Visual Capacity Optimization Manager

Web Interface User Guide

Release 6.1.0

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Eaton

Contact Eaton Support

For your convenience, Eaton provides support to assist you with questions on installation, operation and troubleshooting. Please contact us at:

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1. Introduction

Visual Capacity Optimization Manager 6.0 marks the introduction of the new HTML5 web interface which provides an enhanced user experience for our users. The HTML5 redesign includes a streamlined and consistent interface to allow users to manage and monitor devices in a much more efficient way. As we progress with more releases of the application, we will include an increasing number of pages and features in the HTML5 interface while the version 5.x web interface is converted to this new technology.

1.1. New HTML5 Web Interface

Please reference the Visual Capacity Optimization Manager Converting from v5.x to v6.x document for a clear explanation of which functions of the web interface are using the updated HTML5 interface and which functions are still using the Flash interface from prior releases of the application. The Visual Capacity Optimization Manager Converting from v5.x to v6.x document will also instruct users on where to find the HTML5 equivalent features to the previous Flash interface.

This guide will provide instructions to users for the current version of the web interface. As subsequent releases are provided, this guide will be updated to include the new instructions for the HTML5 pages.

The Web Administration User Guide provides detailed instructions to help you implement and maintain the application using the web interface of the application. A detailed review of the features and functions of the web interface are provided in the sections below.

1.2. Application Overview

The application portal lets you access a wide array of data information from several disparate sources in one consolidated interface. The power of this aggregation is the simplicity it provides to operators to monitor and control both Facilities and IT devices in the data center environment. Since this application is vendor neutral, any device can be included in the interface and monitoring capabilities.

The application provides the following features for data center operators:

- Visual Navigation and Information to multiple floorplans
- Navigation to Main Data Center floorplans or Remote IT closets
- Real-time data metrics related to any device in the system
- Historical trend analysis for metrics defined for devices
- Reporting capabilities for user, device, performance and executive reporting requirements.
- Integration to third party software solutions. For example, Power Strip controls, IP Camera Systems, Card Access Security Systems, Other Vendor Support and Maintenance portals, third party Monitoring applications, and more are supported.
- Complete Design management of navigation and floorplans. Administrators can assign new devices to floorplans and customize the images and menu links associated with them.
- Full featured Rack Builder. This feature permits administrators to create online graphical representations of their rack layouts. Key information related to devices and racks can then be viewed individually or at the rack level to understand the Weight, Power and physical characteristics of that rack.

- Port mapping capabilities for both power and network ports.
- Complete Administrator command of the Access Control Rights of users on the system. Floorplans, Devices and Reports are all controlled by standard User and User Group access rights in the System Administrator area of the application.

1.3. Web versus 3D Client

The application provides both a web and 3D client interface to use for performing actions and managing devices. This User Guide defines the functions which are contained in the web interface. For information on the client features please consult the related Visual Capacity Optimization Manager 3D Client User Guide.

The following is a high-level list of functions that are available in the web interface:

- Device management – Add and remove devices from the application. Update attributes and device settings.
- Monitoring profiles – Define the data points to monitor for devices.
- User management – Add, modify and delete all users in the application, and reset passwords.
- Access Rights Control – Manage user rights to view, modify, create delete certain components of the application.
- Reports – View all reports related to device performance and application information.
- Calendar – View and manage calendar events for all devices and users in the system.
- Navigation Tree – Build and configure the navigation tree for all locations managed by the application. Create floorplans to assign devices to the floor.
- Device placement – Assign, remove and relocate devices on floorplans.
- Rack Building – Place devices within racks.
- Port Mapping – Define and manage port connections for power and network ports.
- Device Data Viewing – View all data related to a device including alarms, graphs, trend charts, port mappings and more.
- Alarms – View all alarm information for locations and devices.
- Network and Power Paths – Create one-line summary of the network, a power tree of a facility, or both. This feature allows logical and physical definitions.
- Discovery – Define discovery jobs which will poll networks and create devices based on network discovery.
- Firmware – Bulk upload firmware files to supported device types and models.
- Camera Studio – Allows users to configure and manage camera interfaces.

1.4. Accessing the Web Interface

The web interface is designed with an easy to use framework that is consistent throughout the application. The web interface can be accessed in one of two ways:

- Direct Web Access – You can type the URL directly into a browser and login with your standard user/password combination. The available functions presented to the user will be based on the user's access rights permission levels for the application instance.
- Access from 3D Client Interface – You can click the Web Interface icon on the main page of the 3D client interface to display a separate web browser window with the web interface to the application. **Note:** Since the user is already logged into the 3D client, the application will perform an encapsulated logon to the web interface with the current client user credentials

2. Login

The Web interface is a web-based portal that is accessible through a standard web browser. If you do not know the URL to access the login page for the application login, contact your company system administrator for this information. Some companies allow access to the login page from remote locations. Others restrict access to internal computing devices or allow access through the company virtual private network (VPN).

2.1. Logging In to the Application

Follow these steps to log into the application:

1. Access the URL for the application in a supported browser. The application must be accessed using the URL configured during installation. Attempting to access the application with only the IP Address will be rejected with a message to use the URL provided during installation.
2. Enter the user name in the Login field.
3. Enter your password in the Password field.
4. Choose the language to be used for labels, buttons and other strings presented in the application.
5. Select the Remember Username to automatically populate the Username field when the login page is accessed again. When the browser cache is cleared this name will be purged and users will need to fill this field in again.
6. Select the Sign In button or press Enter to Login.

If you successfully log into the application, the main portal interface appears with a series of tabs for accessing the application features.

2.2. Login Issues

There are a series of issues which could prevent a successful login to the application. This User Guide assumes that the application web server and database are functioning properly. Detailed Technical Support related to the actual processes and database is not covered in the scope of this document.

2.2.1. Incorrect User/Password Combination

If you submit the incorrect User Name and Password combination, "Username/password combination is not valid." is displayed:

Click OK to return to the login screen and try to enter the Username and Password combination again. Please note that repeated login failures will result in a locked account which will need to be unlocked by an administrator. The number of allowed failed attempts will be configured in the application.

2.2.2. Account Already Logged on System

Logins are restricted to a single concurrent logon session for each user account. If another computer has already logged on to the portal with a user and password combination, you are asked if you want that user to log out.

- Clicking the Yes button continues the login process on the current device and displays the application portal interface. The remote who user already logged in with that account will have their session terminated. In addition, no other functions are allowed against the database by that other user.
- Clicking the No button returns you to the Login prompt and lets you try to log in with a different set of login credentials.

Note: The same username can be logged into the 3D client, web interface and mobile device at the same time without forcing session terminations on those devices.

2.2.3. License Quota Overage

When logging into the web interface the application will check the system usage and compare the usage to the license quotas purchased by the customer. If there is an excessive number of licenses consumed, then the access to the web interface will be restricted to the admin account only. This user will be granted access to the web interface to purge excessive quota items or purchase additional licenses to apply to the server. Once the quota check complies, then standard login functionality is restored for all users.

2.2.4. Grace Period for Licenses

In some cases, the user will receive a warning message related to the quota usage in the application. There is a Grace Period which allows users a period of time to address quota overages prior to the system shutdown. The message will clearly indicate the amount of time remaining to address license issued before the system is locked to administrators only.

2.3. Logging Out of the Application

To log out of the session, select the Logout menu item on the Personal menu and confirm the message to log out of the application. This will return the user to the Login page of the web interface.
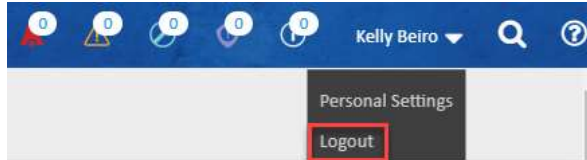
2.4. Session Timeouts

The maximum inactive login session duration is managed with a configuration setting defined on the server. Please reference the Administrative User Guide for instructions on how to access and update this setting using the vdctools command. When the maximum inactive session time has been reached then the user will be prompted to supply the password to continue with a function. The session and page functions will be maintained, and the selected function will be executed.

Note: If the web interface has an active window opened on the browser page, then the sessions will not timeout. This feature is designed to assist with NOC users who will open and view dashboards for long periods of time with no other application access.

3. Page Layout Overview

The application page layout is designed to optimize usability and efficiency for completing common tasks and accessing information related to locations and devices. Please use this section of the documentation to review the details of the main page components to help improve your ability to navigate the features and information in the application.

Please note that the user working session is maintained in a single browser tab. New browser tabs are not automatically spawned to support the access of new information. Instead, users can easily navigate back through page history using tools provided in the application.

3.1. Components

The following components are arranged on the application interface. These components are consistently available to users throughout the working session to allow easy access to key functions and data.

1. Navigation Panel – Used to access Feature Menus, Navigation Tree, Devices Navigator or Favorites List defined by users.
2. Banner – Alarm Indicators, User Menu, Search Widget and Help Widget are available in the Banner.
3. Content Area – displays the content associated with the Navigation Panel selection.

3.2. Navigation Panel

The Navigation Panel is the key component for users to access pages with features and data maintained in the application. Several functions are available to assist users in easily finding key content in the application.
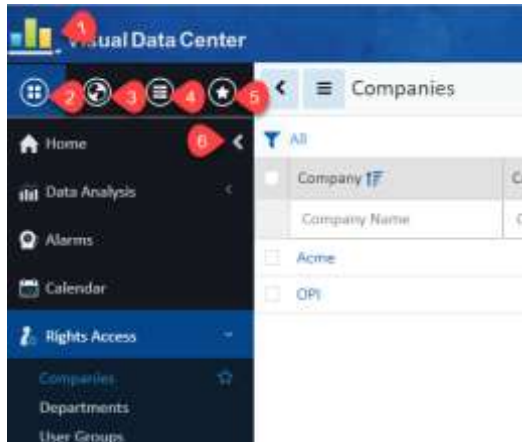
3.2.1. Application Logo

1) The application logo serves as a toggle button to fully hide or show the Navigation Menu. This action will provide full screen capability for the main data content and tables when needed by the user.

3.2.2. Feature Menus

2) Feature Menus is the default view presented to the user when logged into the application. This contains the core set of menu groups and items which are accessed by users to manage the application. Each of the Menu Groups and Menu Items is defined in detail in this User Guide.

3.2.2.1. Menu Groups

Common functions and pages are grouped together in the Feature Menus' navigation panel to facilitate access and use by the users. In some cases, the Group name serves as the only page for that group and will launch the content when selected by the user. The following Menu Groups are available in the application. **Note:** Details of Main Menu Items and the functions of each page are defined in this User Guide in other sections.

Main Menu Group	Description
Home	Default view of the application interface which shows the World Map and location navigation tree for accessing floorplan views with devices.
Data Analysis	Access to defined graphs, trend charts and report features.
Alarms	Opens the alarm panel for a detailed view of alarm conditions of devices managed in the application.

Calendar	Full audit history of devices and users managed in the application. All actions and changes to the application can be viewed in this tool.
Rights Access	Access to features needed to control rights access to locations and devices managed in the application. This feature manages all User provisioning activity for the application.
Groups	Defines Device Groups and Rack Groups in the application. These are used for rights access and reporting purposes in other parts of the application.
Devices	Central set of menu items to manage devices in the application including Discovery and Firmware uploads to the devices.
Racks	Allows users to manage placement of devices on Racks and to manage Audit services of IT devices mounted to the Racks using the Mobile Asset Manager application.
Connections	Provides features related to port mapping and the analysis of the connected devices.
Monitoring	Allows users to define monitoring profiles, notification triggers and escalation actions for all data to be collected from devices.
Integrations	Allows configuration management for integrations with third party applications or data sources.
Import | Export	Allows user to access bulk import tools for various configuration options in the application and to view the history and audit details of these import activities.
Settings	Provides a series of system level attribute and list management capabilities for the user to define configurable options available in the application.

3.2.3. Navigation Tree

3) The Navigation tree is where you create and display all the sites managed in the application. These are visible as nodes for countries, cities, buildings, floors, areas and devices. The navigation tree is used to browse, manage and modify the nodes in the tree. **Note:** Details are located in the Navigation Tree section of this document.

3.2.4. Devices Navigator

4) The Devices Navigator provides users with an easy way to search and find devices to access the Device Central page. This feature organizes the devices based on the Device Type or the Lifecycle Status. The Search filter allows users to filter the grouped list by entering a string to use for matching against the device attributes. The search filter will execute a "contains" search against the Device Name, Asset Tag and Serial Number fields.

If user selects the device type air conditioner, the Devices Table List will be presented with a full list of all devices which match that type. If the expands the type and selects a specific device, the user will be presented with the Device Central page for that device.

3.2.5. Favorites List

5) The Favorites List provides a list of folders and shortcut links to pages defined by the user as Favorites. This Favorites List is defined individually for each user and there is no sharing of Favorites between users or groups in the application. There are two methods a user can perform to define a Favorite to this Favorites List:

- Mouse over the Feature Menu Item and click on the Star icon
- Click the Create Favorite menu item in the List Options menu
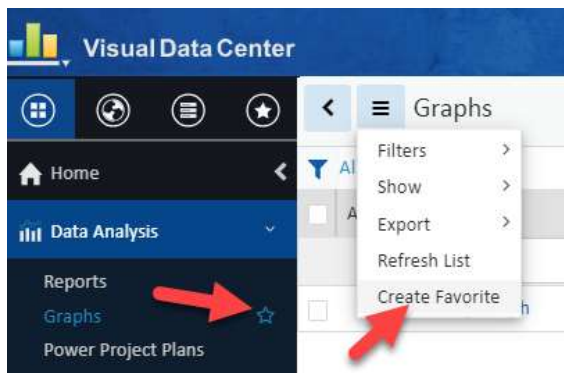
3.2.6. Minimize Button

6) The Minimize button will toggle between expanding and collapsing the display of the Navigation Panel between icon only and icon plus description views. This feature will allow users to utilize more screen space for the Content Area information and tables when needed. This feature is only available on the Main Menu view of the Navigation Panel.

3.2.7. Main Menu Item

Under each of the Menu Groups is a series of menu items which provide users access to the specific function or information for the application. When selected, the component of the application will display the related data tables, forms, dashboards, etc. for use by the user.

For Menu Groups which have multiple Menu Items, an expand/collapse icon is available to the right of Menu Group name. This icon serves as a toggle button to expand and collapse the menu group to show the underlying menu items. Only one menu group can be expanded at a time.

3.3. Banner Functions

The Banner Widgets provide access to common features needed by the user regardless of the pages being accessed in the Main Data view. The following functions are available to the user in this part of the interface.

3.3.1. Alarm Counters

The alarm counters provide an up to date count of alarm conditions reported in the application. This set of icons is interactive, so the user can click an icon to open the Alarm panel and view only the selected alarm types. The icons in this Header Function represent the following alarm conditions:

- Red – Critical
- Yellow – Warning
- Blue – Unreachable
- Purple - Minor
- Lite Blue - Information
- Aqua - Exceptions

Data collection, thresholds and other alarm related rules are all managed in the Monitoring Main Menu Group of the Navigation Tree. The alarm counts are only related to devices and locations for which the user has access as defined in the User Rights section of the Navigation Tree.

3.3.2. Personal Menu

The Personal Menu allows users to customize their application experience with a series of options designed to tailor the behavior and views of the application based on user preferences. In addition, this menu allows users to Logout of their current session for the application.

3.3.2.1. Personal Settings

Selecting the Personal Settings menu option will present the following options for users to manage the application:

Personal Settings Item	Description
Auto Align	When set to ON users can place Racks on the floorplan and they will auto align with a nearby Rack.

Verify Rack U Collision	When set to ON the application will <u>not</u> allow users to place devices into Racks which will result in a collision with another device. This includes both U overlap and front/back collision detection features.
Layer Refresh Interval	Value in Seconds which controls the frequency of data updates when the user is accessing the Layer view of the 3D or web interface Layer floorplan view feature.
Number of Generic Entries per Page	Controls the number of items to present in a list for each page. By default, this value is set to 10 for new users.
Unit	Allows the user to control the units listed for attributes and values in the application. Option available are Metrics and US (Imperial).

Following changes, users must logout and then log back into the application for these updated setting to take effect.

3.3.2.2. Notification Settings

The Notification Settings feature allows users to manage the times they will receive alarm notifications from the application to either their SMTP (Email) or SMS (Phone) addresses. This feature is useful for preventing overnight notifications from being sent to resources that work during the days.

By default, if there are no Notification Settings defined, the user will receive ALL notifications destined for their user account or user group. The following options are available for users as they define a new Notification Settings Profile:

Notification Setting Option	Description
Status	When set to ON the notification setting is enabled and notifications destined for this user will need to match the options defined in the notification profile.
Method	Defines if this rule will deliver notifications to the user SMTP (Email) or SMS (Phone) information. The Email and Phone settings are managed on the Users page in the Rights Access Main Menu Group.
Send To	Allows the user to define the Email address or Phone Number to use for delivery of the SMTP or SMS message.
Days	Defines which days the notification rule will allow the selected messages to be delivered to the user.
Time Range	Defines the time range on the selected days to allow the messages to be routed to the user.
Severity	Allows the user to manage the delivery of notification messages based on Severity. A detailed review of the alarm levels is located in the Alarms section of this document.

3.3.2.3. Password Reset

The Password Reset feature is the primary option for users to change their password for accessing the application. Users must enter their Current Password and New Password to make the change.
Note: The following rules are required for passwords created by users:

- Minimum 8 characters
- At least 1 Upper Case letter
- At least 1 Lower Case letter
- At least 1 Number

When the Confirm Password is being entered, the application will check to ensure it matches the New Password. The Change Password button will not be enabled until the New Password and Confirm Password fields are populated with compliant passwords and match.

3.3.3. Search

The Search function allows users to easily find Attributes, Devices and Cables which are defined in the application. The search field at the top of the page will allow for text entry and the system will perform a "contains" search against defined objects in the application.
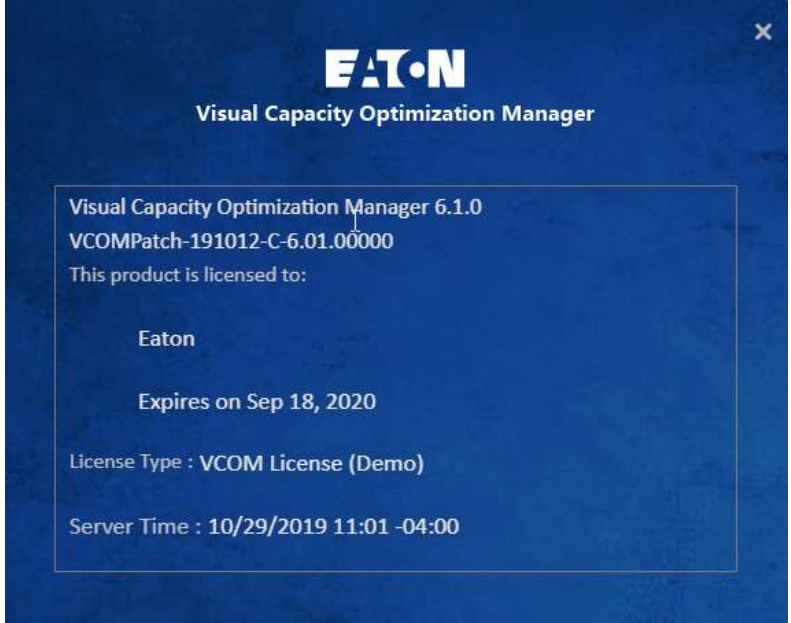
By default, all the Search categories are enabled, but users can deselect the blue checkboxes at the top of the page to limit the search against a specific list of objects. Once run, the matching search results will be listed below the search criteria and they will be grouped based on the type of object. Click the + icon next to the object group to expand the list and view the results in the standard item list table.

The search results table behaves like all tables displaying the number or rows set for the number of generic entries per page. The pagination tool on the lower right is used to navigate through all of the results. Further filtering of the list can then be performed using the column filter fields at the top of each column to find specific items in the list which are not currently displayed.

3.3.4. Help

The Help icon serves as a toggle to show/hide the contents of the Help menu. In the Help menu, there are multiple categories of support topics available for the user to access:

Help Topic	Description
File Download	3D installation client files and bulk import templates which can be used in the application on the Import Central page.
Documentation	Standard User Guides and other documentation.
Videos	Available tutorial videos.
Support Portal	Link to the support portal so users can log into the portal to access more detailed Knowledgebase topics or manage support tickets.

About Visual Capacity Optimization Manager	A window with the server's software version and licensing information.

3.4. Main Data

The Main Data component of the application will display the content, dashboards, tables, forms, etc. as users choose pages from the menu items and feature icons available in the Navigation menu and Header Functions. This Main Data area has been designed to help ease the user experience for navigating the different features of the application. Some key notes related to the Main Data page are below:

- All pages are displayed in this Main Data component of the application. There are no newly spawned pages or tabs of the browser which could make navigation difficult to track.
- Standard tables and forms are used where possible, so users have a consistent user experience as they access different features. A description of the key aspects of these tables and forms is provided in the section below.
- A Back button is available to easily allow users to return to the previous pages which have been recently accessed.

3.4.1. Standard Table Features

Many of the pages and features of application result in a list of items presented to the user. These lists will be displayed in a common table format with consistent and repeatable behavior. The usability of these features is very important to master and simplify the management of data in these tables on the various pages of the application. The following table provides an overview of the features which are built into these table views:

Table Feature	Description
1 - Back Button	Allows the user to return to recent pages viewed.
2 - Table Menu	Easy access for users to manage the table. Options available on this menu are defined in this section of the user guide.
3 - Functional Buttons	Buttons related to the content provided on the page will typically be located on the top, right of the page. Specific buttons and features will be defined in the sections related to each feature.
4 - Filter Options	Allows users to define complex filters to limit the records displayed in the table. These filters can be saved and easily accessed in the Table Menu. This feature is defined in this section of the user guide.
5 - Select All Checkbox	Allows users to easily select all records in the table for bulk processing with a functional button on the page.
6 - Sort Order	Click the column heading to sort by that field. Clicking the column heading a second time will reverse the sort order of that column. An icon next to the column name will indicate which field is used for Sort Order and which direction is currently being viewed.
7 - Column Filter Fields	Allows for easy filtering of the records in the table. Strings entered in the column filter fields are used to run a "contains" search for the values in the field. Only records which match the search will be presented. Multiple column filters can be used in combination to filter the table list.
8 - Links to Objects	Some values in the table result will be represented with a hyperlink to the object. Click the hyperlink to jump to the object page to view more detail, troubleshoot, etc the object of interest.
9 - Pagination	Standard pagination tools are provided on all tables. **Note:** The number of entries per page can be set in the Personal Settings menu for each user.

3.4.1.1. Table Menu

The Table Menu options may differ on some tables based on content or allowed functions, but the following list defines the standard menu items contained in this common feature on the tables.

Table Menu Item	Description
Filter	Displays a list of saved Filter views.
Show	Allows users to change the number of records per page for the table. This setting is only used for the immediate table view. New table views will default to the setting in the users Personal Settings.
Export	Allows users to export the table to a supported export file type. If the table records are filtered, the exported records will match the filtered view.
Refresh List	This action will force a full refresh of the table. If filters are applied to the table, they will remain after the Refresh List action is performed.
Create Favorite	Adds the current page to the Favorites list. User will be prompted for the Favorite name and folder. If filters are applied to the table view, they will be included in the Favorite.

3.4.1.2. Filter Options

The filter option located above the tables allows users to define simple or complex filter rules to limit the records presented in the table. These filters can then be saved and reused easily on subsequent views of the table.

As filters are defined and applied to the table, a breadcrumb is created from All records and then progresses based on the filter criteria applied in the filters. Users can click any level of the breadcrumb to easily return to a previous view of the table.

3.4.1.2.1. Creating a Simple Filter

Clicking the filter icon reveals the fields and actions available to the user to define a new filter.

- The first field will contain a list of columns presented in the table. Users can select one of the columns and define a filter for that column.
- The second field provides a list of operators to apply to the selected column. Examples of these operators are equals, contains, starts with, etc.
- The third field allows users to enter the criteria to match based on the operator defined in the second field.
- Click the Run button to execute the filter rule against the records in the table. The breadcrumb will display the filter rule applied to the table.

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If users would like to apply multiple column filter criteria with multiple levels of OR logic, they can use the following steps.

- Follow the steps in the section above to define a simple filter rule.
- Click the AND|OR options at the end of the first criteria row to show another row.
- Define filter criteria for the next column.
- Choose additional AND|OR columns to assign to the filter rule.
- Click the Run button to execute the filter rule against the records in the table. The breadcrumb will display the filter rule applied to the table.

3.4.1.2.3. Sorting Filtered Tables

When the filter icon is selected there is a row presented to the user to define the sort order of the records. Users can choose the column of the table to sort and the sort direction (Ascending or Descending) to sort the records.

To include additional sort criteria, users can select the Add Sort button at the top of the filter tool. This action will provide an additional sort option for the user to define. Several sort criteria options can be defined as needed to provide primary, secondary and other sort orders to the records presented in the table. **Note:** The first sort criteria defined, which is on the top of the sort criteria options if multiple options are defined, is the primary sort order. The second sort criteria defined is the secondary sort order, etc.

3.4.1.2.4. Saving Filter Rules

For common filter options that users will need to run repeatedly on table data, the filter rules can be saved so they can be easily generated on subsequent views of the table. Once the various filter options are fully defined, users can select the Save button at the top of the filter tool to define the filter shortcut. This shortcut will be saved to the Filter menu located in the Table Menu at the top of the page.

Note: The filter is only saved for the table being viewed. Other tables will have different fields and data and will maintain their own set of filter shortcuts in the Table Menu.

Page Layout Overview
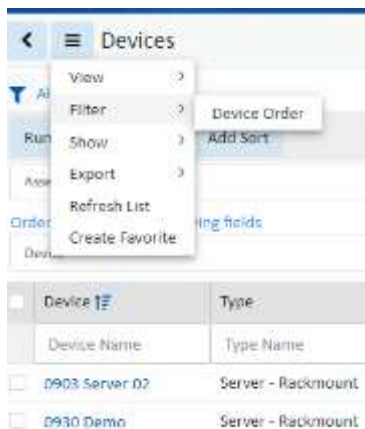
3.5. Table Item Detail Page

When users are presented with a Table List there are typically hyperlinks to view the details of one or more items in the list. By clicking the links, users will be able to view the Table Item Detail page for the object. The detail pages can be comprised of different types of data, but the standard components of the Table Item Detail page are defined below.
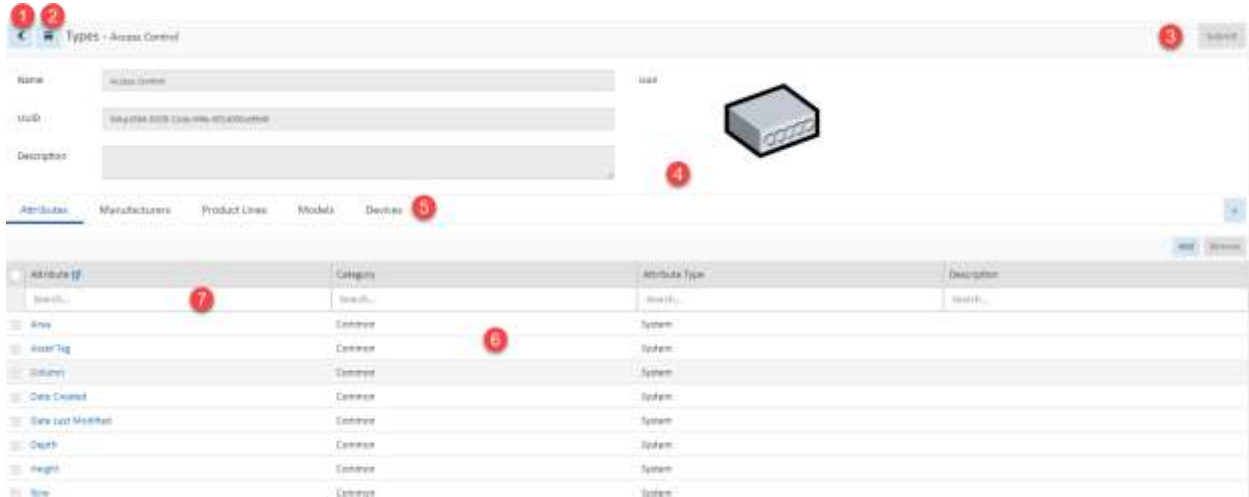
Table Item Detail Feature	Description
1 - Back Button	Allows the user to return to recent pages viewed.
2 - Table Menu	Easy access for users to manage the table. Options available on this menu are defined in this section of the user guide.
3 – Functional Buttons	Buttons related to the content provided on the page will typically be located on the top, right of the page. Specific buttons and features will be defined in the sections related to each feature.
4 – Form Data	The top portion of this page typically has attributes which can be defined for the selected object.
5 – Table List Tabs	The lower portion of this page may have various Table Lists available for the user to view. If multiple table lists are available, then there will be a series of table list tabs to allow the user to change table list views.
6 – Table List	List of items related to the Table List Tab.
7 - Column Filter Row	The first row of each table list lets you enter a name to filter the column. You can enter names in multiple columns to refine the list results.

Page Layout Overview

4. Home Menu Group Page

The Home Menu Group displays the home page that contains a summary of key activity in the application related to the logged in user. The following information is available for users in the Home view.

4.1. Location

Users can set a default location which will filter the information listed in the data tables on this Home page based on the chosen location. By default, the location is World, but users can choose a different location with the dropdown menu. Click the Set as Default button to set the personal settings for this feature to use the selected location on each subsequent login session.

4.2. My Tasks

Items listed in the My Tasks table are related to the Project tool which is included in the 3D client interface of the application. Tasks assigned to the user will appear in this list for easy review.

4.3. My Audits

Audits which are created by the user in the Audit Manager feature will be listed in the My Audits table. Users can easily track the status of their Audits and jump to the Audits page by clicking the icon next to the table name.

4.4. PUE

The PUE trend chart will show the PUE value for the select Location at the top of the Home page. The default trend duration is for the current day, but users can choose the calendar icon and select other predefined or custom intervals to view the historical PUE values of the selected location.

4.5. 10 Most Recent Reports

A listing of the reports which were run by the logged in user will appear in this section of the Home page. The table provides a link to the Reports page by clicking the icon next to the table title. Each report is also a hyperlink to quickly re-generate the report output to PDF format. **Note:** If the report is run from the Home page reports sections, the contents of the report will be filtered based on the original filters run in the actual reports page.

4.6. 10 Most Frequent Alarms Within the Last 24 Hours

This section will display the Alarm Triggers which have had the highest count of alarm conditions in the most recent 24-hour interval. The list of alarms will be filtered based on the Location which is defined at the top of the Home page. The icon next to the table title will take the user to the Alarm page to investigate all Triggers and Alarms in the application.

4.7. 10 Most Recent Events

The Most Recent Events table displays the 10 most recent events from the Calendar tool of the application. The icon next to the table title will take the user to the Calendar page to view the full set of historical events tracked in the application.

5. Data Analysis Menu Group

The Data Analysis Menu Group allows users to access features which analyze the objects and data created in the application. The items available to users in this group permit the visual analysis in the forms of graphs, trend charts, etc. as well as the generation and delivery of standard reports.

5.1. Reports Menu Item

The application is provided with a set of predefined reports for common asset management and monitoring use cases along with features to allow users to tailor reports for specific users, administrative capabilities related to reports and an ad hoc report creator tool to create new device reports. You access the Reports by selecting the reports menu item under the Data Analysis menu group.

Reports are a very important component of the overall system. Output from this feature provides a wealth of information related to the physical assets managed by the application. System operators can use this information to make decisions related to management of the overall data center infrastructure.

The reports menu item displays a pre-defined set of reports and functions defined below. Reports can be generated in the standard PDF format for easy saving. They can also be generated in Microsoft Excel file format for viewing outside of the application.

The availability of certain report menu functions is based on user privileges established by the administrative user. All members of the administrators' user group see six report groups:

- Standard Reports – List of predefined application reports.
- My Reports – List of user saved favorite reports.
- Recent Reports – List of 10 most recent reports run.
- Admin Reports – List of reports saved to the Admin queue for edits and rights access to be managed by an administrator.
- Report Creator – Ad hoc report tool to create custom device reports.
- Scheduled Reports – Tool to manage delivery of reports to user email addresses.

Note: Report access control is set in the user group. Rights Access menu group > User Groups menu item > user group.

Unlike the administrative user, the standard user has access only to Standard Reports, My Reports and Recent Reports.

5.1.1. Report Configuration

The list of available report filter options is based on the selected report. Select the check boxes to apply the filter options to the report. These options will limit the report output to the defined report criteria. Users can then save the filtered reports to facilitate subsequent runs of the report.

5.1.2. Standard Reports

The Standard Report list contains the list of predefined and common reports needed to view asset and monitoring information related to the devices managed by the application. Each report has its own set of filter controls to help limit the output of the report to specified criteria.

By default, every user has access to every standard report. Every report can be printed out through a PDF using the Run button or a Microsoft Excel file using the Export button.

5.1.2.1. Standard reports grouped in the following categories:

- Alarm – Alarm summary and detail reports for devices in the application.
- Asset – Standard Asset reports.
- Capacity – Capacity information for groups of devices in the system.
- Efficiency – Performance and efficiency reports for different sets of devices.
- Service – Warranty, Maintenance Schedules, and other items from the Service page.
- System – Information about Users and Groups in the system.
- Customized – Extra out-of-box special reports

5.1.2.2. Alarm Reports

Alarm reports including the following:

- Current Value Detail - Provides the current value of polled data for the selected devices.
- Trigger Detail - Provides details for locations and devices.
- Trigger History - Provides the trigger history for locations and devices.

5.1.2.3. Asset Reports

Asset reports include the following:

- Asset List – Reports on all assets in the system and sorts the output by optional settings for the device.
- Cable Connection – Lists power and network cable connections for devices in the application. The report also displays the color of the Cable.
- Data Mapping List – Lists all devices that have mapped data points.
- Decommission Device List – Lists decommissioned assets in the application
- Device List By Area – Lists the devices associated with a specific area.
- Device List by Rack – Reports on all assets located within a rack and sorts the list by rack name.
- Device Port Details – Lists power and network ports defined on devices in the application.
- Device Port VLAN – Shows devices and ports grouped by VLAN definitions.
- Rack Details – Summary information for racks which are grouped by location.
- Rack Lock Summary – Summary information for rack access control devices.
- Redundancy – Lists the devices with redundant power and network redundancy.
- Relationship Summary – Provides detail on all network and power port mappings for selected devices.
- Software Application By Owner – Provides a report on software applications by Owner.

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- Software Audit – Provides a list of software deployed to servers compared to counts purchased.
- Software License Compliance – Lists software installed and counts across all devices.
- UPS Battery Replacement – List UPS devices, seconds on battery and the battery last replace date within the defined date range.

5.1.2.4. Capacity Reports

Capacity reports include the following:

- Blade Enclosure Capacity – Reports on the blade enclosures and the capacity information pertaining to them.
- Building Capacity – Tracks the average and peak utilization of the Generator and Main Switch devices in the system.
- Cooling Capacity – Tracks the cooling capacity of devices compared to cooling required. The required cooling is based on the total load of the building measured at the main switch devices.
- Cooling Capacity Summary – Summarizes the cooling utilization by area.
- Cooling Utilization – Shows the sum of cooling capacity for all the air conditioner and air handler units on the floor.
- Generator Capacity – Tracks the average and peak utilization of the Generator devices in the system.
- IT Redundancy – Shows which devices have redundant paths defined for network and/or power connections.
- PDU Capacity – Tracks capacity power information for floor standing PDU and RPP devices.
- PDU Power Summary - Summarizes power information for floor standing PDU and RPP devices.
- Port Capacity – Lists all switches and routers with their port capacity, port usage, and utilization %. These values are based on the configurations completed in the Relationship Editor part of the application.
- Project Capacity – Lists all projects and their information.
- Project Device Capacity – Lists all project devices and their information.
- Rack Amps Capacity - Shows the Amp capacity for specified racks.
- Rack Capacity – Shows the rack capacity, rack space used, and the largest contiguous space for each rack in the system. At the location level, rack capacity figures are aggregated to provide capacity information for a site. The grand total capacity is also provided so that you can see rack capacity and rack usage statistics for the company as a whole.
- Rack Power Capacity – Tracks the A and B power loads for all racks in the system.
- Rack Unit Occupied Area – Shows the rack density by area for locations in the system.
- Rack Weight – Shows the rack weight capacity and utilization for all racks in the application.
- UPS Capacity – Tracks the average and peak utilization of the UPS devices in the system.

5.1.2.5. Efficiency Reports

Efficiency reports include the following:

- A-B Energy – Provides a summary of power based on the A or B power designation for a device. This report lets managers evaluate A versus B power consumption for each branch of the power

tree. Input for the report lets you specify start and end dates and locations for the report output.

- Carbon Emissions – Provides a default CO2 output rate setting for the states in the navigation tree when you click the CO2 Rate button. By default, the application looks up the 2-letter abbreviation or full name of a state and matches it to the corresponding CO2 rate. If the State node of the navigation tree has a name that does not match one of these default state definitions, you can map the node to the appropriate state by using the CO2 Rate button. The rate and navigation node name are displayed by default. If a custom state assignment has been created, that state name appears in brackets at the end of the node name.
  - For reference, the CO2 rates used in this application are based on the Energy Information Administration from the Department of Energy report published on April 2002. You can access the rates at this URL:
  - http://www.eia.doe.gov/pub/oiaf/1605/cdrom/pdf/e-supdoc.pdf.
- Customer Billing Interval Comparison – Provides a way to report on day to day, week to week or month to month comparisons of power, energy or cost metrics for a department.
- Customer Connected Load – Displays Allocated Amps and KW on breaker grouped by Customer.
- Customer Power Summary – Provides a summary of customer power consumption. This information is typically tracked at the branch circuit level of a PDU device.
- Customer Rack Power – Lists racks, customer, power, energy and cost information for all racks in the application.
- Customer Server Power – List of power, energy and cost information for rackmount devices.
- Detailed Customer Energy – List of power, energy and cost for devices groups by customers and locations.
- Device Customer Energy – Summary of power, energy and cost by customer.
- Electric Costs By Rack - List racks based on location and the monthly and yearly power costs.
- Energy - Lists all devices that have a defined Energy Source attribute and provides actual kWh consumption and cost of using the device.
- Energy Source Summary – Provides energy source information for all devices.
- Environmental Summary – Provides temperature and humidity information for devices.
- Location Occupancy Summary – Summary of types of Floorspace areas and utilization.
- PDU Breaker Summary - Provides a summary of PDU breaker information.
- PDU Circuit Summary – Provides a summary of PDU circuit information.
- PUE Report – Review of key PUE data based on time duration and location.
- Rack Power Summary – Summary of power consumption and costs for racks in the application.
- Server CPU Idle – Collects and shows the CPU loads for devices under management. This information helps you understand which assets are being over/under utilized. Data for this report is collected from the Monitor Attribute table. For a device to report this data, the target member must be mapped to this monitor attribute table.
- Server Throughput – Collects and evaluates the amount of traffic in and out of network interface cards, and shows devices being utilized. This report provides a list of servers and switches and lets you see the amount of network traffic being processed by the device. Data for this report is collected from the Monitor Attribute table. For a device to report this data, the target member must be mapped to this monitor attribute table.

- Trend Chart - Trend charts for selected devices and attributes.

5.1.2.6. Service Reports

Service reports include the following:

- Service Events Overdue – Provides a list of all events that have not been completed on schedule, which is similar to the Services Scheduled report. The filter controls for this report and the scheduled events report are the same. The output of this report is grouped by week and sorted by day within the week grouping.
- Service Events Scheduled – Provides an easy way to query the scheduled events and view in a report format. You can define a date range to view Scheduled Services and select a specific City-Building combination to filter the report output. The report output is grouped by week and then sorted by day within the week grouping.
- Warranty Expiration – Lists all warranty expiration dates stored in the system.

5.1.2.7. System Reports

System reports include the following:

- License Compliance – Shows the device count quota being enforced by the license key and the current total of devices managed in the application.
- Sizing Report – Summary of key application metrics such as devices, pots, cables, etc.
- User Account List – Defines all users and their basic attributes in the system.
- User Group List – Defines the User Groups and the members of the user group.

5.1.2.8. Customized Reports

Customized reports include the following:

- CUE – Carbon Usage Effectiveness
- EDF – Energy Distribution Factors
- Eff UPS – UPS System Efficiency
- ITL - IT Server Equipment Load Density
- LD – Lighting Density
- PUE – Power Usage Effectiveness
- RH – Ambient Relative Humidity
- RTI – Return Temperature Index
- TMP – Temperature Supply and Return
- ULF - UPS Load Factor

5.1.2.9. Saving Reports

When you configure a Standard Report to run for viewing, you can save the report to your My Reports menu or, if you belong to the administrators user group, you can save the report to the Admin Reports list. When you select the Save Report button at the bottom of the report page, you are prompted for three pieces of information:

- Save Location – If you are a member of the administrators user group, you can save the report to your personal My Reports menu or to the Admin Reports menu. If you save it to the Admin Reports menu, you can then assign rights access to other users to run, view and edit the report.
- Report Name – Lets you specify a name for the report that appears in the My Reports or Admin Reports menu.
- Description – Lets you provide a brief description of the report.

5.1.3. My Reports

My Reports is a user's personal report shortcut list. This group contains reports that are saved by the user and includes reports which are assigned to the user by the administrator in the Report Access Control feature.

Note: The name of the original standard report is included in parentheses after the name given to the My Reports shortcut.

- Reports with a lock logo are personal reports created by the user.
- Reports with a gear logo are reports created by an admin user and granted to a standard user for viewing.

To delete a saved report from the My Reports menu, select the Delete Report button at the bottom of the My Reports report page. This does not delete the original report from the application but will remove the shortcut from the My Reports list.

5.1.4. Recent Reports

The Recent Reports list shows the last 10 reports that have been run by a user and the time that each report was run. Users can easily select the report from the list and chooses to Run or Export the report once again.

Note: There is no option to customize the recent report and save for use in other parts of the report feature.

5.1.5. Admin Reports

The Admin Reports list displays reports which have been saved by users in the administrators group to the Admin Reports folder. All administrators have access to the same list of Admin Reports. The name of the report in the list is the name assigned when it was saved and the name of the original report from which it was created in parentheses.

When the report is selected from the list users can perform the following functions:

- Run – Generate a PDF output of the defined report.
- Export – Generate an Excel CSV output of the defined report.
- Save – Allows users to modify the report settings and save back to the Admin Reports list for future use.

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- Delete – Removes the report from the Admin Reports list. Note this has no impact on the original report from which the Admin Report link was created.

Note: Only users in the administrators group have access to run or manage reports in this list.

5.1.6. Report Access Control

Report access control is set in the user group. It can be found in the Rights Access menu group > User Groups menu item > user group name > Reports tab.

Note: All Standard reports by default are able to be managed by all users of the application. Administrators must restrict access to these reports to limit users from running them.

For details refer to the Rights Access section of this document.

5.1.7. Report Creator

The Report Creator feature allows users to define their own ad hoc reports by choosing fields, applying filters, sort order, grouping and math to the resulting output as needed. When the menu item is first selected users will be presented with a list of folders and reports which have been created already.

Under the Report Creator menu the following functions are available to the user:

- Create Folder
- Edit Folder
- Delete Folder
- Delete Report
- Add & Edit Report

5.1.7.1. Create Folder

Users can create a folder structure to help organize the custom created reports by clicking the Create link at the top of the reports list. Users provide a folder name and click the OK button.

5.1.7.2. Edit Folder

Users can select the folder from the list and then click the Edit button to change the folder name.

5.1.7.3. Delete Folder

Users can delete the folder from the folder tree by selecting the folder and then clicking the Delete button. **Note:** The user will need to confirm that deleting a folder will also delete ALL reports which are listed under the report. Please execute this command carefully as there is no undo feature if the reports are inadvertently deleted.

5.1.7.4. Delete Report

Users can delete a report by selecting the report from the list and clicking on the Delete button.

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5.1.7.5. Add & Edit Report

The Add Report button will open the report configuration page which allows users to define the custom report. To edit a report, users can choose the report from the list and the current settings will be presented in the configuration part of the page. Edits to the settings can be made and choosing the Save button will update the report configurations. On this page the following functions and features are available:

- Edit/Preview Views – By default the Edit view is presented to the user which allows for report configurations to be defined. At any time during the creation or modification of the report, the Preview button can be selected to view a sample of the data which would be reported based on the current configuration settings. Please note the Preview output is limited to the first 20 records of the report only. These buttons act as toggle buttons to swap between these views of the configuration tool.
- Save/Run/Export Buttons – Users can save the report to capture edits to the configuration, run the report to view the output in PDF format or export the report to view the output in Excel format.
- Name/Folder/Description – Users assign the custom report a name and description by entering text into the relevant fields for this information. The Folder option is a dropdown list of folders which are created in the Report Creator list so the custom reports can be better organized.
- Data Group – Defines the type of report to be created. Users can create reports based on device data or based on location data.
- Row Limit – This value will limit the output of records into the report. If the actual data exceeds the defined Row Limit the data reported will be the first number of records defined with this field.
- Sorted By – Allows the user to define the primary sort order for records in the report. Fields must be added to the report output to be included in this dropdown selection box.
- Date Range – Allows users to report on data from a specific start and end date.
- Field List – A list of the fields selected for the report is presented in a table at the bottom of the screen. As fields are selected they are added to the list in the order in which they are selected. Users can change the order of the fields with a simple drag and drop of the field name to the location in the list where user would like to see the field listed. By default, the Device Name field is listed in a Device Data report and Location Name is listed in a Location Site Data report.
- Add Field Button – Clicking the Add Field button shows a list of the fields which can be added to the report. Users can click the checkbox next to the fields that need to be included in the report. All possible report fields are consolidated into one list that can be filtered using the Quick Find field at the top of the list.
- Remove All Field Button – This feature will remove all fields from the field list with the exception of Device Name or Location Name fields. To remove only a single field, users can click the blue X button to the left of the field name in the Edit view.

