dcTrack™

Proactively Manage, Control Change and Reduce Costs In Your Data Center

Overview

dcTrack is a data center infrastructure management (DCIM) solution providing powerful and intelligent tools for data center automation. dcTrack has been designed from the ground up by data center professionals to provide broad and deep visibility into the data center. It empowers data center managers to plan for growth and change by optimizing their current operations, assets and infrastructure.

dcTrack enables data center managers to maintain accurate views across the entire data center – from servers, blades, virtual servers and applications, to data networks, IP addressing space and cabling, to real-time views of power consumption and heat dissipation, to raised floor space and rack elevations.

Isolating potential problems is fast and easy with dcTrack. End-to-end power and data circuits can be visually and accurately traced while identifying all intermediate circuit points.

dcTrack offers a feature-rich, easy-to-use and intuitive user interface loaded with visualization tools. Significant design effort was directed towards ensuring that all inter-related tasks are executed from a single screen. Built-in intelligence, rules and automation of common tasks greatly enhance the user experience, thus reducing user workload.

By using dcTrack's workflow and change management, data center managers are better able to enforce best practices across the enterprise and meet ITIL framework guidelines.

The result is a single version of the truth of all your data centers that enables you to direct your finite resources towards proactive management of your data centers.

Why Choose dcTrack?

Best Value

- dcTrack offers the simplest licensing of any software in its class. It is based only on the power and network ports defined in the system
- dcTrack's licensing model allows anyone from anywhere within the licensee environment to manage any number of data centers

Fastest and Easiest User Interface

- Most common interrelated tasks are performed from one screen
- Creating new items is quick and easy. The integration with AutoCAD® makes creating and positioning of a new cabinet on the floor map fast and easy
- Visualization tools are informative and intuitive for technical users and executives alike
- Finding logical and physical relationships and dependencies are just a few clicks away

Best Feature-set on the Market Today

- dcTrack was designed from the ground up to support modern data centers
- dcTrack is unique in its class for support of virtual servers, blade servers and true IP address space management
- dcTrack is also unique in its ability to track power and sum up loads across all three phases of all power sources

Benefits

- Reduce capital spending by optimizing capacity planning and improve power infrastructure provisioning
- Reduce and control energy costs with real-time power usage monitoring and granular power usage breakdown
- Prepare, plan and execute a data center relocation project into a new facility with confidence
- Reduce costs by visualizing the data center floor and cabinet elevations remotely in a lights-out operation
- Reduce costs by eliminating the need to manually trace circuits and connections
- Reduce costs by eliminating the need to run new cables or add new equipment by easily identifying unassigned connections and unused equipment ports
- Plan network, power and cooling requirements by reviewing current loads and future trends

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- Reduce the mean time to repair (MTTR) by accelerating the investigative process to identify the incident cause. Since about 80 percent of incident repair reflects time to track down and identify causes, dcTrack dramatically reduces both time and costs
- Quickly identify user departments and applications that are affected by a server shutdown, a virus attack or a partial power failure
- Control access to data center items by using a robust change management and work order system
- Comply with Sarbanes-Oxley Act and FDA regulations; FDA regulation 21 CFR Part 11 establishes stringent standards for data security, data integrity and traceability

Key Features

Data Center Visualization

- Visualize AutoCAD floor plan drawings in real time without the need for an AutoCAD license or software. Changes made to AutoCAD floor plans are immediately visible in dcTrack
- Visualize color-coded floor plans that summarize low, medium and high utilizations of key data center attributes such as heat dissipation, power usage, weight and rack mounting space
- Navigate interactive hyperlinked drawings for deep visibility of floor space, cabinet front and rear elevations, device images and ports
- Drag and drop network and power port labels on the front and rear images of items to depict their exact physical locations
- Visualize relationships and dependencies between user departments, applications, PDUs, cabinets, servers and networks
- Visualize a group of cabinet elevations based on physical or logical groupings
- Visualize end-to-end power and network circuit maps including all intermediate circuit points
- Visualize PDU and RPP circuit breaker panels. The breakers are hyperlinked to trace the entire circuit downstream identifying all connected items
- Use an extensive visual library of items and connectors depicting equipment front and rear views and attributes such as rack units and weight. Easily add to library by importing manufacturers' free Visio® stencils

