



IT & OT Asset Management

Identify and monitor Information Technology (IT) and Operations Technology (OT) assets throughout their entire life cycle



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Purpose of This Document

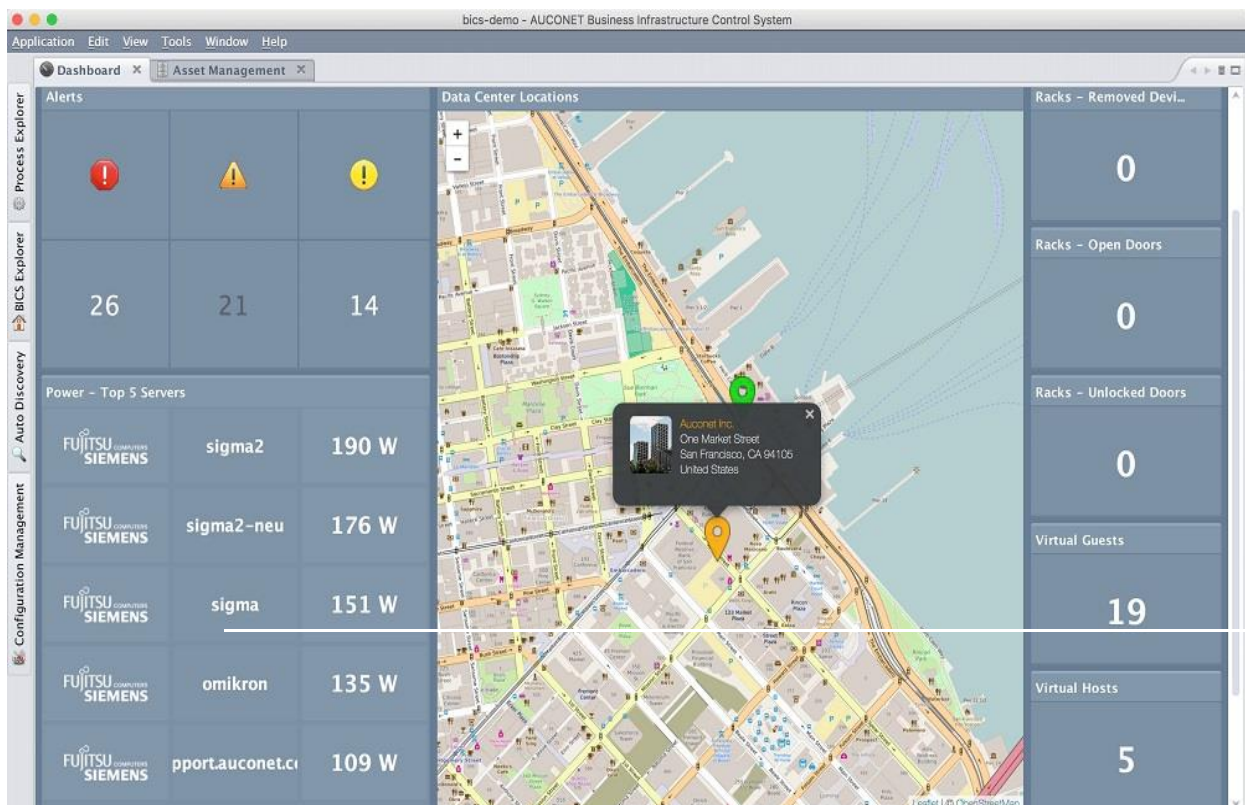
This document is a high-level introduction to the Asset Management capabilities and features of Auconet Business Infrastructure Control Solution (BICS) for IT and industrial control networks.

It provides prospective BICS customers with an understanding of the overall integration, approach, and capabilities of BICS, including features that are unique to BICS.

This document is not a tutorial and does not replace the BICS technical documentation. We recommend that prospective customers contact Auconet to arrange a live demonstration via Web. A detailed live demonstration is recommended. Please contact Auconet to arrange a presentation and Q&A for your team.

1. IT & OT Asset Management

Auconet BICS Asset Management module supports real-time management of IT and OT assets and services; first by creating a dynamic CMBD and thereafter always keeping it up to date – and providing a range of views and management capabilities. The BICS Asset Management module is used to identify and monitor Information Technology (IT) and Operations Technology (OT) assets throughout their entire life cycle from the point of acquisition until their disposal. It helps ensure timely maintenance of IT / OT assets and keeps track of changes made to them.



In Auconet BICS, IT Asset Management (ITAM), and its twin for industrial device networks, Operations Technology Asset Management (OTAM), allows improved management of the networked infrastructures. From its initial design, Auconet Asset Management development was guided by the concept of enabling more versatile management of all asset types, encompassing more functions – but with significantly fewer operator and maintenance hours required. Like the other BICS modules, Auconet Asset Management is a full enterprise solution that scales to a million or more devices.