After the fields have been selected and put in the correct order, users can then fine tune the data presentation with the following field attributes:

- Field – This is the actual field name from the list of fields to be included in the report. By default, this name will be used in the column heading of the report output.
- Field Name – Allows the user to override the column heading in the report output to use a text string different than the default field name.
- Decimal – For integer and decimal data types, this setting will present the defined number of decimals for all values in the report output.
- Group By – Allows users to define a primary group by setting for grouping records in the report output. Only one level of grouping is available for the report definition.
- Range/Value – Allows users to filter the results of the report based on a defined criteria for the field. For example, if users customize the Manufacturer field with the range "equals" and value "Eaton", the report output will only show Eaton devices.

Users may also add fields to the reports which are based on calculations with one or more existing values or attributes. When adding fields to the report choose the Add Calculation button and a new field will be added to the bottom of the field table.

- The Field column will be automatically populated and can't be edited by the user. The user can define the Field Name which will be displayed in the report.
- Formula Applied – Allows the user to modify the reported data based on specific math calculations. Click the yellow edit icon to access the formula calculator interface.
- The Att button will provide a list of attributes which can be used to define the calculation.
- Multiple values and attributes can be used in a single calculation.
- Use parentheses as in normal order of operations to control the math processing of the applied formula.
- Select the math operators and number keys to create the full calculated formula to use in the report.

5.1.8. Scheduled Reports

The Scheduled Report feature allows administrators to schedule the delivery of reports to any user of the application. The reports will be sent via email to the email address defined for the users. The email server settings are defined during the installation process and are maintained in the configuration files of the application. Destination email addresses are defined for each user when they are provisioned to the system.

A list of previously defined schedules will be listed in the left part of the menu. Users can create New scheduled report jobs by hitting the New button, edit an existing scheduled report by selecting the scheduled report and making changes or deleting a scheduled report by selecting the report from the list and hitting the Delete button.

The following fields can be defined for the scheduled report jobs:

- Task Name – Name of the scheduled report which will be listed in the menu area on the left.

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- Report Type – Allows the user to select from the three primary types of reports to manage. Personal Reports are the list of My Reports. Admin Reports are listed in the Admin Reports menu and only available for users in the administrators group. Custom Reports are a list of the reports created in the Report Creator feature.
- Report – List of reports which match the Report Type selected. Users can select one report to define the scheduled deliver for that report.
- Message Recipients – List of users to include on the email distribution. The email address configured for the users on the System Users page will be used to deliver the report. Individual users can be selected or user groups can be selected to define which users will receive the report.
- Run Frequency – Allows the user to define the frequency to deliver the report. The time of the delivery will be based on the cron job setting which controls this report delivery feature.
- Start Date/End Date – Start and end dates for the delivery of the report.

The Verify button will send a sample email notification for the defined scheduled report to confirm the settings of the task are defined correctly. This verification process only sends an email to the user configuring the report and not to all intended recipients defined as part of this scheduled report job.

5.2. Graphs Menu Item

The Graphs option allows users to assemble data in the application into dashboards using a variety of available components. These Graphs can then be associated with Monitoring Templates to apply them to multiple devices. For previously defined Graphs, users can view the data as it relates to devices in the application and make edits to the Graph definitions.

5.2.1. Graph Table List

The initial view presented when the Graphs menu item is selected is a list of defined Graphs. The table list contains the following fields:

Table List Column	Description
Actions	Runs the Graph to show actual data as configured with the components.
Name	Name of the Graph. Selecting this link will open the definition of the Graph and allow user to make edits.
Type	Shows the type of Graph defined. Options are Template or Specific Devices.
Monitoring Template	Lists the Monitoring Template associated with the Graph.
Components	Number of Graph components defined in the view.
Last Updated By	Last user to update and save the Graph.
Last Updated	Time the Graph was last updated and saved.
Table List Button	Description
New	Create a New Graph to be viewed by users.
Delete	Deletes the selected Graphs from the list.

5.2.2. Creating a Graph

To create a new Graph user can select the New button at the top of the Graph Table List page. This will present a Graph detail page which is divided into two sections. The top of the page will contain fields for standard form data to define attributes of the Graph and the bottom of the page represents the Graph canvas where components can be placed, aligned and defined to create the Graph view.

5.2.2.1. New Graph Properties

When defining a new Graph, there are properties defined with the Graph which manage where and how a user may access the Graph for viewing live data related to devices managed in the application.

Property Name	Description
Name	Name of the Graph. This will be visible at the device level so users can launch the Graph to view real time data.
Type	User can choose from two options to manage availability of the Graph: • Template – Graph will be associated with a Monitoring Template. Monitoring Templates are applied to devices to the Graph will be associated to devices defined in the Monitoring Template. Components of the Template option are only associated to an Attribute and not to a specific device. • Specific Devices – Each component of the Graph will specify the Device and Attribute of the device. These Graphs will be associated with devices that have components included in the Graph. There is no association of a Specific Device Graph with a Monitoring Template.
Monitoring Template	If Type is set to Template, then this property is used to associate the Graph to an existing Monitoring Template.
Description	Description of the graph.

5.2.2.2. New Graph Components

The Graph is comprised of one or more graphical components to display data related to a device. Graphs are accessed from the Device Central page for a selected device, so the data displayed in the Graph is related to the device from which the Graph is generated. If the Graph is based on specific devices, then the components will show the data related to the defined device and attribute combination.

The following components are available for users to add to a Graph.

5.2.2.2.1. Circular Gauge

The Circular Gauge will provide a value for a single attribute of data related to a device. The attribute must be numeric to be properly used with this component.

Property Name	Description
Label	String to be displayed on the top left of the component when viewed in a Graph.
Minimum | Maximum	The smallest and largest values to be displayed on the gauge.

5.2.2.2.2. Trend Chart

The Trend Chart displays historical time series data of one or more attributes of data related to the device. The attribute must be numeric to be properly used with this component.

Property Name	Description
Label	String to be displayed on the top, left of the component when viewed in a Graph.
Default	Default time interval to be displayed with the trend chart when viewed on a Graph. Users may change this interval by clicking the calendar icon on the trend chart component.

5.2.2.2.3. Table

The Table component allows users to present table data which is commonly reported with SNMP Table and Table Column OID attributes.

5.2.2.2.4. Number Gauge

The Number Gauge will display the device name, attribute, value and unit for the device and attribute associated to the component. The only property managed with this component is the Label which will appear on the top, left of the component when viewed in a Graph.

5.2.2.2.5. Percentage Gauge

The Percentage Gauge will show the value of the attribute compared to a minimum and maximum range defined with the graph component. A bar indicator will show the percentage of the actual value of the attribute with the defined minimum and maximum values.

Property Name	Description
Label	String to be displayed on the top, left of the component when viewed in a Graph.
Default	Default time interval to be displayed with the trend chart when viewed on a Graph. Users may change this interval by clicking the calendar icon on the trend chart component.

5.2.2.3. Adding Components to a Graph

After the Graph properties have been defined, users can click the Add Component button to create a new component on the Graph.

5.2.2.3.1. Adding a Template Component

If the Graph type is for a Template, then users will need to choose from the list of Attributes defined on the Monitoring Template. Selecting multiple attributes will only enable the Trend Chart component option. Selecting a Table attribute will only enable the Table component option. Click Next to choose the component type.

Select Attributes
This is required. You need to select one or more items.

Attribute IF	Monitoring Template	Data Type	Monitor Type	Value Type	Unit
Attribute	Monitoring Template	Data Type	Monitor Type	Value Type	Unit
Humidity	Tampa Bacnet	Scalar	BACNET	Decimal	%
Temperature	Tampa Bacnet	Scalar	BACNET	Decimal	°F

« ‹ 1 to 2 of 2 › »

5.2.2.3.2. Adding a Specific Devices Component

When adding a component for a specific device

- Click Add to select a device
- Click Next to select an attribute on the device
- Click Next to select the type of component desired
- Click Submit to add that component to the graph

5.2.2.4. Editing Components on a Graph

Each component on the graph has three icons for editing:

- ⊕ The Move Icon allows the user to drag the component to the desired location.

- ✎ The Edit Icon allows the user to modify the component using the same tools used for creating the component.

- 🗑 The Remove Icon allows the user to remove the component from the graph.

5.3. Power Project Plans

Power Project Plans assist users in determining the overall power and rack unit requirements for a list of devices. By leveraging the expansive model library, users can model power and rack space consumption by adding multiple quantities of selected models to a power project plan. This tool is commonly used to define rack and power distribution needs for racks.

The initial view presented when the Power Project Plans menu item is selected is a list of defined project plans. The table list contains the following fields:

Table List Column	Description
Name	Name of the power project plan – click to view details and edit the plan
Customer	User defined customer name for power plan
Total Devices	Total number of devices identified in the project
Power (kW)	Total power needs for all of the devices in kW
Heat Output (BTU/hr)	Total heat output for all of the devices in BTUs per hour
RU Total	Total number of rack units for the devices identified in the project
Creator	Username of the person who created the plan
Create Date	Date the plan was created

Modify Date	Date the plan was last modified
Table List Button	**Description**
New	Create a New power project plan
Delete	Deletes the selected power project plans from the list

Note: Users can only view power project plans they have created. The admin user can see all power project plans.

5.3.1. Creating a New Power Project Plan

Select the New button and a new Power Project Plan form is opened. The following screen is presented to the user with the functions defined below.

1. The buttons on the upper right perform the following tasks:
   a. New - Opens a form to create a new project
   b. Submit - Submit the currently viewed project to the main project list
   c. Submit & New - Submits the current project and opens a blank form for a new project
   d. Export - Exports the current project to an Excel spreadsheet
2. Name - Enter the name for the power project plan
3. Customer - Enter the name of the customer
4. Add - Opens a window where devices can be selected from the full set of models supported in the power project tool. Selected models along with the defined quantity will be added to the power project plan detail table.
   e. Filter the list to find the desired devices
   f. Select the check box to choose the device and set the quantity. By default, the quantity is set to 1.
   g. Click Submit to add the devices to the device list in the project
      Note: The Power setting can be edited on the device. In some cases, the power reading for the model in the model library may be based on a high-performance power supply, but other power supply options may exist.
   h. Close will close the window without adding devices to the list

5. Remove - Deletes entries from the table where the check box is selected
6. Custom – Adds a new record to the table which allows the user to define a model which is not found in the model library. Users can assign attributes to this custom model as needed to accommodate device requirements.
    i.   Please submit a model request to add this model to the application. This will allow all users to leverage the model list for this model once it is updated in the application.
    j.   Fields are not mandatory. The values assigned to the new custom entry will be used only if they are defined.

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6. Alarms

The initial view presented when the Alarms group menu item is selected is a list of current alarms. The table list contains the following fields:

Table List Column	Description
Ack	Icon which indicates if the alarm has been acknowledged by a user.
Severity	Shows the color-coded severity of the alarm. Green (Normal), Yellow (Warning) and Red (Critical).
Alarm Source	The device that is manifesting the alarm. This is a link that will open the device details page.
Trigger	Name of the Trigger defined for the device.
Rules	Specific rules included in the Trigger definition.
Details	Information about the data which triggered the alarm.
Last Updated	Timestamp of last data collection.
Location	Location where the device exists
Actions	Two icons are listed in the Actions section. One icon provides a history of the Device or alarm Trigger. The other icon allows users to post a comment to the alarm.
Table List Button	**Description**
Acknowledge	Acknowledging an alarm will prevent further escalation of the alarm notifications if multiple levels of escalation are defined in the alarm notification rules. Users can select the checkbox next to the device or data point and click the Acknowledge button to Acknowledge the alarm. The Alarm LED will maintain its color indicating the severity of the alarm, but will have an embedded "A" over the LED to indicate the alarm has been acknowledged. **Note:** The Acknowledged status will be maintained until the alarm is either Cleared or naturally returns to a Normal condition.
Clear	Clears the alarm. **Note:** If the device is still in an alarmed stated during the next polling cycle, the alarm condition will return.

7. Calendar

The initial view presented when the Calendar group menu item is selected is a list of all events for the current day. The user can define complex filters to retrieve data regarding specific types of events during a period and/or related to specific devices or users. The table list contains the following fields:

Table List Column	Description
Icon	Helps identify the event activity
Level	Indicates the event level. Options include Critical, Info, Minor, Normal, Recovery, Unmonitored, Unreachable and Warning.
Date	The timestamp for the event
Category	Indicates the event category. Options include Alarm, Devices, Discovery, Graphs, Location, Monitor, Project, Service, System, User and Warranty.
Event	Indicates what type of event is being reported.
Source	Indicates the source of the event. For example, the source Web is reported when items are manually created. Devices created through an import report the source as Import Central.
Description	Specific details about the event including the user and device names.

8. Rights Access Menu Group

A key component to any implementation is the management of the users and access control rights they have within the system. The Rights Access Menu Group lets administrators manage detailed access controls for all users created in the system. These controls relate to all devices, locations, reports, and other components of the instance.

8.1. Companies Menu Item

The Companies menu item in the Rights Access menu group lets administrators manage multiple companies in the same instance. When users are created, a company designation is required to allow controls for reports and access rights to be applied at the company level.

- To add a new company, click the New button and complete the fields shown in the main portion of the screen.
- To delete a company, select the checkbox next to the company in the list and click the Delete button.

The initial view presented when the Companies menu item is selected is a list of current companies. The table list contains the following fields:

Table List Column	Description
Company	Company name in the list is also a link to open the form with additional details about the company
Country	The country where the company is located
State	The state or province where the company is located
City	The city where the company is located
Zip	The company's zip code
Phone	The company's phone number
Fax	The company's fax number
Email	A general email address for the company
Table List Button	Description
New	Presents a form for creating a new Company
Delete	Deletes the selected Company from the list

8.2. Departments Menu Item

The Departments menu item in the Rights Access menu group lets users manage and report on devices, based on the departments that own them. Each device is assigned to a department on the Device Tab, and the options available for this assignment are based on the departments added to this list. In addition, a department setting is assigned to all users added to the system.

- To add a new department, click the New button and complete the fields shown in the main portion of the screen.
- To delete a department, select the checkbox next to the company in the list and click the Delete button.

The initial view presented when the Departments menu item is selected is a list of current departments. The table list contains the following fields:

Table List Column	Description
Department name	Department name in the list is also a link to open the form with additional details about the department
Company	The company to which the department belongs
Contact Name	A contact name within the company
Contact Phone	A phone number for the contact
Contact Email	An email address for the contact
Description	Additional information about the company
Table List Button	Description
New	Presents a form for creating a new Department
Delete	Deletes the selected Department from the list
Submit & New	Increases efficiency when creating a number of departments sequentially by creating a new form with existing values and presenting a blank new form.

8.3. User Groups Menu Item

User Groups are the central location for access rights control definition and are the primary location for managing all Privileges to all components of the platform. **Note:** Users inherit their rights access based on their membership in a User Group. If a user belongs to multiple groups, they will have effective rights that represent a superset of the individual User Group rights. Properly defining User Groups helps ensure that administrators have a flexible mechanism for managing all access control rights for all users in the system.

Two system User Groups are installed within the system by default: Administrators and Public. The Administrators user group has rights to ALL components of the application, and this access right cannot be modified. Administrators should add only super-administrators of the platform to this group since they will inherit rights to all parts of the system.

All users in the platform are assigned to the Public user group by default, and this group membership cannot be removed. Any access rights granted to the Public User Group are automatically granted to ALL users in the system. This feature provides an easy way for administrators to grant rights to certain parts of the system to all users without editing all User Groups individually.

- To add a new user group, click the New button and complete the fields shown in the main portion of the screen.
- To delete a user group, select the checkbox next to the company in the list and click the Delete button.

8.3.1. User Groups List

The initial view presented when the User Groups menu item is selected is a list of current user groups. The table list contains the following fields:

Table List Column	Description
Group Name	Group name in the list is also a link to open the form where group rights access is configured.
Users	Number of users in the group.
Description	Description of the group.
Table List Button	**Description**
New	Presents a form for creating a new Group.
Delete	Deletes the selected Group from the list.

8.3.2. User Group Form

Selecting an existing group or the New button presents the User Groups form. The User Group form has static fields in the top section followed by tabs that present their own lists related to the group.

Fields	Description
Name	Name of the group.
Description	Information about the group.
Table List Buttons	**Description**
New	Presents a form for creating a new Group.
Submit	Creates the new group with information from form.
Submit & New	Increases efficiency when creating a number of groups sequentially by creating a new form with existing values and presenting a blank new form.
⌃ ⌄	These buttons collapse and expand the upper area of the form to provide more space for the tables.

8.3.2.1. Users Tab

The initial view presented when the Users Tab is selected is a list of current members of the current User Group. The table list contains the following fields:

Users Tab List Column	
User Name	Name of the user is also a link to open the form with additional details about the user.
User Group	List of groups to which the user belongs.
Company	Company to which the user belongs.
Departments	Departments to which the user belongs.
User List Buttons	
Add	Adds user to group. Check users to be added from list and click Submit to save. Close, closes the window and does not save.
Remove	Removes user from the group.

8.3.2.2. Components Tab

The initial view presented when the Components Tab is selected is a list of System Components and Rights Access levels for the current User Group. The table list contains the following fields:

Components Tab List Column	
System Component	A list of all the Menu Groups and Menu Items.
Rights Access	Check boxes to assign rights access levels for each component.
User List Option	
Check All	Checks all the Rights Access check boxes, providing full access to everything.

8.3.2.3. Locations Tab

The initial view presented when the Locations Tab is selected is a list of locations from the navigation tree and Rights Access levels for the current User Group. The table list contains the following fields:

Locations Tab List Column	
Location	Hierarchical list of location nodes.
Rights Access	Checkboxes to assign rights access levels for each location.

Please note the following rules for selecting rights on the Location page:

- View selection will be inherited to nodes up the navigation tree. For example, if you choose View for a Floor, then View rights will be automatically granted for Country, State, City and Building related to the Floor selection.
- View rights granted to a floor will automatically grant View rights to Areas within the floor. Users can turn off Area view rights if they are not needed.
- Edit rights for Areas are managed by granting Edit rights to the floor. There is no explicit option to grant Edit rights to an individual Area.
- Edit rights are not inherited to other nodes of the navigation tree with the exception of Areas inherit from the Floor.

8.3.2.4. Groups Tab

The initial view presented when the Groups Tab is selected is a list of Device Groups, Rack Groups and Rights Access levels for the current Group. The table list contains the following fields:

Locations Tab List Column	
Group Name	Name of the group is also a link to open the form with additional details about the group.
Category	Displays if it is a Device Group or Rack Group.
Devices	Lists the number of devices in the group. Device Name filter in the filter bar allows you to enter a Device Name and it will filter to show only the groups to which that device belongs.
Access	Check boxes to assign rights access to Device and Rack Groups for the current User Group.

8.3.2.5. Devices Tab

The initial view presented when the Devices Tab is selected is a list of Devices that correspond to the Device and Rack Group selected for the current User Group. The table list contains the following fields:

Devices Tab List Column	
Device Name	Name of the device is also a link to open the form with additional details about the device.
Device Group	Displays the device groups to which the device belongs.
Lifecycle Status	Displays the device's lifecycle - Operational, Available, etc.
Rights Access	Displays the Rights Access for the device by the current User Group. The values cannot be changed. The values are controlled in the Groups tab at the Device Group level.

8.3.2.6. Reports Tab

The initial view presented when the Reports Tab is selected is a list of the Standard Reports and Rights Access levels for the current Group. The table list contains the following fields:

Reports Tab List Column	
Report Name	Name of the report.
Rights Access	Check boxes to assign rights access to Reports for the current User Group.

8.4. Users Menu Item

The initial view presented when the Users menu item is selected is a list of current users. The table list contains the following fields:

Users List Column	Description
User Name	Name of the user is also a link to open the form with additional details about the user.
First Name	Displays user first name.
Middle Name	Displays user middle name.
Last Name	Displays user last name.
Company	Company to which the user belongs.
Department	Departments to which the user belongs.
Phone Number	Displays phone number.
Email	Displays email address.
Description	Displays description.
Table List Button	**Description**
New	Presents a form for creating a new User.
Delete	Deletes the selected User from the system.

8.4.1. User Form

Selecting an existing user or the New button presents the User form. The User form has static fields in the top section followed by tabs that present their own lists related to the user.

Fields	Description
User Name	Login user name.
First Name	Displays user first name.
Middle Name	Displays user middle name.
Last Name	Displays user last name.
Company	Company to which the user belongs.
Department	Departments to which the user belongs.
Description	Displays description.
Phone Number	Displays phone number.
Email	Displays email address.
Password	Enter or reset a password for the user. It is not displayed.
Confirm Password	Re-enter the password for the user. It is not displayed. You will get an error if it does not match.
Require change to password Checkbox	Check the box to require change to password after the first login.
Password Expiration Date	Displays when the password will expire. Linked to Password Expiration Days in the Settings menu group, System Settings menu item.
Account Expiration Date	Displays the date that the account will expire.
Table List Buttons	**Description**
New	Presents a form for creating a new Group.
Submit	Creates the new group with information from form. Submit also saves changes to an existing user's form.
Submit & New	Increases efficiency when creating a number of users sequentially by creating a new form with existing values and presenting a blank new form.
Delete	Delete the checked user from the list or the user who's form is open.
⌃ ⌄	These buttons collapse and expand the upper area of the form to provide more space for the tables.

8.4.1.1. User Groups Tab

The initial view presented when the User Groups Tab is selected is a list of system user groups.

Group – Lets administrators assign User Group membership to a user. All access control rights for a user are inherited based on the User Groups to which they belong. All users are members of the Public group by default, and this setting cannot be changed.

You can manage User Group membership by selecting User Groups from the group lists and selecting the Add or Remove buttons as needed. You can select multiple User Groups by using the Shift or Ctrl shortcut keys.

- Check the box next to the groups where you want to add the User and click Submit to save.

The table list contains the following fields:

User Group Tab List Column	
Group Name	Name of the group is also a link to open the form with additional details about the group.
Users	Lists the number of users in the group
Description	Displays description of the group.

8.4.1.2. Components Tab

The initial view presented when the Components Tab is selected is a list of System Components and Rights Access levels for the current User based on the User Groups to which they belong. These cannot be edited here. The table list contains the following fields:

Components Tab List Column	
System Component	A list of all the Menu Groups and Menu Items.
Rights Access	Check boxes displaying the user's rights access levels for each component.

8.4.1.3. Locations Tab

The initial view presented when the Locations Tab is selected is a list of locations from the navigation tree and Rights Access levels for the current User based on the User Groups to which they belong. These cannot be edited here. The table list contains the following fields:

Locations Tab List Column	
Location	Hierarchical list of location nodes.
Rights Access	Check boxes indicate the rights access for the current user. View rights indicate the user will be able to view the node in location lists and can view location level data. Edit rights allow users to update settings for the location, create subnodes on the location and place devices to the location if it is a Floor or Area.

8.4.1.4. Groups Tab

The initial view presented when the Groups Tab is selected is a list of Device Groups, Rack Groups and Rights Access levels for the current User based on the User Groups to which they belong. These cannot be edited here. The table list contains the following fields:

Locations Tab List Column	
Group Name	Name of the group is also a link to open the form with additional details about the group.
Category	Displays if it is a Device Group or Rack Group.
Devices	Lists the number of devices in the group. Device Name filter in the filter bar allows you to enter a Device Name and it will filter to show only the groups to which that device belongs.
Access	Check boxes indicate the rights access for the current user.

8.4.1.5. Devices Tab

The initial view presented when the Devices Tab is selected is a list of Devices that correspond to the Device and Rack Group selected for the current User based on the User Groups to which they belong. These cannot be edited here. The table list contains the following fields:

Devices Tab List Column	
Device Name	Name of the device is also a link to open the form with additional details about the device.
Device Group	Displays the device groups to which the device belongs.
Lifecycle Status	Displays the device's lifecycle - Operational, Available, etc.
Rights Access	Check boxes indicate the rights access for the current user.

8.4.1.6. Reports Tab

The initial view presented when the Reports Tab is selected is a list of the Standard Reports and Rights Access levels for the current User based on the User Groups to which they belong. These cannot be edited here. The table list contains the following fields:

Reports Tab List Column	
Report Name	Name of the report.
Rights Access	Check boxes indicate the rights access for the current user.

8.5. Owners Menu Item

The Owner attribute serves the purpose of allowing users to track the ownership of devices and projects. On this page Owners can be created and devices can be bulk assigned to them for tracking. An owner must be created before it can be associated with a device on the device's form.

The initial view presented when the Owners menu item is selected is a list of current owners. The table list contains the following fields:

Table List Column	Description
Owner Name	Displays owner name.
Phone Number	Displays phone number.
Email	Displays email address.
Devices	Displays the number of devices belonging to the owner. The Device Name filter in the filter bar allows you to enter a Device Name and it will filter to show only the owner to which that device belongs.
Projects	Displays the number of project belonging to the owner. The Projects filter in the filter bar allows you to enter a Project Name and it will filter to show only the owner to which that project belongs.
Table List Button	Description
New	Presents a form for creating a new Owner.
Delete	Deletes the selected Owner from the system.

8.5.1. Owners Form

Selecting an existing owner or the New button presents the Owner form. The Owner form has static fields in the top section followed by tabs that present their own lists related to the owner.

Fields	Description
Name	Owner name.
Phone Number	Displays phone number.
Email	Displays email address.
Description	Displays a description of the owner.
Table List Buttons	Description
New	Presents a form for creating a new Owner.
Submit	Creates the new owner with information from form. Submit also saves changes to an existing owner's form.
Submit & New	Increases efficiency when creating a number of owners sequentially by creating a new form with existing values and presenting a blank new form.
Delete	Delete the checked owner from the list or the owner who's form is open.
⤒ ⤓	These buttons collapse and expand the upper area of the form to provide more space for the tables.

8.5.1.1. Devices Tab

The initial view presented when the Devices Tab is selected is a list of Devices that belong to the current owner. Users can add and remove devices. The table list contains the following fields:

Devices Tab List Column	
Device Name	Name of the device is also a link to open the form with additional details about the device.
Type	Displays the device's type name.
Manufacturer	Displays the device's manufacturer name.
Product Line	Displays the device's product line name.
Model	Displays the device's model name.
Lifecycle Status	Displays the device's lifecycle status - Available or Operational
Description	Displays the device's description.
Table List Buttons	Description
Add	Presents the list of devices and users check the box to bulk assign them the current owner, click Submit to assign or Close.
Remove	Removes the association between the selected devices and the owner.

8.5.1.2. Projects Tab

The initial view presented when the Project Tab is selected is a list of Project that belong to the current owner. The table list contains the following fields:

Projects Tab List Column	
Project Name	Displays the name of the project.
Project Number	Displays the number assigned to the project.
Status	Displays the project department.
Start Date	Displays the project start date. Filter bar allows user to enter a start date and end date range which filters for projects with a start date is in that range.
End Date	Displays the project end date. Filter bar allows user to enter a start date and end date range which filters for projects with a start date is in that range.

8.6. Current Users Menu Item

The Current Users menu item lets administrators see who is actively using the application. The IP Address, Login Time, and Last Active timestamps are displayed for all currently connected users to the system.

You can terminate User sessions by selecting the check box in the Select column and clicking the Terminate button. Users are notified that their session is terminated and are returned to the login screen.

The initial view presented when the Current Users menu item is selected is a list of current users. The table list contains the following fields:

Table List Column	Description
User	Displays user's login name.
First Name	Displays user's first name.
Last Name	Displays user's last name.
Email	Displays user's email address.
Phone	Displays user's phone number.
IP Address	Displays user's IP address.
Login Time	Displays the time the user logged in. Filter bar allows user to enter a start date and end date range which filters for users with a login date is in that range.
Last Active	Displays when the user was last active on the system. Filter bar allows user to enter a start date and end date range which filters for users with a last active date is in that range.
Table List Button	Description
Terminate	Ends the session for the selected user and forces them back to the login prompt.

9. Groups Menu Group

The Groups feature allows users to define Device Groups and Rack Groups to help manage user rights access and dashboard views for devices.

Note: Devices that do not have a device group setting can be managed only by users in the administrators group. Other users can only view and manage devices where they have explicitly been granted rights to the device's Device Group in their User Group rights access settings.

Device Groups let administrators manage rights access to all devices created in the application. Grouping several devices together in a device group lets administrators assign create, modify, delete, and view rights to these groups. These access rights are managed in the User Groups menu item under the Rights Access menu group.

Rack Groups are available to allow users to access Rack Group dashboard views and easily track power, space and cooling information related to racks. These dashboards are accessed when users select a Rack device in the navigation tree. The rack group name is shown in parentheses next to the rack name and a Rack Group button is available to view the Rack Group dashboard. The setting for the Rack Group can be defined at the group by adding a device to the group or at the device by adding the group to the device.
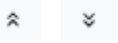
The initial view presented when the Groups menu group is selected is a list of current groups. The table list contains the following fields:

Table List Column	Description
Group Name	The group name in the list is also a link to open the form with additional details about the group
Category	Displays if this is a Device Group or Rack Group
Devices	Displays the number of devices belonging to the group. The Device Name filter in the filter bar allows you to enter a Device Name and it will filter to show only the groups to which that device belongs.
Description	Displays the text in the group's description

Table List Button	Description
New	Presents a form for creating a new group
Delete	Deletes the selected group from the list

9.1. New Group Form

Selecting an existing group name or the New button presents the group form. The Group form has static fields in the top section, a user groups table for specifying rights access and a Devices Tab listing the devices associated with the current group.

Fields	Description
Name	Group name
Category	Displays the group category from a pull-down menu with options Device Group or Rack Group
Description	Displays a description for the group

User Group Table List Columns	Description
Group Name	User Group name
Rights Access	Rights Access of the User Group to the current Device or Rack Group
Table List Buttons	**Description**
New	Presents a form for creating a new group.
Submit	Creates the new group with information from form. Submit also saves changes to an existing group's form.
Submit & New	Increases efficiency when creating a number of groups sequentially by creating a new form with existing values and presenting a blank new form.
⇧ ⇩	These buttons collapse and expand the upper area of the form to provide more space for the tables.

9.1.1. Devices Tab

The Devices Tab displays a list of Devices that correspond to the current Device and Rack Group. The table list contains the following fields:

Devices Tab List Column	
Device Name	Name of the device is also a link to open the form with additional details about the device.
Type	Displays the device's type name.
Manufacturer	Displays the device's manufacturer name.
Product Line	Displays the device's product line name.
Model	Displays the device's model name.
Lifecycle Status	Displays the device's lifecycle status - Available or Operational
Description	Displays the device's description.
Table List Buttons	**Description**
Add	Presents the list of devices and users check the box to bulk assign them the current group, click Submit to assign or Close.
Remove	Removes the association between the selected devices and the group.

10. Devices Menu Group

The Devices Menu Group contains menu items for creating, deleting and managing devices.

10.1. Devices Menu Item

The Devices Menu Item displays a list of all the devices in the system. The table list contains the following fields:

Table List Column	
Device Name	Name of the device is also a link to open the Device Central panel that contains the device's attributes list, function tiles and monitoring details.
Type	Displays the device's type name.
Manufacturer	Displays the device's manufacturer name.
Product Line	Displays the device's product line name.
Model	Displays the device's model name.
Lifecycle Status	Displays the device's lifecycle status - Available or Operational
Asset Tag	Displays the contents of the Asset Tag attribute.
Serial Number	Displays the contents of the Serial Number attribute.
IP Address	Displays the contents of the IP Address attribute.
Location	Displays the location where the device has been placed.
Table List Buttons	**Description**
Import	Presents the Import Wizard for bulk loading of devices. For further instructions see the Import Central section.
New	Presents the form for creating a new device.
Clone	Duplicates the selected devices.
Delete	Deletes the selected devices from the system.

10.1.1. Exporting Devices

Exporting devices is useful for making bulk changes or as a method of identifying the syntax for creating spreadsheets for bulk importing. Exporting devices is done using the Export option from the Devices table list menu.

1. Filter the device list so it displays the list of items you wish to export
2. Click on the table filter button, select Export > Excel
3. The Excel file will be in your Downloads folder
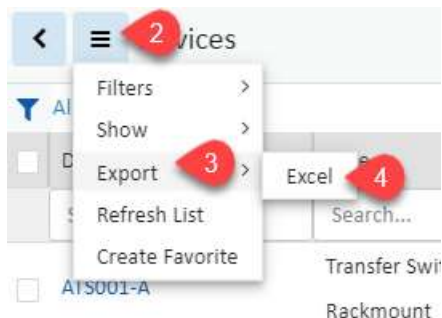
10.1.2. Device Form

Selecting the New button presents the New Device form. The New Device form has static fields on the left section and a groups table for associating the device with rack and user groups.

Fields	Description
Name	Device name
Quantity	Number of devices to be created
Type	Enter the device's type name.
Manufacturer	Select the device's manufacturer name.
Product Line	Select the device's product line name.
Model	Select the device's model name.
Lifecycle	Select Available or Procurement
Owner	Select an owner
Department	Select a department
Energy Device Type	Select Energy Device Type - see list below for a description of options.
Energy Data Source	Select Energy Data Source - - see list below for a description of options.
Description	Enter user defined description for device.
Group Table List Columns	Description
Group Name	User Group name
Category	Displays if it is a device or rack group
Devices	Displays the number of devices belonging to the group. The Device Name filter in the filter bar allows you to enter a Device Name and it will filter to show only the groups to which that device belongs.
Description	Displays the text in the group's description field.
Table List Buttons	Description
New	Presents a form for creating a new device.
Submit	Creates the new device with information from form. Submit also saves changes to an existing device's form.
Submit & New	Increases efficiency when creating a number of devices sequentially by creating a new device with existing values and presenting a blank new form.

10.1.2.1. Energy Settings for Reporting

Energy settings are used to define how certain power attributes should be reported in the reporting system. Several options for defining Energy provide a flexible way to control how values are aggregated and reported. **Note:** Energy settings defined at the Model level are inherited by default on all created devices based on that model. However, these settings can be overridden at the device level.

Energy Type – Each device is assigned an Energy category which allows the application to group similar devices for reporting. These categories allow for a series of data center efficiency metrics to be calculated. The options for this setting are as follows:

- Energy Monitor – This value is a monitoring probe that collects energy data from devices.
- Energy Source – This value defines the amount of power delivered to the facility. For efficiency purposes, this value allows us to understand the total power consumed at the facility and will inform users of how efficiently power is being delivered to end devices.

- Energy Transport – All devices used to deliver power form the source to the end devices fall into this category. For example, PDU, UPS, switch gear and other similar devices will deliver power thru the facility to the end devices.
- IT Device – This value is the target of the power provided to the facility. For example, servers, storage and network gear would typically be assigned this category.
- Non-IT Device – In some instances, computers, monitors and other IT devices are located in the data center but are not the end user IT devices which the data center is designed to support. An example of a Non-IT device would be the system administrator's computer which is located in a cube within the data center facility.
- IT Cooling Device – This value is any type of cooling device used in the data center. This device is tracked separate from other facility devices to better understand the impact that cooling power consumption has on the data center and allows for cooling specific efficiency calculations.
- Non-IT Cooling Device – In some instances there are cooling devices which serve locations other than the Data Center which are served by the data center power source. These devices are also tracked separately to improve the accuracy of the efficiency calculations used for the data center facility.

Energy Source – Defines where the values should be collected to report on Energy attributes. Available options are as follows:

- Monitor – Use values collected from monitoring probes to calculate energy for the device.
- Static – Use the nameplate attributes defined in static attributes for the device.
- None (or null) – Do not include this device in Energy reporting.

10.1.3. Device Central for Existing Devices

When a device name link is selected in the Devices Menu Item list or any other device list, the user is presented with the Device Central device page. Device Central initially displays:

- Basic Information attributes list
  - Ability to modify editable fields
  - Links to Type, Manufacturer, Product Line, Model, Floor and Area
  - Use the   button to hide/show the Basic Information attributes list
- Function Tiles display and allow configuration of the named function as configured for the selected device
- Real-time Monitoring Data displays a table with all the monitored data points for the device, links to the attributes and data sources along with the current value and last updated timestamp.

Devices Menu Group
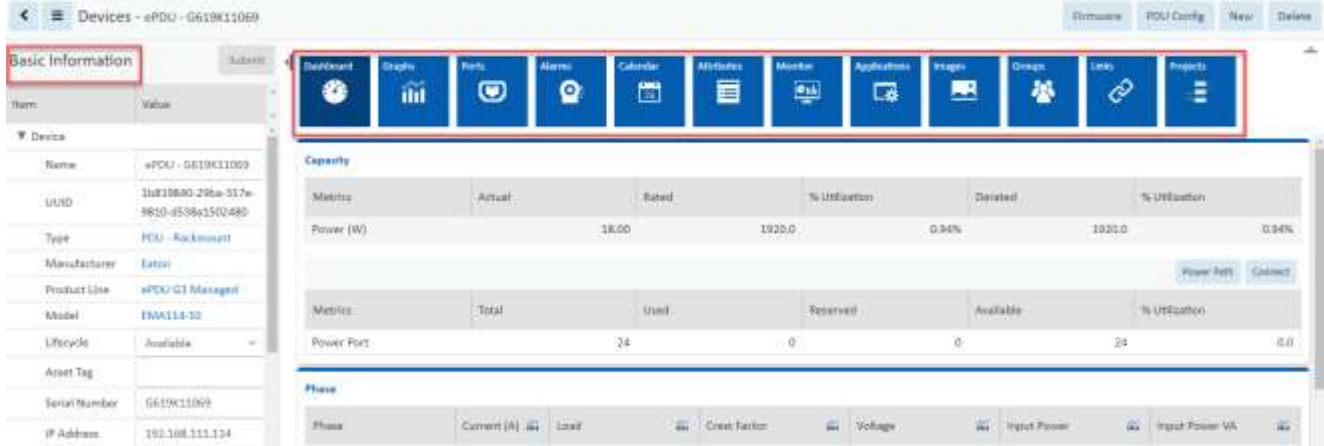
10.1.3.1. Buttons on Upper Right

The buttons on the upper right corner include a New and Delete button and then other features depending on the type of device selected.

10.1.3.2. Function Tiles

When a Function Tile is selected the data for the specific device is displayed.

10.1.3.2.1. Dashboard Function Tile

Displays the enhanced dashboard for some device types and the real time monitoring. Dashboards report device conditions and can provide device controls. For details regarding the enhanced dashboards for specific device types please refer to the Device Dashboards section of this document. Devices with enhance dashboards include:

- PDUs - Floor and Rackmount
- Racks
- Rack Groups
- UPSs Rackmount
- Servers
- Switches
- Access Control Devices (cabinet locks)

10.1.3.2.2. Graphs Function Tile

Displays the graphs associated with the device. See the Graphs section for details on creating graphs. Click the play button to see the graphs with the device's monitored data.
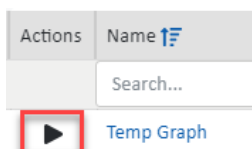
10.1.3.2.3. Ports Function Tile

Displays and manages the ports list for the device on the Definition tab. The Connections tab displays the devices connections configured with port mapping.

10.1.3.2.4. Alarms Function Tile

Displays the alarm table list for the device. See the Alarms section for details.

10.1.3.2.5. Calendar Function Tile

Displays the calendar log for the device. See the Calendar section for details.

10.1.3.2.6. Attributes Function Tile

Displays the full list of attributes for the device. Users can edit existing attributes and add/remove attributes. See the Attribute Manager section for details.

10.1.3.2.7. Monitor Function Tile: Configuring Device for Monitoring

Displays the monitoring settings for the device.
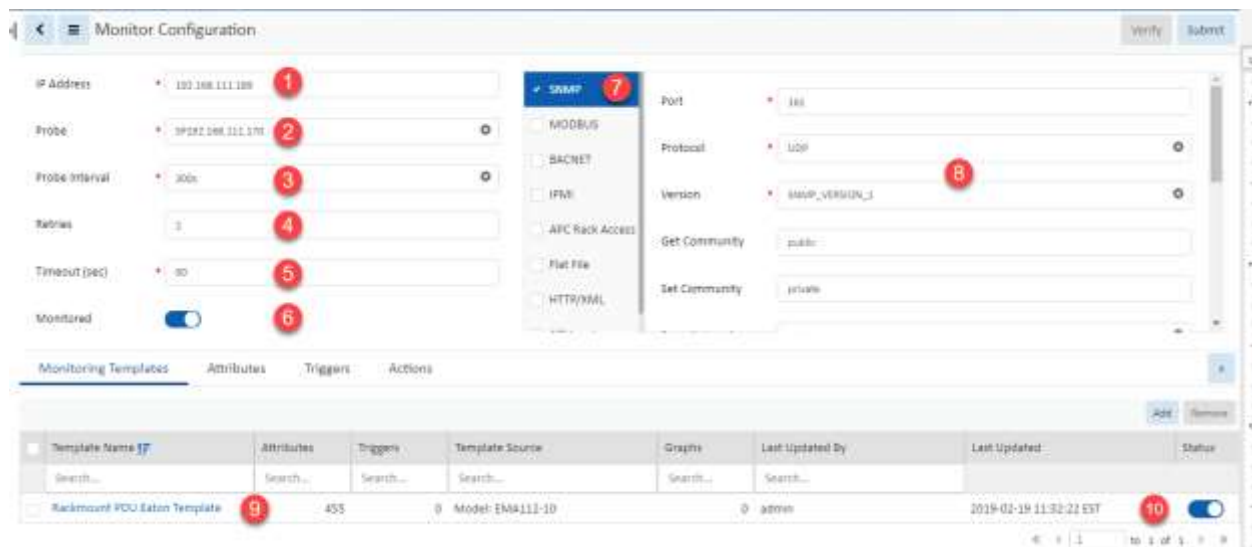
Regardless of the protocol to be configured, the following monitoring attributes are defined for the device.

1. **IP Address** - Defines the IP address of the device providing the data for the device.
   Note: If gateways or aggregators are used to provide data, use the IP Address of these devices and not the end device.
2. **Probe** - Determines which probe engine will be the primary source for collecting the raw data from the device.
3. **Probe Interval** - Defines the probe interval for the polling engine to use to collect data from the device. By default, this is set to 60 seconds.
   Note: If this setting is changed then the historical trend data will be reset, and all previous collected trend data will no longer be available. Please use caution when changing this setting.

4. **Retries** - If selected, the polling engine retries a polling attempt that did not respond during the timeout period. If the specified number of retry attempts also fails to get a response from the device, the probe stops trying for a response on this polling attempt.
5. **Timeout (sec)** - Defines the period of time in which the polling engine considers the device to be unreachable for a specific polling attempt if no response is received from the target device.
6. **Monitored** - Switch indicates if the device should be actively polled for data if monitor configuration is provided.
7. **Protocol List** – Any available protocols to be used for a device are listed in the column.
8. **Protocol Configuration** - The configuration requirements for the selected protocol are listed and often filled with default values. These should review and updated as needed for the current environment.
9. **Monitoring Template** - Add the appropriate monitoring template.
10. **Monitoring Template Activate Switch** - Turn on the switch to activate the template.

10.1.3.2.8. Applications Function Tile

Displays the list of applications that have been manually associated with the device. Applications are managed by the Setting Menu Group > Applications Menu Item. See the Applications Menu Item section for details.

10.1.3.2.9. Images Function Tile

Displays the images associated with the device model.

10.1.3.2.10. Groups Function Tile

Displays the list of groups associated with the device and allows the user to add more group associations.

10.1.3.2.11. Links Function Tile

Displays existing links and allows the user to associate a URL or local file to the device.

10.1.3.2.12. Projects Function Tile

Displays project information for the selected device.

10.1.3.2.13. Camera Settings Function Tile (camera device)

The Camera Settings function tile is only available with camera devices. On the camera settings page set and verify the Imager Server ID for the camera on the Image Server.

Devices Menu Group

1. The Image Server will have a dedicated directory for the physical camera to ftp images. The name of the directory is the Image Server ID.
Enter the name.
2. Click the Verify button to retrieve a test image from the Image Server.

10.1.3.2.14. Rack Device Function Tiles and Features

These items are available in device central when the device is a rack.

#### 10.1.3.2.14.1. Rack Group Function Tile

The Rack Group function tile is only available with racks and takes you to the Rack Group dashboard. For details see the Rack Group Dashboard section of this document.

10.1.3.2.14.2. Capacity Function Tile

The Capacity function tile is only available with racks. The capacity page displays RU & Weight, RU Fragmentation, Port and Power summary tables and the list of mounted IT devices within the rack.

