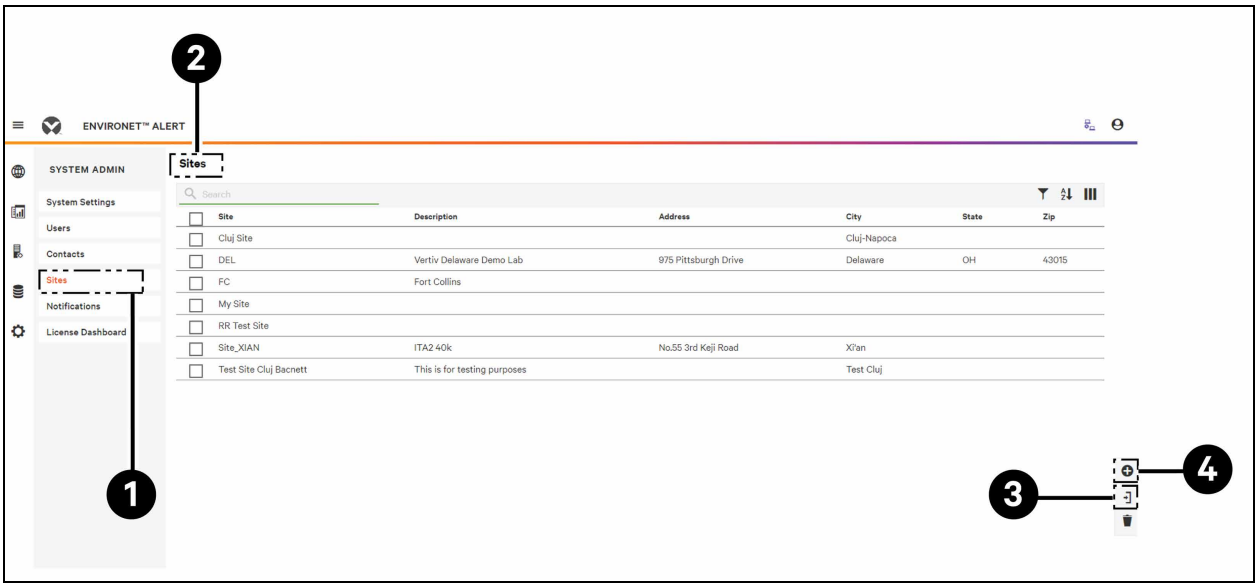
To find Sites, click on the *System Admin* button, then click on *Sites*. Sites can also be associated to Boards and Groups to help identify their physical location.

6.4.1 Adding a Site

To add a Site:

- **Use the + (plus) icon:** Clicking the + (plus) icon brings up a form to add a new site.
- **CSV import:** By clicking the import/export icon and selecting *Import a CSV* can be imported to create one or more site.