Auconet BICS supports ITIL® processes. Reliable inventory is the essential foundation of enterprise IT and OT asset management. Auconet BICS Discovery discovers and persistently monitors all assets on the network to

ensure that the inventory is accurate and includes all items. Auconet automatically finds new network devices as assets on the network, identifies changes, and delivers a network-wide view that also maps relationships between individual assets. The capability to navigate to any device in the infrastructure, and to view the infrastructure in logical and geographic sections, at different levels, provides a significant increase in efficiency for asset management.

2. Define, Categorize and Edit IT & OT Assets

2.1 Feature Description

- **Provides storage and accessibility for data on IT assets and Operational Technology (OT) assets.**

BICS includes a flexible data model that adapts easily to an organization's specific requirements.

- **Display, filtering, and searching of asset data is covered in the next section.**

2.2 Functionality supporting this feature

- Allows an operator to add attributes (fields) and relationships to Auconet's predefined CMDB structure.
- Allows an operator to define asset categories.

Each object can have a unique category.

- Define relationships between asset categories.

The operator can define the relationships between categories. INSIDE, CONTAINS, CONNECTED TO, LOCATED AT, or INSTALLED ON (for software).

BICS provides several views, including Relationship Tree and Authentication Chain, and list views showing assets contained within an asset, among others.

- Forms to add entries manually.

The operator can define and edit forms that are used in tracking and managing assets, adding new fields and tabs.

- Search and view asset data in lists and in search (spotlight) form.

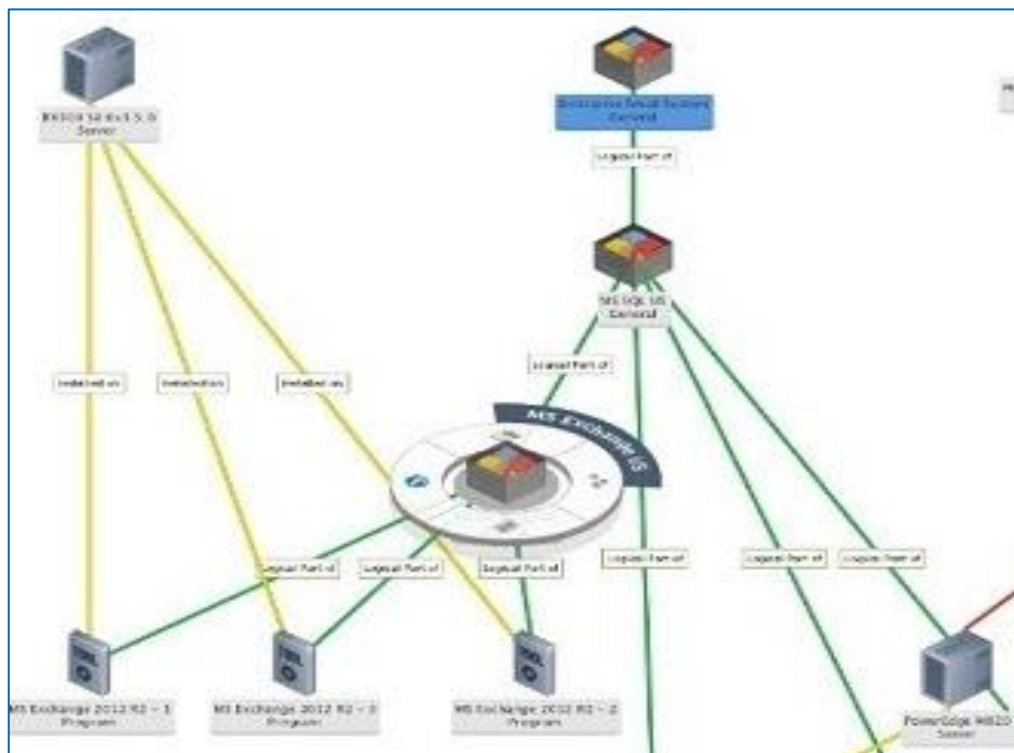
The operator can establish and customize list reports and search forms.

2.3 Defining Types of IT and / or OT Assets

The **Admin** tab is used to define and manage asset categories and their respective attributes. It provides access to **Main Types** and **Subtypes**. You must have the appropriate permissions to add and / or modify **Subtypes** and to modify **Main Type** attributes.

2.4 Attributes of Assets

Each **Main Type** is preloaded with a default set of attributes that are required by BICS to manage assets. The operator has broad flexibility to add and edit attributes to a Configuration Item (CI) or CI Type, such as vendor ID, warranty expiration date, and so on.