10.1.3.2.15. Manage Rack Button
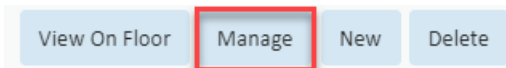
The Manage button opens the rack manager page for the selected rack.

10.2. Types Menu Item

The Types Menu Item displays a list of all the device Types in the system. The table list contains the following fields:

Table List Column	Description
Type	Displays the type name. The type name is also a link to the type's form.
Icon	Displays a representative icon for the type.
Manufacturer	Displays the number of manufactures with models of the type. The Manufacturer Name filter in the filter bar allows you to enter a Manufacturer Name and it will filter to show only the types which have models for that manufacturer.
Product Line	Displays the number of product lines with models of the type. The Product Line Name filter in the filter bar allows you to enter a Product Line Name and it will filter to show only the types which have models for that product line.
Model	Displays the number of models of the type. The Model Name filter in the filter bar allows you to enter a Model Name and it will filter to show only the types which have that model.
Device	Displays the number of devices in the database belonging to the type. The Device Name filter in the filter bar allows you to enter a Device Name and it will filter to show only the types with device names that match the filter.
Description	Displays the text from the type's description field.

10.2.1. Types Form

Selecting an existing type presents the Types form. The Types form has static fields in the top section, the icon associated with the type followed by tabs that present their own lists related to the type.

Fields	Description
Name	Displays the name of the type.
UUID	Displays the unique identification string for the type.
Description	Displays the text from the type's description field.
Table List Buttons	**Description**
Submit	If a form field is editable the Submit button becomes active and is used to update the form.
⌃ ⌄	These buttons collapse and expand the upper area of the form to provide more space for the tables.

10.2.1.1. Attributes Tab

The initial view presented when the Attributes Tab is selected is a list of attributes for the device Type.

List Column	
Attribute	Attribute name is also a link to the attribute's form.
Category	Displays the attribute's category. Options are Capacity, Common, Electrical/Power, Environmental, Global, Location, Network, Port, Rack or Server.
Attribute Type	Displays if the attribute is System or Custom.
Description	Displays the text from the attribute's description field.
User List Buttons	
Add	Adds attributes to the type. Check attributes to be added from list and click Submit to add to list. Close, closes the window and does not save. Click Submit on the type form to save.
Remove	Removes attribute from the list. Click Submit on the type form to save.

10.2.1.2. Manufacturers Tab

The initial view presented when the Manufacturers Tab is selected is a list of manufacturers of devices of the current Type.

List Column	
Manufacturer	Manufacturer name is also a link to the manufacturer's form.
Type	Displays the number of devices of the current type for the manufacturer in the database.
Product Line	Displays the number of product lines of the current type for the manufacturer in the database.
Model	Displays the number of models of the current type for the manufacturer in the database.
Device	Displays the number of devices of the current type for the manufacturer in the database.
Description	Displays the text from the attribute's description field.

10.2.1.3. Product Lines Tab

List Column	
Product Line	Displays the product lines for the type.
Type	Displays the type.
Manufacturer	Displays the manufacturers name.
Model	Displays the number of models in the product line. The Model Name filter in the filter bar allows you to enter a Model Name and it will filter to show only the product lines which have that model.
Device	Displays the number of devices in the system. The Device Name filter in the filter bar allows you to enter a Device Name and it will filter to show only the product lines with device names that match the filter.
Description	Displays the text from the description field.

10.2.1.4. Models Tab

The initial view presented when the Models Tab is selected is a list of all the models of the current Type.

List Column	
Model	Displays the model name. The model name is also a link to the model's form.
Type	Displays the model's type.
Manufacturer	Displays the model's manufacturer.
Product Line	Displays the model's product line.
Device	Displays the quantity of devices in the database using that model.
Description	Displays the text from the model's description field.

10.2.1.5. Devices Tab

The initial view presented when the Devices Tab is selected is a list of all the devices of the current Type.

List Column	
Device	Displays the device name. The device name is also a link to the device's form.
Type	Displays the device's type.
Manufacturer	Displays the device's manufacturer.
Product Line	Displays the device's product line.
Model	Displays the device's model.
Lifecycle Status	Displays the device's lifecycle status. Options include Operational, Available, Procurement and Reserved Procurement.
Device Group	Display's the device groups to which the device belongs.
Description	Displays the text from the device's description field.

10.3. Manufacturers Menu Item
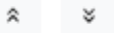
The Manufacturers Menu Item displays a list of all the manufacturers in the system. The table list contains the following fields:

Table List Column	Description
Manufacturer	Displays the name of manufactures. The manufacturer name is also a link to the manufacturer's form.

Type	Displays the number of device types that manufacturer has in the system. The Type Name filter in the filter bar allows you to enter a type and it will filter to show only the manufactures which have models of that type.
Product Line	Displays the number of product lines for the manufacturer. The Product Line Name filter in the filter bar allows you to enter a Product Line Name and it will filter to show only the manufacturers which have models for that product line.
Model	Displays the number of models of the type. The Model Name filter in the filter bar allows you to enter a Model Name and it will filter to show only the types which have that model.
Device	Displays the number of devices in the database belonging to the type. The Device Name filter in the filter bar allows you to enter a Device Name and it will filter to show only the types with device names that match the filter.
Description	Displays the text from the type's description field.
Table List Button	**Description**
New	Presents a form for creating a new manufacturer.
Delete	Deletes the selected manufacturer from the system.

10.3.1. Manufacturers Form

Selecting an existing manufacturer presents the Manufacturers form. The Manufacturers form has static fields in the top section followed by tabs that present their own lists related to the manufacturer.

Fields	**Description**
Name	Displays the name of the manufacturer.
Address	Displays the address of the manufacturer.
Contact Information	Displays the contact information for the manufacturer.
Phone	Displays the phone number for the manufacturer.
Fax	Displays the fax number for the manufacturer.
Email Address	Displays an email address for the manufacturer.
Web URL	Displays the URL for the manufacturer.
Description	Displays the description for the manufacturer.
Table List Buttons	**Description**
New	Displays an empty manufacturer form to create a new manufacturer.
Submit	If a form field is editable the Submit button becomes active and is used to update the form.
Delete	Deletes the current form.
⩘ ⩥	These buttons collapse and expand the upper area of the form to provide more space for the tables.

10.3.1.1. Types Tab

List Column	**Description**
Type	Displays the type name. The type name is also a link to the type's form.
Manufacturer	Displays the number of manufacturers with models of the type. The Manufacturer Name filter in the filter bar allows you to enter a Manufacturer Name and it will filter to show only the types which have models for that manufacturer.
Product Line	Displays the number of product lines with models of the type. The Product Line Name filter in the filter bar allows you to enter a Product Line Name and it will filter to show only the types which have models for that product line.
Model	Displays the number of models of the type. The Model Name filter in the filter bar allows you to enter a Model Name and it will filter to show only the types which have that model.

Device	Displays the number of devices in the database belonging to the type. The Device Name filter in the filter bar allows you to enter a Device Name and it will filter to show only the types with device names that match the filter.
Description	Displays the text from the type's description field.

10.3.1.2. Product Lines Tab

List Column	
Product Line	Displays the product lines for the manufacturer.
Type	??
Manufacturer	Displays the manufacturers name.
Model	Displays the number of models in the product line. The Model Name filter in the filter bar allows you to enter a Model Name and it will filter to show only the product lines which have that model.
Device	Displays the number of devices in the system. The Device Name filter in the filter bar allows you to enter a Device Name and it will filter to show only the product lines with device names that match the filter.
Description	Displays the text from the description field.

10.3.1.3. Models Tab

The initial view presented when the Models Tab is selected is a list of all the models of the current Type.

List Column	
Model	Displays the model name. The model name is also a link to the model's form.
Type	Displays the model's type.
Manufacturer	Displays the model's manufacturer.
Product Line	Displays the model's product line.
Device	Displays the quantity of devices in the database using that model.
Description	Displays the text from the model's description field.

10.3.1.4. Devices Tab

The initial view presented when the Devices Tab is selected is a list of all the devices of the current Type.

List Column	
Device	Displays the device name. The device name is also a link to the device's form.
Type	Displays the device's type.
Manufacturer	Displays the device's manufacturer.
Product Line	Displays the device's product line.
Model	Displays the device's model.
Lifecycle Status	Displays the device's lifecycle status. Options include Operational, Available, Procurement and Reserved Procurement.
Device Group	Display's the device groups to which the device belongs.
Description	Displays the text from the device's description field.

10.4. Product Lines Menu Item

The Product Lines Menu Item displays a list of all the product lines in the system. The table list contains the following fields:

Table List Column	Description
Product Line	Displays the product lines available in the system. The product line name is also a link to the product line's form.
Type	Displays the number of device types that product line has in the system.
Manufacturer	Displays the name of the manufacturer.
Model	Displays the number of models in the product line.
Device	Displays the number of devices in the database belonging to the product line.
Description	Displays the text from the type's description field.
Table List Button	**Description**
New	Presents a form for creating a new manufacturer.
Delete	Deletes the selected manufacturer from the system.

10.4.1. Product Lines Form

Selecting an existing product line presents the Product Lines form. The Product Lines form has static fields in the top section followed by tabs that present their own lists related to the product line.

Fields	Description
Name	Displays the name of the product line.
Manufacturer	Displays the manufacturer of the product line.
Decription	Displays the description of the manufacturer.
Table List Buttons	**Description**
New	Displays an empty product line form to create a new product line.
Submit	If a form field is editable the Submit button becomes active and is used to update the form.
Delete	Deletes the current form.
⊼ ⊻	These buttons collapse and expand the upper area of the form to provide more space for the tables.

10.4.1.1. Types Tab

List Column	Description
Type	Displays the type name. The type name is also a link to the type's form.
Manufacturer	Displays the number of manufacturers with models of the type. The Manufacturer Name filter in the filter bar allows you to enter a Manufacturer Name and it will filter to show only the types which have models for that manufacturer.
Product Line	Displays the number of product lines with models of the type. The Product Line Name filter in the filter bar allows you to enter a Product Line Name and it will filter to show only the types which have models for that product line.
Model	Displays the number of models of the type. The Model Name filter in the filter bar allows you to enter a Model Name and it will filter to show only the types which have that model.

Device	Displays the number of devices in the database belonging to the type. The Device Name filter in the filter bar allows you to enter a Device Name and it will filter to show only the types with device names that match the filter.
Description	Displays the text from the type's description field.

10.4.1.2. Models Tab

The initial view presented when the Models Tab is selected is a list of all the models of the current Product Line.

List Column	
Model	Displays the model name. The model name is also a link to the model's form.
Type	Displays the model's type.
Manufacturer	Displays the model's manufacturer.
Product Line	Displays the model's product line.
Device	Displays the quantity of devices in the database using that model.
Description	Displays the text from the model's description field.

10.4.1.3. Devices Tab

The initial view presented when the Devices Tab is selected is a list of all the devices of the current Product Line.

List Column	
Device	Displays the device name. The device name is also a link to the device's form.
Type	Displays the device's type.
Manufacturer	Displays the device's manufacturer.
Product Line	Displays the device's product line.
Model	Displays the device's model.
Lifecycle Status	Displays the device's lifecycle status. Options include Operational, Available, Procurement and Reserved Procurement.
Device Group	Display's the device groups to which the device belongs.
Description	Displays the text from the device's description field.

10.5. Models Menu Item

The Models Menu Item displays a list of all the models in the system. The table list contains the following fields:

Table List Column	Description
Model	Displays the models available in the system. The model name is also a link to the model's form.
Category	Displays the model's category.
Type	Displays the model's type.
Manufacturer	Displays the model's manufacturer.
Product Line	Displays the model's product line.
Device	Displays the number of devices in the database based on the model.
Description	Displays the text from the model's description field.

| Table List Button	Description
Import	Takes you to the Import Wizard to import model packages.
New	Presents a form for creating a new model.
Clone	Clones the selected model to a new model appended with a number in parenthesis (1).
Delete	Deletes the selected model from the system.

10.5.1. Model Form

Selecting an existing model presents the Models form. The Models form has static fields in the top section followed by tabs that present their own lists related to the model.

Fields	Description
Model	Displays the name of the model.
UUID	Displays the model's unique identifier in the database.
Energy Type	Select Energy Type from drop-down list that includes: Energy Monitor, Energy Source, Energy Transport, IT Cooling Devices, IT Device, Lighting, Non-IT Cooling Device.
Energy Source	Select Energy Source from drop-down list that includes: Monitor, None, Static.
Type	Displays the model's type.
Manufacturer	Displays the model's manufacturer.
Product Line	Displays the model's product line.
Description	Displays the description for the model.
Table List Buttons	**Description**
New	Displays an empty model form to create a new model.
Submit	If a form field is edited the Submit button becomes active and is used to update the form.
Delete	Deletes the current form.
⌃ ⌄	These buttons collapse and expand the upper area of the form to provide more space for the tables.

10.5.1.1. Attributes Tab

The initial view presented when the Attributes Tab is selected is a list of attributes for the model.

List Column	
Attribute	Attribute name is also a link to the attribute's form.
Category	Displays the attribute's category. Options are Capacity, Common, Electrical/Power, Environmental, Global, Location, Network, Port, Rack or Server.
Value	Displays the value for the attribute.
Unit	Displays the unit of the value.
User List Buttons	
Add	Adds attributes to the model. Check attributes to be added from list and click Submit to add to list. Close, closes the window and does not save. Click Submit on the type form to save.
Remove	Removes attribute from the list. Click Submit on the type form to save.

10.5.1.2. Images Tab

The initial view presented when the Images Tab is select displays the front, rear, left, right, top and bottom images for the model.

10.5.1.3. Links Tab

The initial view presented when the Links Tab is selected is a list of links associated with the model.

List Column	
Label	Display's the label for the link.
Link Type	Displays the link type as either a Local File or a URL.
Content	The actual path to the file or the URL.
User List Buttons	
New	Displays an empty form to create a new link.
Deletes	Deletes the selected links from the list.

10.5.1.4. Devices Tab

The initial view presented when the Devices Tab is selected is a list of all the devices based on the current model.

List Column	
Device	Displays the device name. The device name is also a link to the device's form.
Type	Displays the device's type.
Manufacturer	Displays the device's manufacturer.
Product Line	Displays the device's product line.
Model	Displays the device's model.
Lifecycle Status	Displays the device's lifecycle status. Options include Operational, Available, Procurement and Reserved Procurement.
Device Group	Display's the device groups to which the device belongs.
Description	Displays the text from the device's description field.
User List Buttons	
New	Displays a form to create a new device based on the current model.
Deletes	Deletes the selected device from the list.

10.5.1.5. Ports Tab

The initial view presented when the Ports Tab is selected is a list of all the ports on the current model.

List Column	
Port Number	Displays a list of the port numbers on the current model.
Port Name	Displays the port name for each port on the current model.
Port Type	Displays the port type for each port on the current model.
Description	Displays the text from the port's description field.
User List Buttons	
New	Displays a form to create a new port for the current model.
Deletes	Deletes the selected port from the list.

10.5.1.6. Associated Model Tab

The initial view presented when the Associated Model Tab is selected is a list of all models associated with the current model.

Table List Column	Description
Model	Displays the name of the associated model. The model name is also a link to the model's form.
Type	Displays the model's type.
Manufacturer	Displays the model's manufacturer.
Product Line	Displays the model's product line.
Device	Displays the number of devices in the database based on the model.
Description	Displays the text from the model's description field.

10.6. Discovery Menu Item

The Discovery Menu Item displays the information tiles associated with discovery and several tabs of associated lists including the Jobs Manager Tab list of all the discovery jobs in the system. Discovery allows users to define and manage the auto discovery feature of the application. This feature will poll defined IP ranges and allow users to decide if devices found are added to the device list with full monitored capabilities or as manage-only devices which can be placed in racks and used in port mapping.

10.6.1. Discovery Information Tiles

The Discovery Information Tiles show the status of various discovery tasks.

10.6.1.1. Discovery Status Tile

Indicates the running state of the discovery service. Users can Stop and Start the process using the icons. The text will indicate how long the discovery process has been running.
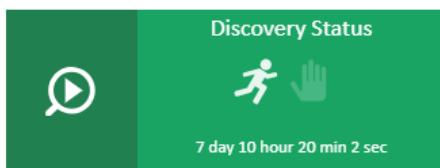
10.6.1.2. Discovery Agents Tile

Displays the number of agents (probes) deployed and hovering over the number provides the name and status for each agent. A green LED shows the agents are running and a red LED indicates a problem.

10.6.1.3. Discovery Process Tile

Shows a raw count of the IP addresses defined and remaining to be polled by the discovery service and indicates the progress of the current discovery process against the defined IP ranges.

10.6.1.4. Jobs Manager Tile

Indicates the number of defined discovery jobs and how many of the those are active. The list of discovery jobs is displayed in the Jobs Manager tab.

10.6.1.5. Devices Tile

Indicates the number of matched and unmatched devices discovered by the discovery process.
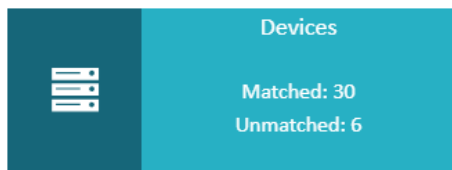
10.6.2. Jobs Manager Tab

The initial view presented when the Jobs Manager Tab is selected is a list of existing discovery jobs.

List Column	
Active	Determines if the discovery job is included in the discovery process or omitted from the list of jobs processed in the discovery process.
Job Name	Name of the discovery job. This name is referred to when devices are discovered by the discovery process.
IP From	The starting IP address in the range of addresses to be polled for devices.
IP To	The last IP address in the range of addresses to be polled for devices.
Frequency	Displays the frequency the defined job is included in the discovery service. Options are Once, Minute, Hourly Daily. **Note:** The discovery service is processing many different jobs, so the setting may not be exact as the discovery job picks up jobs on a scheduled routine as other jobs are finished.
IP Exclusion	Displays the IP address to be excluded from the range of addresses being polled by the discovery job.
Current Status	Displays the status of the discovery job.
Last Run Time	Displays the last time the discovery job was executed.
Total # of Runs	Displays the total number of times the discovery job was executed.

Total # of Discovered Devices	Displays the total number of devices discovered by the discovery job.
Agent	Displays the name of the agent (probe) used by the discovery job.
List Buttons	
Import	Imports discovery jobs from spreadsheet.
Export	Exports discovery jobs to spreadsheet.
New	Opens a New Discovery Job Form to create a new job.
Delete	Deletes the selected discovery jobs.

10.6.2.1. Discovery Job Form

Selecting an existing discovery job or selecting the new button presents the Discovery Job form. The form has static fields on the top section and tabs for IP Exclusion, SNMP Configuration and RF Code Configuration along the middle.

Fields	Description
Active	This switch toggles to activate and deactivate the job.
Job Name	Name of the discovery job. This name is referred to when devices are discovered by the discovery process.
IP From	The starting IP address in the range of addresses to be polled for devices.
IP To	The last IP address in the range of addresses to be polled for devices.
Stop at First Match	Check box to halt the discovery job as soon as it discovers the first device.
Frequency	Displays the frequency the defined job is included in the discovery service. Options are Once, Minute, Hourly Daily. **Note:** The discovery service is processing many different jobs, so the setting may not be exact as the discovery job picks up jobs on a scheduled routine as other jobs are finished.
Agent	Select the probe to be used from the pull-down menu.
Description	Enter user defined description for discovery job.
Table List Buttons	**Description**
New	Presents a form for creating a new discovery job.
Submit	Creates the new discovery job with information from the form. Submit also saves changes to an existing discovery job form.
Submit & New	On the New Discovery Job form this option Increases efficiency when creating a number of discovery jobs sequentially by creating a new job with existing values and presenting a blank new form.

10.6.2.1.1. New Discovery Job Form: IP Exclusion Tab

The initial view presented when the IP Exclusion Tab is selected is a list of IP ranges to be excluded from the discovery job defined IP range. The IP ranges will be excluded from the discovery search.

Table List Column	Description
Lower Bound	The starting IP address in the range of IP addresses to be excluded from polling.
Upper Bound	The ending IP address in the range of IP addresses to be excluded from polling.
Table List Button	**Description**
New	Adds a row to the table where you can enter the lower and upper bound IP addresses to be excluded.
Delete	Deletes the selected exclusion range from the list.

10.6.2.1.2. New Discovery Job Form: SNMP Configuration

The initial view presented when the SNMP Configuration Tab is selected is a list of SNMP configuration parameters to be used by the discovery job to communicate with devices to be discovered.

Table List Column	Description
SNMP Versions V1, V2, V3	User can select one or all of the version options. If multiple versions are selected then the discovery service will attempt to contact devices using all options to establish a connection and collect data.
Port	Port to be used for SNMP communications. The default is 161.
Read	Specify the community read string. This string is required.
Write	Specify the community write string. This string is not required since we do not write to the device.
Username	Username for V3 protocol.
Password	Password for V3 protocol.
Auth Protocol	Specify the authorization protocol. Options include: MD5, SHA.
Privacy Password	Specify the privacy password.
Privacy Protocol	Specify the privacy protocol. Options include: AES, DES.
Security Level	Specify the security level. Options include: noAuthNoPriv, authNoPriv, authPriv.
Context	SNMP V3 configuration setting.
Table List Button	**Description**
New	Adds a row to the table where you can enter another set of configuration parameters.
Delete	Deletes the selected configuration from the list.

10.6.2.1.3. New Discovery Job Form: RF Code Configuration

The initial view presented when the RF Code Configuration Tab is selected is a list of RF Code configuration parameters to be used by the discovery job to communicate with devices to be discovered.

Table List Column	Description
User Name	User Name for RF Code communications to the Zone Manager software.
Password	Password for RF Code communications to the Zone Manager software.
Port	Port to be used for RF Code communications.
Table List Button	**Description**
New	Adds a row to the table where you can enter another set of configuration parameters.
Delete	Deletes the selected configuration from the list.

10.6.3. Devices Tab

The initial view presented when the Devices Tab is selected is a list of discovered devices. On the left above the table are check boxes which will sort the device list. The List Buttons on the right perform actions on the selected devices.

Sort Option Check Boxes	
Matched Devices	Checking this box displays the discovered devices that were matched to a model in the application database. The 🖥 icon in the row indicates that the device is matched to a model.

Unmatched Devices	Checking this box displays the discovered devices that were *not* matched to a model in the application database. There is no icon in the row. Users may Assign the Unmatched device to a model or they may Hide the device from the discovery results.
Hidden Devices	Checking this box displays the discovered devices that were marked as hidden with the Hide button. The 🔹 in the row indicates that the device is hidden. Users must Show the device before they can add the device to the Device list.
Inactive Job Devices	Checking this box displays the discovered devices that were found by a currently inactive discovery job.

Note: If all the boxes are selected the list shows all devices. The icons, or lack thereof indicate the device's status.

List Column	
Device Name	Displays the discovered device's name.
IP Address	Displays the device's IP address.
Description	Displays the description retrieved from the device.
Type	Displays the device's type if it can be retrieved from the device.
Manufacturer	Displays the device's manufacturer.
Model	Displays the model the device was matched to during discovery.
MAC	Displays the MAC address for the device.
Job Name	Displays the name of the discovery job that found the device.
Protocol	Displays the protocol used to communicate with the device.
Agent	Displays the name of the agent (probe) used by the discovery job that found the device.
Discovered Time	Displays the time the device was discovered.
Actions	The first icon →] initiates an SNMP walk of the device. When the second icon is blue ⬇ it indicates that the SNMP walk is completed and clicking the icon will download the walk file to your computer. This file can be submitted to the support team along with a model request to create a model for the unmatched device.

List Buttons	
Assign Model	Clicking the button will present a window which lists all models from the master model library. Users can search and filter the list to find the match for the discovered devices and then users hit the Submit button to make updates to the selected devices. **Note:** Once a model has been defined for an Unmatched device it will be identified as a matched device.
Manage Devices	Opens a form where the selected devices can be created in the application devices list. **Monitored switch:** • **On:** The device can be configured for data collection included by the probe monitoring engine and will be added to the application device list. • **Off:** The device will be added to the application device list without monitoring. **Device Group Assignment:** Select the device groups for the device
Hide	Hides the selected devices from the list.
Show	Shows a previously hidden device.

10.6.4. Logs Tab

The initial view presented when the Logs Tab is selected is a list of the discovery events.

Table List Column	Description
Date	The date of the event.

Event	Text indicating the nature of the event.
Description	Details about the event.

10.7. Manage Menu Item

The Manage feature allows users to maintain a library of firmware files to upload to one or many devices and allows for the bulk configuration of device attributes for supported devices. The features in this menu will only work for devices created in the application which are also configured with monitoring settings. The application must be able to communicate with the end devices to manage the firmware and configuration changes.

10.7.1. Firmware Management

The application allows for the bulk provisioning of firmware files to one or many supported devices. Firmware files can be pushed to either the PDU Rackmount or UPS Rackmount devices already created in the application. The general order of actions for completing this function is as follows:

- Find supported devices to upload a firmware file
  Note: Only Eaton PDU Rackmount and UPS Rackmount devices are supported for this feature.
- Set the access information for the selected devices
- Upload files to the firmware library
- Select firmware file to upload to the selected devices
- Upload the files to the selected devices

10.7.1.1. Search Devices

Filter fields are available at the top of the page to allow users to limit the devices listed in the device list. When the filter options are completed hit the Search button to filter the device list. To restore the full device list users can select the Clear button. Users select the devices to be used for a firmware file upload from the list of devices by choosing the checkbox next to the Device Name.

Note: The filter fields support partial keyword search. To search for a string that starts with simply enter the matching string. To search for a string using "contains" search logic enter the % wildcard character in the field along with the string to be searched. For example, "%main" will find any match with the word main in the search field.

10.7.1.2. Upload Firmware

The Upload Firmware button will launch the firmware file library interface. On this page, users can upload files to the firmware library with the Browse and Add buttons at the bottom of the page. If files have been loaded to this library previously, then they will already be listed. To send the file to the selected devices, select the file from the list and click the Upload button. This will initiate the

connection to the devices. Users will be prompted to provide the user/password combination needed to submit the firmware file to the device.

To remove a firmware file from the library simply select the file from the list and click the red X located to the far right of the file record in the list.

Note: When the file upload process is performed, the Events Calendar will log the start and end of the connection and file upload processes.

10.7.2. Bulk Configuration for Eaton UPS M2 Card

When the Type is set to UPS - Rackmount the options for bulk configuration management will be available to users. Select the checkbox for devices which need to be managed. Multiple devices may be selected. **Note:** This Bulk Configuration feature will only work for devices using the M2 communications card.

10.7.2.1. Search Devices

Filter fields are available at the top of the page to allow users to limit the devices listed in the device list. When the filter options are completed hit the Search button to filter the device list. To restore the full device list users can select the Clear button. Users select the devices to be used for a firmware file upload from the list of devices by choosing the checkbox next to the Device Name.

Note: The filter fields support partial keyword search. To search for a string that starts with simply enter the matching string. To search for a string using "contains" search logic enter the % wildcard character in the field along with the string to be searched. For example, "%main" will find any match with the word main in the search field.

10.7.2.2. Set Access

Set Access is used to define the user/password combination for each device to be managed with the bulk upload process. After selecting devices, click the Set Access button and enter the user and password configured on the devices to allow for administrative functions to be performed. This

user/password combination will be used to Download/Upload the configuration for the selected devices.

- **Note:** This Set Access process is only stored while the user is on this Manage page. If the user visits a different application page, then Set Access must be performed again.
- A yellow key icon next to the device name indicates that the access has been set for the device.
- The user/password combination is not verified until the upload/download action is initiated.

10.7.2.3. Download Configuration

This action will download the configuration settings for the selected devices to an Excel spreadsheet. Each device will be saved to a different column in the spreadsheet to allow for easy copy/paste of the data across devices.

10.7.2.4. Using the Bulk Configuration Spreadsheet

1. Each device will be listed in the spreadsheet as a separate column. Supported attributes which can be bulk managed are listed down the left of the spreadsheet. Users can enter new values into the fields of the spreadsheet as needed to update device configurations. In addition, the following functions can be used to facilitate bulk changes:
   a. One of the devices will be set to Master and will be highlighted in Column B.
   b. Set as Master Button: To change which device is the Master, select any cell in the device attribute column and Click the Set as Master button. The device related to location of the cursor will be moved to the master position in the spreadsheet.
   c. Copy Master to All Button: When you Click the Copy Master to All button all of the settings from the master are copied to the other device columns. **Note:** The System Name, Hostname, IPv4 Address attributes are NOT cloned to the other devices.
   d. Copy Item to All Button: When you Click the Copy Item to All button the selected cell will be copied to the other devices. Users can perform this function on any device in the spreadsheet (ie does not need to be the Master device), but the System Name, Hostname, IPv4 Address attributes will not be cloned to other devices.

2. Upon the completion of the changes, Save the spreadsheet to use with the Upload Configuration function.

10.7.2.5. Upload Configuration

1. The Upload Configuration function allows users to upload the bulk configuration spreadsheet to process updates to the selected devices. Ensure the Set Access function has been completed on the target devices, choose devices from the list and click the Upload Configuration button.
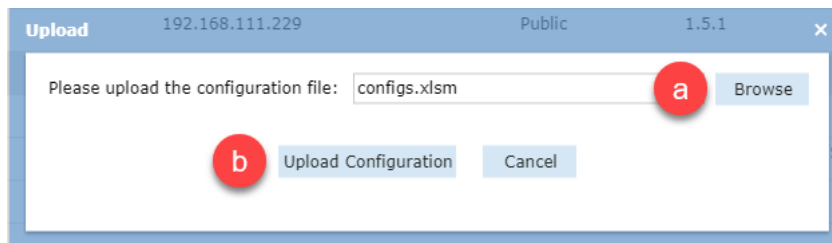
    a. Browse to select the edited configuration file.

    b. Click the Upload Configuration button.

    c. The Import Wizard page will report the status as the configuration file is processed. Each device will report a success or failure message in the Details column of this page.

d. When complete the Import Wizard page will provide the upload details and indicate the success or failure for each device. If there are errors, then an error.txt file will be created which reports details if there are any failures.

10.7.2.6. Set Password

Users can change the passwords for the admin user or other defined users on the UPS devices.

- Click the Set Password button. Enter the user, current password, new password, confirm the new password and click OK.
    - o **Note:** The Import Central page will show a summary list of each device's IP address and the status of the password change. If there is an error, there will be an error-comments.txt that lists all the failed updates and details related to the nature of the failure.

10.7.2.7. Important Notes on Bulk Configuration Features

- Download and Upload buttons are not enabled unless the Set Access action has been performed on the selected devices. A Yellow key icon will be displayed next to devices which have had their passwords set.
- This version only supports the M2 communication card. The MS communication card is not supported in this release.
- View entries in the Calendar to understand if uploads are successfully started and/or completed.
- View the Import | Export page to see specific details on errors which have occurred. Common errors include:
    - Incorrect user/password combinations set for the device
    - Device is not available on the network
    - A selected device is not included in the Excel Upload spreadsheet
- The Upload Configuration process will restart the communications card on the UPS device. There will be a 2-3 minute restart time until the card is reachable via the web again.
- The Excel spreadsheet will not copy or clone these configurations settings: System Name, Hostname, IPv4 Address.

11. Racks Menu Group

The Racks Menu Group contains menu items for rack building and audit management.

11.1. Rack Manager Menu Item

The Rack Manager Menu Item allows users to manage devices within the rack and to view rack detail and capacity information. The rack building function is a key asset management feature of the application and the graphical, drag and drop features provide intuitive methods to manage rack-mounted devices. **Note:** Data in the tables can be selected and copied to be used in other fields or applications with standard Windows copy and paste shortcuts.

On the Rack Manager page there are four key areas of the page for the user to manage and view devices and data:

- Rack List
- Devices List
- Rack View
- Rack Dashboard

11.1.1. Racks List

This part of the page will list Rack devices managed in the application based on search and filter criteria. By default, the list is blank. Leaving the search box empty and clicking the magnifying glass icon will list all of the racks available.

Filter controls can be used with the filter icon at the top of the section and the search box allows users to enter keyword search to find specific racks which match the search name. The * and % characters act as wildcard characters in the search list. Users can select the rack in the list and view the rack or assign devices to the racks.

The search box and filter option require the user to click the search icon to refresh the rack list.

11.1.2. Devices List

This part of the page will list all non-Rack devices managed in the application based on search and filter criteria. By default, the list is blank. Leaving the search box empty and clicking the magnifying glass icon will list all of the devices available.

Filter controls can be used with the filter icon at the top of the section and the search box allows users to enter keyword search to find specific devices which match the search name. The * and % characters act as wildcard characters in the search list.

The search box and filter option require the user to click the search icon to refresh the rack list.

Users can drag and drop the devices onto the racks.

11.1.3. Rack View

When the rack is selected from the Rack list the rack image and view of the mounted devices will be presented to the user. The following features are provided on the rack view portion of the page:

- Users can move the rack with a click and drag action with the mouse and can zoom in and out of the rack using the mouse wheel.
- There are four sides to the rack where devices can be mounted. The Front view is displayed by default, and the Front, Rear, Left and Right buttons allow users to rotate the rack to mount devices onto any of these sides. **Note:** The sides of the rack are typically used for 0U PDU Rackmount devices. These devices are not mounted into the front or rear views to avoid occupying the U positions for these devices.
- SnapRU checkbox will force the device to be placed into an integer RU position. The Rack U positions are divided into 3 standard numbering locations to allow for more granular management of the rack space. These positions are x.0, x.1 and x.2. The SnapRU feature will move the device to the x.0 U position automatically when it is dropped onto the rack. To assign a device to the x.1 or x.2 U positions users can disable the SnapRU feature.
- Device Name will provide a text overlay on the device in the rack to view the device name.
- Next to the device name option, the U Position for the currently selected device will be displayed. **Note:** The U position for all devices in the rack is represented by the bottom edge of the device.
- Save and Print buttons allow users to save their modifications to the rack as changes are made and to print the rack image to a PDF report format. The printed view will print views of devices mounted to the front and rear of the rack.

The main section of this page is dedicated to providing a visual view of the rack. If devices are mounted into the rack then they will appear in the rack image in the appropriate U position to which they were mounted.

11.1.4. Rack Summary

The Summary section of the page provides details of the reserved, occupied and available space on the front and rear of the rack. The Properties section will display attributes defined for any selected device.

11.1.5. Adding Devices to Rack

Adding devices to the rack is a simple drag and drop function. First, users select which side of the rack the device will be mounted by clicking the Front, Rear, Left, Right options. Then, users choose the device from the devices list which is to be placed in the rack and drag to the proper position on the rack image. The U Position label above the rack will indicate the current U Position where the device is located as it is moved over the eligible U position slots. When the U Position is correct, users can release the mouse button to assign the device to the specified U position.   Users must hit the Save button prior to navigating to a new rack to save the changes.

11.1.6. Moving Devices in Rack

Once devices are assigned a rack position, users can easily move the devices with a drag and drop action. Reposition the device to a new location and release the mouse button to assign to the new position. Please make sure to hit the save button prior to navigating to a new rack to save the changes.

11.1.7. Removing Devices from Rack

Devices can be removed from a rack position by single clicking the device in the rack and then clicking the blue X icon on the top right of the device to remove from the rack. Please make sure to hit the save button prior to navigating to a new node of the navigation tree to save the changes. **Note:** This action does not remove the device from the device list. The device will change its device status from Operational to Available.

11.2. Audit Manager

The Audit Manager Menu Item displays a list of all the audits in the system. The table list contains the following fields:

Devices Tab List Column	
Status	Displays the status of the audit.
Audit Name	Displays the user defined named of the audit.
#Rack	Displays the number of racks included in the audit.
%Complete	Displays the progress of the audit.
Created By	Displays the name of the user that created the audit.
Created	Displays the date the audit was created.
Start Date	Displays the date the audit was started.
Completion Date	Displays the date the audit was completed.
Actions	Displays icons 📄 🗗 🗑 to produce an audit report PDF, export audit details to excel and delete the audit.
Table List Buttons	**Description**
New	Presents the form for creating a new audit.

11.2.1. Audit Form

Selecting the New button presents the Audit form. The Audit form has a static fields in the top section followed by tabs that present their own lists related to the model.

Fields	Description
Name	Audit name is also a link to the audit form with details.
Table List Buttons	**Description**
New	Presents a form for creating a new audit.
Submit	Creates the new audit with information from form. Submit also saves changes to an existing audit's form.
Submit & New	Increases efficiency when creating a number of audits sequentially by creating a new audit with existing values and presenting a blank new form.

11.2.1.1. Racks Tab

The initial view presented when the Racks Tab is selected is a list of racks to be included in the audit.

List Column	
Name	Displays the name of the rack.
Model	Displays the rack's model name.
Product Line	Displays the rack's product line.
Manufacturer	Displays the rack's manufacturer.
Serial Number	Displays the rack's serial number.
Asset Tag	Displays the rack's asset tag.
Groups	Displays the names of the groups to which the rack belongs.
Location	Displays the racks location.
User List Buttons	
Add	Add displays a table list of available racks to add to the audit. Click the check boxes to select racks to be added to the audit. Click Submit to save the selected racks to the list of racks for the audit. Close, closes the window and does not save.
Remove	Removes the selected rack from the rack list.

11.2.2. Executing an Audit

Please refer to the Mobile Audit Manager documentation for instructions on how to execute an audit.

12. Connections Menu Group

The Connections Menu Group contains menu items for port mapping between devices.

12.1. Cables Menu Item

The Cables Menu Item displays a list of existing cable connections available for editing and disconnecting.

List Column	
Cable Name	Displays the name of the cable. The field can be edited directly in the list.
Status	Displays if the status is Operational or Reserved.
Type	Displays cable type.
Source Device	Displays the name of the source device.
Source Port	Displays the port name on the source device.
Destination Device	Displays the name of the destination device.
Destination Port	Displays the port name on the destination device.
Color	Displays the cable color. Color can be changed directly in the list.
Serial Number	Displays cable's serial number. The field can be edited directly in the list.
Length	Displays the length specified for the cable. The field can be edited directly in the list.
Action	Edit icon opens the cable's form for editing.
Page Buttons	
Submit	Saves any changes made to the editable fields.
Disconnect	Disconnects the selected cable.

12.2. Port Mapping Menu Item

The Port Mapping Menu Item allows users to create mappings between power ports and network ports using the port mapping feature. If a device does not have an appropriate port listed, ports can be added in device central by through the Ports function tile for the device.

The port mapping feature page is divided into two sections. The upper section for specifying the first device port and the lower section for the second device port. Both tables are empty to start. Using the search fields in the second row of the upper table, sort for the first device.

Toggle the triangle next to the device name to show and hide the available ports.
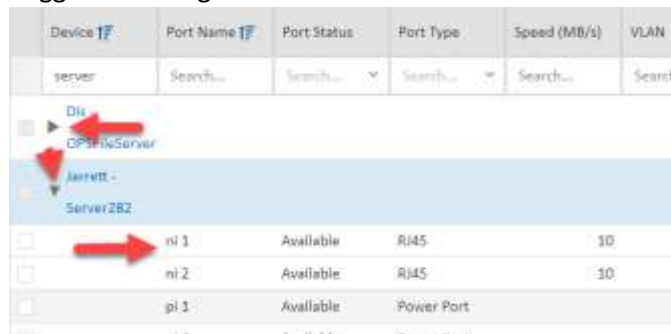
Upper Table Fields and Options	
Total Selected	Displays the number of ports selected in the upper table.
Allow Bulk checkbox	When checked, multiple ports can be selected for connection based on selection order. The first one in the upper table will be matched to the first one selected in the lower table and so on. **Note:** You must choose the same number of ports in the upper and lower table before you can reserve or make the connections.
Port Category	Filters what ports are listed for the device. Options are Copper Port, Fiber Port, Power Port or Storage Port.
Side	Specifies that the ports listed are on the Frontside or the Backside of the device.
List Column	
Device	Displays device name.
Port Name	Displays port name.
Port Status	Displays port status.
Port Type	Displays port type.
Speed (MB/s)	Displays port speed.
VLAN	Displays the port's VLAN information.
Device Type	Displays device type.
Asset Tag	Displays device's asset tag information.
Serial Number	Displays device's serial number.
IP Address	Displays device's IP address.
Owner	Displays device
Groups	Displays the group to which the device belongs.
Rack	Displays the rack where the device is placed.
Location	Displays the device's location.
Page Buttons	
Connect	Connects the ports selected and opens the New Cable form where cable details can be specified. Submit makes the connection.
Reserve	Opens the New Cable form where cable details can be specified. Submit will reserve the ports for future connection.
Cables	Opens the cable list showing all connections in the system.
⌃ ⌄	These buttons collapse and expand the area of the page to provide more space for the tables.
Lower Table Fields	
Location Filter	Filters the lower table device list to show devices in All Locations, Ports In Same Rack Only, Ports In Same Area Only, or Ports In Same Floor Only. The default is Ports In Same Rack Only.
Side	Specifies that the ports listed are on the Frontside or the Backside of the device.
List Column	
Device	Displays device name.
Port Name	Displays port name.
Port Status	Displays port status.
Port Type	Displays port type.
Speed (MB/s)	Displays port speed.
VLAN	Displays the port's VLAN information.
Device Type	Displays device type.
Asset Tag	Displays device's asset tag information.
Serial Number	Displays device's serial number.
IP Address	Displays device's IP address.
Owner	Displays device
Groups	Displays the group to which the device belongs.
Rack	Displays the rack where the device is placed.
Location	Displays the device's location.

12.2.1. Cable Form

The cable form contains all the details for a connection.

Fields	Description
Name	The default cable name contains the connected devices and port names. User can edit the cable name.
Type	Displays the cable type.
UUID	Displays the database unique identifier for the cable.
Description	Enter user defined description for device.
Direction Arrow	Arrow between fields designates which is the source device and which is the consumer. Click on the arrow to change direction.
Attributes List Buttons	**Description**
Add	Adds additional attributes to the attribute list.
Remove	Removes the selected attribute from the list.
Attributes List Column	**Description**
Attribute	Displays the attribute name.
Category	Displays the attribute category.
Value	Displays the value for the attribute.
Unit	Displays the unit for the value of the attribute.
Attributes	**Description**
Cable Tier ID	Identifies the cable tray where the cable will flow.
Color	Specifies the color of the cable.
Lengths	Specifies the length of the cable.
Price	Specifies the cable cost per inch.
Serial Number	Specifies the serial number of the cable

Note: The following attributes can be added to the list: Duplex Patch Cord, Duplex Position, MTP Patch Cord, Number of Cores and Project Number. Custom attributes can be created in the attributes manager and designated for use with cables and they will appear in the add attributes list.

13. Monitoring Menu Group

The Monitoring Menu Group provides important tools for users to configure data collection from target devices, configure alarm thresholds and define actions to take when defined events occur. Topics defined in these Menu Items are core to the purpose of the application and are critical to the operation of the application.

Given the complexity of supporting a diverse set of target devices, communication protocols, customer network configurations, etc, the following list represents key aspects of the monitoring capabilities of the application and requirements for it to function properly.

- The Probe server is the part of the application which communicates with target devices and collects data from the device.
- In some cases, the Probe server resides on the same server as the main application database and in other cases the Probe server may be on a dedicated physical or virtual server.
- The application supports several protocols to communicate with devices. The basic configuration options for these protocols is defined below, but other literature outside of this document can be reviewed to fully understand how these protocols function.
- The Probe server must have network access on required ports to communicate with target devices. If the network is not properly configured, then the application will not be able to collect data from devices.
- The Probe server will process the data collection jobs defined in the application.

13.1. General Overview

The processes associated with monitoring represent the more complex and important features of the application. The following overview defines the workflow for properly configuring and activating monitoring for devices in the application.

- Raw data is collected from target devices using one of several supported communications protocols. Detailed data point configurations of these raw data points are defined in Monitoring Templates using the Attributes feature.
- Raw data collected from the target devices is mapped to application Attributes. A long list of available Attributes is included in the application, but users may create custom Attributes if needed. By using this mapping mechanism, users are able to normalize data collected from many different types of devices in different locations.
- Key reporting aspects of the application are based on the application Attributes. Reports, Graphs, Trend Charts and more all use data from the Attributes to present data and calculate key capacity and utilization metrics.
- Triggers are defined to indicate Alarm conditions. A Trigger may consist of one or more conditions related to data for a device, location or template. Active Triggers can be reviewed on the Alarm page in the application.

- Actions allow users to initiate an action based on a Trigger. Configurations within the Actions feature provide controls on what to do when a Trigger occurs, how frequently to perform actions, what to do when the Trigger returns to a Normal condition and more. An example action is sending an email to a specific user when certain trigger conditions are in effect.

13.2. Monitoring Templates Menu Item

The Monitor Templates Menu Item displays a list of all the monitoring templates in the system. The table list contains the following fields:

Table List Column	
Template Name	Name of the template is also a link to open the Monitoring Templates form that contains the details for that template.
Category	Displays the template's category.
Attributes	Displays the number of monitored attributes in the template.
Triggers	Displays the number of triggers defined in the template.
Graphs	Displays the number of graphs defined in the template.
Last Updated By	Display the name of the user who last updated the template.
Last Updated	Displays the date the template was last updated.
Table List Buttons	Description
New	Presents the form for creating a new monitoring template.
Clone	Duplicates the selected monitoring template.
Delete	Deletes the selected monitoring template from the system.