Figure 6.22 Add a Site

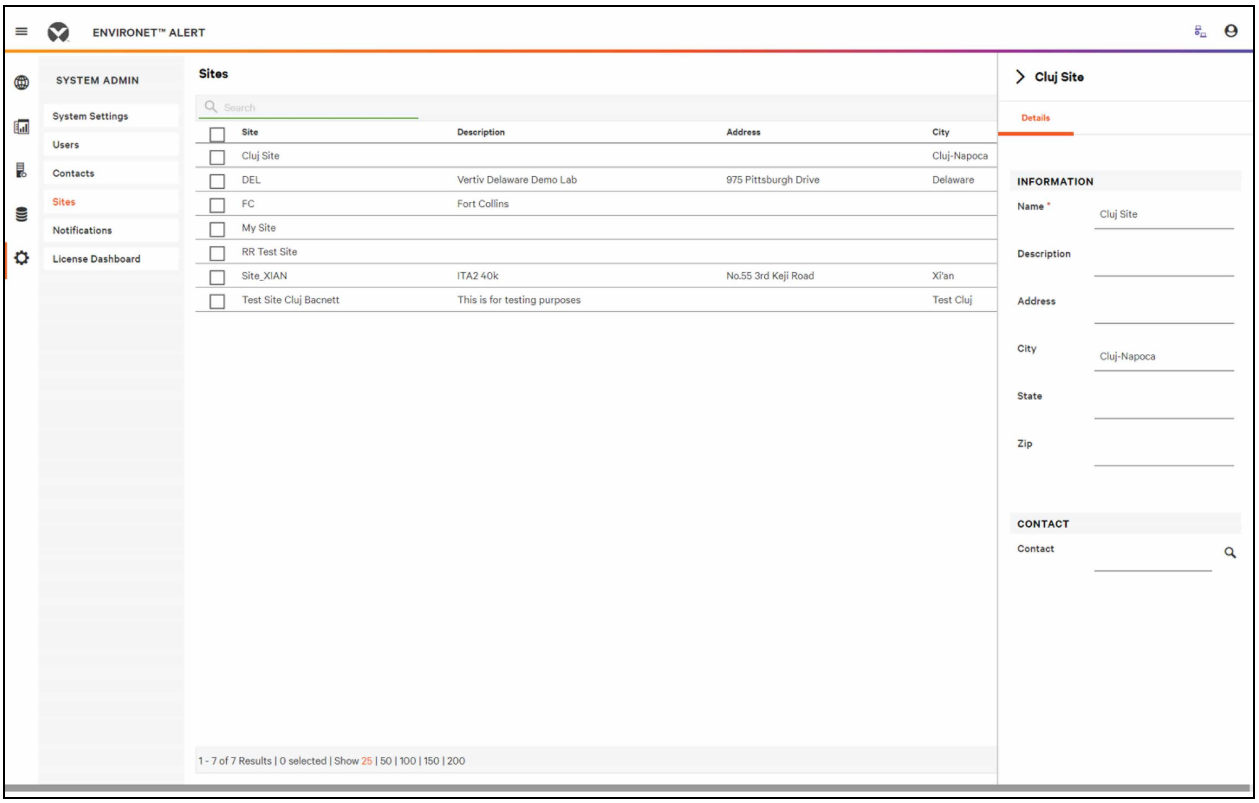


Item	Description
1	Sites chosen from navigation bar.
2	Sites screen.
3	Import/Export icon to add information about one or more sites (or export information about one or more sites)
4	Add site icon.

6.4.2 Edit a Site

Click any part of a Site's row to display a dialogue that allows editing of the Site's information.