We use the commonly accepted term CI, for Configuration Item, to refer to all IT or OT assets – rack, server, laptop, router, switch, SCADA-linked device, or other industrial device or IoT endpoint, that is defined within the BICS Asset Management module.

2.5 Relationships between Assets (CI Types)

IT and OT assets do not exist in a vacuum. Each asset that is active will have relationships to other assets, and can also have a predefined relationship to its location. The relationship can be: Inside, Contains, Connected To, Located At, or Installed On (software). A hard drive has a relationship (inside) to a server, and a server has a relationship to a rack, for example. The BICS Asset

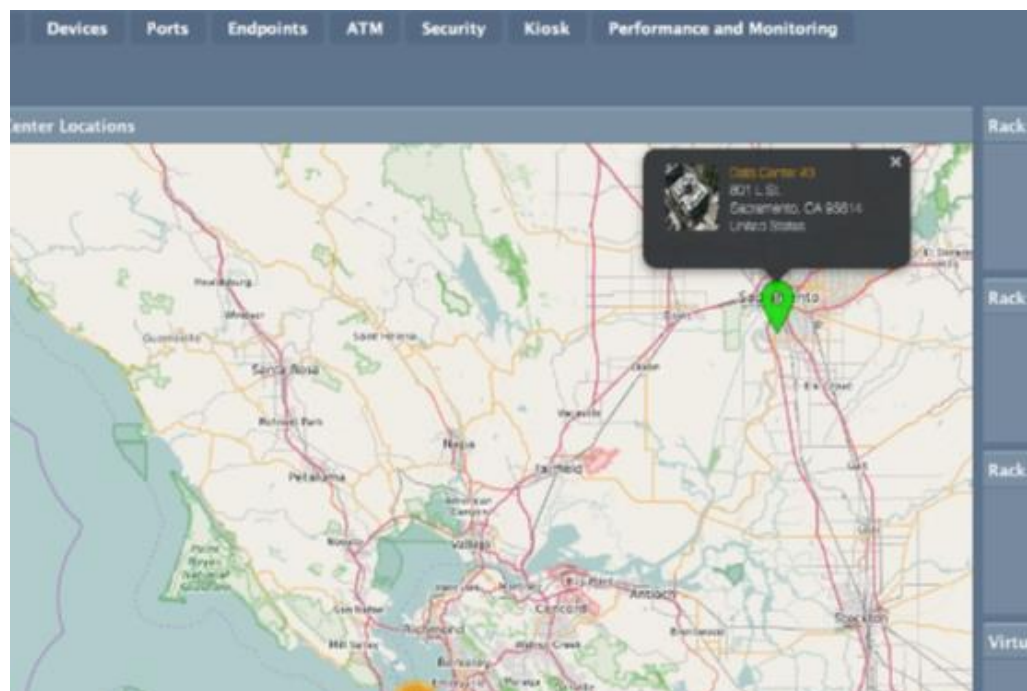
Management module stores and tracks the relationships that every CI has with other CIs.

Devices inherit attributes, such as location, from an asset that contains them. Placing a device (server or switch) within another device (such as a rack) will automatically assign the container device's (rack's) location relationship to the unit being inserted.

2.6 The Physical and Virtual Location of IT and / or OT Assets

The **Location** tab is used to define physical locations that can be assigned to **CIs**. The operator requires appropriate access permissions to add and / or edit Locations.

Locations can be physical or virtual locations. A physical location can be any place such as a city, a district, a building, a data center, or a specific spot in a room. A virtual location can be a data center that may be spread across multiple physical locations.



Auconet BICS Asset Management allows location schemas to be defined according to the preferences of network management staff. The operator can establish new locations, and can attach images of the location to a "location definition," for fast visual recognition and convenience. Images can be helpful in guiding a service technician to or within a remote location.

BICS location widgets identify the physical placement of a device, and the color of the widget pin on the map shows the highest current alarm status of any asset at the location.

2.7 Maps and Location Widgets

BICS provides predefined map widgets for use in building dashboards. The widget marks all locations defined in the BICS Asset Management module. The operator accesses the location maps by using the Map tab.