13.2.1. Monitoring Templates Form

Selecting new or an existing monitoring templates presents the Monitoring Templates form. The Monitoring Templates form has static fields in the top section followed by tabs that present their own lists related to the monitoring template.

Fields	Description
Name	Displays the name of the monitoring template.
Category	Displays the template's category.
Description	Displays the text for the monitoring template description field.
Table List Buttons	Description
Verify	Opens the form for the selected attribute for confirmation of settings.
New	Opens a form for creating a new monitoring template.
Submit	If any form fields are edited or new data has been added the Submit button becomes active and is used to update the form.
Delete	Deletes the current monitoring template.
⌃ ⌄	These buttons collapse and expand the upper area of the form to provide more space for the tables.

13.2.1.1. Attributes Tab

The initial view presented when the Attributes Tab is selected is a list of monitored attributes for the monitoring template. A monitored attribute is a device attributed that is linked to a corresponding data point on a device.

List Column	
Attribute	Attribute name is also a link to the attribute's monitoring configuration form.
Alias	Displays the alias for the attribute.
Data Type	Displays the data type for the attribute.
Monitor Type	Displays the monitoring protocol for the attribute.
Parameters/Formula	Displays the data point identifying parameters and the formula to be applied on the returned values.
Value Type	Displays the value type for the returned values.
Unit	Displays the unit of measure for the returned values.
Status	Displays if the attribute monitoring is on or off.
User List Buttons	
Add	Add opens form to add a monitored attribute to the list.
Remove	Removes attribute from the list. Click Submit to save the changes to the monitoring template form.

13.2.1.1.1. Add Attribute Form

The Add Attribute form allows users to add monitored attributes and contains the fields for configuring the monitoring parameters.

Fields	Description
Add Attribute from MIB	Check box to add attribute from MIB. If selected, the user is prompted to browse for a MIB file and then a list of data points from the MIB can be mapped to existing attributes.
Attribute	Select attribute from the attributes list.
Alias	Create an alternate name for the attribute.
Data Type	Set the data type to Scalar or Tabular Column.
Monitor Type	Set the monitoring communication protocol. For example: SNMP, MODBUS, BACNET, Flat File, etc.
Parameters	Presents the required parameters for the selected monitor type. Enter identifier between curly brackets and add formula after right bracket. Example: Register **{102}/100** - value returned divided by 100. Example: OID **{.1.3.6.1.4.1.29640.1.4.0}/2**- value returned divided by 2.
Value Type	Displays the value type. For example: Decimal, Enum, etc.
Unit	Set the unit value for the returned values. For example: percent, Farenheit, etc.
Status	Displays if the attribute monitoring is on or off.
Buttons	Description
Submit & New	Increases efficiency when adding a number of attributes sequentially by adding a new attribute with existing values and presenting a blank new form.
Submit	If any form fields are edited or new data has been added the Submit button becomes active and is used to add a new attribute or update the existing form.
Cancel	Closes the add attribute form without saving.

13.2.1.2. Triggers Tab

The initial view presented when the Triggers Tab is selected is a list of triggers configured for the monitoring template.

List Column	
Trigger Name	Trigger Name is also a link to the trigger's configuration form.
Severity	Displays the alarm level for the trigger.
Rules	Displays the rule details.
Status	Displays if the trigger is on or off.
User List Buttons	
New	New opens form to create a trigger.
Delete	Remove the selected trigger from the monitoring template.

13.2.1.2.1. New Trigger Form

The New Trigger form allows users to add triggers that can contain complex rules for generating alarms. The form contains fields and a rules generator.

Fields	Description
Name	Sets the name of the trigger.
Severity	Set the level of the alarm to Critical, Warning, Minor or Information.
Type	Because this new trigger is created in the template the type is automatically set to Template.
Min Time On (s)	Sets the minimum time that a condition(s) must exist to trigger the alarm.
Min Time Off (s)	Sets the minimum time that a condition(s) is in a normal state before changing the status back to normal.
Rules	Rule building area: - Select a monitored attribute from the first pull-down menu - Select the operation from the pull-down menu (equal to, does not equal, greater than, less than, greater than or equal to, less than or equal to or between) - Enter a value that works with the operation to evaluate the incoming monitored data point value - Use AND and OR to add more conditions to the rule
Description	User defined description of the rule.
Status	Displays if the trigger is on or off.
Buttons	**Description**
New	New opens a form to create a trigger.
Submit	If any form fields are edited or new data has been added the Submit button becomes active and is used to add a new trigger or update the existing form.
Submit & New	Increases efficiency when adding a number of triggers sequentially by adding a new trigger with existing values and presenting a blank new form.

13.2.1.3. Graphs Tab

The initial view presented when the Graphs Tab is selected is a list of graphs configured for the monitoring template.

List Column	
Name	Name is also a link to the graph's configuration form.
Type	Displays the type of graph.
Components	Displays the number of components in the graph.
Description	Displays the user defined description.
Last Updated By	Displays the name of the user that last updated the graph.
Last Updated	Displays the date of the last update.
User List Buttons	
New	New opens form to create a new graph.
Delete	Remove the selected graph from the monitoring template.

13.2.1.3.1. New Graphs Form

The New Graphs form allows users to configure new graphs that can contain multiple graphic components for displaying monitored data points. The form contains fields and a graphic display area. The graphic display area will show various counters and gauges as defined in the Graph Component Wizard.

Fields	Description
Name	Sets the name of the graph.
Type	The Type indicates at what level the graph was created. Options include Specific Devices and Template.
Monitoring Template	Identifies the monitoring template where this graph will be included.
Description	User defined description.
Buttons	Description
Preview	Previews the current graph.
Clear	Removes all the graph components.
Add Component	Initiates a Graph Component Wizard. (see below)

The user clicks on the Add Component button and wizard prompts the user to select the monitored attribute to be represented by a graph component. **Note:** Only select more than one attribute if they are going to be shown in a trend chart.
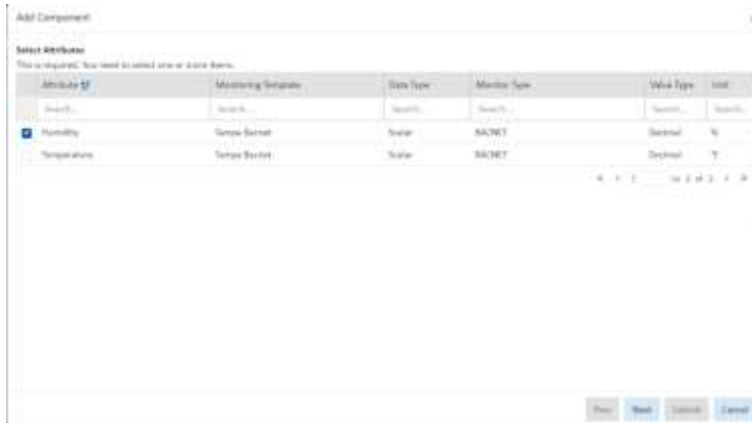
In the next window:

- Select an attribute to be represented by the graphic
- From Show as select gauge, graph, table, string or capacity thermometer for the graphic
- Enter a Label for the graphic
- Depending on the graphic selected there may be other options:
    - The gauge requires a minimum and maximum value
    - The trend chart requires a time block
    - The thermometer requires a minimum and maximum
- Click Submit and the component is added to the graphic display area
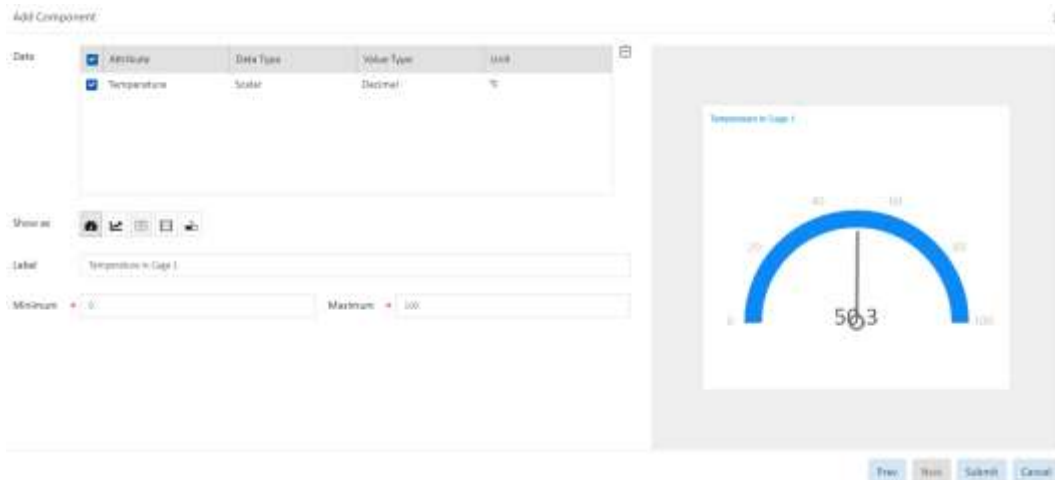
The component positioning and size can be modified in the graphic display area. Each component contains icons for setting position and size.

- A) Click and drag the cross hairs icon to move the component to a new position
- B) Click the edit icon modify the component configuration
- C) Click the trashcan icon to remove the component
- D) Click the light gray triangle in the lower right corner of the component window and drag to resize
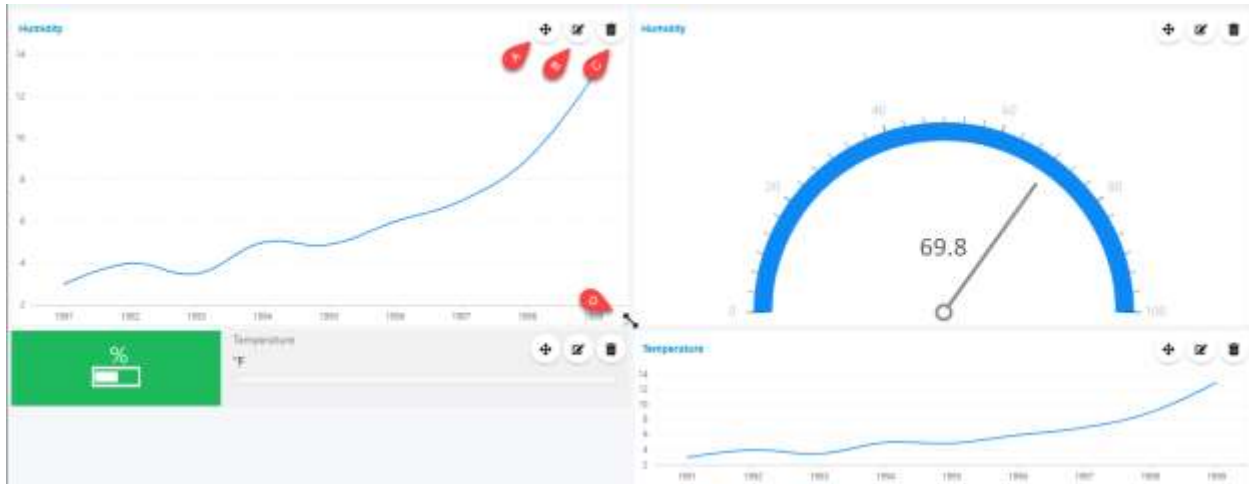
13.2.1.4. Applied Rules Tab

The initial view presented when the Applied Rules Tab is selected is a summary of where the monitoring template will be applied.

The template can be applied at the Type, Product Line, Model and Device level.

Clicking on the **+** sign next to Types, Product Lines, Models and Devices displays a table list of the respective elements affected by the template.

This example shows the monitoring template is only applied at the devices level to 3 devices:

When the table list is displayed for either Type, Product Line, Model and Device, two buttons are now available:

- **Add** button opens a window listing all of the elements of that kind in the system. Here the user can use the check boxes to select the elements. Submit adds the selected items to the monitoring template and Close exits without adding.

- **Remove** button deletes the selected elements from the monitoring template.

13.3. Triggers Menu Item

The initial view presented when the Triggers Menu Item is selected is a list of triggers in the system.

List Column	
Trigger Name	Trigger Name is also a link to the trigger's configuration form.
Severity	Displays the alarm level for the trigger.
Type	Displays the trigger's type which can be Template, Rack Group, Device or Location.
Trigger Source	Displays the specific source where the trigger is applied.
Status	Displays if the trigger is on or off.
User List Buttons	
New	New opens form to create a trigger.
Delete	Remove the selected trigger from the system.

13.3.1. New Trigger Form

The Trigger form allows users to add triggers that can contain complex rules for generating alarms. The form contains fields and a rules generator.

Fields	Description
Name	Sets the name of the trigger.
Severity	Set the level of the alarm to Critical, Warning, Minor or Information.
Type	Set the trigger's type which can be Template, Rack Group, Device or Location.
Min Time On (s)	Sets the minimum time that a condition(s) must exist to trigger the alarm.
Min Time Off (s)	Sets the minimum time that a condition(s) is in a normal state before changing the status back to normal.
Rules	Rule building area where the user can define complex conditions see the Rule Building section.
Description	User defined description of the trigger.

Status	Displays if the trigger is on or off.
Buttons	**Description**
New	New opens a form to create a trigger.
Submit	If any form fields are edited or new data has been added the Submit button becomes active and is used to add a new trigger or update the existing form.
Submit & New	Increases efficiency when adding a number of triggers sequentially by adding a new trigger with existing values and presenting a blank new form.

13.3.1.1. Rule Building

Building rules in the trigger is done in the rule building area.

- The user will build a condition statement using one or more phrases
- A phrase consists of a monitored attribute, an operation and a value for evaluation
- The phrases are strung together with AND and OR to define the exact condition that should trigger an alarm
- The condition statement can have multiple groupings of phrases for alternative complex conditions.

The graphic below illustrates the following steps for creating a rule:

1. Select a monitored attribute from the list.
2. Choose an operation. The options are:
   a. equal to
   b. does not equal
   c. greater than
   d. less than
   e. greater than or equal to
   f. less than or equal to
   g. between
   h. percent comparison allows users to compare two attributes and trigger when the percentage meets the defined criteria.
3. Enter a value that works with the operation to evaluate the incoming monitored data point value.
4. The unit information is automatically inherited from the selected monitored attribute.
5. Define the relationship between the current phrase and the next phrase with AND or OR.
6. Use X to remove a phrase.
7. "All of those conditions must be met" - identifies the first grouping of phrases in the rule.
8. The OR button at the top of the rule building area adds an either/or function and the text "OR all of these conditions must be met" between the first grouping of phrases and the next.

13.4. Actions Menu Item

The initial view presented when the Action Menu Item is selected is a list of actions in the system.

List Column	
Action Name	Action Name is also a link to the actions's configuration form.
Conditions	Displays the source conditions for the action.
Operations	Displays the operations within the action.
Status	Displays if the action is on or off.
User List Buttons	
New	New opens form to create a trigger.
Delete	Remove the selected trigger from the system.

13.4.1. New Action Form - Notification Detail

The Action form allows users to add actions that can contain complex conditions for implementing an action such as an email notification. The form contains fields and a conditions generator.

Fields	Description
Name	Sets the name of the action.
Conditions	Condition building area where the user can define complex conditions, see the Condition Building section.
Default step duration	Sets the default step time in minutes. The default is applied to each of the Operations.
Buttons	**Description**
New	New opens a form to create a action.
Submit	If any form fields are edited or new data has been added the Submit button becomes active and is used to add a new action or update the existing form.

13.4.1.1. Condition Building

Building conditions in the action is done in the conditions building area.

- The user will build a condition statement using one or more phrases
- A phrase consists of level, an operation and a corresponding level item
- The phrases are strung together with AND and OR to define the exact condition that should prompt an action
- The condition statement can have multiple groupings of phrases for alternative complex conditions.

The graphic below illustrates the following steps for creating a rule:
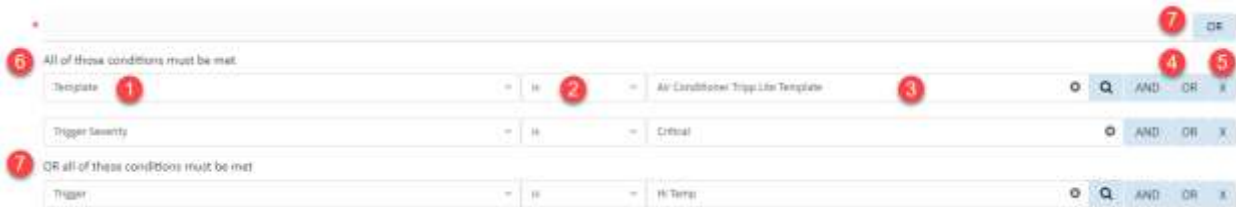
1. Select a level from the list: Template, Trigger or Trigger Severity .
2. Choose an operation. The options are:
    a. is
    b. is not
3. Select an item
    a. If Template is selected, then the list of templates in the system is shown
    b. If Trigger is selected, then a list of triggers in the system is shown
    c. If Trigger Severity is selected, then the list of alarm levels is shown
4. Define the relationship between the current phrase and the next phrase with AND or OR.
5. Use X to remove a phrase.
6. "All of those conditions must be met" - identifies the first grouping of phrases in the rule.
7. The OR button at the top of the rule building area ads and either/or function and the text "OR all of these conditions must be met" between the first grouping of phrases and the next .

13.4.1.2. Operations Tab

The initial view presented when the Operations Tab is selected is a list of operations in the action.

List Column	
Step	Displays the step number.
Operation Type	Displays the type of operation.
Detail	Displays the details of the operation.
Start In	Displays at what point after the conditions are met the operation will be initiated.
Duration	Displays the length of time for the operation.
Action	Clicking the pencil icon opens the operation's form for editing.
User List Buttons	
New	New opens form to create an action.
Delete	Remove the selected action from the system.

13.4.1.2.1. New Operation Form

The New Operation form allows users to add operations that can send notification messages or traps.

Fields	Description
Step	Sets the step range for the operation.
Step Duration	Set the length of the step, in minutes.
Operation Type	Sets the Operation Type to Send Message or Send Trap.
Send to User Groups	Set the user groups to receive the notification message from the drop-down menu. Use the ⊕ to add more user groups or the ✖ to delete a user group.

Send to Users	Set the users to receive the notification from the drop-down menu. Select email or SMS for message delivery mechanism. Use the ⊕ to add more users or the ✖ to delete a user. **Note:** Users can control their message delivery in the Personal Menu > Personal Settings > Notification Settings.
Use Default Message	Check box is currently on by default and cannot be changed.
Subject	Displays message subject variables.
Message	Displays message content variables.
Destination Host	If Send Trap is selected, sets trap destination host IP address.
Destination Port	If Sent Trap is selected, set trap destination port on host.
Buttons	**Description**
Save	Saves the settings or changes.
Cancel	Closes the form without saving any changes.

13.4.1.3. Recovery Operations Tab

The initial view presented when the Recovery Operations Tab is selected is a list of operations in the recovery operation. Recovery operations occur when alarm conditions return to normal.

List Column	
Operation Type	Displays the type of operation.
Detail	Displays the details of the operation.
Action	Clicking the pencil icon opens the operation's form for editing.
User List Buttons	
New	New opens form to create an action.
Delete	Remove the selected action from the system.

13.4.1.3.1. New Recovery Operation Form

The New Recovery Operation form allows users to add recovery operations that can send notification messages or traps.

Fields	**Description**
Operation Type	Sets the Operation Type to Send Message, Notify all involved or Send Trap.
Send to User Groups	Set the user groups to receive the notification message from the drop-down menu. Use the ⊕ to add more user groups or the ✖ to delete a user group.
Send to Users	Set the users to receive the notification from the drop-down menu. Select email or SMS for message delivery mechanism. Use the ⊕ to add more users or the ✖ to delete a user. **Note:** Users can control their message delivery in the Personal Menu > Personal Settings > Notification Settings.
Use Default Message	Check box is currently on by default and cannot be changed.
Subject	Displays message subject variables.
Message	Displays message content variables.
Destination Host	If Send Trap is selected, sets trap destination host IP address.
Destination Port	If Sent Trap is selected, set trap destination port on host.
Buttons	**Description**
Save	Saves the settings or changes.
Cancel	Closes the form without saving any changes.

The initial view presented when the Applied Rules Tab is selected is a summary of where the action will be applied.

The action can be applied at the Type, Product Line, Model and Device level.

Clicking on the **+** sign next to Types, Product Lines, Models and Devices displays a table list of the respective elements affected by the action.

This example shows the action is only applied at the devices level to 3 devices:
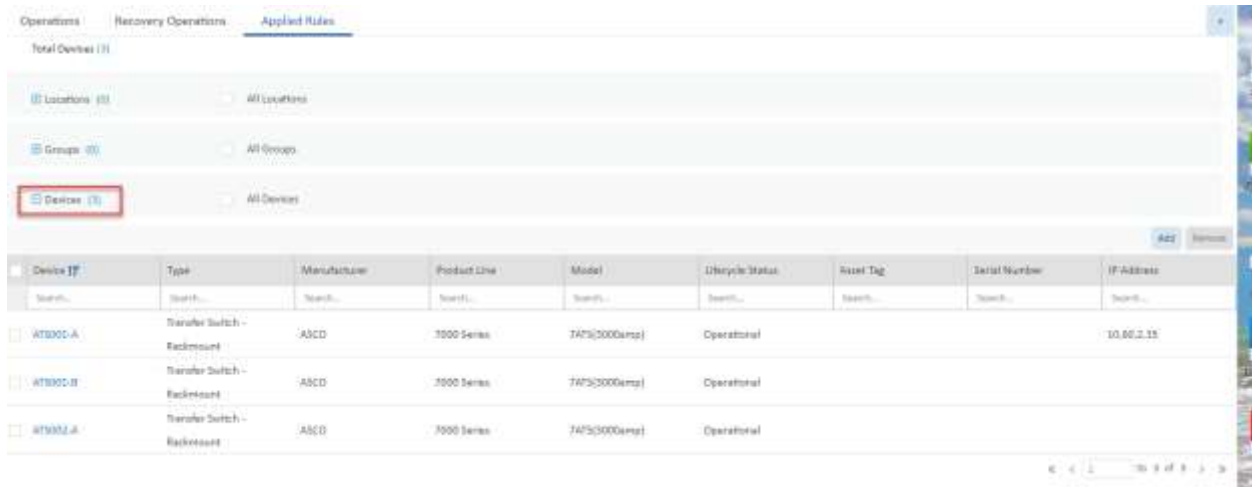
When the table list is displayed for either Type, Product Line, Model and Device, two buttons are now available:

- **Add** button opens a window listing all of the elements of that kind in the system. Here the user can use the check boxes to select the elements. Submit adds the selected items to the monitoring template and Close exits without adding.
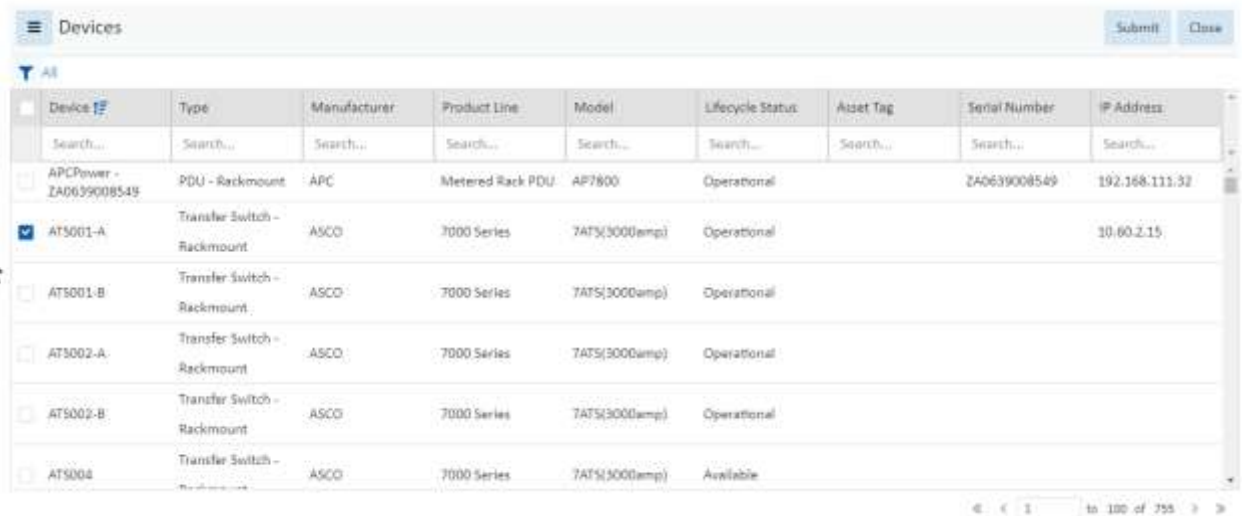
- **Remove** button deletes the selected elements from the monitoring template.

13.5. Probes Menu Item

The initial view presented when the Probes Menu Item is selected is a list of probes in the system.

List Column	
Probe	Probe name is also a link to the probe's form.
Status	Displays the probe's current status.
IP Address	Displays the probe's IP address.
Running Time	Displays the length of time the probe has been running.
Device Count	Displays the number of devices configured for the probe.
Active Devices	Displays the number of devices actively being monitored.
Thread Count	Displays total thread count.
Active Threads	Displays number of active threads.

13.5.1. Probe Form

The Probe form displays configuration information for the probe and allows users to remove devices from the probe. The probe is configured during installation and the fields are read only.

Fields	Description
Probe	Displays probe name.
Status	Displays the probe's current status.
IP Address	Displays the probe's IP address.
Running Time	Displays the length of time the probe has been running.
Device Count	Displays the number of devices configured for the probe.
Active Devices	Displays the number of devices actively being monitored.
Thread Count	Displays total thread count.
Active Threads	Displays number of active threads.
Buttons	**Description**
Remove	Removes selected device from list and turns off monitoring at the device.
List Column	
Device	Device name is also a link to the device form.
Last status	Displays status at last probe interval.
Probe Attempts	Displays the number of probe attempts to contact device.
Probe Success	Displays the number of successful probe attempts.
Recent Missed	Displays the number of times the device did not respond in the past hour.
Missed Count	Displays total failed probe attempts.
Interval (ms)(Avg/Max/Min)	Displays the average, maximum and minimum probe interval in milliseconds.
Response (ms) (Avg/Max/Min)	Displays the average, maximum and minimum response from devices in milliseconds.

13.6. Data Mapping Menu Item

The Data Mapping feature allows you to map the monitored data points from one device (the From Device) to another (the To Device).

For Example:

- A rack does not typically have any way to monitor its temperature directly.

- A sensor mounted on the rack would indicate the rack's temperature (the sensor is the From Device).
- Data Mapping allows the user to map the temperature from the sensor to a temperature attribute on the rack (the rack is the To Device).
- Then when the rack is viewed it has a temperature value.

13.6.1. Before Data Mapping

Before you can map data between devices both devices must have associated monitoring templates.

- **From Device:** The device that has actual data points that can be monitored would have a normal monitoring template.
- **To Device:** The device that will indirectly receive the monitored data will also need a monitoring template.
  - o The template for the To Device will identify the monitored attributes but the Data Type will be set to Data Mapping.

  - o The Monitor Configuration for the device should have the monitoring template status set to active.

  - o After Mapping the device's Real-time Monitoring Data will show the mapped attributes and identify the Data Source as the From Device [Monitoring Template: Monitored Attribute]. In the image below the *To Device* is Rack015 and the *From Device* is CRAC001 using monitoring template Tampa Backnet and monitored attribute Temperature.

13.6.2. Data Mapping Steps

The initial view presented when selecting the Data Mapping Menu Item is the work area for mapping From Devices to To Devices and the list of Mapped Data attributes in the system.

1. Select the From Device from the list of all devices
   a. The list of monitored attributes in the device's monitoring template is shown
2. Select the To Device from the list of all devices
   a. The list of data mapping attributes from the device's monitoring template is shown
3. For the From Device check the attribute that will provide information
4. For the To Device check the attribute that will receive information
5. Click Submit to map
6. The mapped information is added to the Mapped Data table list

List Column	
Device	From Device name and link to device's form.
Type	From Device type.
Model	From Device model.
Attribute	From Device attribute that is mapped to To Device.
Device	To Device name and link to the device's form.
Type	To Device type.
Model	To Device model.
Attribute	To Device attribute that is mapped to From Device.
Buttons	
Submit	Saves the attribute mapped From Device to To Device.
Delete	Deletes the selected row from the Mapped Data list and cancels the mapping.

13.7. MIB Browser Menu Item

A MIB is a formatted text file that lists all of the data objects used by a device. The file lists the OIDs (object identifiers) that correspond to specific data points. When configuring monitoring for a device using the SNMP protocol you must have the OIDs for the data points you wish to monitor.

The application has a self-contained MIB Browser that lets you view MIB files in the system and use them to SNMP walk a device to determine which OIDs to use.

The initial view presented when the MIB Browser Menu Item is selected is the SNMP connection configuration fields and a list of MIB files uploaded to the system.

Fields	Description
Probe	Allows the user to select the probe that will be used for the MIB walk.
Version	Allows the user to select the SNMP version to be used. Options are SNMP_VERSION_1, SNMP_VERSION_2C and SNMP_VERSION_3.
Security Level	Allows the user to select the SNMP Version 3 security level to be used. Options are noAuthNoPriv, authNoPrive and authPriv.
Auth Protocol	Allows the users to select the SNMP Version 3 authorization protocol. Options are MD5 or SHA.
Privacy Password	Display and enter the privacy password fpr SNMP Version 3.
IP Address	Display and enter the IP address of the device to be walked.
Protocol	Display and enter the select the protocol. Options are UDB or TCP.
Set Community	Display and enter the set community string.
Password	Display and enter the Password for SNMP Version 3.
Privacy Protocol	Display and enter privacy protocol for SNMP Version 3. Options are DES and AES.
Port	Display and enter the port for connecting to the device.
Get Community	Display and enter the get community string.
User Name	Display and enter the user name for SNMP Version 3.
Context	For SNMP Version 3.
Unit	Display and set the value to replace the unit variable in an OID.
Buttons	**Description**
Upload File	Used to upload MIB to the MIB Files list.
Delete	Deletes the selected MIB file from the list.
List Column	
File Name	MIB file name is also a link to the MIB's list of OIDs.
Description	Displays user defined description.
Create By	Displays the name of the user that uploaded the MIB.
Created	Displays the date the MIB file was uploaded.

13.7.1. SNMP Walk

An SNMP walk tests the connectivity to a device and helps determine which OIDs (object identifier) should be used to reach the desired data points for monitoring.

13.7.1.1. Uploading a MIB

Acquire a MIB for the device to be monitored. These can typically be found at the device manufacturer's web site. Upload the MIB to the application.

1. Click he Upload File button
2. Navigate to the MIB file
3. Click OK to upload and add the MIB to the list

13.7.1.2. SNMP Walk Steps

Determine which SNMP protocol version is appropriate for your device and proceed.
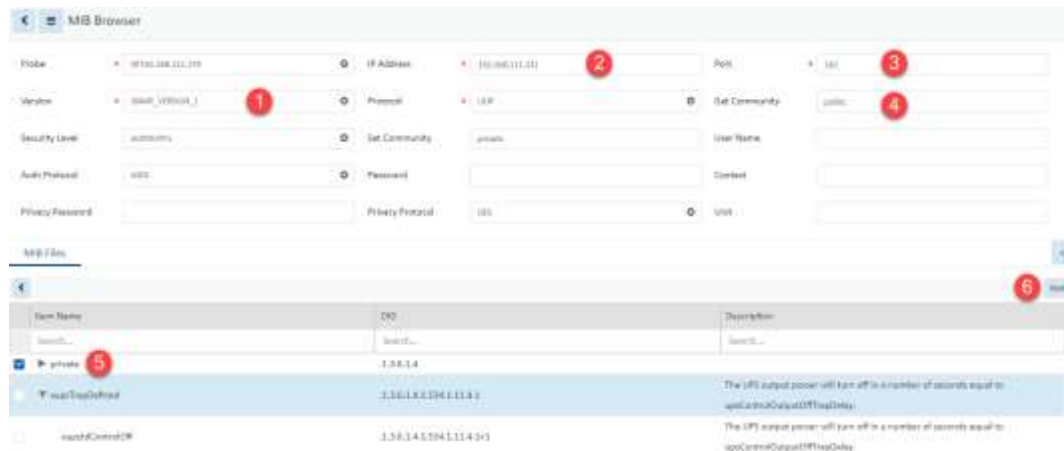
1. Select the SNMP version
   a. If the device uses SNMP version 3 then you will also need information for all of the fields noted as specific to version 3 in the fields table above.
2. Enter the IP address for the device
3. Set the port number, by default it is the standard SNMP port of 161
4. Set the Get Community string, by default it is set to public
5. Click on the MIB name to be used and then select the desired MIB section
   a. The MIB is a hierarchy of folders with OIDs for various functions
   b. If you are unsure which one to select, select private to explore everything

6. Click on the Walk button to initiate the SNMP walk

7. The walk results are displayed in a table

Name/OID	Value	Type
.1.3.6.1.4.1.534.1.1.1.0	EATON	OctetString
.1.3.6.1.4.1.534.1.1.2.0	Eaton 5PX 1000	OctetString
.1.3.6.1.4.1.534.1.1.3.0	INV: 10	OctetString
.1.3.6.1.4.1.534.1.1.4.0	0	Integer
.1.3.6.1.4.1.534.1.2.1.0	2212	Integer
.1.3.6.1.4.1.534.1.2.2.0	52	Integer
.1.3.6.1.4.1.534.1.2.3.0	0	Integer
.1.3.6.1.4.1.534.1.2.4.0	100	Integer
.1.3.6.1.4.1.534.1.2.5.0	4	Integer
.1.3.6.1.4.1.534.1.2.6.0		OctetString
.1.3.6.1.4.1.534.1.3.1.0	599	Integer
.1.3.6.1.4.1.534.1.3.2.0	26	Counter32

14. Workflow Menu Group

The Workflow Menu Group provides important tools for users to create and manage projects and associated activities.

14.1. My Activity Menu Item

The My Activity Menu Item displays a series of tables showing the current user's open workflow assigned activities.

14.1.1. My Workflow Items

List of all workflow items assigned to the user.

Table List Column	
Status	Current status of the item for example, Pending Approval.
Project Name	Displays the name of the project to which the item belongs.
Project Number	Displays the number of the project to which the item belongs.
Name	Displays the name of the item to be acted upon.
Type	Displays the type of the item.

14.1.2. My Projects

List of projects created by the user.

Table List Column	
Name	Displays the name of the project.
Project Number	Displays the project number.
Status	Displays the current status of the project.
Tasks	Displays the number of tasks in the project.
Work Orders	Displays the number of work orders in the project.
Start Date	Displays the project start date.
End Date	Displays the project end date.

14.1.3. My Tasks

Lists of tasks assigned to user for approval.

Table List Column	
Name	Name of the task.
Task Status	Displays the task status.
Actions	Displays the number and kind of actions in the task.
Project Name	Displays the name of the project.
Project Number	Displays the project number.
Project Status	Displays the current status of the project.
Created Date	Displays the date the task was created.

14.1.4. My Work Orders

List of work orders assigned to the user.

Table List Column	
Work Order	Displays the name of the work order.
Work Order Number	Displays the work order number.
Status	Displays the current status of the work order.
Assigned To	Displays who is assigned to the work order.
Project Name	Displays the name of the project.
Project Number	Displays the project number.
Start Date	Displays the work order start date.

14.1.5. My Events

List of the events related to projects for the current user.

Table List Column	
Icon	Displays icon indicating the type of activity.
Level	Displays the level of the logged activity. Options include: Critical, Exception, Inactive, Info, Minor, Normal, Recovery, Unmonitored, Unreachable and Warning.
Date	Displays the date of the activity.
Category	Displays the category of the activity. Options include: Alarm, Device, Discovery, Graphs, Location, Monitor, Project, Service, System, User and Warranty. Here you will only see Project category items.
Event	Displays the project related event name. Examples are Project Approved, Task Created, etc.
Source	Display the name of the user who last updated the template.
Description	Displays the activity details.

14.2. Projects Menu Item

The Project feature is an asset-provisioning and management tool that lets project managers do the following:

- Create a project
- Provision the installing, moving, adding and decommissioning of devices
- Provision network and power cable connections
- Reserve space in racks and on the floor
- Create work orders that summarize the project components
- Send out project work orders

The Projects Menu Item displays a list of all the projects in the system. The table list contains the following fields:

Table List Column	
Name	Name of the project is also a link to open the Project form that contains the details for that project.

Project Number	Displays the number the user has assigned to the project.
Status	Displays the project status.
Tasks	Displays the number of tasks in the project.
Work Orders	Displays the number of pending and completed work orders.
Start Date	Displays the start date for the project.
End Date	Displays the end date for the project.
Created By	Displays the date the project was create.
Completion Date	Displays the date the final work order associated with the project is completed.
Table List Buttons	**Description**
New	Presents the form for creating a new project.
Delete	Deletes the selected project from the system.

14.2.1. New Project Form

Selecting new presents the New Project form. The New Project form has static fields in the top section and once submitted it converts to the Project form.

Fields	**Description**
Project Name	Enter the name for the new project.
Project Number	Enter the number for the new project.
Owner	Select an owner from the list of existing owners. Owners are created in the rights access menu group, owner menu item.
Department	Select a department from the list of existing departments.
Start Date	Project start date.
End Date	Project end date.
Expired After End Date	Checking the box will cause the project to expire after its end date regardless of its status.
Table List Buttons	**Description**
New	Opens a form for creating a new project.
Submit	Saves the form's contents, creates the project and opens the project's form page.
Submit & New	Saves the form's content, creates the project and presents a new project form.

14.2.2. Project Form

Selecting an existing project presents the Project form. The Project form has static fields in the top section followed by tabs that present their own lists related to the project.

Fields	**Description**
Project Name	Enter the name for the new project.
Project Number	Enter the number for the new project.
Department	Select a department from the list of existing departments.
Start Date	Project start date.
End Date	Project end date.
Expired After End Date	Checking the box will cause the project to expire after its end date regardless of its status.
Table List Buttons	**Description**
New	Opens a form for creating a new project.
Approve	Approves the project.
Submit	Saves the changes to the project.

Submit for Approval	Submits the project for approval by specified users.
Delete	Deletes the current project.
⌃ ⌄	These buttons collapse and expand the upper area of the form to provide more space for the tables.

14.2.2.1. Tasks Tab

The initial view presented when the Tasks Tab is selected is a list of tasks for the current project and its actions. A task is a way to categorize actions. Actions types include installing a new device, installing an existing device, moving a device, decommissioning a device, adding a port connection and disconnecting a port. A task is a grouping of any combination of these types of actions.

Tasks are created from within a project. When you create a new task or open an existing task you enter the tasks feature page. For task feature details please refer to the Tasks Menu Item section of this document. For step-by-step instructions to add actions to a task start at the Add Actions to Tasks section of Steps for Creating and Completing a Project section of this document.

List Column	
Task	Task's name is also a link to the task's form.
Actions	Displays the type of each action in the task.
Details	Displays details about the action, device name, etc.
Device Type	Displays the device type.
Model	Displays the device model.
IP	Displays the device IP address.
Serial Number	Displays the device serial number.
Plan Result	Displays the destination planned for the device.
List Buttons	
New	New opens form to add a new task.
Delete	Removes the selected task from the list.

14.2.2.1.1. New Task Form

The New Task form allows users to create a new task. When the new task form is submitted the task form is opened. Please refer to the Task Form section of this document for additional details. For step-by-step instructions to create tasks start at the Create Tasks section of Steps for Creating and Completing a Project section of this document.

Fields	Description
Task	Enter a name for the task.
Project Name	Automatically filled with current project name.
Project Number	Automatically filled with current project number.
Buttons	Description
New	Opens a new task form.
Submit	Creates the new task with existing values in the form.
Submit & New	Increases efficiency when adding a number of tasks sequentially by adding a new task with existing values and presenting a blank new form.

14.2.2.2. Work Orders Tab

Work orders are generated after the project and actions are approved. For step-by-step instructions to create workorders start at the Create Work Order section of Steps for Creating and Completing a Project section of this document.

List Column	
Work Order	Work Order name is also a link to the work order's form. The type of the actions in the work order are also listed in this column under the work order name.
Work Order Number	Displays the automatically generated work order number.
Details	Displays details of the action, device name, etc.
Assigned To	Displays the username of the person assigned the action.
Escalate To	Displays the username of the person to whom the action will be escalated after the designated SLA days.
SLA (Days)	Displays the number of days to escalation for each action.
Status	Displays the status of the work order and each action.
Submit Time	Displays the start date and end date for the work order.
List Buttons	
New	New opens form to add a new work order.
Submit for Deploy	Submits the selected work order for deployment.
Start	Starts the SLA counter for the selected action.
Stop	Stops the SLA counter for the selected action.
Reject	Rejects the selected task and its actions or rejects the selected individual action.
Complete	Completes the selected task and its actions or rejects the selected individual action.
Delete	Deletes the selected item.
⨠ ⨟	These buttons collapse and expand the upper area of the form to provide more space for the tables.

14.2.2.3. Approvals Tab (Project)

The Approvals Tab displays the list of those users and/or user groups designated as approvers or watchers. The list of project approvers must be defined. A project must be approved before you can begin to plan the task actions.

For step-by-step instructions on how to define approves and approve projects start at the Define Project Approvers section of Steps for Creating and Completing a Project section of this document.

List Column	
Type	Displays if the record is for an approver or a watcher.
Category	Displays if the approver/watcher is an individual user or a user group.
Name	Displays the name of the user or user group.
Status	Displays "approved" next to the user or user group that approved the project.
Descriptions	Displays details about the approval.
List Buttons	
Add	Add opens the form to select approvers and watchers.
Delete	Deletes the selected approver/watcher from the approvals list.
⨠ ⨟	These buttons collapse and expand the upper area of the form to provide more space for the tables.

The Comments Tab presents a list of comments posted labeled with the username and a time stamp. Comments cannot be edited or deleted.

14.3. Tasks Menu Item

The initial view presented when the Tasks Menu Item is selected is a list of all the tasks for all the projects in the system. Tasks are created from within a project on the tasks tab.

List Column	
Task	Task's name is also a link to the task's form.
Task Status	Displays the status of the task.
Actions	Displays a list of the action types in the task with the number of each of those types.
Project Name	Displays the name of the task's associated project. The project name is also a link to open the Project form that contains the details for that project.
Project Number	Displays the number assigned to the project.
Project Status	Displays the project status.
Created By	Displays the name of the user that created the project.
Created Date	Displays the date that the project was created.

14.3.1. Task Form

The Task Form is where users can add actions, approvals and comments to the task.

Fields	Description
Task	Displays task name.
Project Name	Displays current project name.
Project Number	Displays current project number.
Buttons	Description
New	Opens a new task form.
Submit	Saves changes to the existing form.
Delete	Deletes the selected task.

14.3.1.1. Actions Tab

The Actions Tab is where users can add actions to a task. For step-by-step instructions to add actions to tasks start at the Add Actions to Tasks section of Steps for Creating and Completing a Project section of this document.

List Column	
Action	Displays the type of action.
Details	Displays details about the action, device name, etc.
Device Type	Displays the device type.
Model	Displays the device model.
IP	Displays the device IP address.
Serial Number	Displays the device serial number.
Plan Result	Displays the destination planned for the device.
List Buttons	

Add Action	Opens form to add new action.
Import	Opens browser to select file for import.
Export	Exports the task's action list to a spreadsheet
Delete	Removes the selected action from the list.

14.3.1.1.1. Add Action Button: Manage Devices

Click on the Add Action button and select Manage Devices:

- Action Type: Install New Device presents the list of models.
  - Select model checkbox, enter quantity and name for device and click submit to add action.
- Action Type: Install Existing Device presents a list of existing available devices.
  - Select device checkbox and click submit to add action.
- Action Type: Move Device presents a list of existing operational devices.
  - Select device checkbox and click submit to add action.
- Action Type: Decommission Device presents a list of existing available and operational devices.
  - Select device checkbox and click submit to add action.

14.3.1.1.2. Add Action Button: Port Connect

When users Click on the Add Action button and select Port Connect, the Port Mapping feature is presented, and cable connections can be specified. For port mapping details please see the Port Mapping Menu Item section under the Connections menu group.

Note: When creating a port connect within a task action the only available option is the Reserve button to reserve the ports.

14.3.1.1.3. Add Action Button: Port Disconnect

When users Click on the Add Action button and select Port Disconnect, the Cables list is presented, and cable connections can be disconnected.

For cable management details please see the Cables Menu Item section under the Connections menu group.

14.3.1.2. Approvals Tab (Task)

The list of those who can approve the task and those designated for escalation if the approver fails to approve in the designated SLA (Days) time frame. For step-by-step instructions to approve tasks start at the Define the Task Approvers section of Steps for Creating and Completing a Project section of this document.