Figure 6.23 Editing a Site



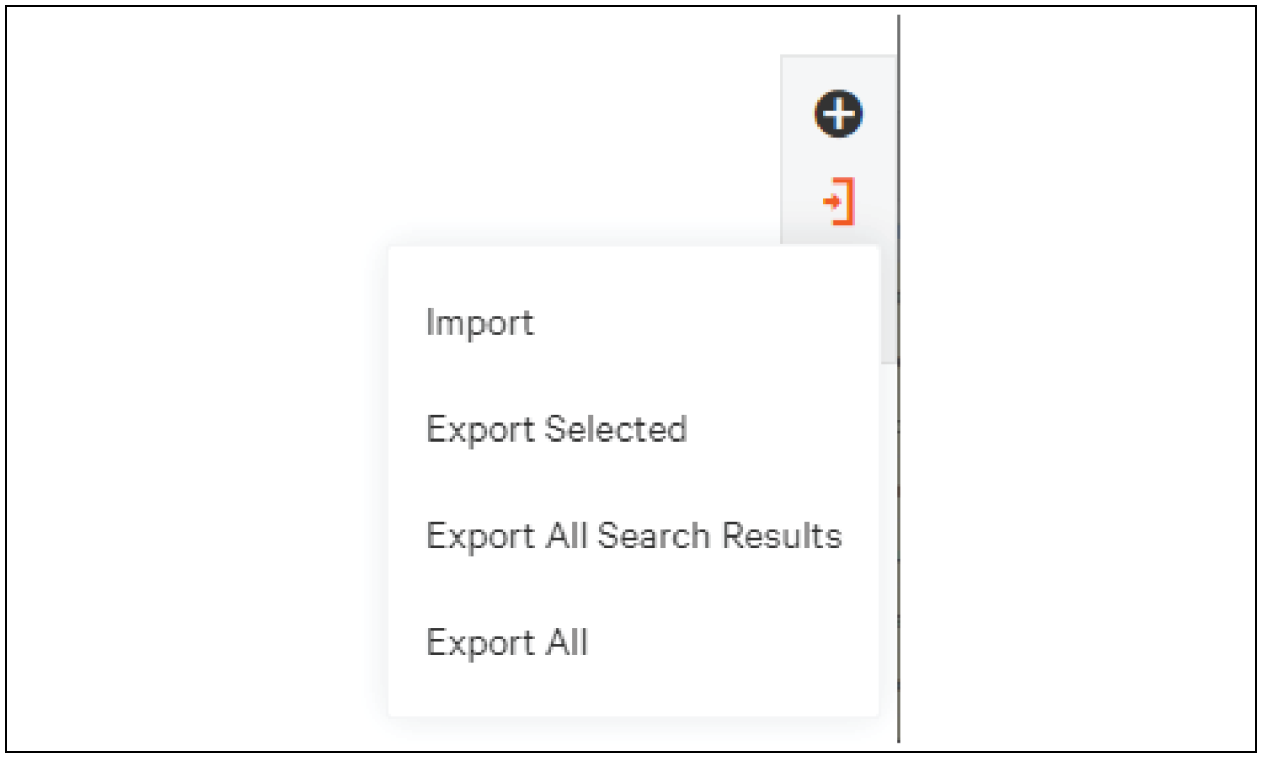
6.4.3 Export Sites

A site may be exported as a **.csv**. This may be used to alter a site or create a new site by exporting the metadata, modifying it and importing it to replace the original site. It may also be used to create a similar set of groups in another system.

Sites may be exported in any of three ways , each from the Import/Export icon at the lower right corner:

- **Export Selected:** Exports only the Sites that have their check box checked.
- **Export All Search Results:** Exports all Sites that match a filter criteria.
- **Export All:** Exports all Sites in the system.

Figure 6.24 Export Sites Icon



6.4.4 Delete Sites

Selecting the Trash (delete) icon brings up two options to delete Sites:

- Delete Selected: Removes only Sites that have their checkbox selected.
- Delete All Search Results: Remove Sites that match a filter criterion.

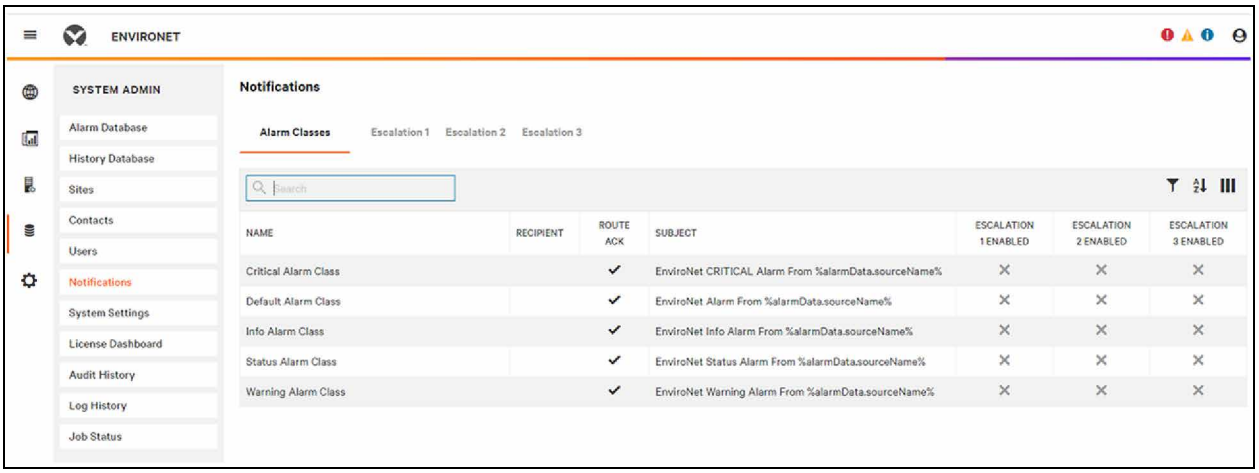
NOTE: Sites that have devices or racks associated to them cannot be removed. Removing a Site with devices associated to it, requires moving all its devices to another Site first.

6.5 Notifications

The Notifications menu is used to configure how alarm email notifications will be handled. Each alarmable point must have an associated Alarm Class. The Alarm Class will have email recipients that will be notified when that point enters an alarm state.

The menu is reached by clicking the System Admin icon and clicking *Notifications*.