Multi Data Center Support

- Manage multiple data center sites regardless of their geographic locations
- Store all sites in one ODBC-compliant, scalable SQL server database

Data Center Asset Management

- Track financial asset information including purchase date, purchase price, department cost center, asset tag and maintenance contracts
- Track physical asset information including rack units, dimensions, weight, manufacturer, model and serial number
- Track logical asset information including function, operating system, administrators and user departments

IP and Network Management

- Manage logical relationships and connections between servers and network switches based on IP subnet addresses
- Define subnets using an intelligent IP address calculator that computes, among other things, the number of hosts in a subnet based on a subnet mask
- Identify VLAN, color code and subnet's physical location based on an IP address
- Manage VLANs by controlling the list of subnets served by each switch
- Assign a new IP address automatically when a server is being moved to a location served by a different subnet
- Configure a server port with multiple virtual IP addresses or implement port teaming for two or more ports
- Manage network switches and ports whether they are stackable or chassis form factor

SNMP Auto-Discovery

- Auto-discover dynamic server attributes such as processors, memory, disk utilization, processes and applications as well as IP and MAC addresses
- Load any third-party MIB, browse it and walk it to determine the exact OID fields to map to dcTrack fields
- Scan the network with maximum flexibility by selecting subnets or IP address ranges
- Use results of the auto-discovery scan to audit existing dcTrack items or use them to populate new items

Servers and Host Devices

- Track and visualize the precise position of network and power ports on the front and rear of servers and devices. Visually track the server rack unit position in the cabinet
- Track server network and power attributes including positions, labels, connector types, protocols, speed, MAC and IP addresses, voltage, phase, rated, derated and actual watts
- Manage all server types including physical, virtual, and blade servers
- Manage virtual server information including clusters, datastore locations, virtual switches and ports
- Automate conversion of physical servers to virtual servers
- Track server applications including their criticality, dependency, user departments and user sites
- Create unlimited number of user fields
- Manage maintenance and support contract information

Power and Environmental Management

- Monitor and track power loads and environmental data in real time throughout the data center including intelligent rack PDUs (power strips), temperature/humidity probes, PDUs, UPS systems and CRAC units
- Monitor power loads of all data center power feeds in order to maintain load balance across all feeds, thus preventing overloads during feed shutdowns or failures
- Manage power loads to achieve a balanced load across all three phases and sources
- Manage power loads in rack PDUs down to branch circuit fuses
- Determine the power loads at any point in the circuit path. The power readings are available for rack PDUs, power outlets, breakers, breaker panels, PDUs and UPS systems using derated values and actual readings where available
- Track electrical busway distribution systems including busway modules, circuit breakers and receptacle types with granular and graphic detail
- Visually manage PDU and RPP redundancy and diversity feeding cabinets and racks
- Receive alerts when power is being exceeded at any point upstream in the circuit path
- Define and manage the CRAC units' zones of influence and track location of perforated raised floor tiles

Data Cabling

- Track and manage virtually any cable infrastructure topology: centralized or distributed network racks, outlet port densities, cabling media, cable labeling scheme, and port color coding
- Track fiber and copper cabling including cable categories and connector types
- Document and visualize cable routes within the data center on the floor plan
- Document cable tray routes, whether under the floor or overhead, and associated cables

Data and Power Connectivity

- Provision data and power circuits using built-in automation and intelligence tools. End-to-end data circuits can be automatically provisioned based on user-defined rules such as color code, VLAN or simply the next available port
- Provision power circuits to maintain best practices. The system will automatically select diverse power sources, maintain balance across all three phases and ensure circuit limits are not exceeded

- Prevent connectivity errors. Alerts are generated if the connections are between two different media types, incompatible connectors, mismatched color codes or other improper practices. Warnings alert the user when a proposed connection requires further attention
- Trace data and power connections by providing information on any item or port in the circuit path. The end-to-end connection trace result is visualized both graphically and in tabular text format