List Column	
Assigned To	Displays the username of the person assigned to approve the task.
Escalate To	Displays the username of the person to whom the task approval will be escalated after the designated SLA days.
SLA (Days)	Displays the number of days to escalation of the task approval.
Status	Displays the status of the approval.
On Time	Displays if the approval is on time or not.

Descriptions	Displays the associated descriptions.
List Buttons	
Add	Opens the Add Approvals form where the user can select who is assigned to approve the task, whom the approval is escalated to and the number of SLA (Days) to escalation .
Delete	Removes the selected approver or watcher from the list.

14.3.1.3. Comments Tab

The Comments Tab presents a list of comments posted labeled with the username and a time stamp. Comments cannot be edited or deleted.

14.4. Steps for Creating and Completing a Project

14.4.1. Create Project

1. From the Workflow Menu Group select the Projects Menu Item
2. Click on the New button

3. Fill out the New Project form and Click the Submit button

14.4.2. Create Tasks

1. In the Project form select the Tasks tab

2. Click on the New button above the tasks table list
3. Fill out the New Task form and Click the Submit button

14.4.3. Add Actions to Tasks

1. In the Task form select the Actions tab
2. Click on the Add Action button above the actions table list

3. Select type of action to add then specify the details in the subsequent window

    a. Add Action - Manage Devices - Install New Device

       i. Set the Action Type to Install New Device

       ii.   Filter the models list to locate and select the model for the device to be installed

      iii.   Enter a name for the new device (if the quantity is greater than 1 each subsequent device will have a number appended to the name)

      iv.   Click the Submit button to add the action to the task

   b.   Add Action - Manage Devices - Install Existing Device

       i.   Set the Action Type to Install Existing Device

      ii.   Filter the device list to locate and select the device to be installed

      iii.   Click the Submit button to add the action to the task

   c.   Add Action - Manage Devices - Move Device

       i.   Set the Action Type to Move Device

      ii.   Filter the device list to locate and select the device to be moved

      iii.   Click the Submit button to add the action to the task

   d.   Add Action - Manage Devices - Decommission Device

       i.   Set the Action Type to Decommission Device

      ii.   Filter the device list to locate the device to be decommissioned

      iii.   Click the Submit button to add the action to the task

   e.   Add Action - Port Connect to create power and network connections between devices Opens the Port Mapping page with only the Reserve button active. For more details on all the port mapping options go to the Port Mapping Menu Item section of this
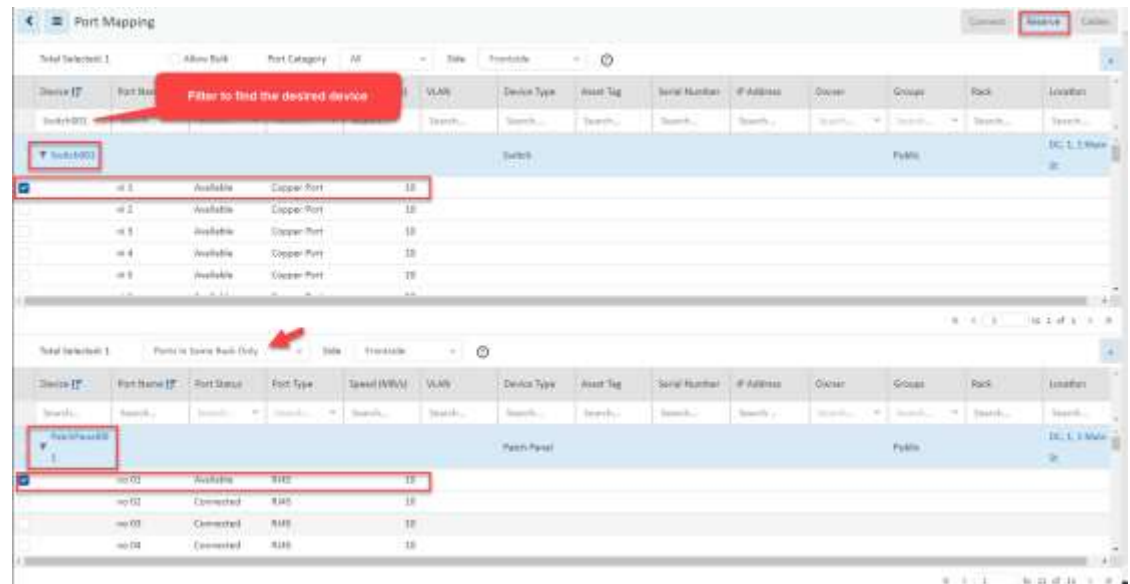
i. In the upper table, filter to find the desired source device
ii. Click the triangle by the device name to expand and show the device ports
iii. Check the box next to the port to be connected
iv. The lower table will automatically list the devices with appropriate ports in the same rack as the device in the upper table
   1. The user can change the lower table list to show Ports in Same Area Only, Ports in Same Floor Only or All Locations
v. Click the triangle by the destination device name to expand and show the device ports
vi. Check the box next to an available port
vii. Click on the Reserve button on the upper right of the page
viii. A New Cables window will open listing the cables/connections to be reserved, add or change information in the fields, confirm that all are correct and Click the Submit button add the action to the task

f. Add Action - Port Disconnect to disconnect existing port connections from the cables list
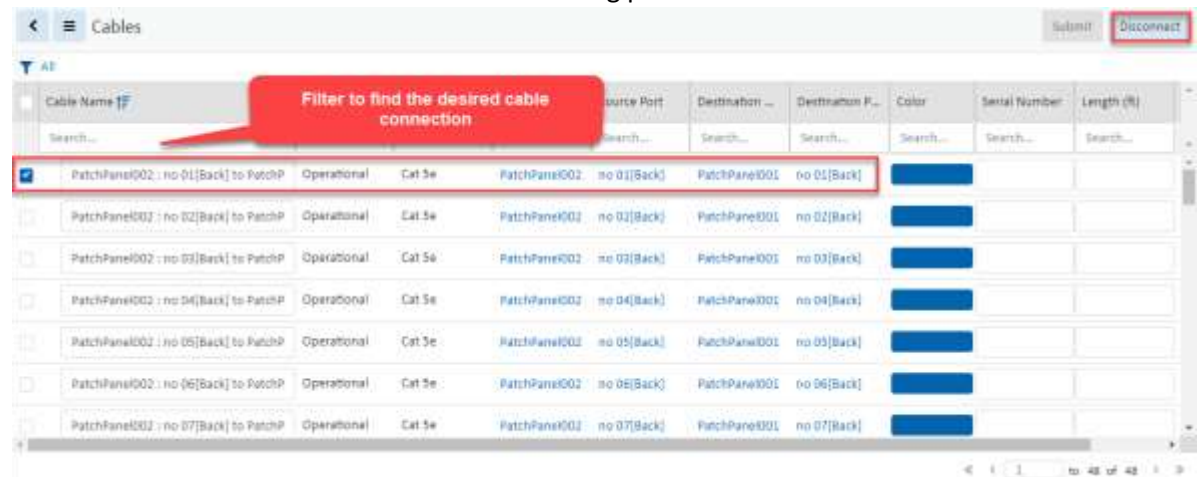
i. Filter to find the desired cable connection

ii. Check the box next to the cable to be disconnected

iii. Click the Disconnect button to add the action to the task

iv. Click the Back To Project Button to return to the project

14.4.4. Define Project Approvers

1. On the project page select the Approvals tab
2. Click on the Add button

3. Click the check box to select users who will be approving the project
4. Click the Submit button to add the selected users to the project approvals list
   Submit Project for Approval

14.4.5. Submit the Project for Approval

1. On the project page Click the Submit for Approval button
   a. The project status changes to Pending Approval
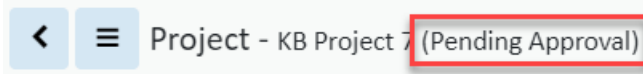
14.4.6. Approve Project

The project pending approval is now listed in the My Workflow Items on the My Activity page for each user designated for approvals.

1. Click on the project name to open the project page

2. Click on the Approve button to approve the project
   a. The project status is changed to Approved
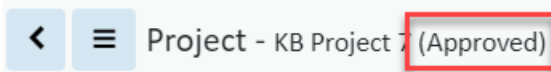
   b. **Note:** If additional actions are added after project has been approved the project status will change back to pending.

14.4.7. Plan the Actions

Actions to move or install devices require planning before they can be submitted. The planning activity determines the device's destination. The plan window allows users to specify destination criteria and the system will find a location. Once the system location is found the user can manually edit the plan if another location is desired.

1. From within a project Select a task's name to open the task.
   a. The task opens with the actions tab selected and the list of actions visible.
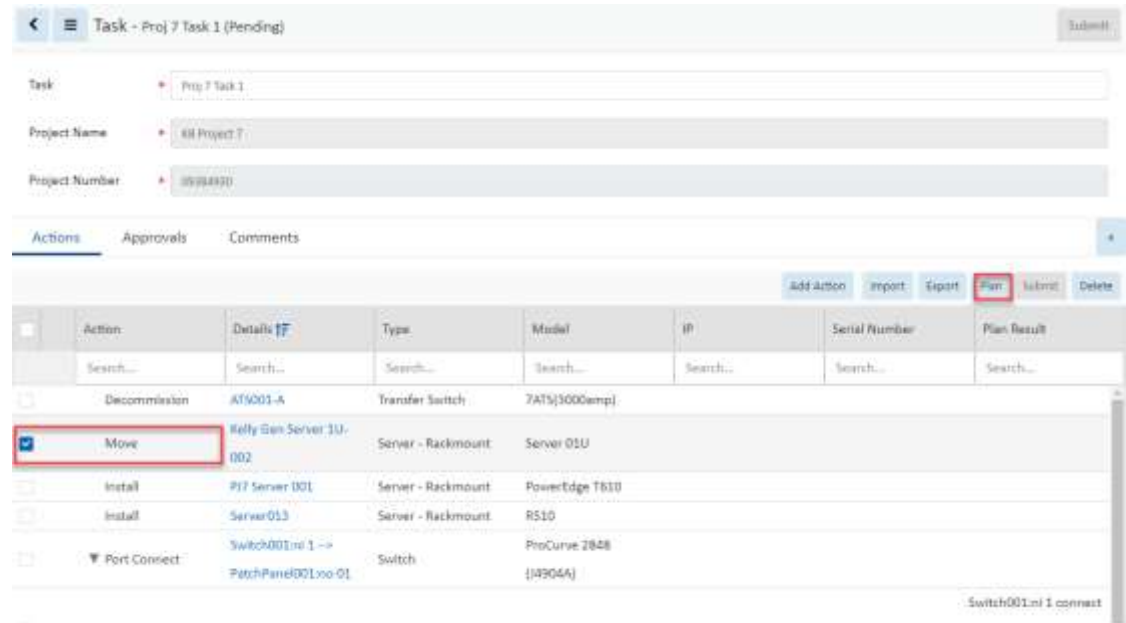
2. Check the box next to an action. If the action needs to be planned before submitting the Plan button is visible.
3. Click the Plan button
4. Configure the plan window to identify where the device in the action should be placed. The system will find a spot for the device within the designated destination.
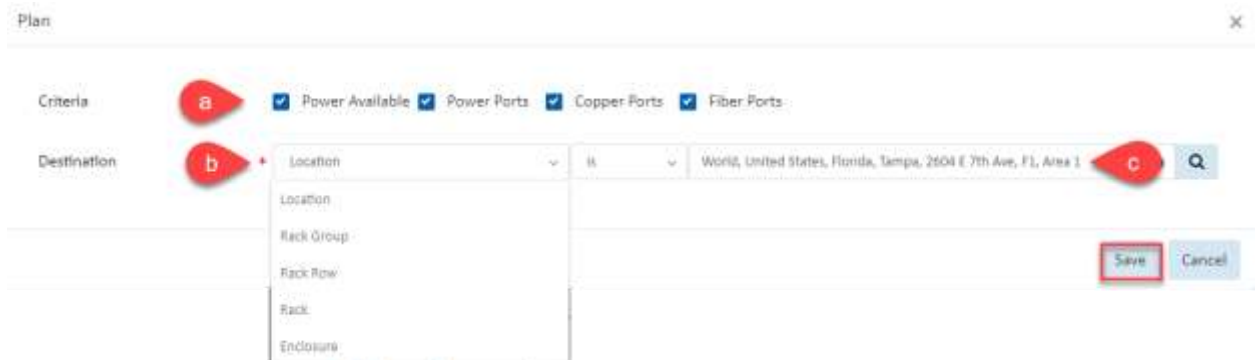
   a. If port connections will be involved, specify the ports needed
   b. Select one of the 5 options for the destination type
      i. When Location is selected the user can select the building, floor or area
      ii. When Rack Group is selected the user can select the group
      iii. When Rack Row is selected the user can select the row

iv.   When Enclosure is selected the user can select the enclosure
   c.   Select the destination subset
5.   Click the Save button

	Action	Details ↑F	Type	Model	IP	Serial Number	Plan Result
	Search...	Search...	Search...	Search...	Search...	Search...	Search...
☐	Decommission	AT5001-A	Transfer Switch	7ATS(3000amp)			
☐	▼ Move	Kelly Gen Server 1U-002	Server - Rackmount	Server 01U			Details... ✗
☐	Install Equipment						Kelly Gen Server 1U-002 install to Jarrett – Rack071 Rack U: 13.0

   a.   When the plan is complete (Operation Successful) the location is shown in the Plan
        Result column
6.   Click on the Details link to manually set the destination

7.   Check the box next to the destination and select the U Position from the available pull-down
8.   Click Submit to save the selection
9.   Click Close to return to the task
10. Continue planning until all of the actions that require planning are completed.

14.4.8. Submit the Actions

Once actions are planned, they can be submitted to the task for eventual task approval.
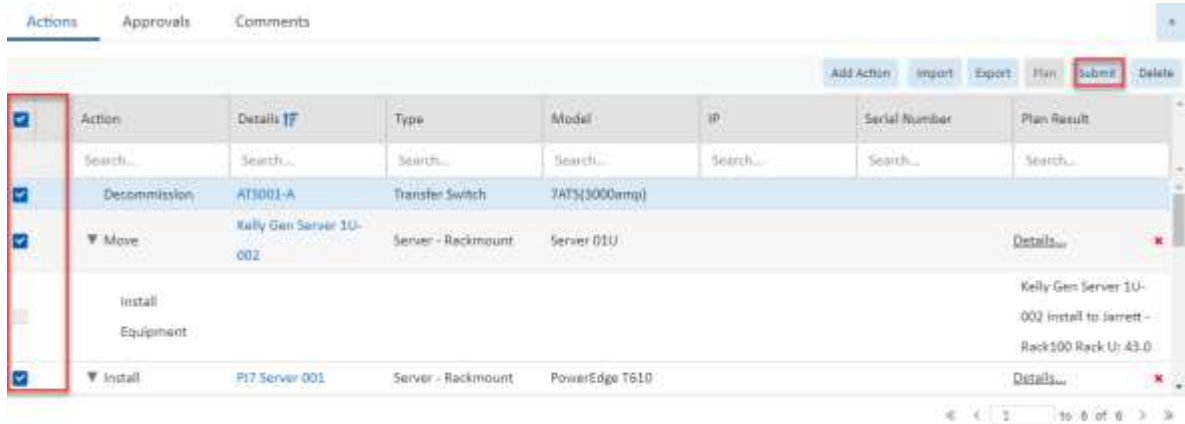
1. Check the box by each action and Click the Submit button
   a. Actions will have a flag icon indicating that they have been submitted
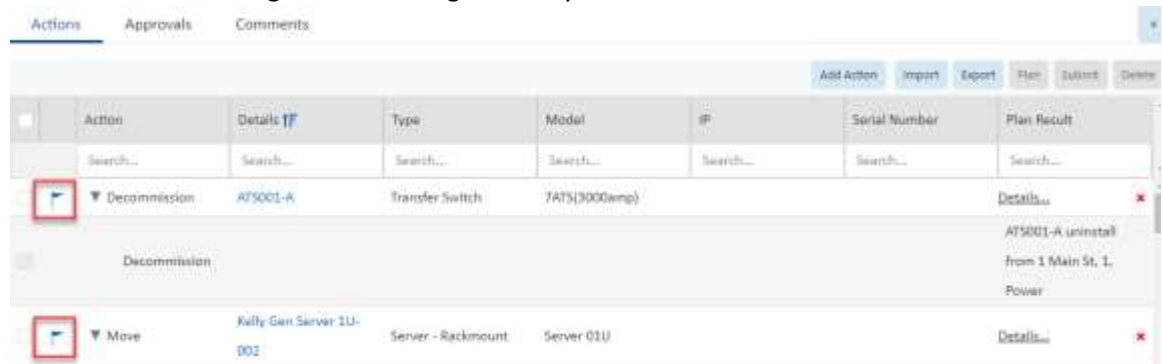
14.4.9. Define the Task Approvers

Individual tasks within the project need to be approved but first the approvers for each task need to be selected.

1. From within a task Select the Approvals tab
2. Click the Add button
3. Click on the Assigned To pull-down menu to select a user or user group for approval
4. Click on the Escalate To pull-down menu to select a user or user group if the approval needs escalation
5. Set the number of SLA (Days) for the escalation
6. Click the Save button

14.4.10. Submit Task for Approval

Once the approvers have been selected the Submit for Approval button is available on the task.

1. From within the task Click the Submit for Approval button
   a. If the current user is a member of the Administrators user group the Admin Approve button is available.
   b. The Admin Approve button approves the task immediately

14.4.11. Approve Task

The tasks pending approval are now listed in the My Workflow Items for the project creator on the My Activity page. The task approvers will have the tasks pending approval in their My Tasks list on their My Activity page.

1. From the My Activity page list Click the Task Name to open the task

2. Click on the Approve button

Task - KP4 Task1 (Approved)

    a. The task status changes to (Approved)

14.4.12. Create Work Order

1. In the Project form select the Work Orders tab

2. Click the New button over the work order table list
3. On the New Work Order form enter a Work Order Name

    a. The other required fields are already filled in
4. Click on the Submit button

Actions are added to the work order for execution by the assigned users.

1. In the Work Order form Click on the Add button to add actions to the work order
   a. The Actions form opens, here you select actions and assign them to users

2. Select the Assignee from the pull-down menu, this is the user primarily responsible for completing the action
3. Select the Escalate from the pull-down menu, this is the user that will be assigned the task if it is not completed before the SLA(Days) setting
4. Enter the number of days for the Assignee to complete the action before it is escalated
5. Click on the Submit button to add the selected actions to the work order
   a. The actions selected will be assigned to the designated users
   b. If other actions are to be assigned to different users, repeat the previous step

14.4.14. Submit Work Order for Deployment

A project will likely have multiple work orders to be executed by different teams and users.

Once all the designated task actions are assigned to a work order, it is ready to be submitted for deployment.

1. Click on the Preview button to see the work order and confirm it is correct
   a. The system will generate and download a pdf file
   b. The file will have multiple pages for each action showing the current and planned view of the rack and details for the action
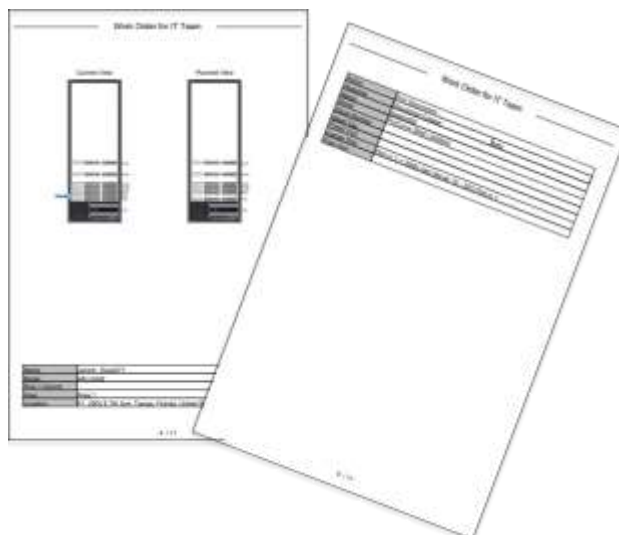
2. Click on the Submit for Deploy button

   a. The work order status changes to Pending Deploy
   b. The work order will be listed in the assigned users My Work Orders on the users My Activity page.
3. If a work order is assigned to you, Click on the work order name to open the work order

14.4.15. Start SLA | Stop SLA Timer (optional)

The Start and Stop buttons will begin and end the SLA count down. This is an optional feature that allows for the action to be escalated if the SLA days are exceeded before completion.

14.4.16. Complete Work Order

When a user completes an action in a work order they select the action and Click on the Complete button.

14.4.17. Completing the Project

The project is completed when all the associated work orders are completed.

If the project was created with the Expired After End Date option selected then the project will be expired on the end date entered regardless of the status of the tasks, actions and work orders.

15. Integrations Menu Group

15.1. Camera Studio Menu Item

The application provides an interface which allows users to view camera images and configure multi-camera views for cameras created in the device list. These work in conjunction with the Visual Capacity Optimization Manager Image Server. Instructions for installation and configuration of the image server and physical cameras is provided in the Administration Guide.

The Camera Studio Menu Item displays the Camera Studio page with dedicated functions for managing and configuring camera views.

15.1.1. Managing Camera Groups

1. Select the Camera Groups tab and click the menu
2. Select Add

3. Enter a name for the new camera group
4. Click Save to add the new group to the list of camera groups

5. To remove a camera group, click on the trash can icon next to the group to be removed
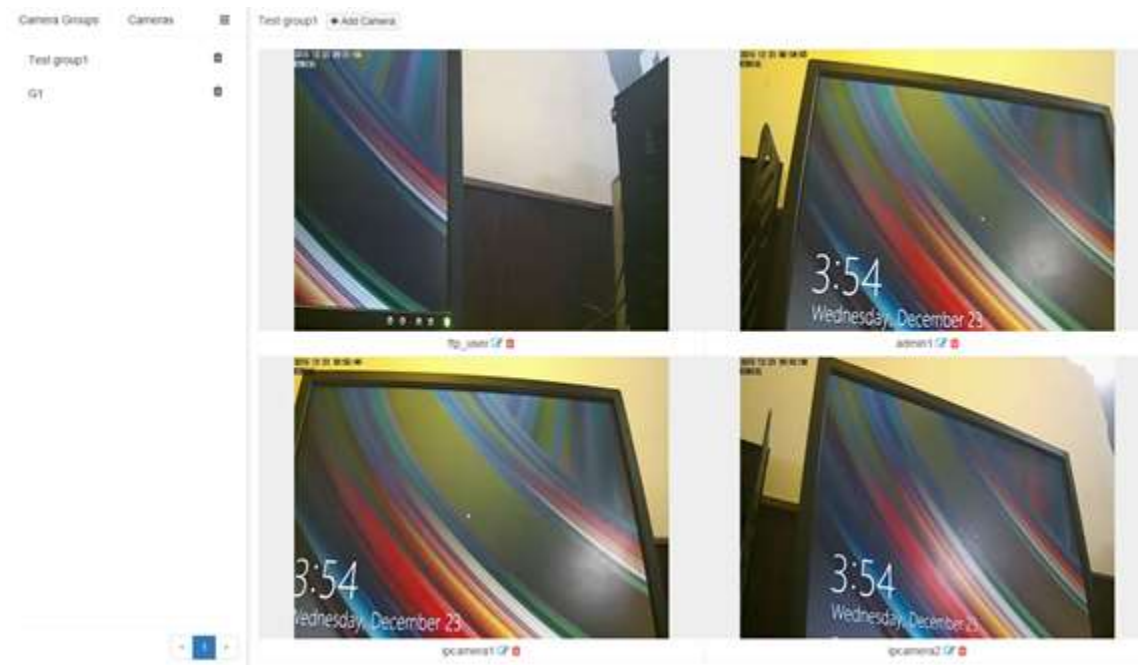
15.1.2. Add Camera to Camera Group
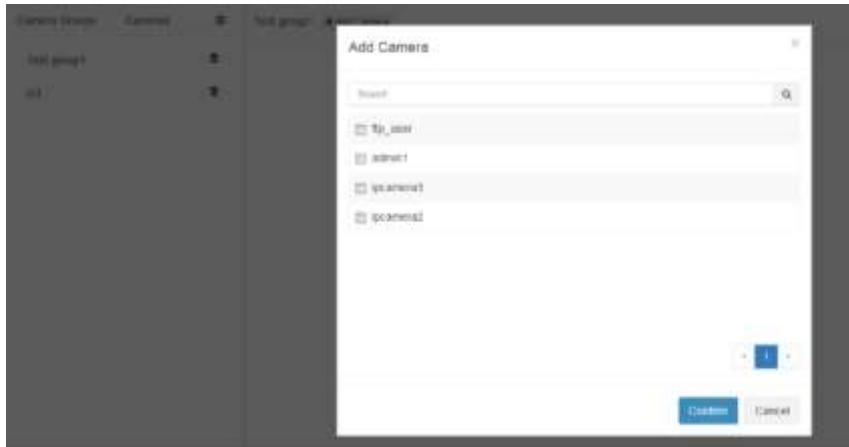
15.1.3. Viewing Camera Images

Once the Camera Groups have been defined, selecting the Camera Group or the Camera from the list will display the real time camera images from the VDCIS server. **Note:** The multi-camera views are automatically configured based on the number of cameras included in the group.

15.1.4. Deleting a Camera from a Camera Group

To delete a camera from a camera group simply click on the trash can icon next to the camera name under the camera's real time image.

15.2. CSV Mapping Menu Item

The application can retrieve monitoring data for a device from a csv file provided by third-party system. This is also known as Flat File monitoring. The third-party system would provide csv files at regular intervals with updated information.

The configuration phases for working with csv files for monitoring are as follows:

15.2.1. Phase 1: Creating a CSV Mapping Template

Create a CSV Mapping Template to reconcile the csv file format to the application

The CSV Mapping Menu Item displays a list of all the CSV Mapping templates in the system. The table list contains the following fields:

Table List Column	
Name	Name of the template is also a link to open the CSV Mapping form that contains the details for that template.
Mode	Displays the csv mapping template mode. Options are Single Device in a Data Source or Multiple Devices in a Data Source.
Description	Displays the user defined description for the csv mapping template.
Table List Buttons	Description
New	Presents the form for creating a new csv mapping template.
Delete	Deletes the selected csv mapping template from the system.

15.2.1.1. CSV Mapping Form

Selecting new or an existing csv mapping template presents the CSV Mapping Template form. The CSV Mapping Template form has static fields in the top section followed by tabs that present their fields related to the csv mapping form.

Fields	Description
Name	Displays the name of the template.
Mode	Displays the csv mapping template mode. Options are Single Device in a Data Source or Multiple Devices in a Data Source.
Description	Displays the text for the monitoring template description field.
Table List Buttons	Description
New	Presents the form for creating a new csv mapping template.
Submit	If any form fields are edited or new data has been added the Submit button becomes active and is used to update the form.
Delete	Deletes the current csv mapping template.
⌃ ⌄	These buttons collapse and expand the upper area of the form to provide more space for the tables.

Integrations Menu Group

15.2.1.2. Column Mapping Tab

The initial view presented when the Column Mapping Tab is selected is a table mapping the System Column name to a Column in CSV file.

1. Name - enter the CSV Mapping Template Name
2. Mode - Select either Single Device in a Data Source or Multiple Devices in a Data Source
3. Description - enter a user defined description for the template
4. Enter the column name in the CSV file for the column that has the attribute that will be monitored.
5. Enter the column name in the CSV file for the column that has the device name.
6. Enter the column name in the CSV file for the column that has the timestamp for the monitored information
   a. Select the date format that matches the timestamp in the csv file
7. Enter the column name in the CSV file that identifies the unit of measurement for the monitored value
8. Enter the column name in the CSV file for the column that has the monitored value
9. Click the Submit button to save your settings

15.2.1.3. Unit Mapping Tab

1. Find the relevant unit of measurement
2. Enter the string for the unit of measurement as it appears in the csv file
3. Click the Submit button to save your changes

15.2.2. Phase 2: Create a Monitoring Template

Create a Monitoring Template where the attributes are set to Monitor Type Flat File and the relevant attribute from the CSV file is identified. Refer to the Monitoring Menu Group section for more details.

In this example the application attribute Active Power will be linked to the CSV file attribute Customer KW.

15.2.3. Phase 3: Configure Monitoring for the Device

For the device configure monitoring for protocol Flat File.
Go to the device's Device Central page and select the Monitor function tile.


1. Enter the device's IP Address
2. Set the probe to be used (if all-in-one or only 1 probe it will already be selected)
3. Set the probe interval
4. Set the number of retries
5. Turn on monitoring for the device
6. Set the protocol to Flat File
7. Enter the path to the csv file
   Specify the path to the CSV file. The VCOM application supports FTP, Local File and HTTP. For

https://commons.apache.org/proper/commons-vfs/filesystems.html

8. Enter the name of the device as it appears in the csv file
9. Select the name of the CSV Mapping Template to be used
10. Ensure that the monitoring template is set to active
11. Click Submit to save the settings
12. After a few polling cycles return to the device's main page and you should see values in the Real-time Monitoring Data
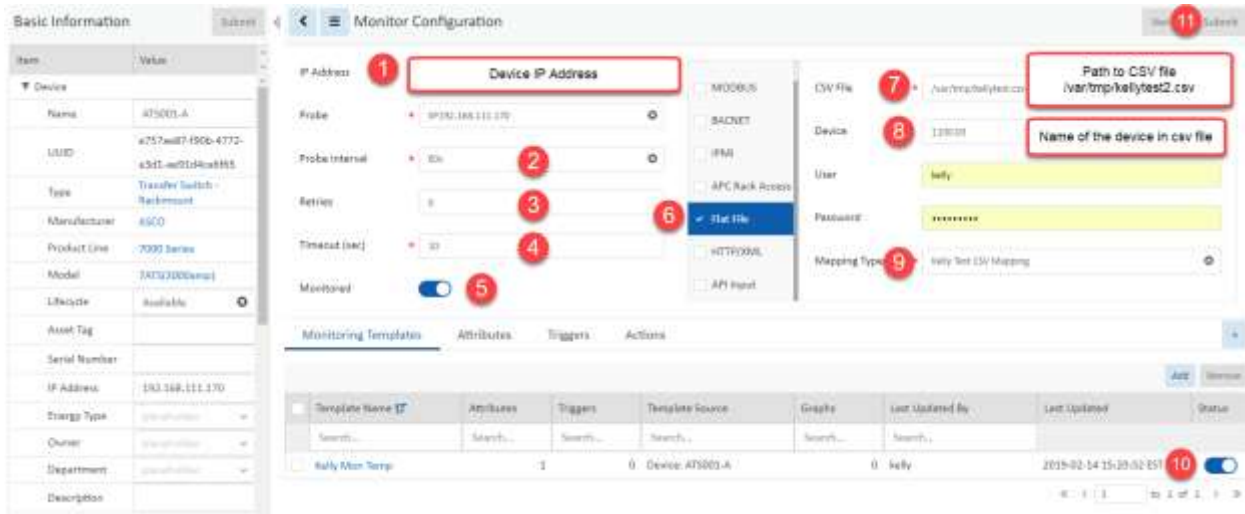
15.3. ITSM Integration Menu Item

The application fully supports interaction with popular third-party IT Service Management (ITSM) applications. A generic framework has been created to allow for automated tasks to be synchronized between this application and the third party ITSM application. This framework establishes connections with the ITSM solution and performs synchronization actions based on user settings defined in the ITSM page. The synchronization process, if enabled, will perform updates every 30 seconds.

15.3.1. Synched Devices

The initial view presented when the ITSM Integration Menu Item is selected is the ITSM Synched Devices list with Refresh, Export, Print and Sync All buttons.

The Synched Device table provides a list of devices which have been synchronized between the two systems. The table lists key model information, serial number of the device and the Last Updated time for the device. This Last Updated time represents the last time that the device was updated based on changes processed by the ITSM feature.

ITSM also has four buttons on the upper right for configuring the ITSM integration.

In order to properly configure the application to synchronize with the ITSM application, there are several settings which must be defined on the Configuration Page to identify the communication settings and synch triggers to be processed.

Click on the Configuration Button to access the Configuration Page.

The following settings are defined on this page:

- **Product** - Select the ITSM product used for integration. Instructions for the CSV Integration option are in the CSV Mapping section.
- **Status** - Status of the integration process. If Enabled, the process will actively synch with the selected Product. When Enabled, the feature will process updates every 30 seconds.
- **URL** - URL of the ITSM server. **Note:** Do not include the / at the end of the URL. For example, a valid URL would be as follows:
    - https://dev1234.service-now.com
- **User Name** - User name needed to log in to the interface of the ITSM server.
- **Password** - Password for the above user name to access the ITSM interface.
- **Proxy Server** - Status of the proxy communication to the ITSM server.
  If Enabled, the Proxy settings are used to communicate with the ITSM server.
    - **Address** - IP Address of the Proxy Server needed to access the ITSM solution.
    - **Port** - Port to be used for Proxy communication.
    - **Proxy Authentication** - Status of Proxy Authentication. If Enabled, the Proxy User and Proxy Password are used to establish communication with the ITSM Server.
    - **Proxy User** - User name to be submitted for the proxy connection.
    - **Proxy Password** - Password used with the proxy connection.
- **Sync Asset** - Determines the direction of the synchronization process for device creation and attribute updates:
    - **Disabled** – No device synch will be processed with an ITSM application.
    - **To ITSM** – Device changes will be pushed to the ITSM application.

- o **From ITSM** – Device changes in the ITSM application will be processed in the Device list.
- o **Bi-Directional** – Device changes will be sent to the ITSM application and pulled from the ITSM application.
- **Incident Push** - Determines if Alarms generated will be pushed to the ITSM application in the form of new Incidents. If Enabled, alarms generated will open a new Incident in the ITSM application.
  - o **Note:** Only alarm changes from Normal to Warning|Critical|Unreachable and back to Normal will generate a ticket on the ITSM system.
- **Incident Caller ID** - System ID of the account to be used to open the Incident on the ITSM solution.
- **Synch Rules** - Allows users to restrict the synch activity with the ITSM system. Multiple rules can be added with AND logic to determine which devices will be processed. Only devices which match ALL of the defined rules will be processed with synch activity.
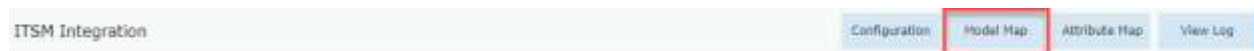
15.3.3. Model Map Page

The ITSM model library will not be using the same naming convention as this application so administrators must establish a mapping between the two systems. The Model Map page allows users to connect the models from the two systems so translation can be performed on synch activity going in each direction.

When the Model Map page is accessed, the application will fetch the Model Library from the current Master Model Database and the Model list from the target ITSM solution. Users can select the model from the Application and the Model from the ITSM solution and click the Map button. This will establish the translation map for these models between the systems which will be listed in the table on the far right of the page.

To remove a mapping, user can simply click the Unmap link in the Action column from the Mapped Models table.

Click on the Model Map Button to access the Model Map Page.

15.3.4. Attribute Map

The ITSM asset attribute list will not be using the same naming convention as this application so administrators must establish a mapping between the two systems. The Attribute Map page allows users to connect the asset attributes from the two systems so translation can be performed on synch activity going in each direction.

When the Attribute Map page is accessed, the application will fetch the list of asset attributes from the current instance of the application and the asset attribute list from the target ITSM solution. Users can select the attribute name from the Application and the attribute name from the ITSM solution and click the Map button. This will establish the translation map for these attributes between the systems which will be listed in the table on the far right of the page.

To remove a mapping, user can simply click the Unmap link in the Action column from the Mapped Attributes table.

Click on the Model Map Button to access the Model Map Page.

15.3.5. View Log

The View Log page allows users to review detailed log information related to the synchronization process. All activity related to the synchronization of device creation, attribute updates, etc. will contain an entry in the log tables.

Click on the View Log Button to access the View Log Page.

15.3.6. ITSM Service Now Integration

The Service Now application provides a wide range and of asset management functions which can be integrated with this application. The functions supported in the Service Now integration include the following:

- Device Creation – One way to bi-directional support for device creations.
- Attribute Changes – One way or bi-directional support for changes to asset attributes.
- Incident Reporting – Creation of a ticket based on alarm generation in the application.

Specifics for how these integrated features are supported for Service Now are included in the sections below.

15.3.6.1. Configuration

Integration to the Service Now application uses the general parameters defined above. One clarifying note related to the configuration settings is related to the Incident Caller ID. In Service Now, this field is obtained by accessing the Users page in Service Now, right clicking on the User Name to be used for generating Incidents and selecting the Copy sys_id option from the shortcut menu.

15.3.6.2. Models

As part of the integration configurations for any ITSM solution there needs to be a model map between the two applications. For Service Now, the Model Map list is synchronized from the Hardware Models page which can be accessed by filtering the menu list for "Models" and then choosing the Hardware Models menu item.

15.3.6.3. Attributes

As part of the integration configurations for any ITSM solution there needs to be an attribute map between the two applications. For Service Now, the Attribute Map list is synchronized from the Tables - Assets page which can be accessed by filtering the menu list for "Tables", selecting the Tables menu and then choosing the Asset link from the list of Tables.

15.3.6.4. Assets

The actual device or asset synchronization will occur in the Assets list of Service Now. Depending on the one way or bi-directional support for ITSM integration which is defined on the Configuration pages, the devices or assets will be automatically created or updated on the respective applications. In Service Now, the Asset list is accessed by entering "Assets" into the menu filter and then selecting the Hardware Assets menu item from the list.

15.3.6.5. Incidents

When alarms are generated in this application, incident tickets can be automatically generated in the Service Now system. The following alarm condition changes will result in the creation of a new incident in the Service Now incident list:

- Normal to Unreachable
- Normal to Warning
- Normal to Critical

In Service Now, the Incident list can be accessed by typing "Incidents" into the menu filter and selecting the Incidents menu item. **Note:** The resulting list of incidents may be filtered to only show the incidents reported by or assigned to the active Service Now user. If needed, remove the filter for the current user to see the list for all Service Now users or the specific user configured to report incidents from this application. In the ITSM Configuration page, the Incident Caller ID setting is used to define the Service Now user who reports the incidents generated by alarms in this application.

15.3.7. ITSM CSV Integration

This section describes the integration design between Visual Capacity Optimization Manager (VCOM) and DCTrackMobile (DCTM) which uses CSV files to synchronize information between the systems.

15.3.7.1. Prerequisites

In order to properly configure the VCOM application to synchronize with the CSV file, there are several settings which must be defined on the Configuration Page to identify the communication settings and sync triggers to be processed. The Configuration Page has the key parameters which need to be defined to control the communication for the CSV file integration.

- Product - Select CSV Mapping as the 3rd party product used for integration.
- Rack U check - If Enabled, the application will check asset u position specified in the CSV file. If the u position is different, the application will report it as an unmatched asset.
- Max Change Count - Set the number of updates that can be processed at one time.

- File Path - Specify the path to the CSV file. The VCOM application supports FTP, Local File and HTTP. For detailed file path syntax refer to https://commons.apache.org/proper/commons-vfs/filesystems.html
- Interval(m) - Set the time Interval in minutes, between the end of processing the previous CSV file and the start of processing the next CSV file.

Click on the Configuration Button to access the Configuration Page.

15.3.7.2. CSV File Format

The CSV file should be formatted as shown below and placed in the location specified in the File Path configuration field. Once a CSV file has been processed, the application will not process the CSV file again unless the file is changed.

16. Import | Export Menu Group

The Import | Export Menu Group contains menu items for importing and exporting activities. Presently you can import and export devices, models and PDU/RPP panels.

16.1. Import Central Menu Item

The Import Central Menu Item displays a list of all the import activity sessions in the system. The table list contains the following fields:

Table List Column	
Import Type	Displays the type of import activity and is also a link to the page with additional details for the import activity.
Submit Time	Displays the time the import was started.
Submitter	Displays the name of the user that initiated the import.
Status	Displays the current status of the import.
Overall	During the import it displays the import spreadsheet tab name being processed. Options are Devices, Ports, Relationship, Monitor_device and Monitor_target. Completed imports end with Monitor_target as the overall value.
Overall%	During the import it displays the progress through the spreadsheet as a percentage. Completed imports end with 100%.
Start Time	Displays the start time for the activity.
End Time	Displays the end time for the activity.
Table List Buttons	**Description**
Clear	Clears the table list.
New Import	Opens an import wizard that steps you through the import process.

16.1.1. Import Wizard

The Import Wizard page is displayed when the New Import button is selected. The import wizard is used to import Models, Devices, PDU/RPP Panels and Locations.

1. Select Import Type
   a. Select Models, Devices, PDU/RPP Panels or Locations.
      Use the Download Template button to download the appropriate template for your import. Populate an import spreadsheet or download the new model package to your local workstation before proceeding to the next step.
   b. Click Next button to move to the next page of the wizard

2. Upload File
   a. Browse to select the import spreadsheet or model package
   b. Click Next button to start import

3. Process File
   a. Page displays the import process as it progresses through the import spreadsheet rows and subsequent tabs
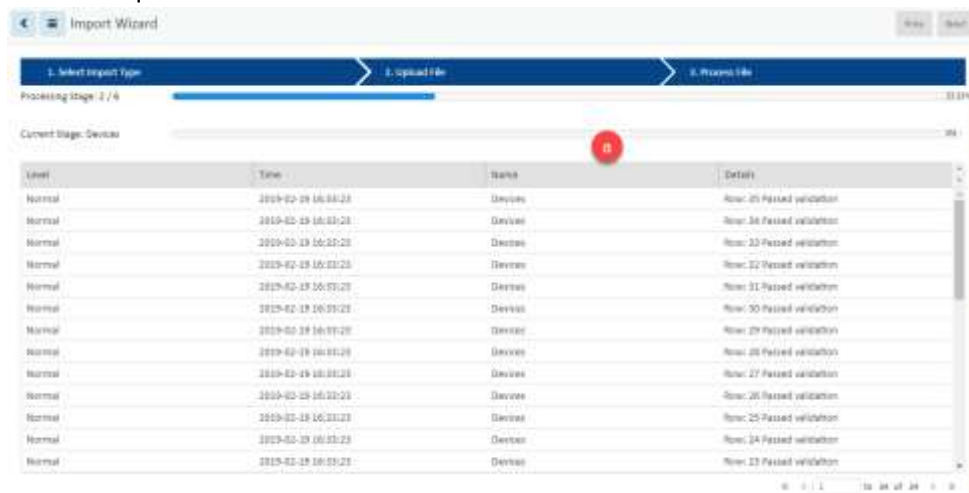
   b. When complete the page displays a summary indicating the number of each item successfully imported and failures.
   c. A link to open the error-comments.txt file is available for troubleshooting the import failures.
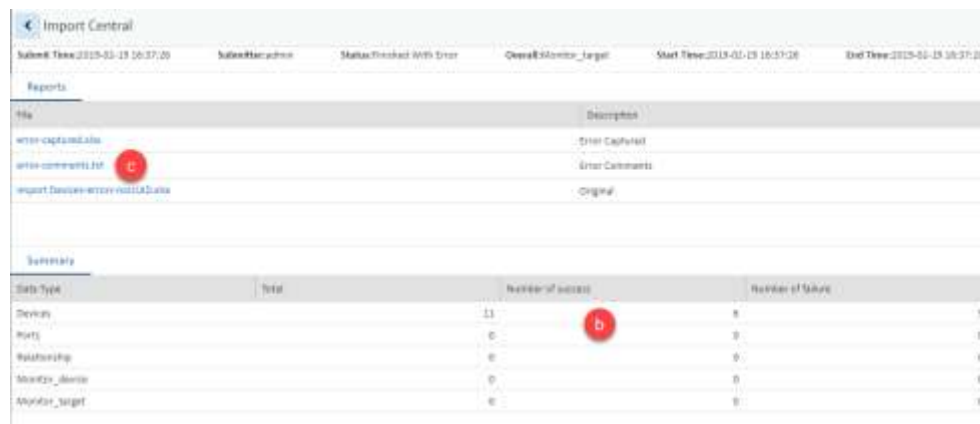
d. The error-comments.txt file indicates the sheet and rows where errors occurred.

```
Sheet : Devices  ⓘ
Row  : 3  ⓘ          Reason: The Model does not exists in system.
Row  : 4             Reason: The Model does not exists in system.
Row  : 11        ⓘ   Reason: The Model does not exists in system.
Row  : 12            Reason: The Model does not exists in system.
Row  : 13            Reason: The Model does not exists in system.
Sheet : Ports
Sheet : Relationship
Sheet : Monitor_device
Sheet : Monitor_target
```

    i. Sheet: The Worksheet (in the Excel file) that has an issue

    ii. Row: Refers to the row (in the Excel spreadsheet) that has an issue

    iii. Reason: Provides information about the issue

16.1.2. Import Devices Spreadsheet

The bulk importing spreadsheet is composed of five spreadsheets – Devices, Ports, Relationship, Monitor_Device, and Monitor_Target. For just creating the actual device and importing it into the device library, Devices is the one sheet that is of concern.

Devices sheet has six major column headers with sub-columns underneath. Following each description below is a graphic showing how it looks in the Excel spreadsheet.