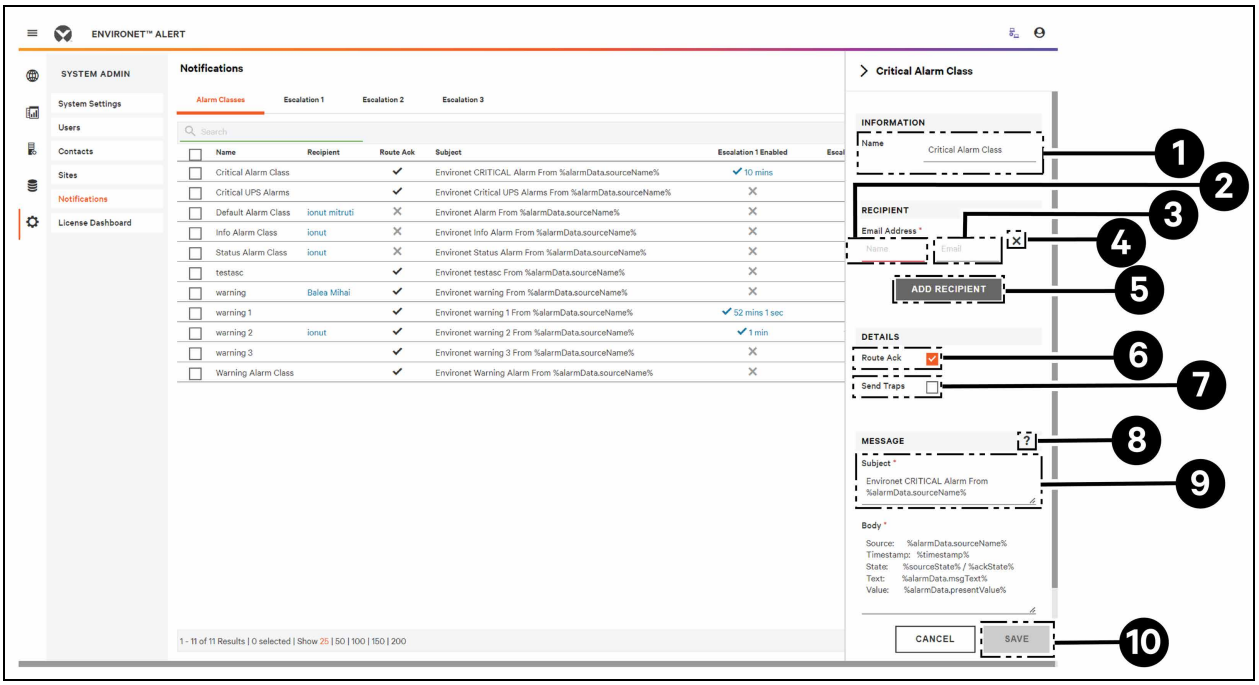
Figure 6.25 Alarm Classes



6.5.1 Editing an Alarm Class

Clicking an Alarm Class row reveals a dialogue that allows configuring that alarm class.