Change Management

- Maintain best practices and improve operational efficiencies by using a well-defined change management process
- Enable data center users to generate change requests to be reviewed and approved by authorized data center managers. Request forms support moves, adds and changes (MACs) of assets as well as connections and disconnects of power and data cabling
- Generate, schedule and forward work orders based on approved requests to data center technicians to affect change
- Send e-mail notifications automatically throughout all stages of the change process to requesters, approvers and technicians
- Maintain a complete history of requests and work orders in compliance with internal and regulatory audit requirements. Time, date and user names of the persons who acted on each request stage are also recorded. Old requests can be archived
- Automate device moves using built-in intelligence tools to determine suitable cabinet destination based on available resources. Resources include available rack units, power sources, data cabling, color codes, network VLAN and IP addresses

Library

- Extensive library of the most popular data center items including blade servers, physical servers, network switches, SAN switches, rack PDUs and many other items
- Library includes front and rear images, physical specifications and the manufacturers' recommended power supplies and network ports
- Extensive library of the most popular power and network connectors. Out-of-the-box and customizable rules for mating connectors
- Easily edit and add items to the library or synchronize with future updates

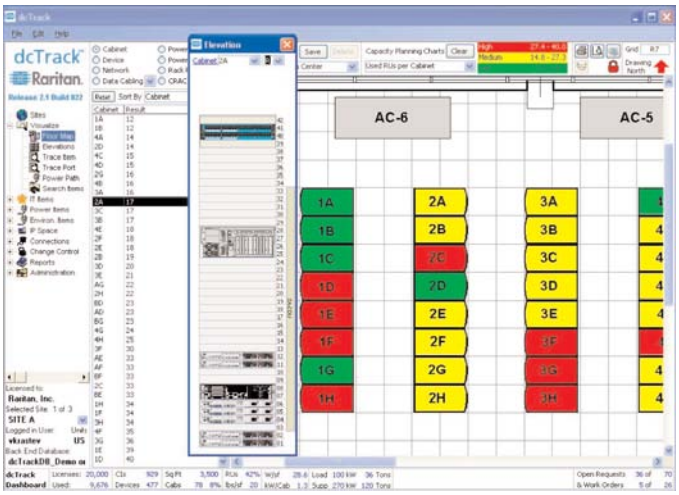
Administration

- Utility to import user data in bulk from spreadsheets. The utility can be customized to allow for the import of non-structured spreadsheets by mapping spreadsheet column headings to specific dcTrack fields
- Complete audit trail of item records and fields tracking the user making the change, timestamp, old value and new value of the changed field
- Unlimited ability to add custom user-defined fields in all item screens
- Access servers remotely via remote desktop, telnet and SSH sessions
- Flexible search features allow exact or partial matches on any field. Search results can be easily exported to Excel® or text files
- Dropdown lists are customizable by the administrator
- Security features limit user access by administrator-defined four access levels

Key Screenshots

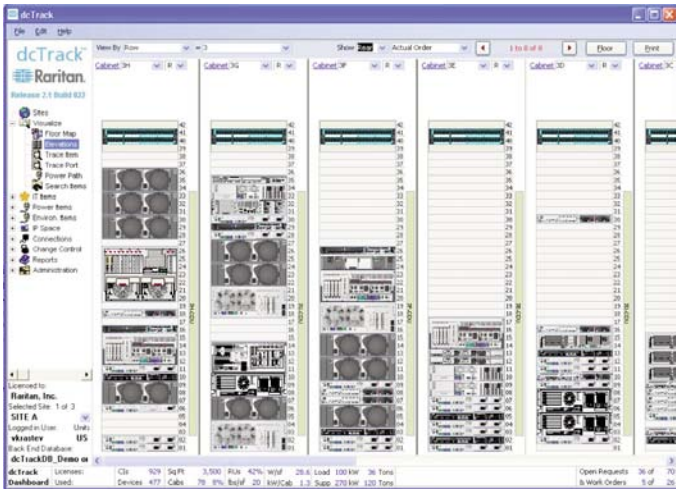
Visualize Floor Map

The data center floor map is linked in real time to the AutoCAD floor plan. Any changes made to the CAD background are immediately visible and recognized as new objects in dcTrack. dcTrack users can define their own custom views for quick access to their resources. A management dashboard offers several color-coded charts to easily view heat and power load distributions as well as data network and cabinet resources throughout the data centers.