16.1.2.1. Operations

Action option instructs the application on how to process the data in that row. The four action options are either

- A - add the device to the library
- U - update the device in the library
- D - delete the device from the inventory list
- AU - add the device if not already created, if created then update device in library
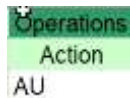
16.1.2.2. Model Info

Model Info contains device specific details. While doing a bulk import, either the UUID must be completed or the type, Manufacturer, Product Line, and Model Name must be completed. This is because the model UUID will spell out the device information, and the device information will fill out the model UUID. One or the other is a requirement for bulk import.

- Model UUID – UUID that is specific to the model
- Type – device type

- Manufacturer – device manufacturer
- Product Line – device product line
- Model Name – device model

16.1.2.3. Device Info

Device Info is information that is specific to a single device.

Device Info						
UUID	Device Name	Device Ref ID	Device Group	Description	Department	Owner
000daf91-e8d7-4bf8-9f1a-e8c10347f803	Kelly-Rack001		Public			

- Device UUID – UUID that is specific to that individual device
- Device Name – Name of the individual device. This field is NOT a unique attribute.
- Device Ref ID – "Nickname" for the device. Used as a reference when being referenced by another device. This field will be deleted once imported.
- Device Group – Device group that the device belongs to. Description – Notes to be held on device.
- Department – Department that the device belongs to.
- Owner – The device's owner.

16.1.2.4. Location

Location information identifies where the device is placed or to be placed.

Location					
Location	Area	Row	Column	X Offset	Y Offset

- Location – where the device is located/going to be placed. {Building – Floor – Area}
- Area – Area on the floor that the device is located in
- Row – Row on the floor within the area specified that the device is located on
- Column – Column on the floor within the area specified that the device is located on
- X Offset – displacement of the floor device on X-axis
- Y Offset – displacement of the floor device on Y-axis

16.1.2.5. Rack Mount

Rack Mount displays details for rack mounted devices including elevation and positioning within a rack.

Rack Mount								
Target Device UUID	Target Device Ref ID	Target Device Name	Mount Type	Local Transform tx	Local Transform ty	Local Transform tz	Local Transform zr	Local Transform xr

ck Mount								
cal Transform xr Rotation Angle	Position x	Position y	Position z	Rackmount External U Position	U Size	Shelf ID	Horizontal Slot	Vertical Slot	Slot ID

- Target Device UUID – This is the UUID of the device where the selected device resides.
- Target Device Ref ID – References the Devices Ref ID where the selected device is to be placed.
- Target Device Name – Device name of the device where the selected device resides.
- Mount Type – Type
  - Floor Mount – used for racks and facility devices

o Attach Mount – used for devices that are placed on side of racks

o Rack Mount External – used for devices that go on the enclosure of racks

o Rack Mount Internal – used for server to be placed inside a U position

o Shelf Mount – used for devices to be placed on rack shelf

o Chassis Mount – used for blades that are going into chassis

- Rotation Angle - Rotation of devices. Only required for devices that have mount type of Floor Mount. By default the devices will face the wall that is labeled with the floor grid   (Rotation = 0 degrees)
- Rackmount External - Position of the device on the outside of the rack
- U Position – location of device within a rack. There are three rack positions within a rack unit. Refer to the below image for more detail.
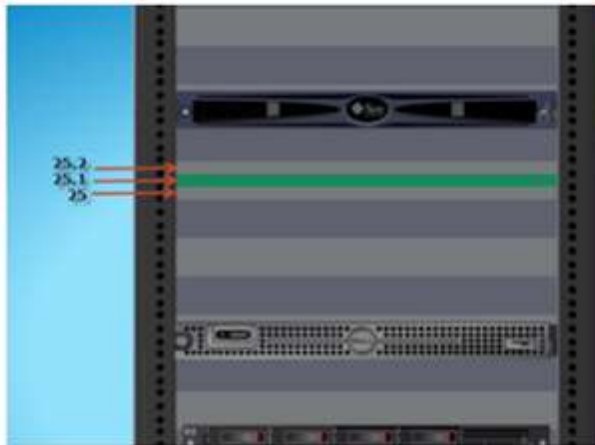
- U Size - the U size of the device
- Slot ID – position of blade within blade chassis, refer to diagram below for the naming convention of half and full blades.
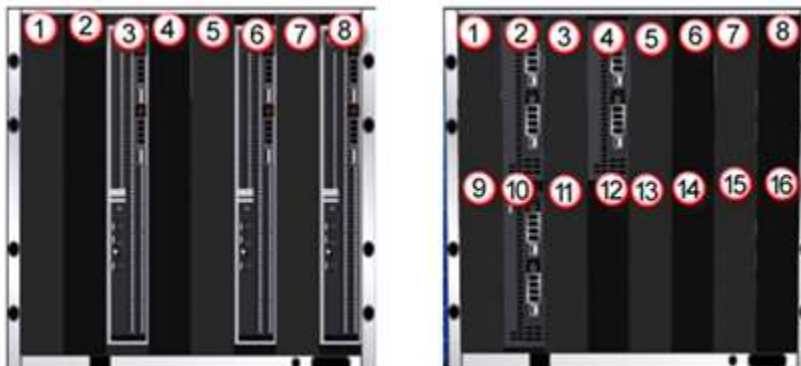
16.1.2.6. Device Attributes

Initially the spreadsheet displays a default set of attributes for a device. If within the application values are added to other attributes, those attributes will appear in the exported spreadsheet.

If an attribute does not appear in the spreadsheet, go to the device, add the attribute if necessary and enter a value. When that device is exported the attribute with its value should appear in the spreadsheet

16.1.2.7. Creating New Devices from Spreadsheet

This section discusses how to create devices like racks, servers, a blade chassis, and blades through the Excel bulk import spreadsheet. The only prerequisite for this section is the Excel spreadsheet that can be downloaded from the Import Wizard's first page using the Download Template button. In the example below a rack, 2 blades, blade chassis, and server are created and added to the device library.

Follow these steps:

- With a blank Excel import spreadsheet, fill in the required information. When just creating a device and adding it to the device library, the fields below must be filled out. Below is a screen shot.
- Operations
    - o Actions
- Model Info
    - o Type
    - o Manufacturer
    - o Product Line
    - o Model Name
- Device Info
    - o Device Name

*** Don't create the UUIDs, these will be self-generated by the system. If the Model UUID is known that one can be inserted instead of the other model information. ***

- The model information can be found in the Devices menu group > Models menu item.
- When the spreadsheet is completed use the Import Wizard to import and create the devices.

Import | Export Menu Group

16.1.2.8. Creating New Devices and Mounting them to a Rack

This section discusses how to create devices like racks, servers, blade chassis, and blades through the VCOM bulk import spreadsheet.

In the example below 1 rack, 1 server, 1 blade chassis and 2 blades will be created.

- The server and blade chassis will be mounted in the rack.
- The blades will be mounted in the blade chassis.

Follow these steps:

- With a blank Excel import spreadsheet, fill in the required information for each of the devices. The following fields must be filled out.
- Operations
  - Actions
- Model Info - must match exactly with the information in the application model database
  - Type
  - Manufacturer
  - Product Line
  - Model Name
- Device Info
  - Device Name

Operations		Model Info					
Action	UUID	Type	Manufacturer	Product Line	Model Name	UUID	Device Name
AU		Rack	Generic	Generic - Rack	Rack 42U		RD - Rack1
AU		Server - Rackmount	HP	Proliant	DL380		RD - Server1
AU		Server - Blade Enclosure	HP	Proliant	BL C7000		RD - Blade
AU		Server - Blade	HP	Proliant	BL480c		RD - Blade1
AU		Server - Blade	HP	Proliant	BL480c		RD - Blade2

*** Leave the UUIDs blank, these will be self-generated by the system. ***

- The next step is to provide the correct Rack Mount information. In this example a server and blade chassis will be mounted in a rack. To accomplish this, the server and blade chassis row will specify the rack they are to be placed in.

  a. When creating a rack and the devices that will be placed in the rack in a single spreadsheet, the rack must be referenced using the Device Ref Id. Enter a Device Ref ID for the rack.
  b. For the server and blade chassis the Target Ref ID is the racks' Device Ref ID. Along with populating the Device Ref ID cell, you must input "Rack Mount Internal" into the Mount Type and the U Position for the devices being mounted within the rack.

This example would create the rack and then mount the server in U position 33 and the blade enclosure in U position 10 in Rack1.

Operations		Model Info			Device Info			Rack Mount		
Action	Type	Manufacturer	Product Line	Model Name	Device Name	Device Ref ID	Target Device Ref ID	Mount Type	U Position	Slot ID
AU	Rack	Wright Line	Paramount Enclosures	44U-2442	KB-Rack001	Rack1				
AU	Server - Rackmount	Dell	PowerEdge	R510	KB-Server002		Rack1	Rack Mount Internal	33.0	
AU	Server - Blade Enclosure	HP	Proliant	BL C7000	KB-ServerEnc001		Rack1	Rack Mount Internal	10.0	

    c.   In order for the blades to go into the chassis during the import, the blade chassis must also use a Device Ref ID. Enter a Device Ref ID for the blade chassis.

    d.   The Target Device Ref ID for the blades is the blade chassis' Device Ref ID. Select "Chassis Mount" as Mount Type and specify the Slot ID for the blades.

Note: Slot ID/U position collision during import is supported. If there is a conflict with either the Slot ID and/or U Position, the user will be notified of the failure.

Note: In the graphic below many columns have been hidden so the relevant columns are visible.

Operations		Model Info			Device Info			Rack Mount		
Action	Type	Manufacturer	Product Line	Model Name	Device Name	Device Ref ID	Target Device Ref ID	Mount Type	U Position	Slot ID
AU	Rack	Wright Line	Paramount Enclosures	44U-2442	KB-Rack001	Rack1				
AU	Server - Rackmount	Dell	PowerEdge	R510	KB-Server002		Rack1	Rack Mount Internal	33.0	
AU	Server - Blade Enclosure	HP	Proliant	BL C7000	KB-ServerEnc001	Enc001	Rack1	Rack Mount Internal	10.0	
AU	Server - Blade	HP	Proliant	BL465c G7	KB-ServerBlade001		Enc001	Chassis Mount		8
AU	Server - Blade	HP	Proliant	BL465c G7	KB-ServerBlade002		Enc001	Chassis Mount		5

- When the spreadsheet is completed use the Import Wizard to import and create the devices.

16.1.2.9. Mounting Existing Devices

If all of the devices (rack, server, blade chassis and blades) already exist on the server then you can mount them using their unique device names or the UUIDs (if the device names are not unique).

- Export the existing devices to a spreadsheet. This exported spreadsheet will contain the UUID (database Unique Identifiers) for the devices
- Edit the spreadsheet adding the Target Device UUID or Target Device Name, U position/Slot ID.

  This example places the KB-Server001 in to KB-Rack001 in U position 35.
  KB-ServerEnc001 into KB-Rack001 in U position 10 and the blades into the enclosure.

  Since these devices have UUIDs, no new devices are created. The existing devices are updated with the rack mount information and will now appear within the rack in all the graphic displays.

Operations		Model Info			Device Info			Rack Mount			
Action	Type	Manufacturer	Product Line	Model Name	UUID	Device Name	Target Device UUID	Target Device Name	Mount Type	U Position	U Size	Slot
AU	Rack	Wright Line	Paramount Enclosures	44U-2442	380daf91-e6d7-4a66-9f1a-a9c1E347803	KB-Rack001			Floor Mount			
AU	Server - Rackmount	Dell	PowerEdge	R510	2e6c57d8-1173-4116-80a6-e178f1T5b589	KB-Server001	380daf91-e6d7-66f9-9f1a-a9c1E347803	Kelly-Rack001	Rack Mount Internal	35.0	2.0	
AU	Server - Blade Enclosure	HP	Proliant	BL C7000	c98676af-0807-4730-9d2c-d89fe6088a7	KB-ServerEnc001	380daf91-e6d7-66f9-9f1a-a9c1E347803	Kelly-Rack001	Rack Mount Internal	10.0	10.0	
AU	Server - Blade	HP	Proliant	BL465c G7	4aa6a03c-a0E7-4d77-bc8b-bc3e2b124241	KB-ServerBlade001	3185f4d0887-4730-9d2c-d84fe65008a7	Kelly-ServerEnc001	Chassis Mount			7
AU	Server - Blade	HP	Proliant	BL465c G7	aa6f3a447-a6aa-455d-88cb-03e9f6557f9M	KB-ServerBlade002	3185f4d0887-4730-9d2c-d84fe65008a7	Kelly-ServerEnc001	Chassis Mount			1

- When the spreadsheet is completed use the Import Wizard to import and create the devices.

16.1.3. Import Locations Spreadsheet

Locations can be created by using the Location Import Template available from the Import Wizard page. The template allows users to add countries, states, cities, buildings, floors and areas to the navigation tree in bulk.

1. From the Import | Export menu group select the Import Central menu item.
2. Click on the New Import button.
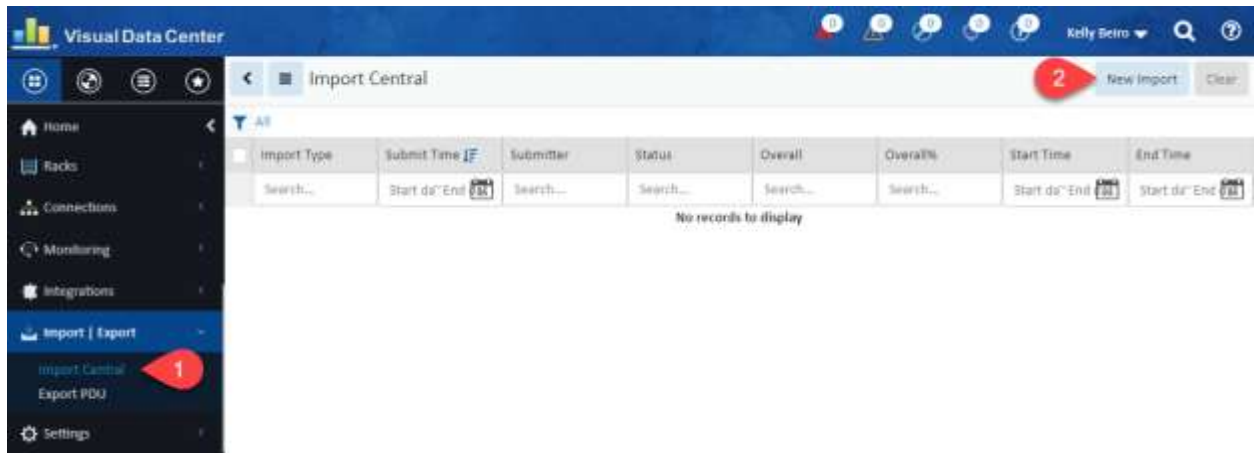
3. Select the Locations radio button.
4. Click on the Download Template button and a Location Import Template Excel file will be downloaded to your downloads folder.
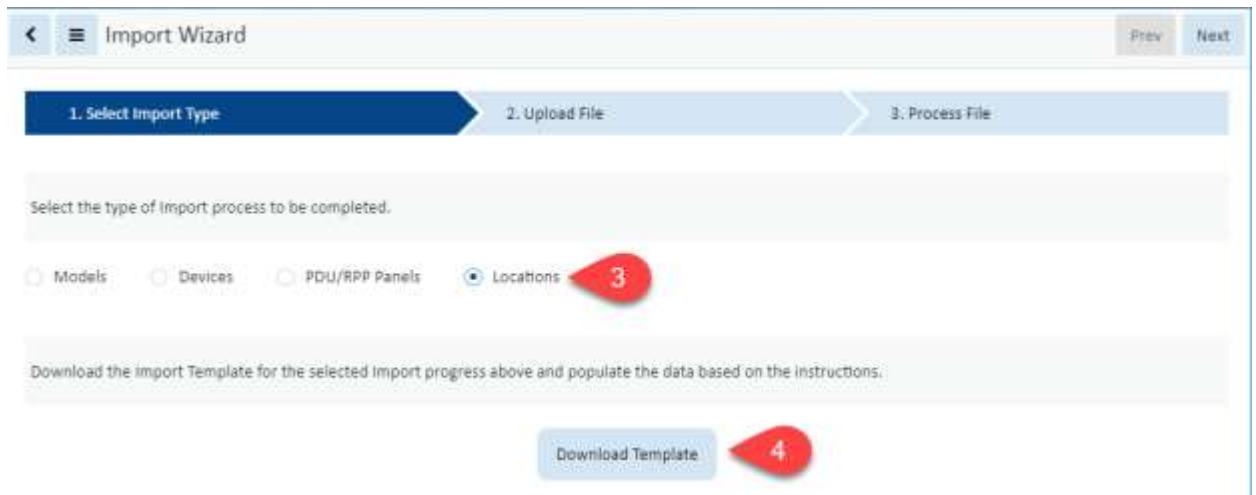
The Location Import Template includes 6 tabs where the location specifics are entered to create nodes on the navigation tree.

16.1.3.1. Add Cities Tab

Displays the list of known cities available using the Add Cities button when creating a new location.
Note: This table does not change the list in the application. Do not edit.

1. Filter to find the desired city. If your city is not present find a city in the same country and state.

2. Select the row that contains your city.
3. Click on the ADD CITY button.
   a. Continue to filter and add cities as needed.
4. Select the State tab.

Import | Export Menu Group

On the State Tab users specify the countries and states to be created on the navigation tree. The tab is populated with the cities selected and added on the Add Cities tab.

Note: If your city was not on the Add Cities tab and the state is not listed for your country, enter "All areas" for the State Name and manually add the city name as seen in row 2 below. "All areas" is case sensitive and must be entered as noted.

	A	B
1	Country Name	State Name
2	Cuba	All areas
3	United States	Georgia
4	United States	Florida
5	United States	Florida
6	United States	California
7		

1. Edit the State tab if needed.
2. Select the City tab.

16.1.3.3. City Tab

On the City Tab users specify the cities to be created on the navigation tree. The tab is populated with the cities selected and added on the Add Cities tab.

1. Select the State from State Name pull-down menu, you may need to scroll up, to see the list of states that were previously specified on the State tab.
   a. The state drop-down menu includes the states listed on the State tab.
2. Enter the City Name.
3. Enter the latitude for the city in the decimal format (do not include the degree symbol or N/S). Positive number is North (33.152). Negative number is South (-33.3152).
4. Enter the longitude for the city in the decimal format (do not include the degree symbol or E/W). Positive number is East (44.3661). Negative number is West (-44.3661).
5. Optional - Enter description for city.
6. Select the Building tab.

16.1.3.4. Building Tab

On the Building Tab users specify the buildings to be created on the navigation tree.

1. Select the City from City Name pull-down menu, you may need to scroll up, to see the list of cities that were previously specified on the City tab.
2. Enter the Building Name.
3. Enter the Electricity Price, cost per kwh. (** indicates required field).
4. Enter the number of floors. (** indicates required field).
5. The other fields are optional.
6. Select the Floor tab.

16.1.3.5. Floor Tab

On the Floor Tab users specify the floors to be created on the navigation tree for each building.

1. Select the Building from Building Name pull-down menu, you may need to scroll up, to see the list of buildings that were previously specified on the Building tab.
2. Enter the Floor Name.
3. Enter the Floor Index. (** indicates required field).
   The floor index syntax is:
   F1 - first floor
   F2 - second floor
   F3 - third floor, additional floors if specified would follow this naming convention
   Ground - there is automatically a ground floor to represent the outside surroundings of the building. If needed add to floor list.
   B1 (etc) - if basements were specified, B1 is the first basement just below F1 or Ground
4. The other fields are optional.
5. Select the Area Tab

16.1.3.6. Area Tab

On the Area Tab users specify the areas to be created on the navigation tree.

1. Select the Floor from Floor Name pull-down menu, you may need to scroll up, to see the list of floors that were previously specified on the Floors tab.
2. Enter the Area Name.
3. Select a color from the Color pull-down menu.
4. The other fields are optional.
5. Save the spreadsheet and Import.

16.2. Export PDU Menu Item

The Export function for PDUs produces a spreadsheet where the user can manage breakers and panels on PDUs and RPPs for bulk import.

1. Filter the list to display the devices to be managed.

2. Click on the table filter button, select Export > Excel

3. The Excel file will be in your Downloads folder named Export Pdu.xlsx
4. Edit the file as needed
5. When the spreadsheet is completed use the Import Wizard to import and create the devices

16.2.1. Editing the PDU Spreadsheet

The exported PDU spreadsheet has two tabs of data with the fields listed in the table below.

Note: When creating new panels and breakers there is no need to define the UUDI fields since the devices do not currently exist. The UUID field acts as the unique identifier in the application database to help identify objects when a referenced object has one instance in the list.

Panel Tab	*Defines the panel and breaker configuration settings.*
PDU UUID	System identifier for the PDU device.
PDU Name	Name of the PDU device.
Panel UUID	System identifier for the Panel device.
View Mode	Defines how the circuits will be presented in the panel schedule. Options are Single Table or Double Table.
Numbering Scheme	Defines how the circuits will be arranged in each column of a Double Table panel schedule. Options are 1,3,5… or 1,2,3…

Department	Default department for all new breakers configured on the panel. This field is in the format of Company – Department which are defined on the System menu.
Power Rated	Rated power setting for the panel.
Power Derated	Derated power setting for the panel.
Current Rated	Rated Current setting for the panel.
Current Derated	Derated current setting for the panel.
Voltage	Voltage setting for the panel.
Breaker UUID	System identifier for the breaker device.
Breaker Name	Name of the Breaker device.
Phase	Number of phases used by the breaker. Options are 1-Pole Breaker, 2-Pole Breaker and 3-Pole Breaker.
Circuit#	Circuit numbers included in the definition of the breaker. The number of values included in this field must match the number of phases defined in the line above. Circuit values should be separated with a comma and no spaces should be used. For example, an entry of 1,3,5 would be a 3 pole circuit using circuits 1, 3 and 5.
Department	Department assigned to the Breaker and associated power/current data. This field is in the format Company – Department which are defined on the System menu.
Current Rated	Rated current setting for the breaker.
Current Derated	Derated current setting for the breaker.
Voltage	Voltage setting for the breaker.

Connections Tab	Defines the connections between the breaker and the end device.
Cable UUID	System identifier for the cable used to establish the connection.
Cable Name	Name of the cable connecting the breaker to the end device.
Serial Number	Serial number for the cable connecting the breaker to the end device.
Cable Color	Color of the cable connecting the breaker to the end device. **Note:** The field requires the hexadecimal code used for the color. These codes can be retrieved by defining a connection and exporting the connection to the spreadsheet.
Cable Length	Length of the cable connecting the breaker to the end device.
Breaker UUID	System identifier for the breaker device.
PDU Name	Name of the PDU where the Breaker is configured.
PDU Panel	Name of the Panel where the Breaker is configured.
Breaker Name	Name of the Breaker device.
Poles	Listing of the Poles used on the breaker. Options are
Power To (uuid)	Device and port system identifiers for the end device connected to the breaker.
Power To (name)	Device and port names for the end device connected to the breaker.

16.2.1.1. Best Practice

As a best practice, users should import the panel and breaker settings in different phases. This approach can help limit the number of configuration issues that may occur during the import process (i.e. breakers cannot be created until after panels are created). The following three phases are recommended for the import process to create new panels, breakers and connections:

- Create Panels – Complete columns A-L on the Panels tab but there is no need to define the UUID fields since the panels are newly create through the import process.
- Create Breakers – Export the PDU and Panels with the Export spreadsheet and add support for the Breakers which need to be defined. It may be helpful to define a Breaker manually, so it is included in the export process and can be used to easily copy/paste for other breakers which need to be created.
- Create Connections – Using the panel and breaker information imported above, the Connections tab can be completed to establish connections from the breakers to end device.

17. Settings Menu Group

17.1. Attribute Manager Menu Item

The Attributes Manager Menu Item displays a list of all the attributes in the system. The table list contains the following fields:

Table List Column	
Attribute Name	Name of the attribute is also a link to open the attribute form that contains the attribute's configuration.
Category	Displays the attribute's Category. Options are Capacity, Common, Electrical/Power, Environmental, Global, Location, Network, Other, Port, Rack and Server.
Attribute Type	Displays if the attribute is System or Custom generated.
Value Type	Displays the attribute's Value Type. Options are String, Integer, Decimal, Datetime or Enum.
Metric Unit	Displays the attribute value's corresponding Metric Unit of measurement.
US Unit	Displays the attribute value's corresponding US Unit of measurement.
Table List Buttons	**Description**
New	Presents the form for creating a new attribute.
Delete	Deletes the selected attributes from the system.

17.1.1. Attribute Form

Selecting the New button presents the New Attribute form. The New Attribute form has the following fields:

Fields	Description
Name	Attribute name
Category	Display or select the attribute's Category. Options are Capacity, Common, Electrical/Power, Environmental, Global, Location, Network, Other, Port, Rack and Server.
Value Type	Displays the attribute's Value Type. Options are String, Integer, Decimal, Datetime or Enum. For a new attribute select the Value Type. For existing attributes the field is not changeable.
Usage	The usage checkboxes indicate where the attribute is available. Options are Device, Location, Port and Cable.
US Unit	Display or select the attribute value's corresponding US Unit of measurement.
Precision	Numeric value indicates the number of decimal places in value.
Metric Unit	Display or select the attribute value's corresponding Metric Unit of measurement.
Precision	Numeric value indicates the number of decimal places in value.
Description	Enter user defined description for the attribute.
Table List Buttons	**Description**
New	Presents a form for creating a new attribute.
Submit	Creates the new attribute with information from form. Submit also saves changes to an existing attribute's form.
Delete	Deletes the current attribute from the system.

17.2. Unit Manager Menu Item

The Unit Manager Menu Item displays a list of all the units used in the system. The table list contains the following fields:

Table List Column	
Name	Name of the unit is also a link to open the unit form that contains the unit details.
Symbol	Displays the symbol to be used when the unit is applied to a value.
Physical Quantity	Displays the unit's Physical Quantity. Options are area, currency, electric current, electric resistance, energy, flow rate, frequency, information storage, length, mass, power, pressure - stress, ratio, temperature, time, voltage or volume.
Unit Converter	Displays the unit value in relationship to a known unit based on the physical quantity.
Description	Displays user defined description for the unit.
Table List Buttons	Description
New	Presents the form for creating a new unit.
Delete	Removes the select units from the system.

17.2.1. Unit Manager Form

Selecting the New button presents the New Unit Manager form. The form has the following fields:

Fields	Description
Name	Display or edit the Name of the Unit.
Symbol	Display or edit the Symbol to be used when the unit is applied to a value.
Physical Quantity	Display or select the unit's Physical Quantity. Options are area, currency, electric current, electric resistance, energy, flow rate, frequency, information storage, length, mass, power, pressure - stress, ratio, temperature, time, voltage or volume.
Unit Converter	Display or enter the unit value in relationship to a known unit based on the physical quantity.
Description	Enter user defined description for the unit.
Table List Buttons	Description
New	Presents a form for creating a new unit.
Submit	Creates the new unit with information from form. Submit also saves changes to an existing unit's form.
Submit & New	Increases efficiency when creating a number of units sequentially by creating a new unit with existing values and presenting a blank new form.

17.3. Applications Menu Item

The Applications Menu Item displays a list of all the applications that have been manually added to the system. The table list contains the following fields:

Table List Column	
Name	Name of the application is also a link to open the application form that contains the application details.
OS Type	Displays if the application runs on Windows or Non-Windows platforms.

Purchased License Count	Displays the value entered that designates how many licenses the facility has for a particular application.
Actual Number of Installs Found	Displays a count for the number of instances where the application was manually associated with devices. The application is associated with a device via the application function tile in device central.
Table List Buttons	**Description**
New	Presents the form for creating a new application.
Delete	Deletes the selected applications from the system.

17.3.1. Application Form

Selecting the New button presents the New Application form. The form has the following fields:

Fields	**Description**
Name	Display or edit the Name of the Application.
OS Type	Display or edit the application's OS Type. Options are Windows and Non-Windows.
Purchased Licensed Count	Display or enter the number of licenses available for the application.
Table List Buttons	**Description**
New	Presents a form for creating a new application.
Submit	Creates the new application with information from form. Submit also saves changes to an existing application's form.
Submit & New	Increases efficiency when creating a number of applications sequentially by creating a new application with existing values and presenting a blank new form.

17.4. System Settings Menu Item

The System Settings Menu Item displays an interactive list of the system's settings.

Setting Name	**Value**	**Description**
3D Client Alarm Popup	Switch to turn on and off	Allows the user to control the behavior of the alarm popup message in the 3D client. When alarms are generated in the application, the alarm popup will provide a visual and audio notification in the bottom right of the 3D client. Users can click the popup message for more detail on the alarm which was generated.
Access Control Passcode	Click on the field to change the passcode	Access Control Passcode, default passcode "000000" is for communicating with rack access control devices (electronic rack handles).
Access Control Tag Attribute	Click in field to enter value	The system attribute that will correlates to the lookup and unlock functions in Mobile Security Manager.
Access Control User ID	Click in field to enter value	The User ID that pairs with the Access Control Passcode for communicating with rack access control devices (electronic rack handles).
Allow Rack Overlap	Switch to turn on and off	When set to on users can place racks on the floorplan which overlap other racks. When set to off users are not allowed to place racks on the floorplan which are within the specified distance. This setting is particularly important when using the Join feature for racks on the floorplan. The distance between racks using the Join feature must be equal to or greater than the distance defined with this setting when enabled.

Allow Rackmount Device Overlap	Switch to turn on and off	When set to on this feature will allow users to place devices into a Rack with overlap to other device already mounted into the rack. When set to off the user is not allowed to place devices in the rack which overlap with other devices.
Currency Symbol	Click to select from the drop-down list	Currency Symbol
Device Grid Reference Point	Click to select from drop-down menu.	Allows users to define the point on a device which is used to populate the Row and Column attributes. For a device to inherit the Row and Column values, the area on the floor must have a grid defined in the Floor Studio feature of the application and the device must be assigned to a location. Options: Left Front Corner, Right Front Corner, Front Middle
End Network Path at End Device	Switch to turn on and off	When set to on the Network Path will only show connections to the next End Device. When set to off the Network Path will show all connections beyond the End Device until the Max Network Path Hops limit is reached.
Generate Audit When Work Order is Submitted	Switch to turn on and off	Generate Audit When Work Order is Submitted
Layer Refresh Interval	Click in field to enter value	Defines the frequency for data refresh on the Layer floorplan views. The unit for this value is Seconds.
Max Network Path Hops	Click in field to enter value	Controls the number of connections to show in the Network Path feature of the application. **Note:** For devices such as a patch panel, the connection of the front patch panel port to the rear patch panel port will be counted as 1 for this connection limit.
Password Expiration Days	Click in field to enter value	Number of days a new password remains valid. If set to 0, then the user login passwords will never expire.
Require Unique Cable Names	Switch to turn on and off	When set to on all cable names defined in the application must have a unique name. When set to off users can name multiple cable connections with the same name. **Note:** This is a global setting for all locations and devices in the application.
Require Unique Port Names	Switch to turn on and off	When set to on users are not allowed to create ports on a device with the same port name as an existing port. When set to off users can define port names which match an existing port. This setting applies to a single device only. The same port name can be defined on different devices regardless of the value of this setting.
Show All Available Color	Switch to turn on and off	When choosing a color from the color palette the available options can be limited. If this setting is on, then all of the available colors will be shown. If this setting is off, then a limited subset of colors will be available to choose from the color palette.
Timestamp Format	Click to select from drop-down menu	Timestamp Format
Verify Rack U Collision	Switch to turn on and off	In the 3D Client, when set to ON the user is not allowed to place devices in the rack which collide with devices mounted to the other side of the rack. When set to OFF users may place devices into a rack which collide with other devices already mounted into the rack.
Table List Buttons		Description
Submit		Click to save changes to any of the settings.
Use Default		Resets to default values.

17.5. Port Settings Menu Item

The Port Settings Menu Item displays a list of all Port Setting network options in the system. Users can define Network options for use when assigning a Network attribute for ports. The table list contains the following fields:

Table List Column	
Network Name	Name of the network is also a link to open the form that contains the network details.
Network Type	Displays if the network type is Network or Storage.
Maximum Speed	Displays the maximum network speed set for the network.
Unit	Displays the unit for maximum speed, typically MB/s.
Table List Buttons	**Description**
New	Presents the form for creating a new port setting.
Delete	Deletes the selected port setting from the system.

17.5.1. Port Settings Form

Selecting the New button presents the Port Settings form. The form has static fields and check boxes.

Fields	Description
Network Name	Name for the network.
Maximum Speed	Maximum speed for the network.
Check Boxes	**Description**
Storage Network	Identifies the type of network. Check sets the type to Storage and unchecked the type is Network.
Set As Default	If checked this will be the default network setting for ports.
Table List Buttons	**Description**
New	Presents a form for creating a new network.
Submit	Creates the new network with information from form. Submit also saves changes to an existing network form.
Submit & New	Increases efficiency when creating a number of networks sequentially by creating a new network with existing values and presenting a blank new form.

17.6. Port Allocations Menu Item

By default, all network and power ports are counted towards the racks in which the devices are mounted. If users would like to allocate ports, for purposes of capacity and utilization reporting, to other racks, then this tool enables user to allocate the ports to the other racks.

The Port Allocations Menu Item displays a list of all Port Allocation objects in the system. The Port Allocation object contains the details regarding which ports are being reallocated to which racks. The table list contains the following fields:

Table List Column	
Port Allocations Name	Name of the Port Allocations object and is also a link to the form that contains the port allocations' details.
Port Type	Displays the type of ports allocated in the port allocation object.

Ports	Displays the number of ports being allocated in the port allocation object.
Allocation Racks	Displays the number of racks where the ports are being allocated in the port allocation object.

Table List Buttons	Description
New	Presents the form for creating a new port allocation object.
Delete	Deletes the selected port allocation object from the system.

17.6.1. Port Allocations Object Form

Selecting an existing port allocations item presents the Port Allocations Object form. The form has static fields in the top section followed by tabs that present their own lists related to the port allocations object.

Fields	Description
Port Allocations	Displays the name of the port allocations object.
Port Type	Displays the type of ports allocated in the port allocation object. When creating a new port allocation object the port type can be set to Network, Power or Storage.

Table List Buttons	Description
New	Displays an empty port allocations object form to create a new manufacturer.
Submit	If a form field is editable the Submit button becomes active and is used to update the form.
Delete	Deletes the current form.
⌃ ⌄	These buttons collapse and expand the upper area of the form to provide more space for the tables.

17.6.1.1. Ports Tab

The initial view presented when the Ports Tab is selected is a list of ports included in the port allocations object.

List Column	
Device Name	Name of the device where the port resides. The name is also a link to the device's device central page.
Location	Displays the location information for the device.
Port Name	Displays the port name to be included in the port allocations object.
Port Status	Displays if the port is available or not.
Port Type	Displays the port's type.
Network	Displays the network assigned to the port.
Speed (MB/s)	Displays the network's speed.
VLAN	Displays VLAN information.

User List Buttons	
Add	Displays a list of all available ports. Select the desired ports and click the Submit button to add to the list. Click the Close button to close the window.
Remove	Removes the selected ports from the list.

17.6.1.2. Allocated Racks Tab

The initial view presented when the Allocated Racks Tab is selected is a list of racks included in the port allocations object.

List Column	
Device Name	Name of the rack where the port will be allocated. The name is also a link to the rack's device central page.
Model	Displays the rack's model name.
Product Line	Displays the rack's product line.
Manufacturer	Displays the rack's manufacturer.
Serial Number	Displays the rack's serial number.
Asset Tag	Displays the rack's asset tag.
Groups	Displays the rack's groups.
Location	Displays the rack's location.
User List Buttons	
Add	Displays a list of all available racks. Select the desired racks and click the Submit button to add to the list. Click the Close button to close the window.
Remove	Removes the selected racks from the list.

18. Device Dashboards

Standard device dashboards show Real-time Monitoring Data for the monitored data points. The device types in this section have enhanced dashboards. When a device name link is selected from the devices list or other views, the Device Central page is loaded. Device Dashboards are visible when the Dashboard function tile is selected. The Dashboard function tile is selected by default when the Device Central page opens.

The following sections will provide details for the various enhanced device dashboards accessed through the Dashboard function tile. For details regarding the other function tiles please refer to the Device Central section of this document.

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18.1. PDU Floor Device Dashboard and Branch Circuit Monitoring

When the device type is a PDU or RPP the PDU Dashboard page is loaded when the Dashboard function tile is selected in device central. For configured PDUs the dashboard displays the panel schedule. Here the application also provides a complete solution for configuring PDU panels and breakers to allow for branch circuit monitoring of these important power devices. Data associated with the breakers can easily be mapped to connected devices such as Rackmount PDU devices.

The following sections detail the specific steps needed to configure branch circuit monitoring for PDU panels and to map the data to Rackmount PDU devices.

18.1.1. Create PDU Device

The first step is to create a standard PDU or RPP device in the device list. This can be done manually in the Devices menu group > Devices menu item of the application or this device can be cloned from an existing device or imported using the bulk import tool. Branch circuit monitoring is only available for devices where the device type is PDU or RPP. Once created, users should place this device on the floorplan.

Note: The PDU should have values in the following attributes before moving forward with creating panels and breakers.

- Current - Derated in Amps
- Current - Rated in Amps
- Power - Derated in Watts
- Power - Rated in Watts
- Circuit % Critical - when the monitored value on a breaker exceeds this percentage of the derated current the value is shown in red on the PDU dashboard.

- Circuit % Warning - when the monitored value on a breaker exceeds this percentage of the derated current the value is shown in yellow on the PDU dashboard.
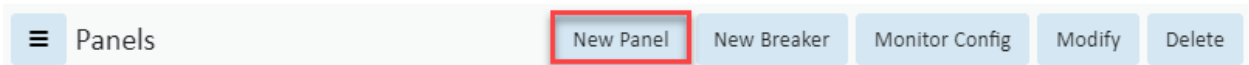

- o **Note:** This does NOT trigger alarms, those would need to be configured separately.

18.1.2. Creating Panels and Breakers

In order for data to be properly displayed in the panel schedules and to allow users to map the data to other power consuming devices, users must create the Panels and Breakers for the PDU or RPP device.

18.1.2.1. Create Panels

1. Go to the Devices menu group and Select the Devices menu item.
2. Filter for the desired PDU or RPP device.
3. Click on the device name to open its Device Central page.
4. Select the Dashboard function tile.
5. Click on the New Panel button.

6. Fill out the New Panel form.

- a. Panel Name – Define the panel name. **Note:** This device will be created in the device list so if there are many PDU devices with Panel A then you should differentiate the panel name so it can be distinguished in the full device list.
  Note: A panel becomes a device in the system and as such panels should have unique

names. We recommend naming the panel to indicate the PDU to which it belongs, for example, PDU1A-Panel 1.

    b. View Mode – The panel schedule can be displayed in a single column of circuits or in two columns of circuits.

    c. Numbering Scheme – Circuits in the panel schedule can be either 1, 3, 5, etc or 1, 2, 3, etc. Users should select the appropriate setting for their PDU/RPP device.

    d. Power|Current Rated|Derated – Capacity values for the panel which can be used for measuring utilization.

    e. Volts – Setting to define the Volts of the panel.

    f. Department – This value will be used as the default setting for new Breakers defined on the panel. **Note:** The breaker can override this setting.

7. Click the Submit button to create the panel.

18.1.2.2. Create Breakers

Each Panel appears as a tab on the PDU Dashboard. With the panel tab selected the user can create breakers. Breakers can consist of 1, 2 or 3 circuits as the breakers are configured for each panel.

1. On the PDU dashboard select the panel tab and click the New Breaker button.

2. Fill out the New Breaker form:

    a. Panel - Select the panel (from the pull-down list) where this breaker will be created.

    b. Breaker Name – Define the breaker name.
    Note: A breaker becomes a device in the system and as such breakers should have unique names. We recommend naming the breaker to indicate the PDU and panel to which it belongs, for example, PDU1A-Panel 1-Breaker 2.

    c. Breaker Type – Define if the breaker is a 1, 2, or 3 phase breaker. The number of Circuit input boxes will update based on the selection of the Breaker Type option.

    d. Circuit – Define the circuit numbers which comprise the breaker. Users only need to input the first circuit value and the other circuit input boxes will be populated automatically based on the panel settings.

    e. Current Rated|Derated – Capacity values for the panel which can be used for measuring utilization. These will be displayed in the panel schedule along with the actual current values.

f. Volts – Setting to define the Volts of the panel.

g. Department – Department for the breaker. This setting can help provide billing reports for customers using data from the PDU branch circuit monitoring data.

3. Click the Submit button to create the breaker.

18.1.3. Create a Monitoring Template for the Panels

Create a monitoring template for the panels using the following Attributes and Applied Rules.

- For each circuit add the corresponding attribute with the name *PDU - P1C0# Current* where the # matches the circuit number. For example:
  - o Attribute PDU - P1C01 is for Circuit 1
  - o Attribute PDU - P1C03 is for Circuit 3
  - o **Note:** Use these same attributes for all panels to ensure that monitored information flows to the dashboard.
- Configure the attribute to communicate via the appropriate protocol to the data point. For SNMP enter the OID.
- Set the Applied Rules at the appropriate level to link the monitoring template to your PDU panels.

Note: See the Monitoring Templates Menu Item section of this document for monitoring template details.

Device Dashboards

18.1.4. Connecting Breakers to Rack PDU Devices

A common need for power management and properly defining the full power path for end IT devices is to connect Rack PDU devices to the Breakers. This function is performed pageon the Port Mapping tool and is similar to connecting standard power in|out ports on IT devices.

1. From the Connections menu group select the Port Mapping menu item
2. On the Port Mapping page

    a. Filter the upper table to display the breakers.
    b. Select the breaker by checking the box next to the breaker name.
    c. Filter the lower table to show devices in All Locations.
    d. Filter the device field to display the desired rack PDU.
    e. Click the triangle next to the rack PDU name to show ports and select the desired port by checking the box next to the port name.

3. Click the Connect button.

Device Dashboards

4. Edit the New Cable page as desired.

5. Click the Submit button to complete the connection.

Once these connections are established the power path for the Rack PDU device will now include the breaker, panel and PDU device to which is was connected.

18.1.5. Activating Monitoring for Branch Circuit Data

Activating monitoring is done at the panel level. Panel monitoring requires the panel IP address, protocol configuration and turning on the monitoring template to fully activate monitoring.

1. From the PDU dashboard select the Panel tab.

2. Click on the Monitor Config button.

3. Edit the Monitoring Config tab for the panel and Click the Submit button

4. Select the Monitoring Template tab.

5. Flip the Switch to turn on the monitoring template.

18.1.6. Viewing Panel Schedules

When the configuration and monitoring settings have been completed users can view the PDU/RPP panel schedules and other relevant PDU/RPP device information by selecting the device in the devices list and viewing the device dashboard. If multiple panels are defined for the PDU/RPP they will be listed in separate tabs at the top of the panel schedule listing.

Item	Description
Actual Amp and %	Displays the live data which is collected and mapped to the circuits on the panel and its percentage of the derated value. The Circuit % Critical and Circuit % Warning PDU attribute values determine if the background color for the column reports normal (green), warning (yellow) or critical (red).
Derated (A)	Attribute defined by users for the selected device. The Current – Derated attribute is used for this value.
Rated (A)	Attribute defined by users for the selected device. The Current – Rated attribute is used for this value.
Customer	Displays the Department set at the breaker or the panel if not set at the breaker.
Device	Displays the name of the device that has been connected via port mapping to the circuit.
Circuit	Displays the circuit number.
Phase	Displays the phase.