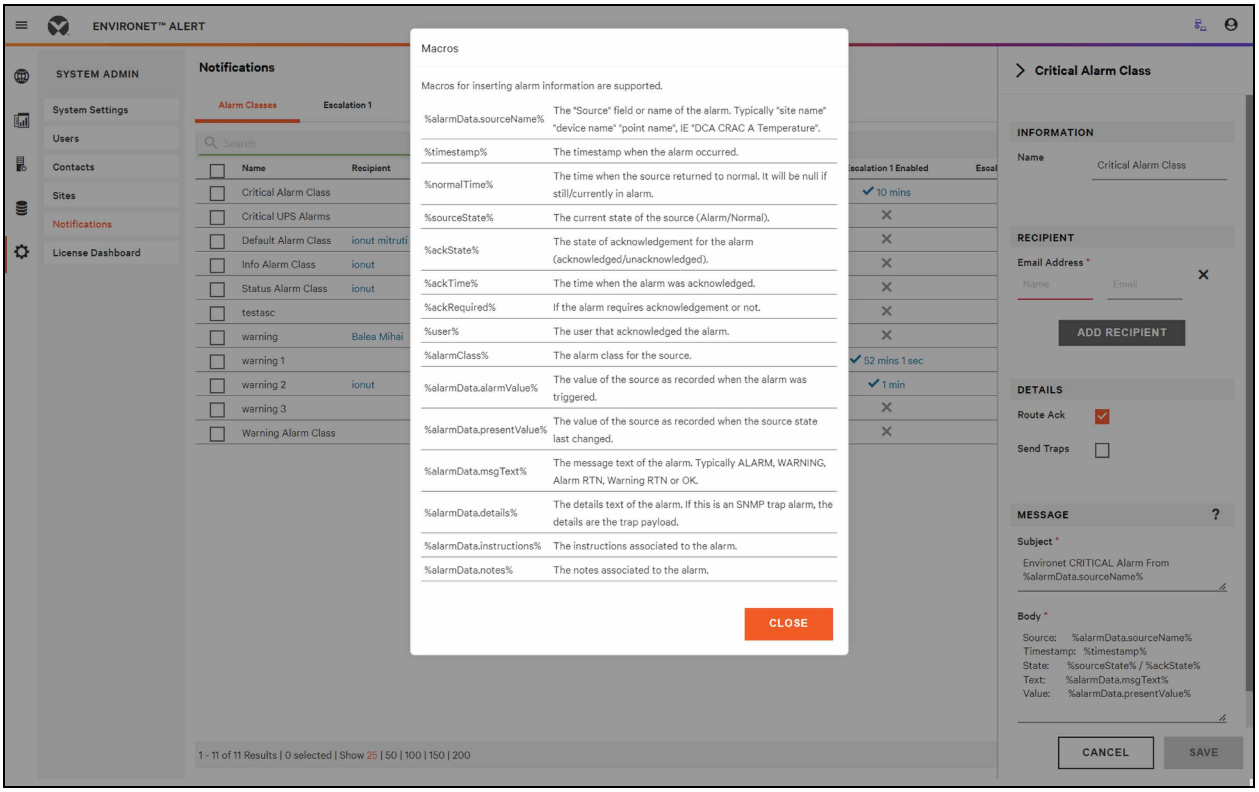
Figure 6.26 Edit Alarm Class



Item	Description
1	Name of critical alarm class
2	Name of email recipient to receive notifications for the alarm class.
3	Recipients email address.
4	Remove recipient icon.

Item	Description
5	Add recipient button.
6	Route Ack: Route acknowledgment emails to this recipient.
7	Send traps checkbox add.
8	Macros to write message about alarm notification.
9	Subject of alarm notification; chosen in prior screen.
10	Save button; must be clicked to effectuate changes.

Figure 6.27 Macros Popup Screen



- **Add Recipients:** A recipient is an email address that will receive updates about the status of points associated to the Alarm Class. The recipient can be a single person or distribution list. Multiple recipients can be added to each alarm class.
- **Route Ack:** Put a check mark in this box to send all Recipients for the alarm class an email confirming that a user has acknowledge a particular alarm that is associated to the alarm class.
- **Message:** The message is information to be included in the email for an alarm class. Click the **?** (question mark) icon to display a list of available syntax to construct the message.