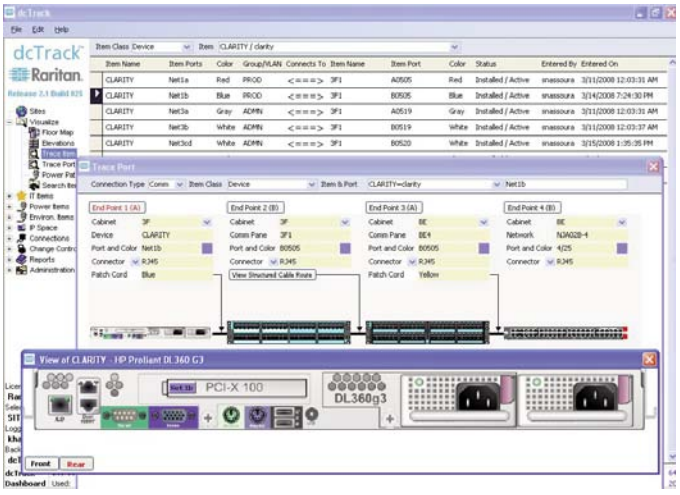
Visualize Cabinet Elevations

dcTrack provides a quick and simple method for data center managers to visualize a group of cabinet elevations on a single screen. Cabinets can be grouped by physical adjacencies such as data center rows or logical groupings based on cabinet content. With another click, the elevation views can be changed to front, rear or descriptive text views. Whether viewing the cabinet row from the front or rear, the cabinet left to right order can be set to match actual order or alphabetical order.



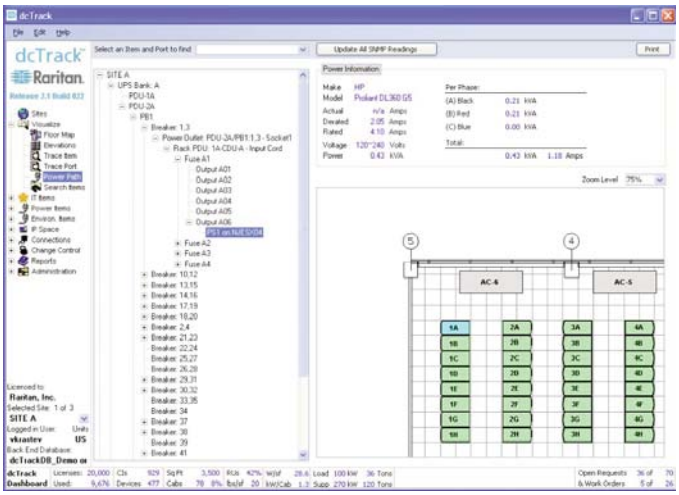
Visualize Item and Port Trace

Once the cabinet elevation is visualized, dcTrack provides extensive views to drill down on item and port details. By simply clicking on an item in the cabinet view, a detailed image of the item is presented depicting all ports with dynamic labels. This image can be changed to front or rear views with a single click. The end-to-end circuit map of a port is visualized by clicking on a port label for further drill down.