18.1.7. PDU Floor Device Dashboard Attribute Map

Field Title	Scalar Attribute	Tabular Attribute
	Device Type: PDU	
	Section: Panel Schedule	
Actual Amp	PDU - P1C01 Current	
	PDU - P1C02 Current	
	PDU - P1C03 Current	
	PDU - P1C04 Current	
	PDU - P1C05 Current	
	PDU - P1C06 Current	
	PDU - P1C07 Current	
	PDU - P1C08 Current	
	PDU - P1C09 Current	
	PDU - P1C10 Current	
	PDU - P1C11 Current	
	PDU - P1C12 Current	
	PDU - P1C13 Current	
	PDU - P1C14 Current	
	PDU - P1C15 Current	
	PDU - P1C16 Current	
	PDU - P1C17 Current	
	PDU - P1C18 Current	
	PDU - P1C19 Current	
	PDU - P1C20 Current	
	PDU - P1C21 Current	
	PDU - P1C22 Current	
	PDU - P1C23 Current	
	PDU - P1C24 Current	
	PDU - P1C25 Current	
	PDU - P1C26 Current	
	PDU - P1C27 Current	
	PDU - P1C28 Current	
	PDU - P1C29 Current	
	PDU - P1C30 Current	
	PDU - P1C31 Current	
	PDU - P1C32 Current	
	PDU - P1C33 Current	
	PDU - P1C34 Current	
	PDU - P1C35 Current	
	PDU - P1C36 Current	
	PDU - P1C37 Current	
	PDU - P1C38 Current	
	PDU - P1C39 Current	
	PDU - P1C40 Current	
	PDU - P1C41 Current	
	PDU - P1C42 Current	

Device Dashboards

18.2. PDU Rackmount Device Dashboard

When the device type is PDU - Rackmount the PDU Rackmount Dashboard page is loaded when the Dashboard function tile is selected in device central.
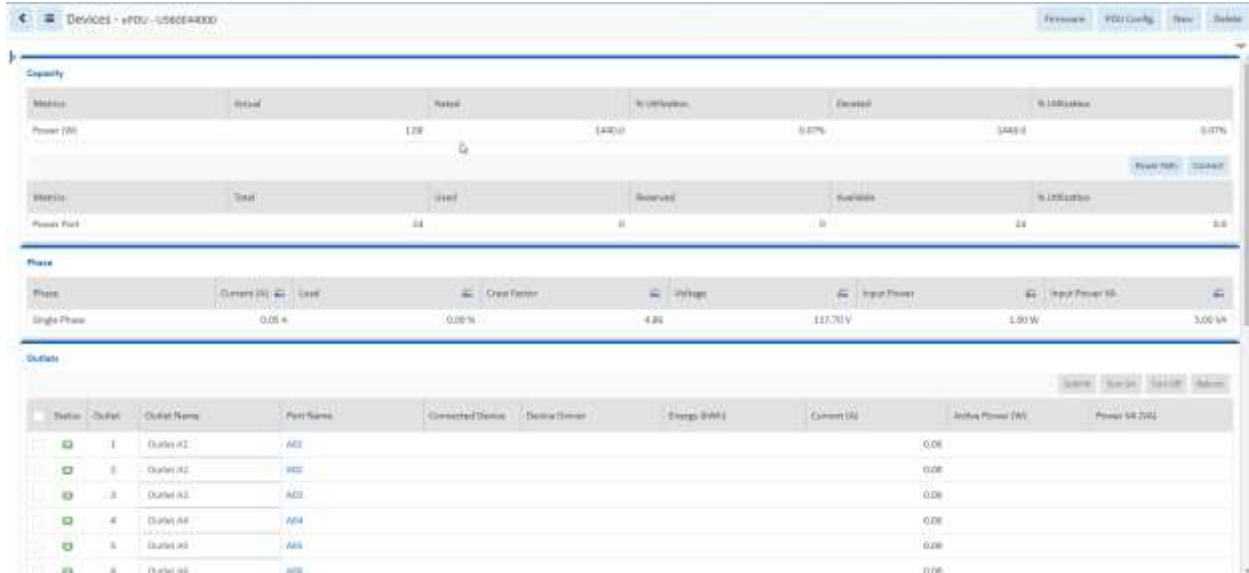
18.2.1. Buttons

Item	Description
Firmware Button	Allows user to select a firmware file from the firmware library and upload to the current PDU. The Firmware Management section of this document details how to add files to the firmware library and bulk load to multiple PDUs.
PDU Config Button	Allows user to browse for the manufacturer's xml configuration file from their local workstation and upload it to the PDU.
New Button	Opens the form to create a new device.
Delete Button	Deletes the current device.

18.2.2. Capacity Tables

18.2.2.1. Power Capacity Table

Item	Description
Actual	Power value collected from the device using the Active Power monitor attribute.
Rated	Attribute defined by users for the selected device. The Power – Rated attribute is used for this value.
% Utlization	Percent of Rated value that the actual power represents.
Derated	Attribute defined by users for the selected device. The Power – Derated attribute is used for this value.
% Utilization	Percent of Derated value that the actual power represents.
Power Path Button	Displays the power path flow chart for the device.
Connect Button	Opens the port mapping page filtered for the current device ready to create connections.

Item	Description
Metrics	Indicates type of port.
Total	Displays total number of ports on the device.
Used	Displays number of ports used.
Reserved	Displays number of ports reserved.
Available	Displays number of ports available.
% Utilization	Displays the percentage of ports used.

18.2.3. Phase Table

Item	Description
Phase	Power Phase of the device.
Current (A)	Current value of the Phase.
Load	Percentage Load of the Phase.
Crest Factor	Crest factor of the Current that is provided by the Phase.
Voltage	Voltage of the Phase.
Input Power	Input Power in Watts of the Phase.
Input Power VA	Input Power in Voltamps of the Phase.

18.2.4. Outlets Table

The Outlets table provides several outlet level data and control features for the selected device. Not all models support the outlet level data collection and/or data control features. Turn On, Turn Off and Reboot features are only enabled for Eaton devices which support this capability.

When an outlet is selected and the Reboot command is issued, the user will be prompted to reboot all power outlets of the device connected to the chosen port or to only reboot the selected port. Rebooting all outlets will issue simultaneous reboot commands to all power outlets connected to the device which will result in a hard reboot of the device. A 20 second delay will be assigned to the restart of these outlets.

If more than one outlet is selected and the Reboot command is issued, then the user will be prompted to determine if remote outlets should be rebooted for each device individually. This will allow users to determine how to handle each outlet independently.

Item	Description
Turn On Button	Outlets which are selected will be sent the command to turn On. A warning appears before the command is sent to the target device.
Turn Off Button	Outlets which are selected will be sent the command to turn Off. A warning appears before the command is sent to the target device.
Reboot Button	Outlets which are selected will be sent the command to Reboot the outlet. A warning appears before the command is sent to the target device. When sent there may be a delay on processing at the end device. The application will immediately

	show the outlet state as Off and will return to On when a polled data returns an On value.
Warning	The warning gives users the option of cancelling the On, Off and Reboot commands. Users can select to stop showing the warning for the current login session by checking "Don't show this message again."
Checkbox	When selected, the outlets will be included in the On, Off and Reboot functions.
Status	Shows the status of the LED for On (Green) and Off (Red) values. These outlet status icons do not relate to monitoring or alarm thresholds defined for the device.
Outlet	Outlet index number for the outlet on the selected device.
Outlet Name	Outlet name collected from the device. Users can select the Edit icon to update the Outlet name and the name will be written to the target device. **Note:** The outlet name must be under 12 characters.
Connected Device	Device name of the device connected to the outlet in the Port Mapping feature of the application.
Device Owner	Owner of the device connected to the outlet in the Port Mapping feature of the application.
Energy kWh	Energy value collected from the device using the Outlet Energy_Port## attribute. The date listed in this field is collected from the device and indicates the "Energy Since" date for the reported Energy value. Resetting this counter must be done on the device web interface directly.
Current (A)	Current value collected from the device using the Outlet Current Port## attribute.
Active Power (W)	Active Power value collected from the device using the Outlet Power Port## attribute.
Power VA (VA)	Voltamp value collected from the device using the Outlet VA Port## attribute.

18.2.5. PDU Rackmount Device Dashboard Attribute Map

Field Title	Scalar Attribute	Tabular Attribute
Device Type: PDU - Rackmount		
Section: Capacity		
Field Title	**Scalar Attribute**	**Tabular Attribute**
Actual	Active Power	
Rated	Power - Rated	
% Utilization	Active Power/Power - Rated	
Derated	Power - Derated	
% Utilization	Active Power/Power - Derated	
Section: Phase		
Field Title	**Scalar Attribute**	**Tabular Attribute**
Phase	Input Phase 1 Name	Input Phase Name
	Input Phase 2 Name	
	Input Phase 3 Name	
Current	Input Current 1	Input Current
	Input Current 2	
	Input Current 3	
Load	Input Current % Load Phase 1	Input Current % Load
	Input Current % Load Phase 2	
	Input Current % Load Phase 3	
Crest Factor	Input Current Crest Factor Phase 1	Input Current Crest Factor
	Input Current Crest Factor Phase 2	
	Input Current Crest Factor Phase 3	
Voltage	Input Voltage Phase 1	Input Voltage
	Input Voltage Phase 2	
	Input Voltage Phase 3	
Input Power	Input Power Phase 1	Input Power
	Input Power Phase 2	
	Input Power Phase 3	
Input Power VA	Input Power VA Phase 1	Input Power VA
	Input Power VA Phase 2	
	Input Power VA Phase 3	
Section: Outlets		
Field Title	**Scalar Attribute**	**Tabular Attribute**
Status	Outlet Status 1...48	Outlet Status
Outlet	Outlet ID 1...48	Outlet ID
Outlet Name	Outlet Name 1...48	Outlet Name
Energy(kWh)	Outlet Energy 1...48	Outlet Energy
Current	Outlet Current 1...48	Outlet Current
Active Power	Outlet Power 1...48	Outlet Power
Power VA	Outlet VA 1...48	Outlet VA

18.3. Rack Device Dashboard

When the device type is a rack the Rack Dashboard page is loaded when the Dashboard function tile is selected in device central.

Trend Chart icons are located on the dashboard which will open a trend chart interface for the selected data point or multiple data points. The following sections and detailed data are available on this dashboard interface.

18.3.1. Manage Button

The Manage button opens the Rack Manager page for the selected rack allowing users to manage devices within the rack and to view rack detail and capacity information.

18.3.2. Current (Amps) Capacity Charts

Two charts are presented to the user to provide information related to the capacity and actual values of the racks for current (Amps). The values shown in the rack charts are inherited from one of three locations based on the following rules. This source of power is defined at the top of the chart with the Power Source designation.

- PDU – Rackmount – If the rack has one or more PDU – Rackmount devices mounted into the rack which are actively being monitored for actual current then the Rackmount PDU values will be used.
- PDU/RPP – If the PDU – Rackmount devices are not actively being monitored AND the Rackmount – PDU devices are connected to PDU/RPP Branch Circuit monitoring panels then the current and power data for the rack will be pulled from the Branch Circuit monitoring configurations.
- UPS – Rackmount – If neither of the conditions above exists and the rack has monitored UPS – Rackmount devices then the power data for the rack will be pulled from these devices.

In either case, the A|B Power setting for the data is derived from the attribute setting at the monitored device. The name of the attribute is A-B Side Power in the Electrical/Power attribute category.

The actual current values will be compared to the Derated Current values for the rack device. There are two attributes to define with the racks to establish this derated value for the A and B sides of the power connections. The attribute names to define for this feature are A Current Derated and B Current Derated in the Electrical/Power attribute category.
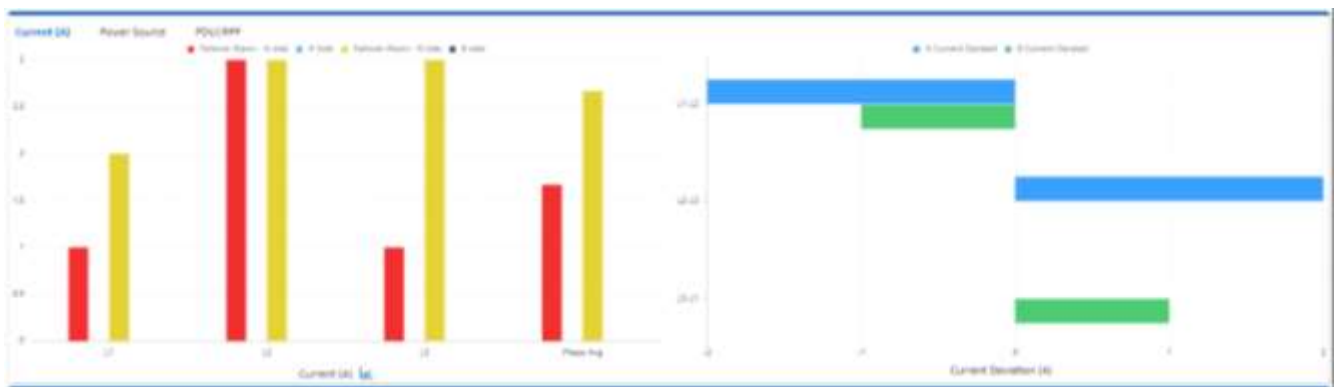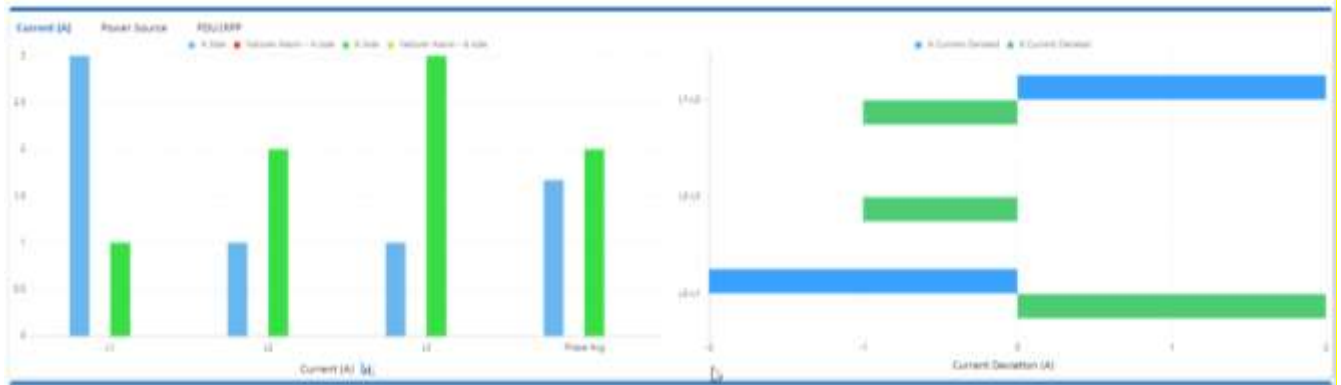
- Current Chart – Shows the A and B Current actual values for each phase (L1, L2 and L3) connected to the rack. If there is a single-phase power source for the rack then only one bar will be displayed.
- Current Deviation – Shows the balance of current on phases by showing the difference on phases for both A and B rated power sources.

The bar charts presented in the graph will be blue for A side values and green for B side values. If the Phase (L1, L2, L3 or Phase Average) is not able to withstand a failover from A to B then the A is red and B is yellow to indicate failover issues.

Note: If the rack has an IP address the alarm subsystem will generate a Critical alarm for the Rack indicating which phase and A|B power side is in this important alarm condition. These alarms can be managed and routed with the standard alarm processing tools covered in a separate section of this document.

18.3.3. Power

Two tables of power data are provided to the user in the rack dashboard.

In the top table, a summary of A and B Current readings is provided. The following defines the values used in this table:

- A | B power – Will sum the values for all PDU Rackmount devices mounted to the rack with the A or B Side Power designations.

- Current Rated – Sum of all Current – Rated attribute settings.
- Current Derated – Sum of all Current – Derated attribute settings.
- L1 Current (A) – Phase 1 readings for the mounted devices
- L2 Current (A) – Phase 2 readings for the mounted devices
- L3 Current (A) – Phase 3 readings for the mounted devices
- Avg Current (A) – Average of the three phase reading for mounted devices

In the second table, a list of all mounted UPS Rackmount devices will be displayed showing:

- A | B Power
- UPS Remaining Time
- UPS Load (W)
- Rated Utilization
- Derated Utilization
- Redundancy Test
- Input Voltage (V)

18.3.4. Environment

This table will list the Temperature and Humidity data points for all mounted devices which are collecting this value.

18.3.5. Locks

This table will list the Locks associated with the rack. The table fields include:

- Lock Name
- Status
- Position
- Last Event
- Unlock button to open the lock
- Calendar button to access the list of events associated with the lock

18.3.6. Rack Device Dashboard Attribute Map

The graphic below displays the name of the device attribute that is feeding data to the dashboard item.

Device Dashboards

18.4. Rack Group Dashboard

When the device type is a rack and the it belongs to a rack group, the Rack Group page is loaded when the Rack Group function tile is selected in device central. If a rack is not associated with a rack group, then the Rack Group function tile is black and cannot be selected.

18.4.1. Capacity Chart

The upper portion of the Rack Group dashboard displays the aggregated values of all racks in the Rack Group for key performance metrics. Beneath the aggregated data is a table with each rack's individual power metrics.

18.4.2. RU Fragmentation Chart

The RU Fragmentation chart shows the rack unit size across the bottom axis. The left axis indicates how many devices of that unit size can be accommodated in the rack group.

18.4.3. 7-Day Rack Group Power Consumption Chart

The 7-Day Rack Group Power Consumption chart displays a trend line for power consumption over the last 7 days.

18.4.4. Power By Racks (W) Chart

The Power By Racks chart shows how much power in watts is currently used by each rack in the rack group.

18.5. UPS Floor Device Dashboard

When the device type is a UPS the UPS Dashboard page is loaded when the Dashboard function tile is selected in device central.

The following sections and detailed data are available on this dashboard interface.

Several Trend Chart icons 📊 are located on the dashboard which will open a trend chart interface for the selected data point or multiple data points.

18.5.1. Buttons

Item	Description
New Button	Opens the form to create a new device.
Delete Button	Deletes the current device.

18.5.2. Input

Item	Description
Frequency	Value collected from the device.
Line Beads	Value collected from the device.
Number of Phases	Value collected from the device.
Source	Value collected from the device.
Bad Status	Value collected from the device.
Phase	Value collected from the device.
Voltage	Value collected from the device.
Current	Value collected from the device.
Power	Value collected from the device.
Frequency	Value collected from the device.

18.5.3. Output

Item	Description
Load	Value collected from the device.
Frequency	Value collected from the device.
Number of Phases	Value collected from the device.
Source	Value collected from the device.
Phase	Value collected from the device.
Voltage	Value collected from the device.
Current	Value collected from the device.
Power	Value collected from the device.
Load	Value collected from the device.

18.5.4. Battery

Item	Description
Charge Remaining	Value collected from the device.
Current	Value collected from the device.

Last Replace Date	Value collected from the device.
Remaining Time	Value collected from the device.
Seconds On Battery	Value collected from the device.
Status	Value collected from the device.
Temperature	Value collected from the device.
Voltage	Value collected from the device.

18.5.5. Segments

Item	Description
Delay	Amount of time in seconds to wait before sending the Control command to the selected Segment.
Index	Reference to the load segment number.
Status	Current status of the load segment.
Turn On Button	Turns on the selected load segment.
Turn Off Button	Turns off the selected load segment.
Reboot Button	Reboots the selected load segment.

18.5.6. Contact

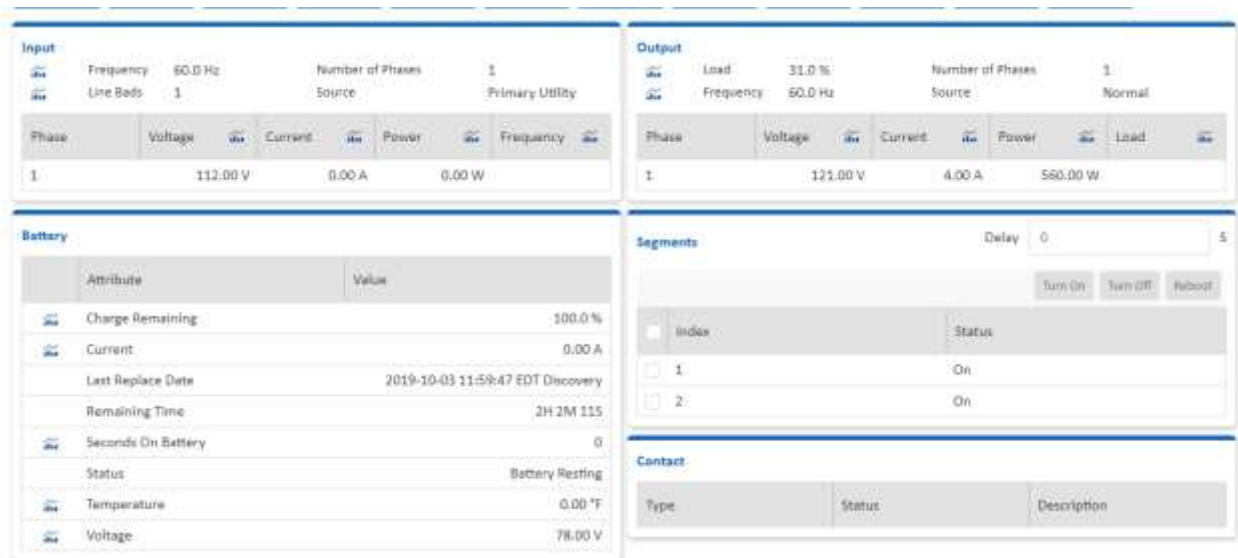| Item	Description
Type	Value collected from the device.
Status	Value collected from the device.
Description	Value collected from the device.

18.6. UPS Rackmount Device Dashboard

When the device type is a UPS - Rackmount the UPS Rackmount Dashboard page is loaded when the Dashboard function tile is selected in device central.

The following sections and detailed data are available on this dashboard interface.

Several Trend Chart icons are located on the dashboard which will open a trend chart interface for the selected data point or multiple data points.

The buttons located on the top right of the dashboard provide integrated functions with other parts of the application.

Note: Instructions for bulk configuration of an Eaton UPS with the M2 card can be found in the Bulk Configuration for Eaton UPS M2 Card section in this document.

18.6.1. Buttons

Item	Description
Firmware Button	Allows user to select a firmware file from the firmware library and upload to the current UPS. The Firmware Management section of this document details how to add files to the firmware library and bulk load to multiple UPS.
New Button	Opens the form to create a new device.
Delete Button	Deletes the current device.

18.6.2. Input

Item	Description
Frequency	Value collected from the device.
Line Beads	Value collected from the device.
Number of Phases	Value collected from the device.
Source	Value collected from the device.

Bad Status	Value collected from the device.
Line Fail Cause	Value collected from the device.
Phase	Value collected from the device.
Voltage	Value collected from the device.
Current	Value collected from the device.
Power	Value collected from the device.
Frequency	Value collected from the device.

18.6.3. Output

Item	Description
Load	Value collected from the device.
Frequency	Value collected from the device.
Number of Phases	Value collected from the device.
Source	Value collected from the device.
Phase	Value collected from the device.
Voltage	Value collected from the device.
Current	Value collected from the device.
Power	Value collected from the device.
Load	Value collected from the device.

18.6.4. Battery

Item	Description
Charge Remaining	Value collected from the device.
Current	Value collected from the device.
Last Replace Date	Value collected from the device.
Remaining Time	Value collected from the device.
Seconds On Battery	Value collected from the device.
Status	Value collected from the device.
Temperature	Value collected from the device.
Voltage	Value collected from the device.

18.6.5. Segments

Item	Description
Delay	Amount of time in seconds to wait before sending the Control command to the selected Segment.
Index	Reference to the load segment number.
Status	Current status of the load segment.
Turn On Button	Turns on the selected load segment.
Turn Off Button	Turns off the selected load segment.
Reboot Button	Reboots the selected load segment.

Device Dashboards

18.6.6. Contact

Item	Description
Type	Value collected from the device.
Status	Value collected from the device.
Description	Value collected from the device.

Device Dashboards

18.6.7. UPS Rackmount Device Dashboard Attribute Map

Device Type: UPS - Rackmount		
Section: Input		
Field Title	**Scalar Attribute**	**Tabular Attribute**
Frequency	Input Frequency	
Number of Phases	Input Number of Phases	
Lines Beads	Input Lines Beads	
Source	Input Source	
Phase	Input Phase_1	Input Phase ID
	Input Phase_2	
	Input Phase_3	
Voltage	Input Voltage Phase 1	Input Voltage
	Input Voltage Phase 2	
	Input Voltage Phase 3	
Current	Input Current 1	Input Current
	Input Current 2	
	Input Current 3	
Power	Input Power Phase 1	Input Power
	Input Power Phase 2	
	Input Power Phase 3	
Frequency	Input Frequency_1	Input Phase Frequency
	Input Frequency_2	
	Input Frequency_3	
Section: Input		
Field Title	**Scalar Attribute**	**Tabular Attribute**
Load	Output Load	
Number of Phases	Output Number Phases	
Frequency	Output Frequency	
Source	Output Source	
Phase	Output Phase_1	Output Phase ID
	Output Phase_2	
	Output Phase_3	
Voltage	Output Voltage Phase 1	Output Voltage
	Output Voltage Phase 2	
	Output Voltage Phase 3	
Current	Output Current 1	Output Current
	Output Current 2	
	Output Current 3	
Power	Output Power Phase 1	Output Power
	Output Power Phase 2	
	Output Power Phase 3	
Load	Output Load 1	Output Phase Load
	Output Load 2	
	Output Load 3	
Section: Battery		
Field Title	**Scalar Attribute**	**Tabular Attribute**
Remaining Time	Battery Time Remaining	
Voltage	Battery Voltage	
Current	Battery Current	
Charge Remaining	Battery Capacity	
Status	Battery Status	
Last Replace Date	Last Replace Date	

Seconds on Battery	Seconds on Battery	
Temperature	Battery Temperature	

18.7. Server Device Dashboard

When the device type is a server the Server Dashboard page is loaded when the Dashboard function tile is selected in device central.

The following sections and detailed data are available on this dashboard interface.

Several Trend Chart icons 📊 are located on the dashboard which will open a trend chart interface for the selected data point or multiple data points.

18.7.1. Hardware Configuration

Item	Description
CPU	Value collected from the device.
Physical Memory	Value collected from the device.
# of Disks	Value collected from the device.
Total Storage	Value collected from the device.

18.7.2. Capacity

18.7.2.1. Power Capacity Table

Item	Description
Metrics	Row indicates Power (W) attribute information for the device. Power Actual may be monitored data or static data based on the Energy Data Source attribute for the device. Current (A) attribute information for the device. Current Actual may be monitored data or static data based on the Energy Data Source attribute for the device.
Actual	Power value collected from the device using the Active Power monitor attribute.
Rated	Attribute defined by users for the selected device. The Power – Rated attribute is used for this value.
% Utlization	Percent of Rated value that the actual power represents.
Derated	Attribute defined by users for the selected device. The Power – Derated attribute is used for this value.
% Utilization	Percent of Derated value that the actual power represents.

18.7.2.2. Port Capacity Table

Item	Description
Metrics	Indicates type of port.
Total	Displays total number of ports on the device.
Used	Displays number of ports used.
Reserved	Displays number of ports reserved.
Broken	Displays number of ports broken.
Available	Displays number of ports available.
% Utilization	Displays the percentage of ports used.

18.7.3. OS & Software Configuration

Item	Description
OS	Value collected from the device.
# of Packages Installed	Value collected from the device.
# of Programs Running	Value collected from the device.

18.7.4. Network Configuration

Item	Description
MAC	Value collected from the device.
IP	Value collected from the device.
Network Mask	Value collected from the device.
Gateway	Value collected from the device.

18.7.5. Resource Consumption

Shows disks volumes (partitions) and percent of space used.
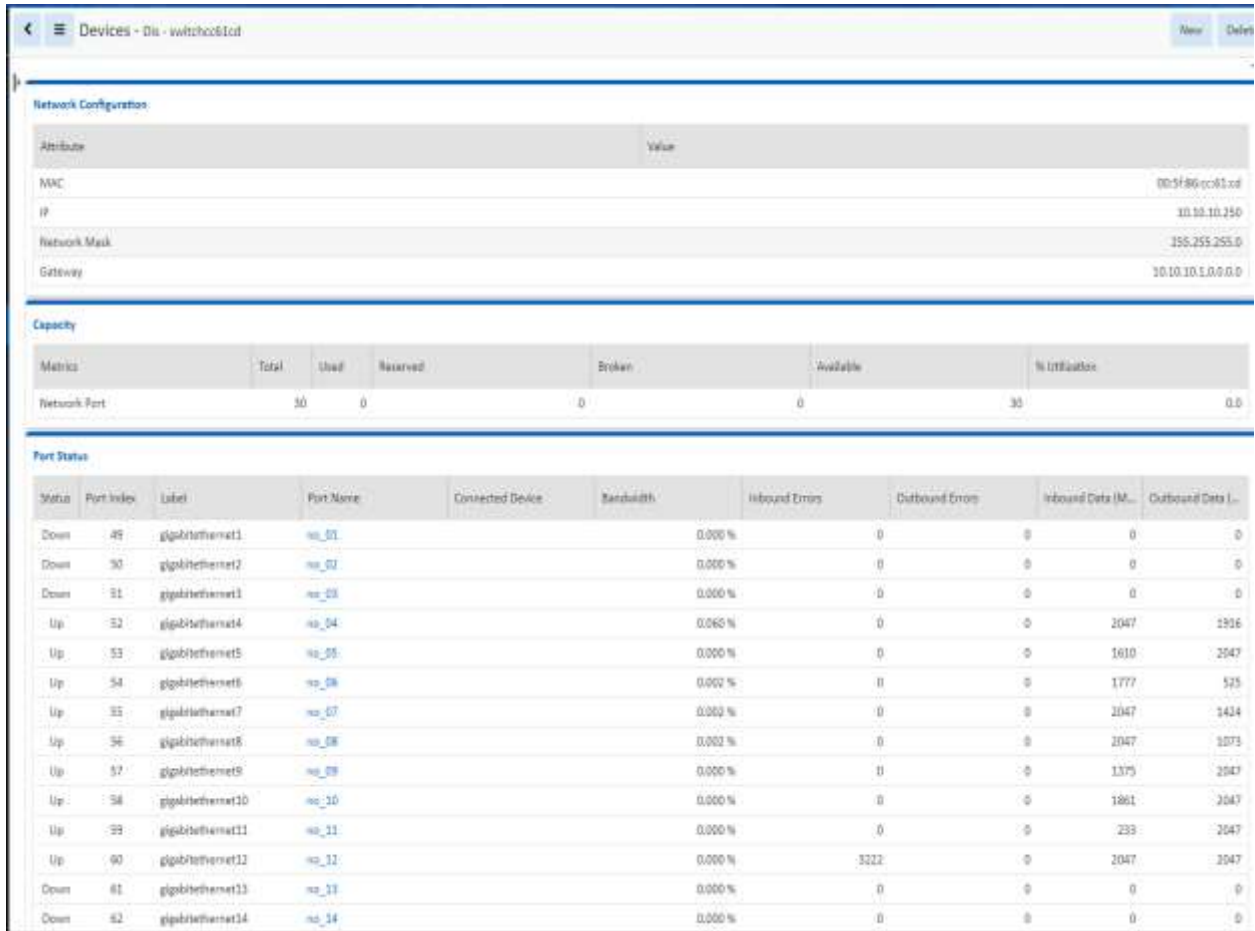
18.7.6. Environmental

Displays a chart tracking temperature and humidity for the device.

18.7.7. Port Status

Item	Description
Status	Displays connection status collected directly form the device.
Port Index	Displays the port number.
Label	Displays the port label collected from the device.
Port Name	Displays the port name.
Connected Device	Name of the device connected to the port as defined in port mapping.
Bandwidth	Value collected from the device.
Inbound Errors	Value collected from the device.
Outbound Errors	Value collected from the device.
Inbound Data (MB)	Value collected from the device.
Outbound Data (MB)	Value collected from the device.

Device Dashboards

18.8. Switch Device Dashboard

When the device type is a switch the Switch Dashboard page is loaded when the Dashboard function tile is selected in device central.

The following sections and detailed data are available on this dashboard interface.

18.8.1. Network Configuration

Item	Description
MAC	Value collected from the device.
IP	Value collected from the device.
Network Mask	Value collected from the device.
Gateway	Value collected from the device.

18.8.2. Capacity

Item	Description
Metrics	Indicates type of port.
Total	Displays total number of ports on the device.
Used	Displays number of ports used.
Reserved	Displays number of ports reserved.

Broken	Displays number of ports broken.
Available	Displays number of ports available.
% Utilization	Displays the percentage of ports used.

18.8.3. Port Status

Item	Description
Status	Displays connection status collected directly form the device.
Port Index	Displays the port number.
Label	Displays the port label collected from the device.
Port Name	Displays the port name.
Connected Device	Name of the device connected to the port as defined in port mapping.
Bandwidth	Value collected from the device.
Inbound Errors	Value collected from the device.
Outbound Errors	Value collected from the device.
Inbound Data (MB)	Value collected from the device.
Outbound Data (MB)	Value collected from the device.

18.9. Transfer Switch Rackmount Device Dashboard

When the device type is a Transfer Switch - Rackmount the Transfer Switch - Rackmount Dashboard page is loaded when the Dashboard function tile is selected in device central.

The following sections and detailed data are available on this dashboard interface.

Several Trend Chart icons are located on the dashboard which will open a trend chart interface for the selected data point or multiple data points.

Active Source   - Source 1

Source	Voltage	Frequency	Status Frequency	Status Good	Status Internal Failu...	Voltage Status	Status Used
Source 1	120.5 V	60.0 Hz	Good	Voltage And Freq Normal Range	Good	Normal Range	Powering Load
Source 2	120.3 V	60.0 Hz	Good	Voltage And Freq Normal Range	Good	Normal Range	Not Powering Load

Output

Attribute	Value
Voltage	120.8 V
Current	0.0 A
Status Internal Failure	Good
Status Output	Output Powered
Status Overload	No Overload
Status Over Temperature	No Over Temperature
Status Short Circuit	No Short Circuit
Status Communication Lost	Good
Status Configuration Failure	Good

Configuration

Attribute	Value
Input Voltage Rating	1.0 V
Input Frequency Rating	60.0 Hz
Preferred	Source 1
Sensitivity	Normal
Transfer Mode	Standard
Last Transfer Test Result	No Test Initiated

Environment

Attribute	Value
Temperature	0.00 °F
Humidity	

Contact Sensors

Sensor	Type	Status	Description
1	Normally Open	Closed With Notice	Input #1
2	Normally Open	Closed With Notice	Input #2

Capacity

				Power Path	Connect

Metrics	Total	Used	Reserved	Available	
Power Port	10	0	0	10	

18.9.1. Buttons

Item	Description
New Button	Opens the form to create a new device.
Delete Button	Deletes the current device.

18.9.2. Active Source

Item	Description
Source	Value collected from the device.
Voltage	Value collected from the device.
Frequency	Value collected from the device.
Status Frequency	Value collected from the device.
Status Good	Value collected from the device.
Status Internal Failure	Value collected from the device.
Voltage Status	Value collected from the device.
Status Used	Value collected from the device.

18.9.3. Output

Item	Description
Voltage	Value collected from the device.
Current	Value collected from the device.
Status Internal Failure	Value collected from the device.
Status Output	Value collected from the device.
Status Overload	Value collected from the device.
Status Over Temperature	Value collected from the device.
Status Short Circuit	Value collected from the device.
Status Communication Lost	Value collected from the device.
Status Configuration Failure	Value collected from the device.

18.9.4. Configuration

Item	Description
Input Voltage Rating	Value collected from the device.
Input Frequency Rating	Value collected from the device.
Preferred	Value collected from the device.
Sensitivity	Value collected from the device.
Transfer Mode	Value collected from the device.
Last Transfer Test Result	Value collected from the device.

18.9.5. Environment

Item	Description
Temperature	Value collected from the device.
Humidity	Value collected from the device.

Device Dashboards

18.9.6. Contact Sensors

Item	Description
Sensor	Value collected from the device.
Type	Value collected from the device.
Status	Value collected from the device.
Description	Value collected from the device.

18.9.7. Capacity

Item	Description
Power Path Button	Displays the power path based on port mapping.
Connect Button	Opens the port mapping page with the current device selected.
Metrics	Displays port type as collected from the device.
Total	Displays total number of ports.
Used	Displays the number of ports used.
Reserved	Displays the number of ports reserved.
Available	Displays the number of ports available.
% Utilization	Displays the percentage of ports utilized.

Device Dashboards

18.9.8. Transfer Switch Rackmount Device Dashboard Attribute Map

Field Title	Scalar Attribute	Tabular Attribute
Device Type: ATS - Rackmount **Section: Active Power**	
Field Title	**Scalar Attribute**	**Tabular Attribute**
Active Power	Active Source	
Source	Input Index_1	Input Index
Source	Input Index_2	Input Index
Voltage	Input Voltage_1	Input Voltage
Voltage	Input Voltage_2	Input Voltage
Frequency	Input Frequency_1	Input Frequency
Frequency	Input Frequency_2	Input Frequency
Status Frequency	Input Frequence Status_1	Input Frequence Status
Status Frequency	Input Frequence Status_2	Input Frequence Status
Status Good	Contact State 1	Contact State
Status Good	Contact State 2	Contact State
Status Internal Failure	Input Interval Failure Status_1	Input Interval Failure Status
Status Internal Failure	Input Interval Failure Status_2	Input Interval Failure Status
Voltage Status	Input Voltage Status_1	Input Voltage Status
Voltage Status	Input Voltage Status_2	Input Voltage Status
Status Used	Input Used Status_1	Input Used Status
Status Used	Input Used Status_2	Input Used Status
Section: Output	
Field Title	**Scalar Attribute**	**Tabular Attribute**
Voltage	Output Voltage	
Current	Output Current	
Status Internal Failure	Output Internal Failure Status	
Status Output	Output Status	
Status Overload	Overload Status	
Status Over Temperature	Over Temperature Status	
Status Short Circuit	Short Circuit Status	
Status Communication Lost	Communication Lost Status	
Status Configuration Failure	Configuration Failure Status	
Section: Configuration	
Field Title	**Scalar Attribute**	**Tabular Attribute**
Input Voltage Rating	Config Input Voltage Rating	
Input Frequency Rating	Config Input Frequency Rating	
Preferred	Config Preferred	
Sensitivity	Config Sensitivity	
Transfer Mode	Transfer Mode	
Last Transfer Test Result	Transfer Test	
Section: Environment	
Field Title	**Scalar Attribute**	**Tabular Attribute**
Temperature	Temperature	
Humidity	Humidity	
Section: Contact Sensors	
Field Title	**Scalar Attribute**	**Tabular Attribute**
Type	Contact Type 1	Contact Type
Type	Contact Type 2	Contact Type
Status	Contact State 1	Contact State
Status	Contact State 2	Contact State
Description	Contact Description 1	Contact Description
Description	Contact Description 2	Contact Description

18.10. Access Control Device Dashboard

When the device type is access control the Access Control Dashboard page is loaded when the

An Access Control device must be created, configured for monitoring and mounted in order for the dashboard to be fully populated.

Lock Infomation

Door Status	Closed	
Lock Status	Locked	UnLock
Password Timeout	0	Reset
Password Wrong	0	Reset
User Management		Set Delete

18.10.1. Creating the Device and Configuring Monitoring

- Create the Access Control device
- Select the new device from the device list to go to its Device Central page
- Click on the Monitoring function tile to access device's monitoring page
- Activate monitoring by configuring the Monitoring function tile as described in the Function Tiles section.

18.10.2. Mounting an Access Control Device on a Rack

An Access Control Device is mounted directly on the rack enclosure. From the Racks menu group select the Rack Manager menu item. Search for and select the rack to mount the device and then select Show Enclosure checkbox to display the front and rear doors of the rack. From the device list, search and select the access device, drag the device to the desired position and Save. Front and Rear rack views can be accessed with the Front and Rear buttons above the rack image.
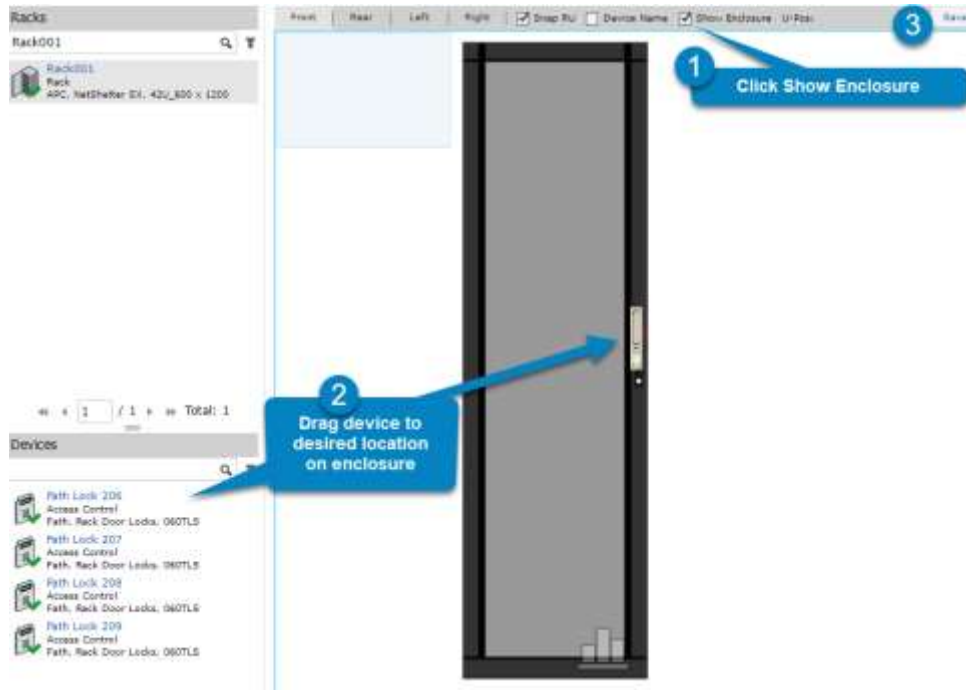
18.10.3. Access Control Device Dashboard

The Access Control dashboard contains information and buttons for controlling the device.

18.10.3.1. Lock Information

Item	Description
Door Status	Closed or Open status which is collected from the device.
Lock Status	Locked or Unlocked status which is collected from the device and button to Lock or Unlock
Password Timeout	Number of times a user timed out while entering name or password at the access device. Hover over the number and "since YYYY-MM-DD HH-MM-SS TZ" shows start date of the count. Reset button resets the count start date and the value of the counter to 0
Password Wrong	Number of time a user entered the wrong password at the access device or from the application. Hover over the number and "since YYYY-MM-DD HH-MM-SS TZ" shows start date of the count. Reset button resets the count start date and the value of the counter to 0.
User Management	Set button lets you add a new user with a password. Delete button lets you name a user to be deleted.

A Rack Lock Summary report provides summary data for the actions performed on the Access Control devices. The report can be found by selecting the Reports Menu Item and expanding the Asset category.

18.10.4. TZ Gateway Lock Dashboard

If the device is a TZ Gateway reporting rack lock status, the system will display the following dashboard:

18.11. Power Bus Bar Device Dashboard

When the device type is a Power Bus Bar the Power Bus Bar Dashboard page is loaded when the Dashboard function tile is selected in device central.

The following sections and detailed data are available on this dashboard interface.

Several Trend Chart icons are located on the dashboard which will open a trend chart interface for the selected data point or multiple data points.

18.11.1. Infeed Data

Item	Description
L-N Voltage	Value collected from the device.
L-L Voltage	Value collected from the device.
Current	Value collected from the device.
Frequency	Value collected from the device.
Active Power	Value collected from the device.
Apparent Power	Value collected from the device.
Total Energy	Value collected from the device.
Power Factor	Value collected from the device.
Line Index	Value collected from the device.
Line Current (A)	Value collected from the device.
Line Current %	Value collected from the device.
Phase Index	Value collected from the device.
L-N Voltage (V)	Value collected from the device.
L-L Voltage (V)	Value collected from the device.
Power Factor	Value collected from the device.
Active Power (W)	Value collected from the device.
Apparent Power (VA)	Value collected from the device.
Energy (kWh)	Value collected from the device.

18.11.2. Outlets

Item	Description
Index	Value collected from the device.
Name	Value collected from the device.
Connected Device	Value collected from the device.
Current Rating	Value collected from the device.
Active Power (W)	Value collected from the device.
Apparent Power (VA)	Value collected from the device.
Power Factor	Value collected from the device.

18.11.3. Power Bus Bar Device Dashboard Attribute Map

Device Type: Power Bus Section: Infeed Data		
Field Title	**Scalar Attribute**	**Tabular Attribute**
L-N Voltage	Infeed L-N Voltage	
Current	Current	
Active Power	Active Power	
Total Energy	Energy	
L-L Voltage	Infeed L-L Voltage	
Frequency	Input Frequency	
Apparent Power	Apparent Power	
Power Factor	Power Factor	
Line Index	Infeed Line Index 1	Infeed Line Index
	Infeed Line Index 2	
	Infeed Line Index 3	
	Infeed Line Index 4	
	Infeed Line Index 5	
Line Current(A)	Infeed Line Current 1	Infeed Line Current
	Infeed Line Current 2	
	Infeed Line Current 3	
	Infeed Line Current 4	
	Infeed Line Current 5	
Line Current(%)	Infeed Line Current Percentage 1	Infeed Line Current Percentage
	Infeed Line Current Percentage 2	
	Infeed Line Current Percentage 3	
	Infeed Line Current Percentage 4	
	Infeed Line Current Percentage 5	
Phase Index	Input Phase 1 Name	Input Phase Name
	Input Phase 2 Name	
	Input Phase 2 Name	
L-N Voltage	Infeed Phase L-N Voltage 1	Infeed Phase L-N Voltage
	Infeed Phase L-N Voltage 2	
	Infeed Phase L-N Voltage 3	
L-L Voltage	Infeed Phase L-L Voltage 1	Infeed Phase L-L Voltage
	Infeed Phase L-L Voltage 2	
	Infeed Phase L-L Voltage 3	
Power Factor	Input Power Factor 1	Input Power Factor
	Input Power Factor 2	
	Input Power Factor 3	

Active Power	Input Power 1	Input Power
	Input Power 2	
	Input Power 3	
Apparent Power	Input Power VA 1	Input Power VA
	Input Power VA 2	
	Input Power VA 3	
Energy	Infeed Phase Energy 1	Infeed Phase Energy
	Infeed Phase Energy 2	
	Infeed Phase Energy 3	
Section: Outlets		
Field Title	**Scalar Attribute**	**Tabular Attribute**
Outlet	Outlet ID 1…48	Outlet ID
Outlet Name	Outlet Name 1…48	Outlet Name
Current	Outlet Current 1…48	Outlet Current
Active Power	Outlet Power 1…48	Outlet Power
Power VA	Outlet VA 1…48	Outlet VA
Power Factor	Outlet Power Factor 1…48	Outlet Power Factor

Device Dashboards

19. Navigation Tree

The Navigation tree creates, displays, and manages the sites in the application. These are visible as nodes for countries, states, cities, buildings, floors and areas. The floor building tools become available when the floor and area nodes are selected. The information below will describe the components and features of the navigation tree for the application.