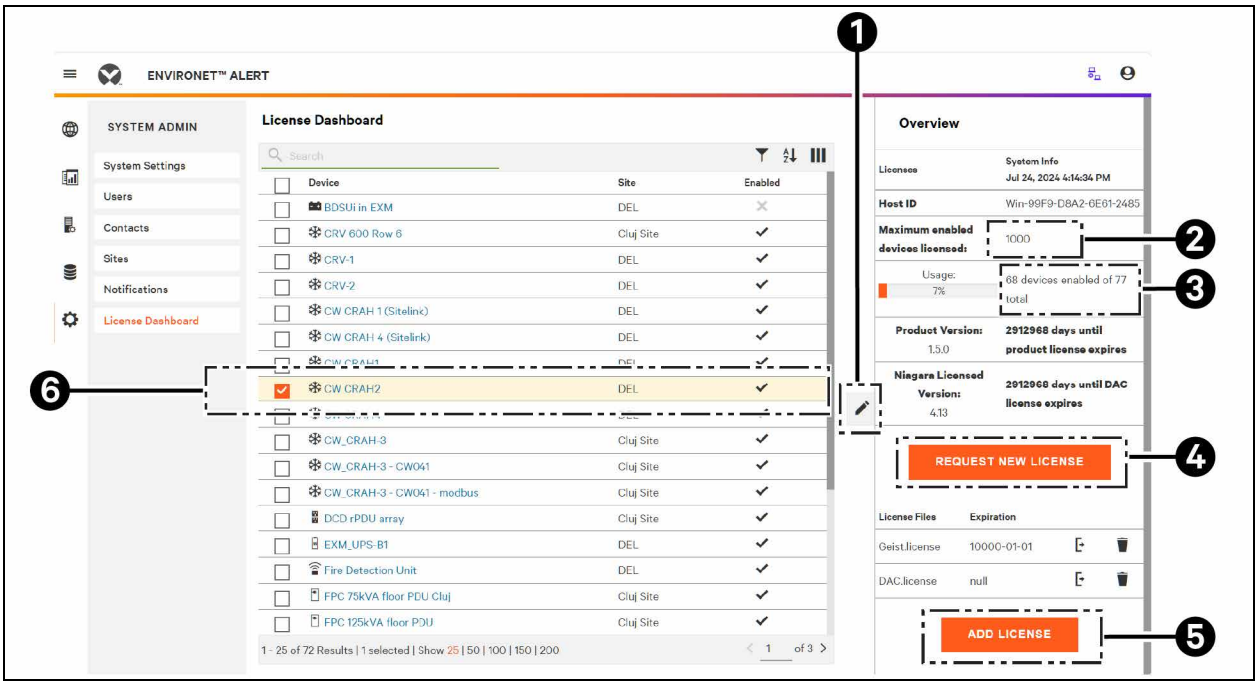
6.5.2 Escalations

Each alarm class has three levels of escalation, found beside the alarm class (see **Figure 6.26** on the previous page). Each escalation can be another group of recipients that will receive a notification if an alarm is not acknowledged within the time delay for that escalation.

6.6 License Dashboard

The License Dashboard tab shows available licenses and permits managing license files and enabling/disabling devices. Each enabled device requires one device license. Disabled devices do not require a license.

Figure 6.28 License Dashboard Tab



Item	Description
1	Edit Icon (pencil)
2	License class - Demonstration license shown.
3	Number of enabled licenses (one required for each device)
4	Request new license button
5	Add license button
6	Device selected

6.6.1 Managing Licenses

- Request New License: Emails the Vertiv licensing team to request additional device licenses.
- Add License: Allow uploading new license files to the system.

6.6.2 Enable/Disable Devices

To enable or disable a device, either:

- Select the checkbox beside any device to be altered, then use the Edit icon (pencil) devices, and select *Enable Selected Devices* or *Disable Selected Devices*.

-or-

- Click in the device row, select *Details* and check or uncheck the Enabled box.

7 Floorplans

All groups with in a board have a floorplan tab where one or more graphic that represents the group can be created. These floorplan graphics can be used as drill-down navigation through the board or a free-form dashboard for the group. Floorplans can represent global, regional, campus and/or room views, as needed to represent the hierarchy of the board.

Figure 7.1 Floorplans

7.1 Selecting Floorplans

If more than one floorplan has been created for a group, then the floorplan icon ( ) can be used to switch between them.

7.2 Setting the Default Floorplan

If more than one floorplan has been created for a group, the default floorplan will show first when the Floorplans tab is selected. The default floorplan can be set by:

1. Selecting the floorplan to be set as default.
2. Using the gear icon ( ) to enter edit mode.
3. Selecting the Is Default checkbox.