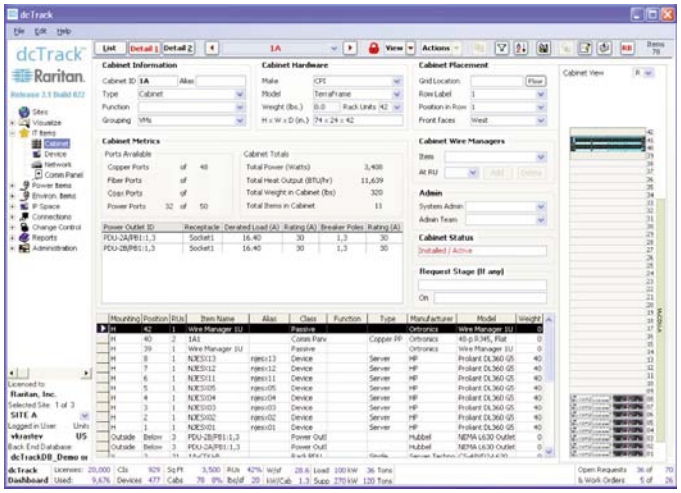
Visualize Power Path

dcTrack offers a unique tool to visualize the full electrical circuit dependency beginning with the data center power source downstream to the rack PDU receptacle. dcTrack automatically calculates the power load at intermediate points in the electrical circuit path including UPS, PDU, breaker panel, outlet, power strip and power strip branch fuses. The PDU and related cabinet will be highlighted on the floor plan.



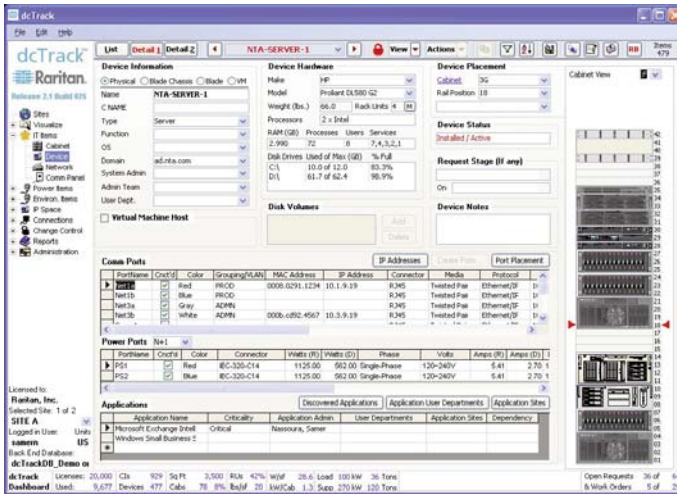
Cabinets

In this screen, the user manages the cabinet location assignment and can easily and quickly view its contents both visually and in text format. This eliminates the need to maintain separate drawings in third-party applications such as AutoCAD or Microsoft Visio®. This screen provides a quick summary of the cabinet's network and environmental metrics such as network ports, power usage, heat dissipation and weight.



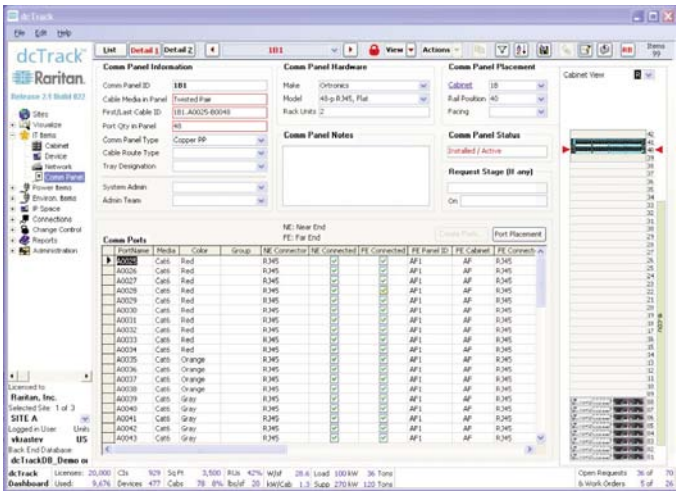
Server and Network Items

These screens allow the user to view, edit and add server and network items. From a single server screen, dcTrack can support standalone servers, blade servers and virtual servers. The user can assign an unlimited number of network and power ports and applications to each device, which can be instantly visualized on the device front and rear views. Built-in intelligence will allow the user to assign IP addresses and VLANs from available networks as well as assign color codes.