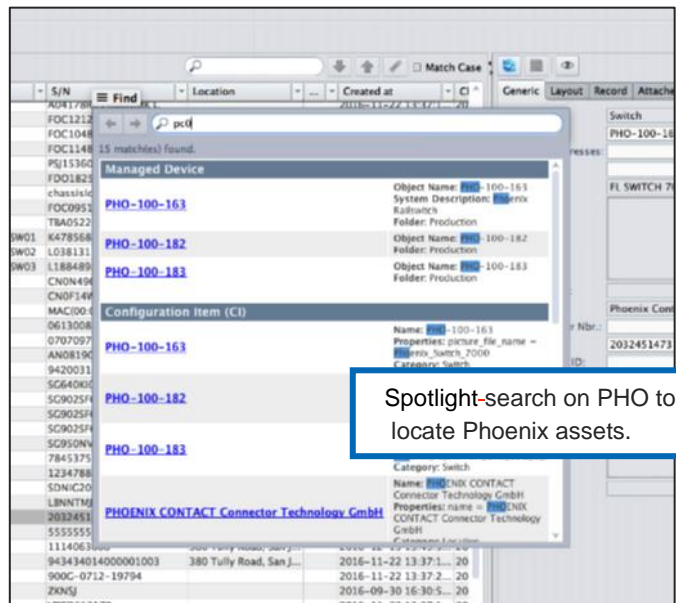
3. Filter, Search, and Report on IT & OT Assets

The BICS client provides several search functions.

3.1 Searching for IT or OT Assets

The Spotlight search function is the principal search capability for finding assets in BICS Asset Management. It uses text-ahead and categorizes findings by category.

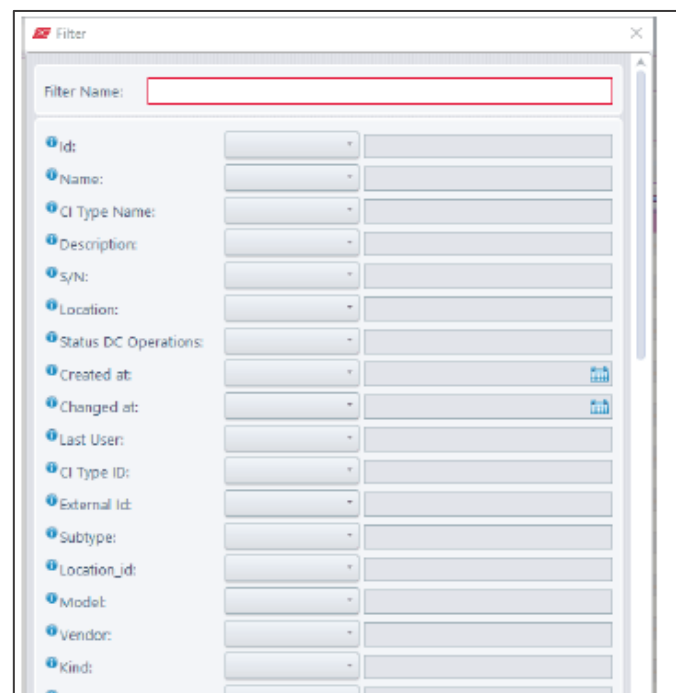
Typing in PHO, for example, will trigger text-ahead to bring up possibilities including all assets that include PHO such as Phoenix.



3.2 Feature Description

- **Filter data on IT assets and OT assets**

BICS includes a flexible data model that adapts easily to an organization's specific requirements. A user can apply filters to search through the data on assets in the CMDB.

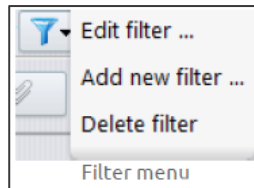


- **Display, search, and report on asset data.**

BICS provides customizable list reports and programmable forms to access and edit data in the CMDB.

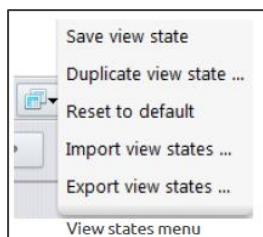
3.3 Filter Options

The user can access the Filter Menu to Edit, Add, or Delete a filter.



When adding a new filter, the operator can specify ranges of data points on any attribute.