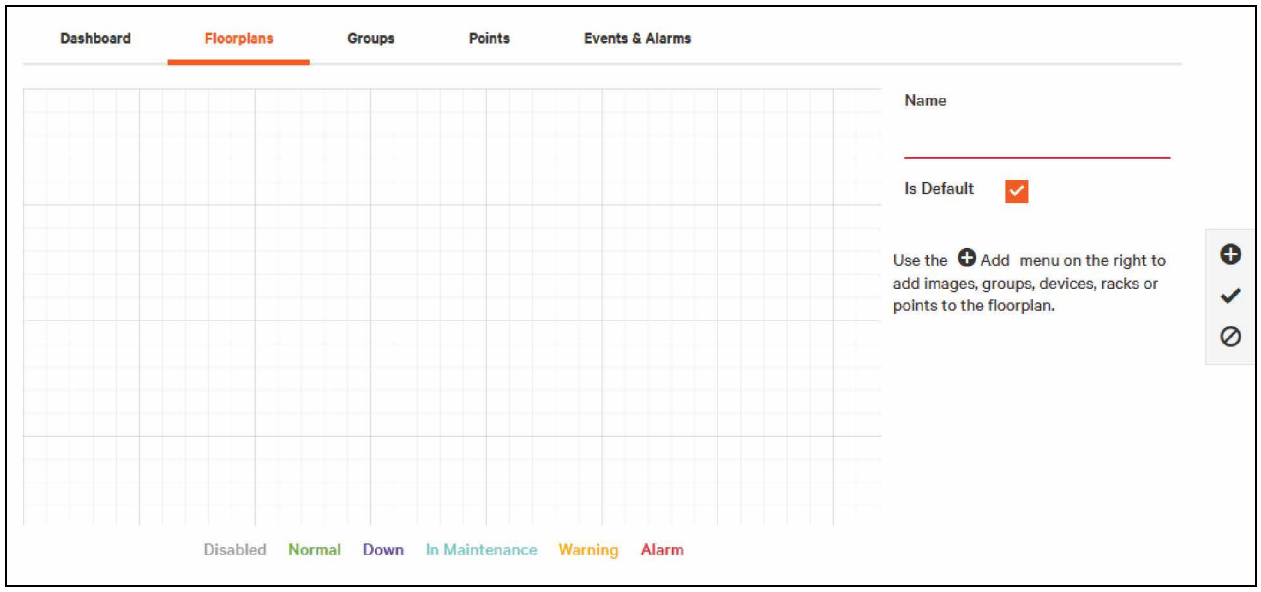
7.3 Creating a New Floorplan

If a Floorplans tab is selected for a group that does not have a floorplan created then the floorplan will be in edit mode, designate a name and use the plus icon to begin adding items to the floorplan.

To add an additional floorplan to a group:

1. Use the floorplan icon.
2. Select *Add Floorplan*.

Figure 7.2 Creating Floorplans



7.4 Building Views

Adding Components

The following components can be added to the view using the plus icon while in edit mode:

- Images: Add a background image or logo.
- Groups:
  - Status and Label: Gives options to display icons for each status in the group, the highest priority status only, the group name, and it's path in the board.
  - Area: Add as an area to place an overlay on a section of the floor plan animated with the Group's status color.
- Devices:
  - Overall Status: Will show icons for all status present on the device.
  - Device Name: A label that displays the device's name, animated with status color of device.
- Racks:
  - Overall Status: Will show icons for all status present on the rack.
  - Rack Name: A label that displays the rack's name, animated with status color of device.
  - Height/Width: These settings determine the size of the box displayed for this rack in the rack details views.

NOTE: If there is at least one rack added to the floor plan the drop down to change between the standard rack display showing status, and the alternate temperature, available RU and kw views is added to the view automatically just to the right of the status legend.

- Points (Numeric Points):
  - Status and Label: Gives options to show the status, name and value for the point.
  - Bar Chart: Add a (vertical) bar chart. The bar chart can be auto scaled based on the reading, or the min and max can be manually set.

- **Gauge/Half Gauge:** Add a full round gauge or half gauge. The gauge can be auto scaled based on the reading, or the min and max can be manually set.
- **Time Series:** Add a time series (line) chart. When adding a time series chart, the time range selected will be the default shown when the view is loaded. This can be changed after adding the component in edit mode. Additionally, when using the view in standard view mode you can change the time range of the time series to view history information from different time ranges without affecting this saved default. The next time the view is loaded the default time range will be shown again.

- Points (Boolean Points)
  - **Status and Label:** Gives options to show the status, name and value for the point.
- Points (Enumerated Points)
  - **Status and Label:** Gives options to show the status, name and value for the point.
- **Label:** Used to create a basic text label, or a hyperlink that will open in a new window in the web browser. These can also be filled with color to create additional graphical elements such as a background for a gauge.
- **Heatmap:** Add room/boundary and add temperature points to display a temperature gradient between all points in your room. Heatmaps can be used with any numeric points.
  - **Min:** The low value for the minimum color to be displayed from the color scale.
  - **Max:** The high value for the maximum color to be displayed from the color scale.
  - **Color Scale:** Choose the three colors to display and blend across the range.
  - **Always Show:** Display point values even if the heatmap layer is disabled.
  - **Show Units:** Display units of measure with points values.
  - **Show History:** Display history icons with points values that are trending.