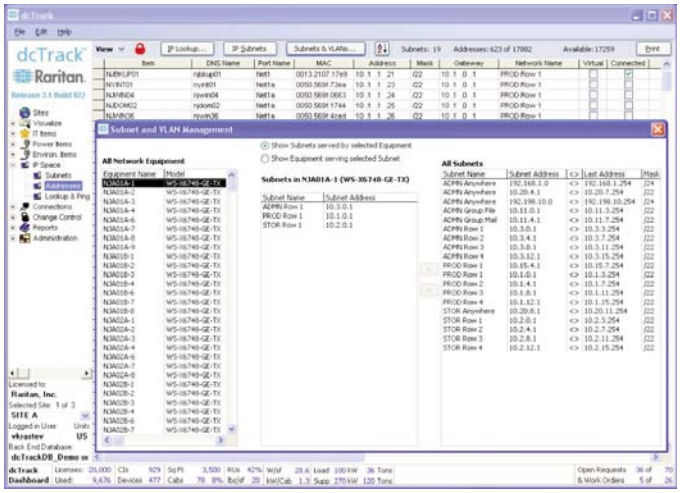
Data Cabling Items

In this screen, the user can manage the cable infrastructure as it is installed in the data center. dcTrack supports all known cable types, connectors and topologies. It supports various design architectures such as distributed and centralized topologies. The system is flexible to support and manage real-life labeling scenarios. Cable panels can be any size and can be assigned to any rack unit or to positions above or below the cabinet. Horizontal wire managers are also supported.



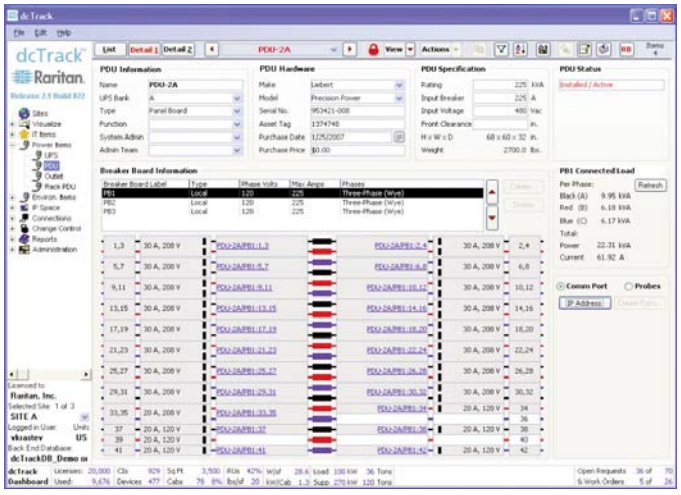
IP Address and VLAN Management

dcTrack simplifies IP space management in the data center thus eliminating cumbersome and error-prone spreadsheets. It defines subnets using an intelligent IP address calculator and assigns each subnet a name, a location, a VLAN number and color codes. Then it assigns subnets to switches to manage VLANs. Remembering subnet ranges and default gateways with complex subneting is a daunting task. Let the IP query identify the subnet and its details for any IP address with ease.



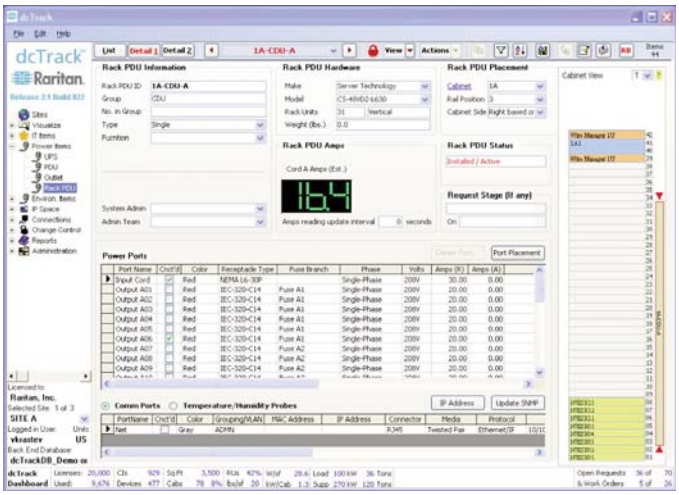
Power Distribution Management

dcTrack is unique in that it offers complete management of the power infrastructure in the data center. Power management begins with the UPS power feeds. It handles virtually any power distribution design, whether it is PDUs or RPPs, whether it is homerun distribution or overhead power busways, or whether it is single phase or three-phase sources and loads. This screen helps visualize the circuit breaker panel as it exists in the PDU. This is critical in keeping all three phases in the data center balanced.