19.1. Tree Nodes

The navigation tree has nodes for locations displayed in a hierarchical format by default. The navigation tree nodes can be grouped by Country, State, City and Building. Users can also filter the nodes by entering text into the search field. The navigation tree nodes listed in the table below are available to help users organize their sites for easy management.

Node	Description	Selection Behavior
Country	List of countries that can be managed in the application.	Shows the selected country with alarm LEDs for sites within that country.
State	List of States or Provinces for the selected country. **Note:** If a country does not have predefined States to choose from the list, the All Areas option can be selected to create a State node in the navigation tree.	Shows the selected State or Province with alarm LEDs for cities within that State or Province.
Campus/City	Under the State node, users can create a Campus or City node. There is not a predefined list of these locations available for the user to select. Users enter the city name in the Name field.	Highlights the selected City in the State or Province view.
Building	Address or other reference to the building being managed.	Displays the image of the building if it was loaded when the building is defined in Location Studio.
Floor	Reference to the floor within the selected building.	Displays the full floor layout with devices assigned to this floor location.
Area	Multiple options for Area types to help organize the navigation tree to match the needs of the customer. Multiple types of Area can be included under a single Floor node.	Zooms to only the Area level of the floor with the devices mounted to this area location. Other floor names and devices are hidden.

1. Next to each node of the tree is a blue number in square brackets. This indicates the number of next level nodes under the selected node.

2. Under each location node of the navigation tree will be a summary count of alarms for that node. There are 5 possible alarm types: Critical (red), Warning (yellow), Unreachable (blue), Minor (purple) and Information (light blue). The device counts are aggregated for all locations under the selected node. The summary count boxes are colorized and visible when the value is greater than 0. **Note:** The Alarm count information will be automatically updated every 5 minutes, but users can choose to refresh manually to get updated data between the auto refresh cycles.

3. When a node is selected the refresh icon is displayed to the right of the node.

19.2. Creating Locations (Navigation Tree Nodes)

There are five buttons on the upper right corner of the navigation tree page for creating locations. These include Add Cities, Import, Add Child, Add Sibling and Delete.

19.2.1. Add Cities Button

The Add Cities button displays a list of over 3000 known cities with their country, state, latitude and longitude information. Select a city by checking the box and click Submit to add the Country, State and City nodes for the location to the tree.

If your city is not listed, click New and fill out the New City form.

19.2.1.1. New City Form

Fields	Description
Name	Sets the name of the city.
Country	Select the country from the list.
State	Select the state. If the country's states are unknown, the system will present "All area" as the option.
Latitude	Enter the latitude for the city in the decimal format (do not include the degree symbol or N/S). Positive number is North (33.152). Negative number is South (-33.3152).
Longitude	Enter the longitude for the city in the decimal format (do not include the degree symbol or E/W). Positive number is for East (44.3661). Negative number is West (-44.3661).
Description	User defined description of the city.
Buttons	**Description**
New	New opens a form to create a city.
Submit	If any form fields are edited or new data has been added the Submit button becomes active and is used to add a new city or update the existing city.
Cancel	Does not create new city and closes the form.

19.2.2. Import Button

The Import button displays the Import Wizard page with the Locations radio dial selected. Locations can be imported from a Location Import Template spreadsheet. The template can be downloaded with the Download Template button. For instructions on filling out the location spreadsheet see the Import Locations Spreadsheet section in the Import | Export Menu Group chapter of this guide.
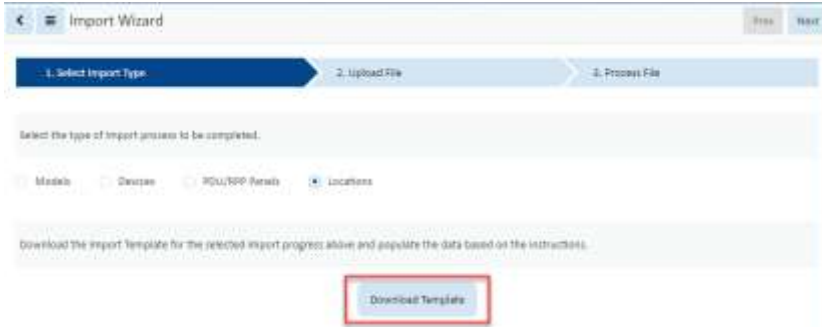
19.2.3. Add Child Button

The Add Child button is available when a city, building or floor node is selected.

- When a city node is selected, Add Child will present a form to create a building
- When a building node is selected, Add Child will present a form to create a floor
- When a floor node is selected, Add Child will present a form to create an area

19.2.4. Add Sibling Button

The Add Sibling button is available when building, floor or area node is selected

- When a building node is selected, Add Sibling will present a form to create a building
- When a floor node is selected, Add Sibling will present a form to create a floor
- When an area node is selected, Add Sibling will present a form to create an area

19.2.5. Delete Button

The Delete button will delete the selected node and all its children.

19.3. Tree Node Function Tiles

Tree Node Function Tiles are displayed when a node in the tree is selected. These tiles control what is displayed in the content area of the navigation tree page.

19.3.1. View Function Tile

Selected by default it causes the content area to display the map of the area (world, country, state, city), the associated graphic (building) or floorplan (floor).

19.3.2. Site Data Function Tile

Displays capacity metrics for the selected location in graphs and tables.

- RU Capacity table shows used and available rack space
- Space (ft^2) shows floor space details
- Devices provides device counts
- Attributes lists attribute values and accompanying trend charts

19.3.3. Attributes Function Tile

Displays the attributes associated with the selected node. Users can modify entries and add additional attributes.

19.3.4. Graphs Function Tile

Displays the Graphs associated with the selected node. Click the play button to see the graphs reflect the data from the node.

19.3.5. Alarms Function Tile

Displays the Alarms for the selected node.

19.3.6. Calendar Function Tile

Displays the calendar log for the selected node.

19.3.7. Devices Function Tile

Displays the list of devices deployed on the selected node.

19.3.8. Ports Function Tile

Displays the ports list for the devices deployed on the selected node.

19.4. Floor Node

Selecting a floor node displays the floor plan for the selected floor and adds the Design and Deploy function tiles.

19.4.1. View Function Tile (Floor)

The default View displays the presents the published floor with devices in place.
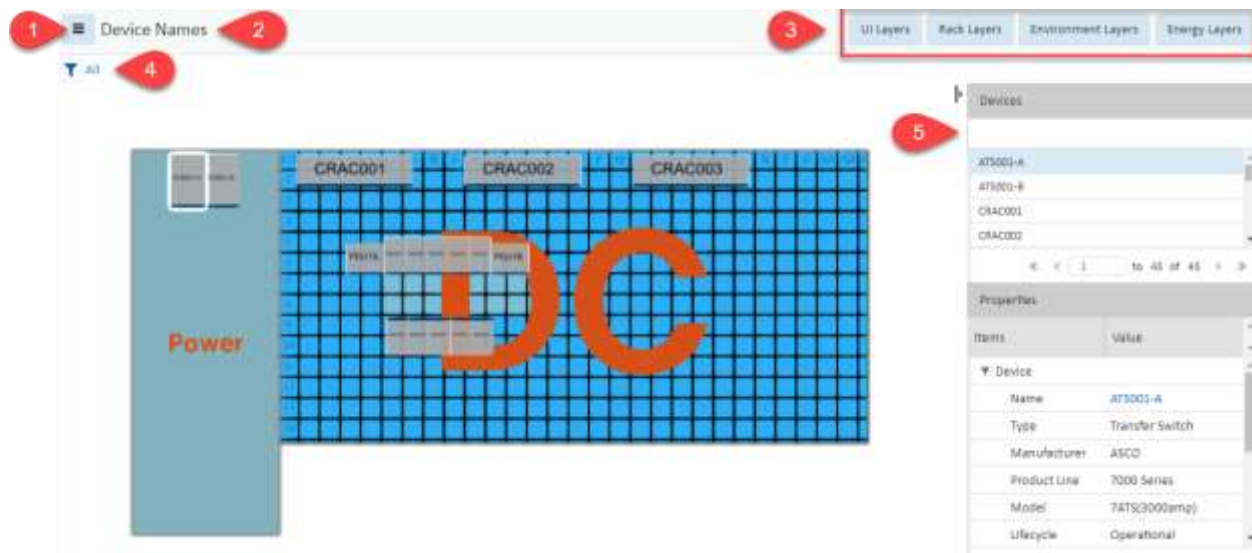
1. Menu has the following features:
   a. Filters - a list of saved filters
   b. Export - export device list to Excel or PDF
   c. Refresh - refreshes the display
2. Displays current layer view name
3. Layer view buttons
   a. UI Layers include Alarm, Device Names (default) and Device Type. The values for the select UI layer are superimposed on the floor devices.
   b. Rack Layers include rack and port metrics. The values for the select rack layer are superimposed on the floor devices.
   c. Environment Layers show temperature, thermal and humidity maps.
   d. Energy Layers show power metrics. The values for the selected energy layer are superimposed on the floor devices.
4. Filter allows user to filter the device view and save filters.
5. The device list shows the devices on the floor. When a device is selected device and position properties are listed.
   a. The icon next to the top of the device list can be toggled to hide and show the list

19.4.1.1. Filter Icon

Filters are used to restrict the devices which show the attribute data on the selected layer to only devices which match the filter criteria. Users may define complex filter criteria by defining filter rules for

any of the available layer attributes associated to the devices. To define a filter for a layer view, users can click the Filter icon on the left side of the workspace. This will present standard application filter tool where the user can build simple and complex filters utilizing AND and OR clauses. See the Filter Options section for details on creating filters.

To clear or reset the view on the floorplan users can hit the X button to delete each filter rule.

Note: If the Search field in the rule is a long drop-down list the user can used the Magnifying Glass to open a table list view of the options that can be filtered by column. To select an option click the checkbox and Submit.
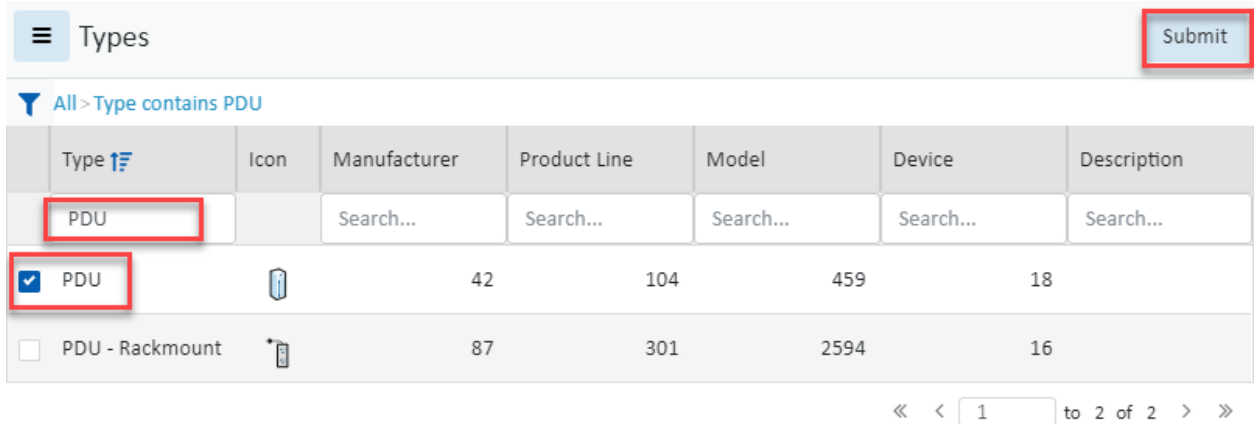
19.4.2. Design Function Tile - Creating a Floorplan

When a floor node is selected, the Design function tile displays the workspace where users upload and configure the floorplan for their particular location. Once the floorplan is constructed, users can mount devices onto the floorplan using the Deploy function tile. When the Design function tile is accessed,

there are two sets of icons available to help with the tasks needed to create the floorplan. Select the floor to be defined and then use the tools provided to construct the floor views.

Along the top of the screen the following icons are available:

19.4.2.1. Upload Icon

The Upload icon allows users to upload floorplan images so they can define attributes of the floor. Supported file type for the upload include jpg, png and bmp. Floor Image window shows the floor plan and presents buttons to rotate Counter-Clockwise or Clockwise before submitting.

- Zoom In: Use the mouse roller ball to zoom in and out on the floorplan.
- Move Floorplan: Click and hold the right mouse button to move the floorplan on the workspace.

19.4.2.2. Anchor Icon

The Anchor icon allows users to place anchor points on each corner where walls connect on the floorplan drawing. This will allow the connecting walls to be created properly. Users click this icon to enter the mode to place anchor points. Mouse clicks will assign an anchor point to the image. Users can click the Escape key to exit the anchor point mode and return to the standard edit mode.

- To delete anchor points, Escape key to standard edit mode, click anchor point (turns red) and click the remove icon (trash can).

19.4.2.3. Wall Icon

The Wall icon allows users to connect anchor points to create the walls of the floorplan. Clicking this icon will enter the draw wall mode. Users select the type of wall from the pull-down menu and can then systematically click anchor points to draw a set of walls around the floorplan image.

- No pre-existing anchor points - The wall tool also works without pre-existing anchor points. Select the wall type and then click on the floorplan to start the wall and also create anchor points as the user clicks to create walls.
- Non-contiguous walls - If the user needs to create a non-contiguous wall or there is an opening between anchor points, use Escape to exit the wall drawing tool. Click the wall drawing tool to start a new wall at a new anchor point.
- Delete wall – Exit the wall tool with Escape key, left click select the wall (turns red) and click the remove icon (trash can).
- Change wall type - Exit the wall tool with Escape key, left click select the wall (turns red) and change the wall Type in the properties window.

Navigation Tree

- Use the collapse icon to hide the properties window.
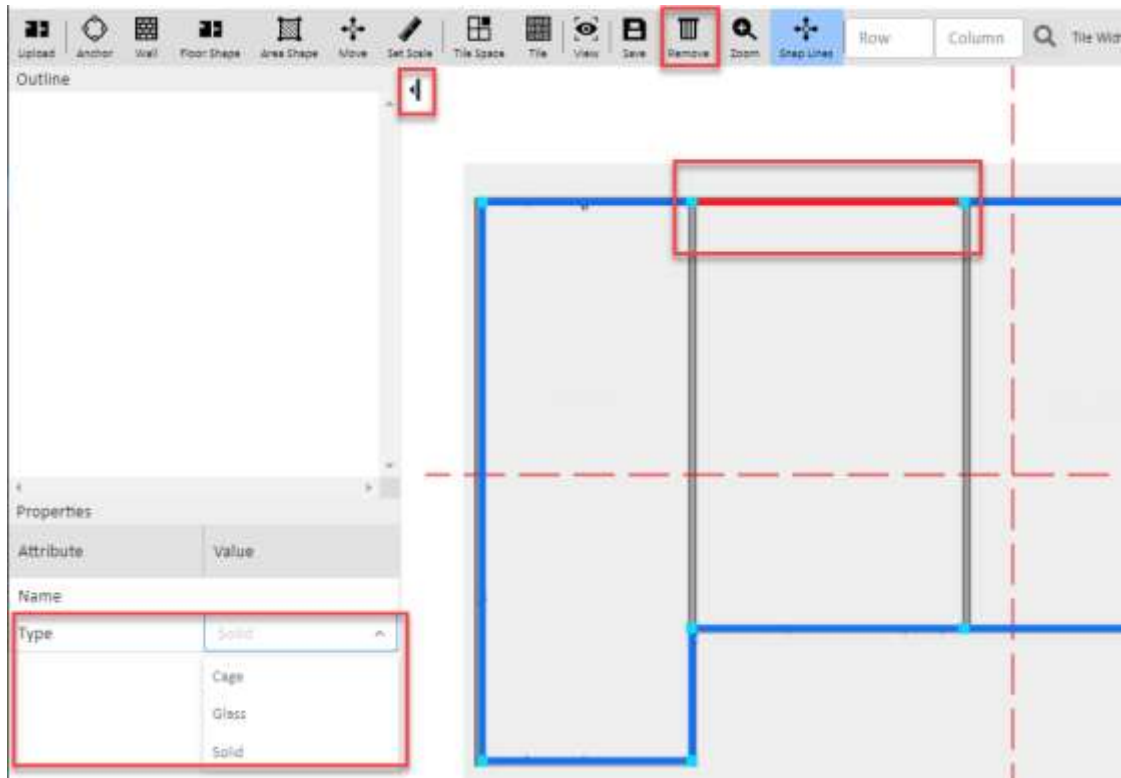
19.4.2.4. Floor Shape Icon

After the walls have been created the full area of the floor is defined by selecting the Floor Shape icon and then clicking the anchor points around the perimeter of the entire floor. This process establishes the area of the floorplan for capacity planning purposes. As the perimeter anchor points are selected, they turn red. To complete the floor definition process users must "close" the perimeter by selecting the first anchor point again and the floor shape color is applied. To start the process over, users can select the Escape icon to return to the standard Edit mode.

When the full floor area has been defined the floor name is shown in the outline and when selected the properties can be seen and altered as needed.
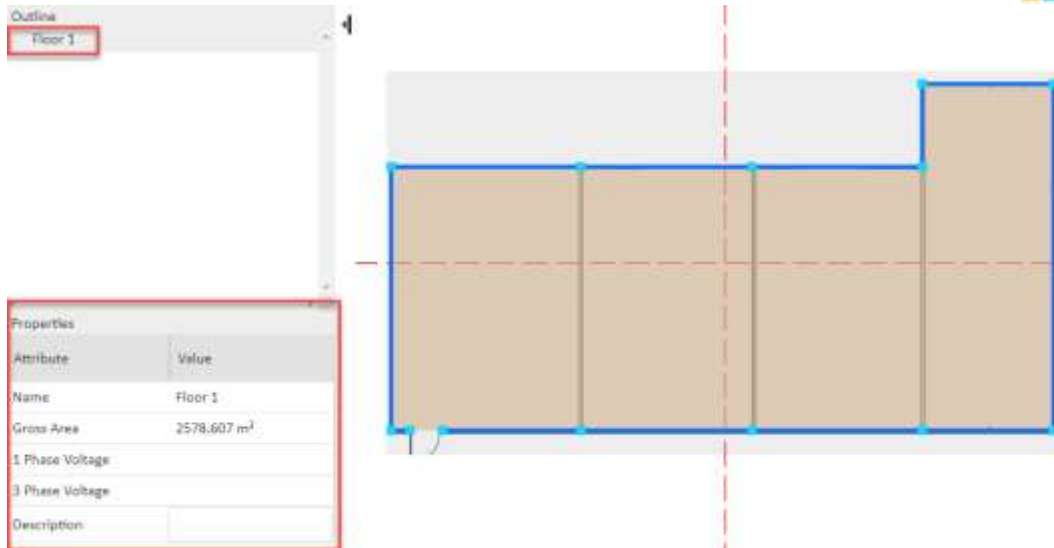
19.4.2.5. Area Shape Icon

After the floor is defined, users can then define areas of the floor. This process is similar to the floor definition feature. Users select the Area Shape icon and then connect wall anchor points until a full area is defined. As the perimeter anchor points are selected, they turn red. To complete the area definition users "close" the perimeter by selecting the first anchor point again and the area color is applied. To start the process over, users can select the Escape icon to return to the standard Edit mode.

When the area has been defined the Add Area form opens and the user selects the area name from the drop-down menu.

If the area name does not exist, the user can click the New button and fill out the New Area form to create and apply the new name.
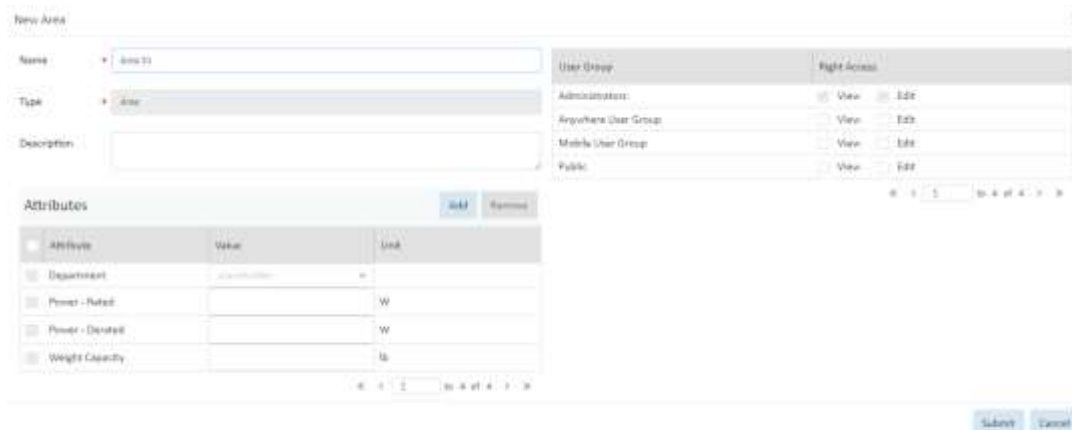
Once the area is created the area name is shown in the outline and when selected the properties can be seen and altered as needed.
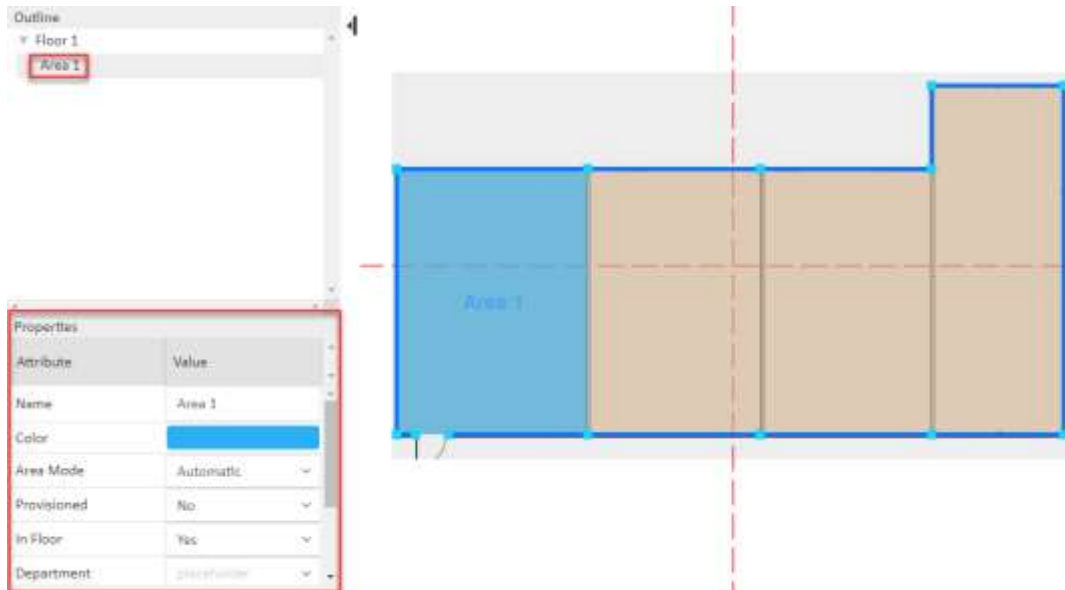
- Color – Click on the color swatch and select a new color from the color palette. By default the area color is blue.

19.4.2.6. Move Icon

The Move icon allows users to select an anchor point and move it to a new location.

19.4.2.7. Set Scale Icon

The Set Scale icon allows user to define the length of a wall. The units displayed will be presented based on the user settings. Exit the wall tool with Escape key, left click select the wall (turns red), select the Set Scale tool and enter a value.

Note: Set scale on one wall and the other walls will be set proportionally.

19.4.2.8. Tile Space Icon - Apply Raised Floor, Tiles and Grid

Select the area where you want to apply the raised floor from the outline list. Click on the Tile Space icon and fill out the Add Tile Space form:
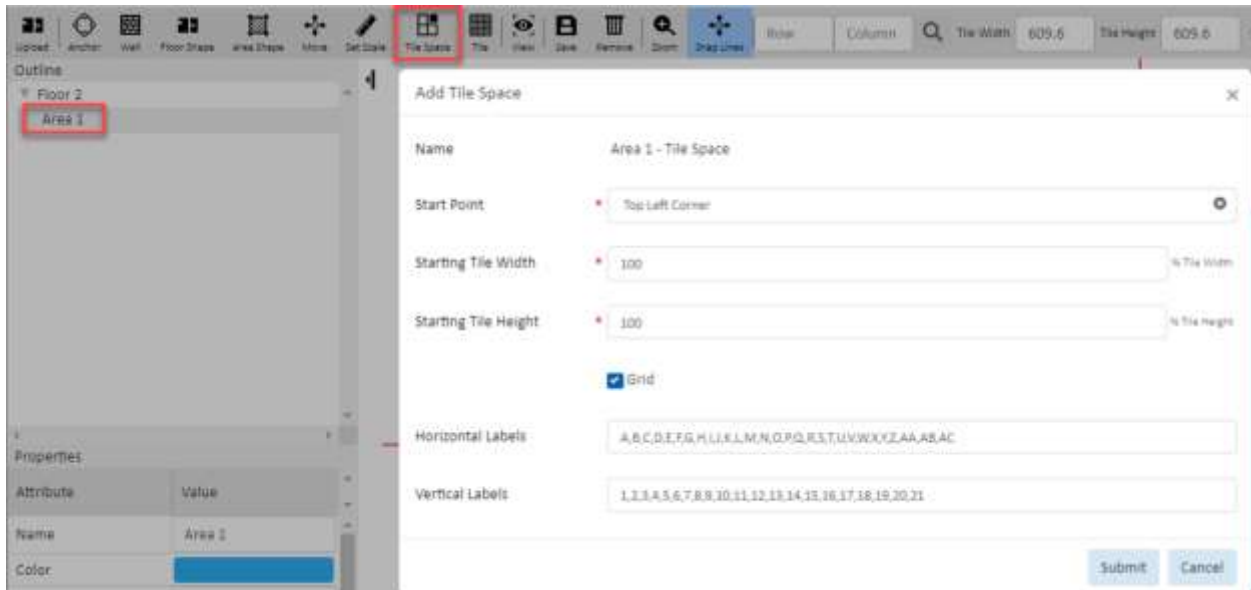
- Start Point identifies the corner where the labels will begin. The default is Top Left Corner but it can be change to Bottom Left Corner, Top Right Corner or Bottom Right Corner.
- Starting Tile Width sets the width of the first tile as a percentage of the full tile's width
- Starting Tile Height sets the height of the first tile as a percentage of the full tile's height.
- Grid checkbox turns the grid on in the selected area.
- Horizontal Labels will by default add letters across the tiles beginning with the letter A and continuing for the number of tiles in the space.
- Vertical Labels will by default add numbers vertically down the tiles beginning with the number 1 and continuing for the number of tiles in the space.

o To change labels select the Area Tile Space item in the outline and edit the Column and Row labels. The labels are entered with a comma between each entry.
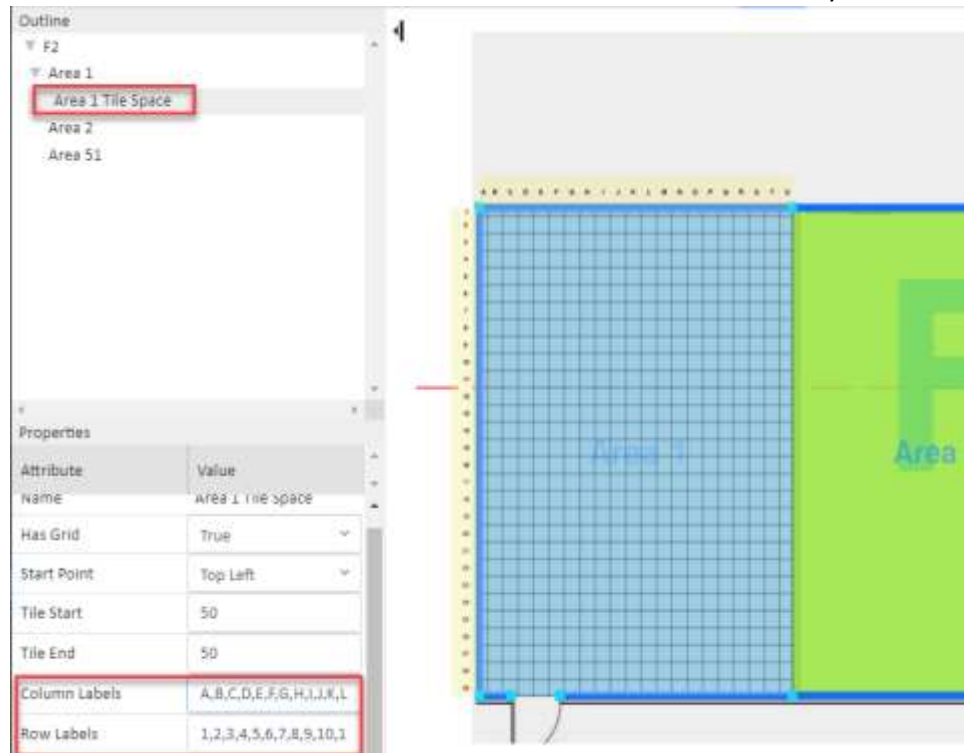
## 19.4.2.9. Tile Icon - Specify Perforated and Common Tiles

Identifying the location of Perforated and Common tiles helps the system accurately calculate the usable/billable floor space and visually keeps users from placing devices on those tiles.

- Select the tiles to be changed from normal tiles
  - o Contiguous tiles - Shift Click to select the first tile then the last tile (tiles turn green)
  - o Non-contiguous tiles - Control Click to select tiles one at a time
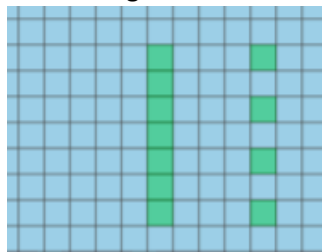
- Click on the Tile icon and select the desired type of tile
  - o Normal - the default tile type, displayed in the default area color
  - o Perforated - displays as a dark gray tile
  - o Turn on Common - displays with an extra border. Common is good for walkways and areas where no devices are to be placed.

o   Turn off Common - used to revert common tiles back to normal
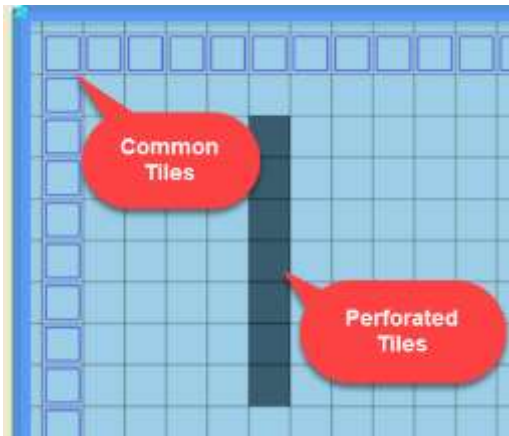
19.4.2.10. View Icon

The View icon allows users to specify which elements will be visible on the floorplan during the design process.
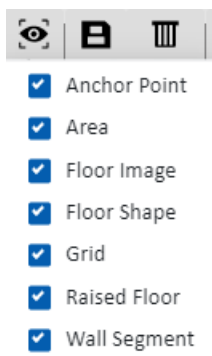
19.4.2.11. Save Icon

The Save icon saves changes to the floor plan.

19.4.2.12. Remove Icon

The Remove icon is used whenever the user wishes to delete selected design elements like anchor points, walls or an element selected in the floorplan Outline. Anchor points and walls turn red when selected. Items in the outline are highlighted gray when selected.

19.4.2.13. Zoom Icon

The Zoom icon allows users to zoom in or out of the floorplan image by fixed percentages.

- The roller ball on the mouse zooms in or out of the floorplan image to any desired view.

19.4.2.14. Snap Lines Icon

When the Snap Lines icon is highlighted green guide lines will appear as new anchor points are being placed and the anchor points will snap to align.
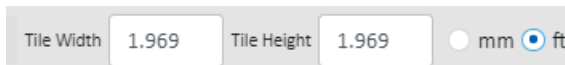
19.4.2.15. Row, Column Tile Search Fields

The Row and Column fields allow the user to enter a grid point and then search. The desired tile is highlighted green.
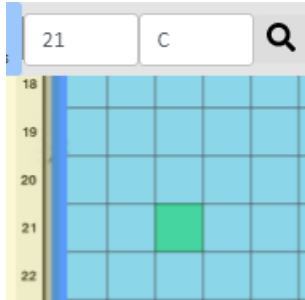
19.4.2.16. Tile Width, Tile Height and Measurement Unit Field

The Tile Width, Tile Height fields and Measurement Unit radio buttons allow users to set the raised floor tile size.

19.4.3. Deploy Function Tile - Placing Devices on the Floorplan

When a floor node is selected, the Deploy function tile displays the workspace where users place devices from the devices list onto floorplans which have been created with the Design function.

The Deploy function tile page has several important features which allow users to easily assign and align devices on the floorplans.

19.4.3.1. Align Icons

Align icons allow users to align multiple devices by one of its edges or center points. Users select multiple devices using the Ctrl key while clicking devices on the floor. The first device selected will be the reference for the other devices. After multiple devices are selected, click one of the Align icons to align all selected devices based on the selected edge or center point feature.

19.4.3.2. Join Icons

Join icons allow users to join multiple devices in a row on the floorplan. Users select multiple devices using the Ctrl key while clicking devices on the floor. The first device selected will be the reference for the other devices. Joining to the Top, Bottom, Left or Right of the last device can be done with single click of the icon.

- If multiple devices are selected the order in which they are selected determines the join order.

- The left, right, top and bottom options are based on the view on the screen view. Top indicates the top of the screen, bottom indicated the bottom of the screen, etc.

19.4.3.3. Rotate Icon

Rotate icon will rotate all selected devices the number of degrees entered or selected.

19.4.3.4. Set Height Icon

Set Height icon allows users to set the height of a device off the floor. Users can place devices above the floor or under the floor with a radio button selection while running this function. Multiple devices may be selected while performing this function.

19.4.3.5. Save Icon

Save icon saves all changes from the floorplan to the navigation tree. Devices placed onto the floor will be assigned the location attributes and will be changed from Available to Operational device status.

19.4.3.6. Remove Icon

Remove icon will remove all selected devices from the floorplan.
Note: This will not delete the device from the application device list.

19.4.3.7. Zoom Icon

The Zoom icon allows users to zoom in or out of the floorplan image by fixed percentages.

Note: The roller ball on the mouse zooms in or out of the floorplan image to any desired view.

19.4.3.8. Adding Devices to Floor

19.4.3.8.1. Device List

Users can add existing devices to the floorplan with an easy drag and drop action from the Devices tab list on the left part of the page. By default, the list shows Available devices, but the user can elect to show All devices or just the devices in the Current Location. Using the filter tool users can further refine the list.
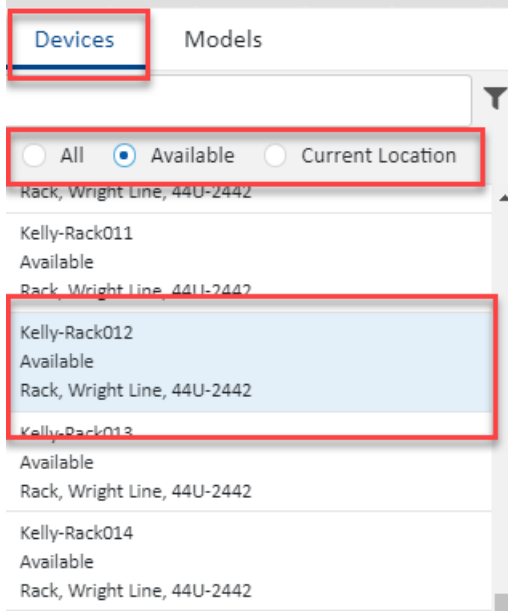
Multiple devices can be selected from the navigation tree using either the Ctrl or Shift keys. After selecting devices, drag and drop the devices onto the floorplan.

Note: Device must be highlighted before dragging. Click left mouse button to select (item turns blue), then click left mouse button again and hold to drag to position on the floor.

By default, the selected devices will be added to the floor in a joined row in the order they were selected. Once on the floorplan, the user can move the devices manually or use the icons at the top to help update alignment or join order in the layout.

19.4.3.8.2. Models List

Users can add new devices to the floorplan with an easy drag and drop action from the Models tab list on the left part of the page. By default, the list shows the entire model library. Using the filter tool users can further refine the list.
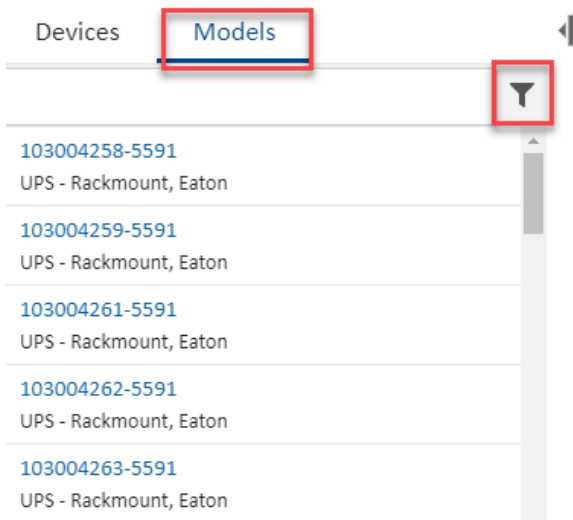
When the model is released on the floorplan the Add Devices By Model form opens. Enter the new device's name and select a device group. Enter a quantity, if more than one of the devices is desired. The devices are added to the floor and if the quantity was more than one, the additional device names will be appended with parenthesis and a number.

20. Server Admin Interface

The Server Admin Tool is a built-in Web-based administrative tool to allow administrators to perform the following tasks without interacting with the command line console. This can help bypass the command line requirements for customers who may have issues with security of command line access or customers who lack basic command line skills. This tool runs independently from the main application, so it does not need a valid license activation key to be applied to the application server prior to running this tool.

20.1. Accessing the Server Admin Tool

Once the admin server tool has been installed it will be running on port 80 and is accessible via a web browser interface. The URL used to access the Server Admin Tool is the ApplicationURL followed by /ServerAdmin as shown below:

http://ApplicationURL/ServerAdmin

For example, http://application.domain.com/ServerAdmin will open the admin tool in a browser where the application is installed on a server.

- The default access information is user = admin and password = Monit@r#1 .

20.2. System Status

The System Status module provides basic information about the server and allows users to manage the application processes.

System Status

System Version: VDCPatch-181110-C-6.00.00000	Physical Memory Used: 78.10 % (7.2GB)
Operation Status: Running	Swap Used: 14.50 % (740.6MB)
Uptime: 7 Hours 13 Minutes	Application File Storage: 10.48 % (4.6GB)
Current Load Average: 1.62 , 0.91 , 0.85	Database Storage Usage: 0.09 % (42.6MB)
Current Users: 2	Backup Storage Usage: 3.77 % (1.7GB)

Stop Processes | Start/Restart Processes

Attribute	Definition
System Version	Current version of the Product instance
Operating Status	Operating status of the current instance based on number of processes
Uptime	Amount of time the since the server was last rebooted
Current Load Average	Load Average on the server
Current Users	Number of users logged onto the server
Physical Memory Used	Amount of physical memory used
Swap Used	Amount of swap spaced used
Application File Storage	Percentage and Size of the /opt/VDC directory

Database File Storage	Percentage Size of the Database
Backup Storage Usage	Percentage Size of the /opt/VDC.BACKUP directory

20.3. License

The License module provides basic information about the license and allows users to manage the license.

Attribute	Definition
Current License File	Filename of the current activation license key on the server
Start Date	Start date for the use of the activation license key
End Date	End date for the activation license key
FMA Total/FMA Allowed	Number of licenses used compared to the number of licenses enabled in the license activation key

Button	Definition
Generate License Request	Produces and downloads a license request to the user's computer so users can request an activation key for the application
Upload License File	Uploads an activation license key to the server
Update License	Completes process of adding a license to the server (placing, restarting processes, setting permissions, etc)

20.4. Patches

The Patches module allows users to view the server's patch history.

Attribute	Definition
Applied Patches	Shows a list of the patches that have been applied to the system
Download Patch History	Downloads the patch history onto the user's computer

20.5. Email Server Settings

This function allows users to manage the mail delivery settings for the application. There are multiple email delivery functions in the application which will utilize these settings. If there are reasons to manage each of these mail delivery features with separate mail settings then please use the vdctools feature to configure them individually. Configurations defined on this page are implemented without the need to restart processes or reboot the server.

Note: The form is always blank, it does not show the current email server settings. Those are visible in the file /opt/VDC/.conf . Users should only use the cat command to read the file and not edit.

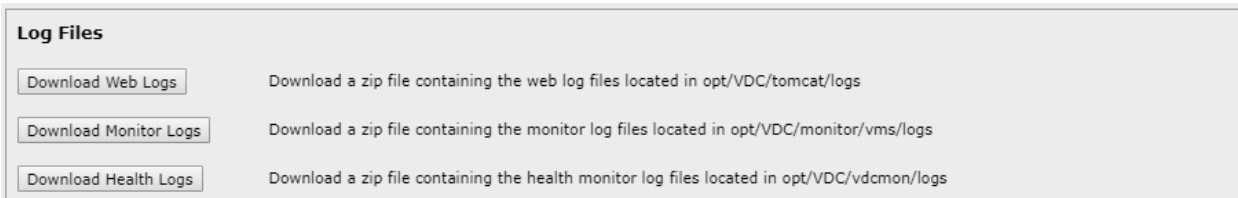| Field	Definition
Host	IP Address or hostname of the SMTP mail delivery server.
From Email Address	The From address to be used for delivery of all messages to end users.
Auth	SMTP Authorization setting for the use of the SMTP server.
Username and Password	If SMTP Authorization is required then provide the user and password needed to connect to the SMTP server to deliver the messages.
To Email Address	Destination address for all internal server admin messages logged by the vdcmon process which will monitor health of the application servers. Only one recipient or distribution address can be configured in this setting.
Test Configuration	Test configuration option allows users to verify the settings are working by providing a test recipient for the test email to be delivered. Choose the Verify button after the recipient is defined to test the mail delivery.
Verify Button	Check Test Configuration before clicking the Verify Button.
Submit	Saves changes to the mail settings. No restart of processes or reboot of server is required to enable these settings for all mail delivery features in the application.

20.6. System Health Check

Executes a specific diagnostic health check designed for the server admin interface. The output is downloaded to the user device for review and submission to support.

System Health Check

Execute Healthcheck Tool   Execute and domain the results of vdchealthcheck
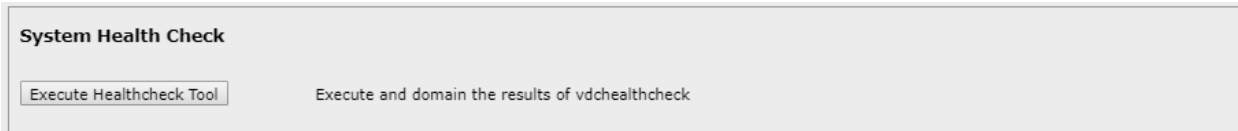
20.7. Log Files

 Three separate log file archives are created for submission to a support team for troubleshooting purposes. The log archives are as follows:

- Web log files - /opt/VDC/tomcat/logs
- Monitoring process log files - /opt/VDC/monitor/vms/logs
- Self health tool log files - /opt/VDC/vdcmon/logs

Log Files

Download Web Logs   Download a zip file containing the web log files located in opt/VDC/tomcat/logs

Download Monitor Logs   Download a zip file containing the monitor log files located in opt/VDC/monitor/vms/logs

Download Health Logs   Download a zip file containing the health monitor log files located in opt/VDC/vdcmon/logs

20.8. Troubleshooting

TroubleShooting

Execute Diagnostic Tool   ☐ Full Scan   Execute and download the results of getsupport (under the Full Scan mode, it may take more than 10 mins)

Execute Diagnostic Tool - Runs the /opt/VDC/bin/getsupportinfo command.

- No option checked runs getsupportinfo with the quick option.
- Full Scan option runs getsupportinfo and can take 15 minutes or more
- Output is sent to local downloads folder
- Logfile getsupportinfo.log.bz2 is a compressed file and must be uncompressed to open.

Note: The full scan log is approximately 45MB when uncompressed, the regular log is approximately 25MB.

The getsupportinfo tool can also be run at the command line. See the getsupportinfo Tool chapter in the Admin Guide for details and other options.

20.9. Change Password for Server Admin User

There is only a single user provisioned to the Server Admin tool which is the admin user. It is highly recommended that the default password for this interface is updated immediately following installation. On the top of the page, users can enter a new password in the Set Password field and select the Submit button.

Set Password : [＿＿＿＿＿＿＿]   Submit | Logout

If the password is lost or forgotten, please consult the Administration Guide to find the tool needed to reset the password using a server console command.