NOTE: After adding the heatmap, click the bounding area in the right sidebar and click *Add Points* in the bottom right to add temperature points to the heatmap area.

NOTE: Multiple heatmaps may be added to the same view to depict separate rooms divided by a physical barrier such as a wall.

NOTE: Heatmap layers can be renamed so they display their unique value in the drop-down menu.

- **IP Camera:** Floorplans can show a live stream from IP Cameras that allow for a fully authenticated URL to a MJPEG stream.

NOTE: Fully authenticated URLs include the user name and password to access the video stream. If the camera does not allow authentication via the URL then then the user will have to click the camera feed and login before the steam will begin.

NOTE: Once any component has been added as a particular type, that cannot be changed without deleting the component and adding another component as a different type. For example, a numeric point added as a label cannot be changed to a bar chart. It would need to be removed and then added as a bar chart.

NOTE: When adding components to a floorplan, the search results are filtered for devices, points,and so on, within the group the floorplan is on by default. However, you can change the search parameters and add any component in the system to any view.

Working with Components

There are several tools built into the floorplan editing tool to make placing and working with components on a floorplan easier and more efficient.

Grouping and the Structure Tree

The right-hand side of the floorplan edit mode is the tree of components that will populate as you add items to the view. Items added together are automatically grouped together in the tree to make is easier to select like or related items. The groups can be reconfigured, or new groups can be added by the user using the tree to drag and drop. These groups allow multiple items to be selected with one click on the group label in the tree. Then, the group can be edited or placed using the other tools in bulk. Groups and components can be given different display names in the tree, if desired.

Moving Components

Components can be moved by selecting the item in the tree or on the floorplan and dragging them with the mouse or using the keyboard arrow keys. Dragging with the mouse moves the components in 5-pixel increments, while using the arrow keys or by holding control or shift while dragging moves components in 1-pixel increments. You can also reposition components by manipulating the x and y coordinates at the bottom right. Items can be moved in bulk by using the grouping feature or by multi-selecting on the floor plan or in the tree.

Resizing

All components can be resized by selecting the component and dragging the white round point at the bottom right corner on the outline of the selected components, or by using the W and H configuration on the bottom right of the edit view. Components can be resized in bulk using the grouping feature, by multi-selecting components on the floorplan, or in the tree.

Padding

Used to configure the space allowed around a given component.

Horizontal and vertical align

Aligns a selected group of components horizontally (left, center, or right) or vertically (bottom, middle or top).

Layer tools

Move items front to back in the graphical layers. Includes move to top, move to bottom and up or down one layer.

Distribute

Distributes a group of components evenly, either vertically or horizontally, based on the parameters entered.

Best practices for adding racks

- Add racks a row at a time, this will automatically add the racks as a group for easier manipulation.
- If possible, sort the racks into the order they will appear on the graphic. This can be done by performing a search that only finds the rack for that row and then sorting them by name ascending or descending to get the order needed. Then add the group of racks to the floor plan in a closer arrangement than needed. This might take some trial and error, but around 20-pixel height is a good starting place. Then, drag the group of racks to the center of the row. Next, drag the upper rack up to its correct position and the lower rack down to its correct position. Then click the distribute vertically button and the remaining racks will be set evenly between the upper and lower racks. Finally, fine tune by selecting all the racks or the group and using the arrow keys.
- Not all naming conventions will allow finding and adding the racks in the correct order. In this case, find and add the racks for the row in any order, and then drag them roughly into the correct positions. Then use the appropriate align and distribute buttons to clean up and fine tune with the arrow keys.
- Make sure to check the alternate rack views (Total KW, Temp, and Available RU), using the drop down to the right of the status legend. These views show a larger area to represent that rack and could cause overlapping if the LEDs are close together. The size of the alternate view representations can be adjusting to fit the graphic.

Removing Components

Components can be removed from the floor plan individually or in bulk by selecting the component in the tree or on the floor plan and using the delete key on the keyboard.

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