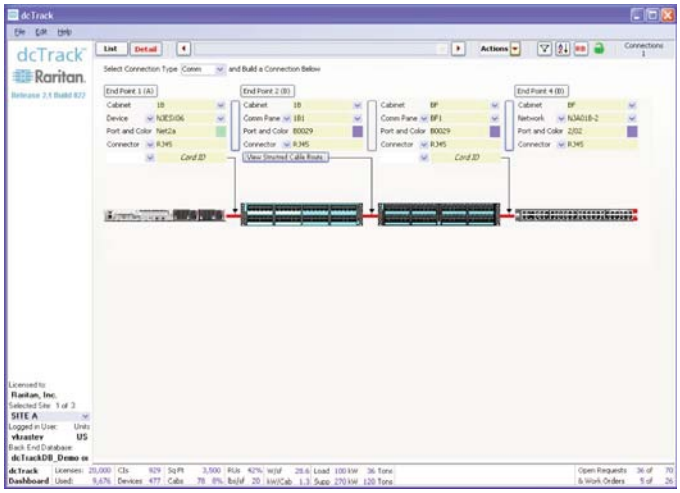
Power Outlets and Power Strips Management

dcTrack offers advanced power management to help data center managers achieve maximum efficiency in power consumption. Real-time SNMP plug-ins allow users to capture actual power draws, temperature and humidity from smart power strips. dcTrack is also capable of tracking power strip branch circuit fuses. Users have maximum flexibility in tracking virtually any power strip attribute: voltage, phase, plug type, port density or mounting position.



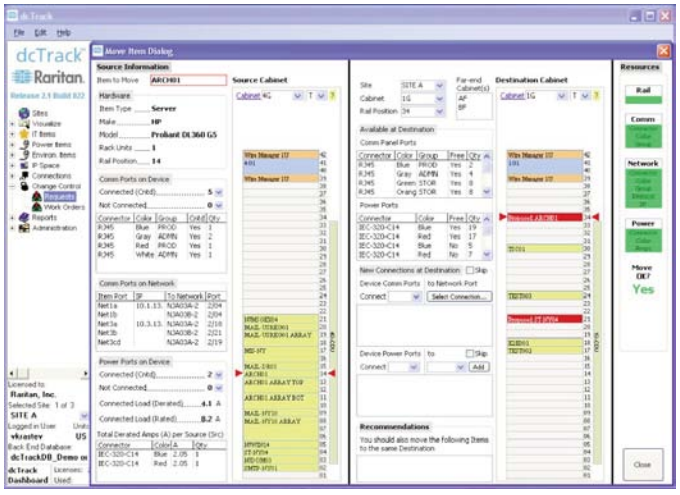
Automate Data and Power Connections

Once items such as servers and network equipment are assigned, dcTrack's built-in intelligence and automation tools simplify the building of relationships between these items. Whether it is a single or multi-hop connection, whether it is a network, SAN, point-to-point or power connection, dcTrack can build these end-to-end connections based on user-defined rules. Such rules can include IP subnets, VLANs, cable color code, cable labeling and power circuit diversity.