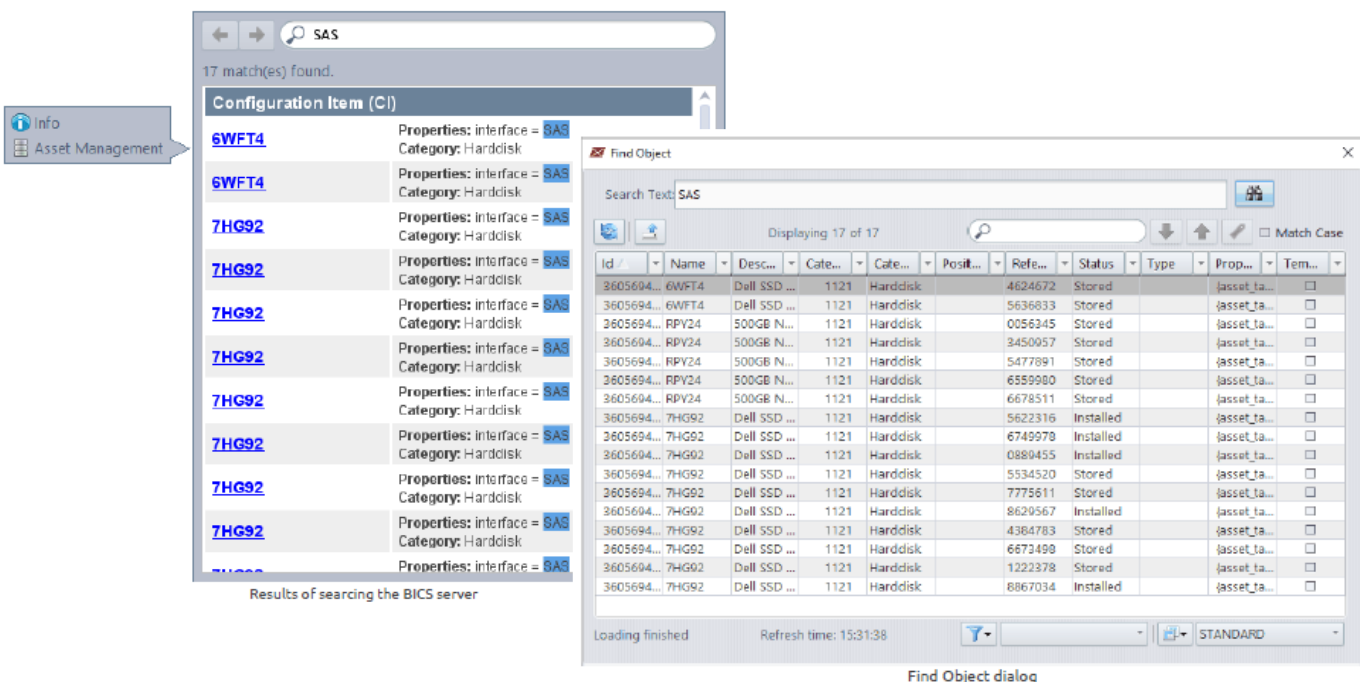
3.4 Filter Views



A filter retrieves data from the BICS CMDB to the BICS client (the operator console). Views can be created to display the retrieved data based on certain table, row, and column settings.

3.5 Drill into Data Retrieved on Assets

From the Spotlight search results, the administrator can switch to a list view and drill into specific devices.



The screenshot shows the BICS interface with a search for 'SAS' resulting in 17 matches. A 'Find Object' dialog box is open, displaying a table of search results. The table columns include Id, Name, Desc., Cate., Posit., Refe., Status, Type, Prop., and Tem. The table lists various Dell SSD and RPV24 assets with their respective IDs, descriptions, categories, positions, references, and statuses.

Id	Name	Desc.	Cate.	Posit.	Refs	Status	Type	Prop.	Tem.
3605694...	6WFT4	Dell SSD ...	1121	Harddisk	4624672	Stored		asset_ta...	<input type="checkbox"/>
3605694...	6WFT4	Dell SSD ...	1121	Harddisk	5636633	Stored		asset_ta...	<input type="checkbox"/>
3605694...	RPV24	500GB N...	1121	Harddisk	0056345	Stored		asset_ta...	<input type="checkbox"/>
3605694...	RPV24	500GB N...	1121	Harddisk	3450057	Stored		asset_ta...	<input type="checkbox"/>
3605694...	RPV24	500GB N...	1121	Harddisk	5477891	Stored		asset_ta...	<input type="checkbox"/>
3605694...	RPV24	500GB N...	1121	Harddisk	6559980	Stored		asset_ta...	<input type="checkbox"/>
3605694...	RPV24	500GB N...	1121	Harddisk	6678511	Stored		asset_ta...	<input type="checkbox"/>
3605694...	7HG92	Dell SSD ...	1121	Harddisk	5622316	Installed		asset_ta...	<input type="checkbox"/>
3605694...	7HG92	Dell SSD ...	1121	Harddisk	6749978	Installed		asset_ta...	<input type="checkbox"/>
3605694...	7HG92	Dell SSD ...	1121	Harddisk	0880455	Installed		asset_ta...	<input type="checkbox"/>
3605694...	7HG92	Dell SSD ...	1121	Harddisk	5534520	Stored		asset_ta...	<input type="checkbox"/>
3605694...	7HG92	Dell SSD ...	1121	Harddisk	7775611	Stored		asset_ta...	<input type="checkbox"/>
3605694...	7HG92	Dell SSD ...	1121	Harddisk	8629567	Installed		asset_ta...	<input type="checkbox"/>
3605694...	7HG92	Dell SSD ...	1121	Harddisk	4364783	Stored		asset_ta...	<input type="checkbox"/>
3605694...	7HG92	Dell SSD ...	1121	Harddisk	6673490	Stored		asset_ta...	<input type="checkbox"/>
3605694...	7HG92	Dell SSD ...	1121	Harddisk	1222378	Stored		asset_ta...	<input type="checkbox"/>
3605694...	7HG92	Dell SSD ...	1121	Harddisk	8867034	Installed		asset_ta...	<input type="checkbox"/>

4. Single-Pane-Of-Glass Device View – Navigate and Drill Down/Across

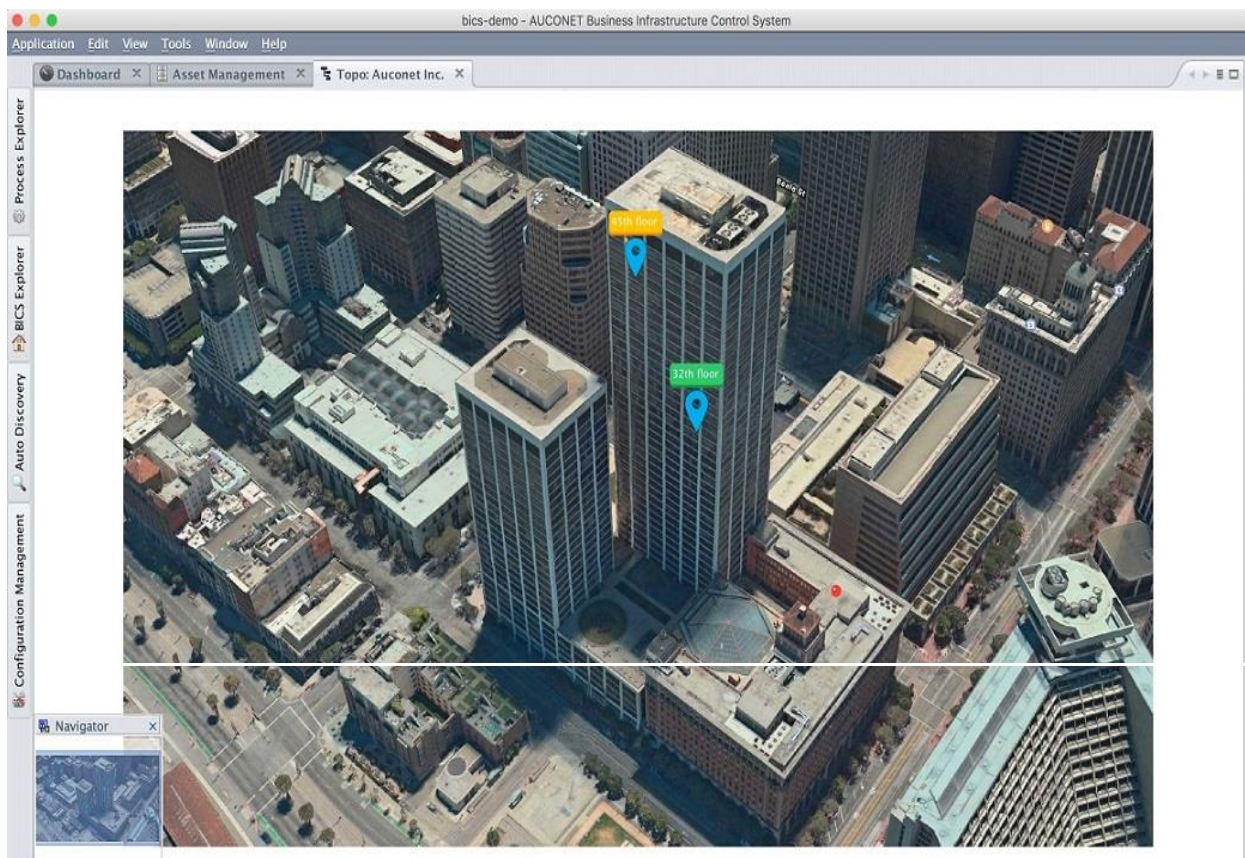
4.1 Feature Description

- Displays IT and/or OT assets in a “world” view that represents asset locations in company facilities on a global, national, state, or regional map.

The operator can navigate north/south/east/west on any level of the map, in the style of Google Earth.