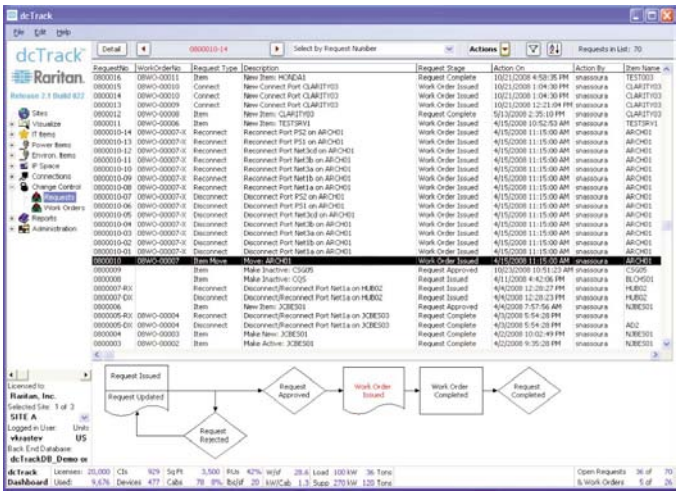
Automate Move Management

When moving a device or a server from one cabinet to another, a chain of related tasks occurs. dcTrack's built-in automation tools do the hard work. The process begins by suggesting a suitable cabinet that has sufficient rack unit space and power resources. Additionally, based on user-defined rules, it will guide the user in finding the optimal network resources such as IP subnet, VLAN and cable color code. Disconnect and new connection work orders are then automatically generated.



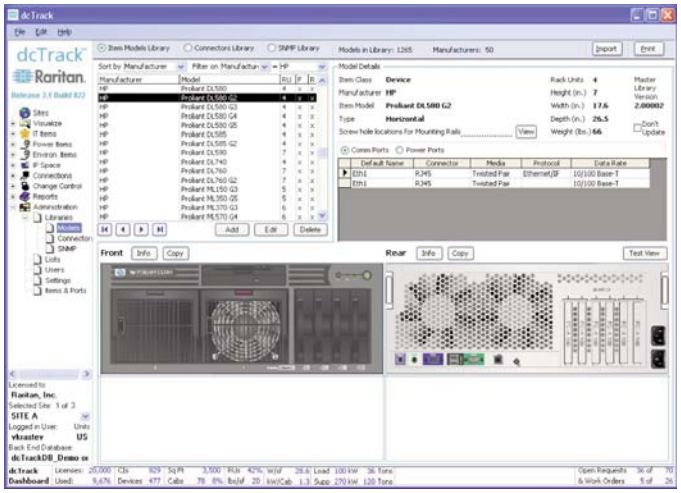
Change Management

dcTrack change management offers a clear and well-defined workflow to support and enforce best practices throughout the data center organization. Any significant change such as adding, deleting or moving an item requires the user to follow a structured request process. Once requests are reviewed and approved by dcTrack's gatekeeper, then work orders are issued to affect the requested change. Each step in this process is tracked by date, time and user name for future audit trail.



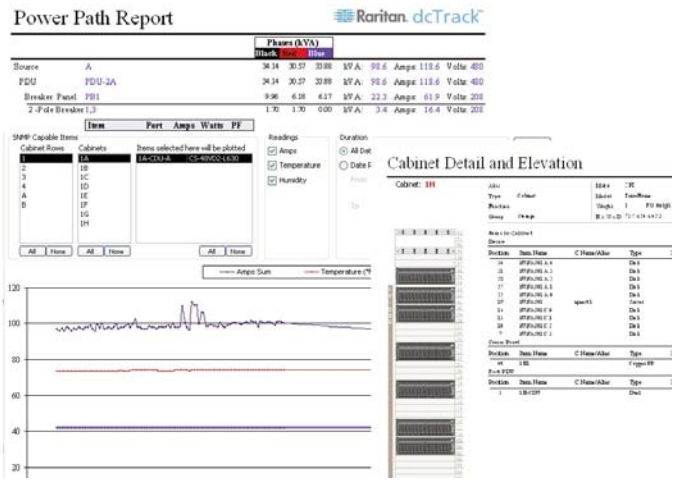
Library

dcTrack comes loaded with an extensive visual library of items including servers, hosts, network equipment, PDUs, power strips and data cabling panels. It also includes a comprehensive library of power and data connectors. Each item comes ready with attributes such as manufacturer name, model, size, rack units, power draw and heat dissipation. It also includes front and rear views of each item. Users can also edit and add items to the library as needed.



Reports and Search Utilities

dcTrack includes many valuable and well-laid out reports that include text and graphics to provide system details and environmental capacity metrics for proactive and effective management. The reports' user interface has a comprehensive filtering and sorting utility. The search and trace utilities provide quick methods for looking up items or connections by providing key information about the item or any component of the connection path. The results can be exported to an Excel file.



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