- Additional levels in the asset view include city, building (photographic), data center schematic, rack, server, slot, device, and port

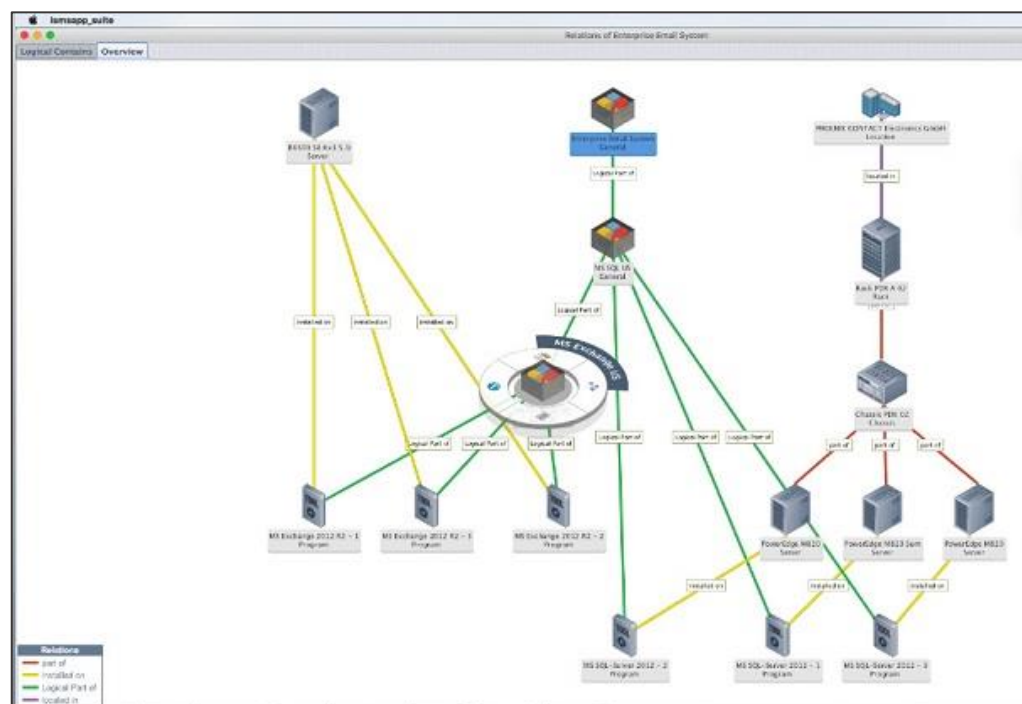
The operator can drill down or up through these multiple view levels. Dashboard widgets can be included in each view.



5. Relationship Mapping

BICS Asset Management discovers and persistently confirms the physical relationships between network devices, including chassis-based systems, switching modules, power supplies, and others. If a switching module is removed from the chassis, the system can issue an alarm to notify the operator.

Auconet relationship mapping distinguishes four predefined kinds of relationships: Inside, Contains, and Uplink, as well as Installed On. For example, switches are *INSIDE* a rail unit, and racks *CONTAIN* servers.

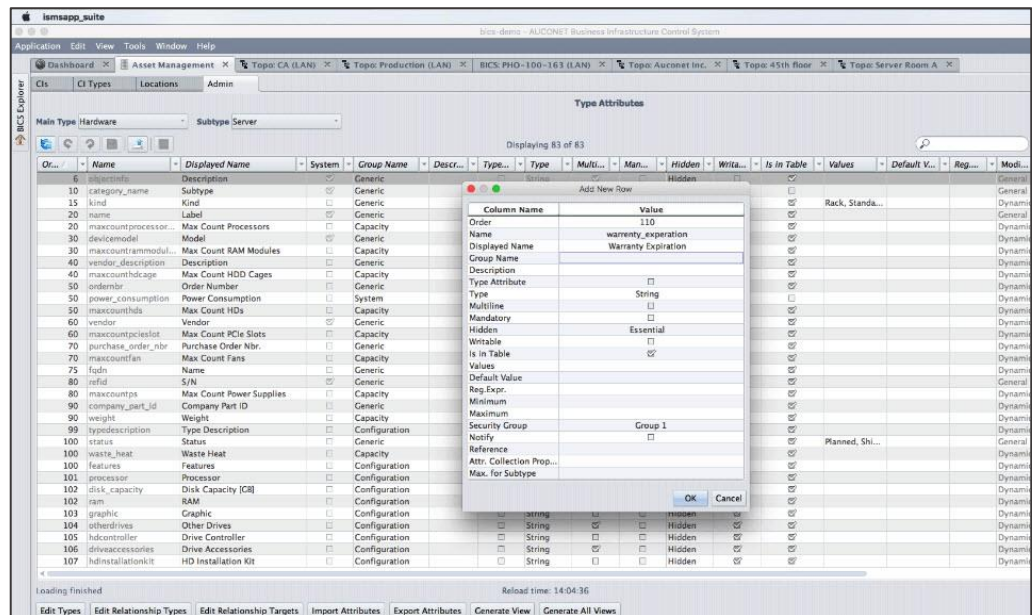


The relationship schematics are dynamic, navigable, and drillable.

6. Append Additional Information to Assets

BICS allows the operator to easily add a field for all CI types, or just for one CI type, such as switches. The ability to append additional information to assets is particularly important if no additional asset management tool is being used. In addition, since Auconet BICS gives the operator the ability to add customized fields, such as purchase information and warranty data, a separate ITAM application may not be needed.

The following BICS screen shows the 'Add New Row function' that the operator can access in BICS Asset Management.



7. Analysis of Power Consumption for Ecological / Green Efficiency

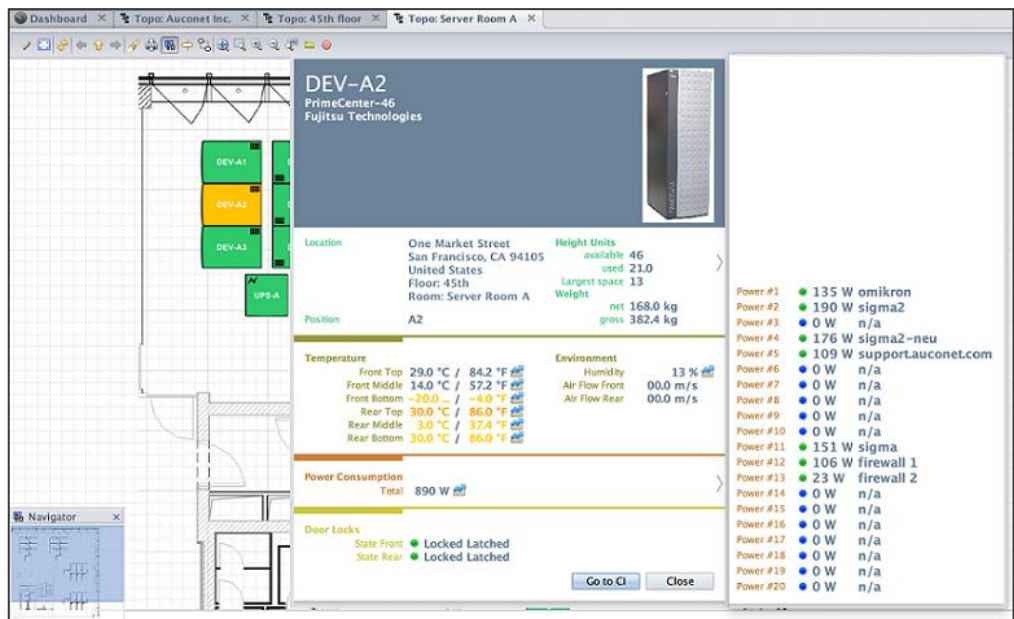
Energy consumption analysis in Auconet BICS works in two ways:

- 1) real-time reading of data from sensors, or
- 2) summing up the power consumption specifications of chassis / switch units and any device with a known power consumption.

For example, BICS tracks the presence and active state of 20 chassis units in a data center, that each consume 900 watts, aggregating to total consumption of 18 kilowatts. If each switch has a sensor for power usage, BICS Asset Management can capture and report that data, and aggregate it to show real-time power consumption, dynamically. The sensor can also be located on the power outlets used by these switch units in a data center. If sensors are not present, BICS can draw data on power consumption for a specifications field in the CMDB, for each device, and add them up for a non-dynamic metric on power consumption. Dashboards can be configured with a wide variety of aggregated power consumption data.

8. Physical Location Tracking

- BICS Asset Management module can store and display the physical location of every wired endpoint device on the network (based on the location of the connected switch).
- Can link to MDM for mobile locations (if allowed in MDM). If mobile device is Wi-Fi, BICS can identify the wireless access point of connection.



9. Compare and Alerts: Changes to the Infrastructure

BICS Asset Management can identify and display changes in the infrastructure from one point in time to another.

10. Auditing of IT and OT Assets

BICS Asset Management can provide a range of reports that support auditing procedures. It can quickly generate reports showing:

- All serial numbers of last year purchases (just need to add the purchase date fields and serial number fields).
- The physical location assigned to every item acquired in a given time period.
- The location of an asset with a specific serial number (using the spotlight function).
- Annual server-by-server audits, in which Auconet BICS shows the date of last audit, by filter and group. (Requires added field for audit date).

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About Infraray

Infraray was founded in 1998 by a German engineering team with deep expertise in IT Operation Management. The company provides information technology solutions and offers network management, network security, IT infrastructure management, cloud, network automation, and business infrastructure control solutions.

Infraray BICS is the Next-Generation ITOM platform to control large & heterogeneous enterprise networks. BICS not only provides network infrastructure management for all vendors' devices and endpoints, but also serves as the foundation for a new generation of IT infrastructure management.

Infraray became part of Beta Systems Group in early 2018.

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Infraray GmbH

Stromstr. 5
10555 Berlin / Germany

Tel. +49 (0)30 726 118 0
info@infraray.com