

# Features and Benefits

dcTrack™

## Benefits

- ▶ Get control of your data center assets by knowing what you have and where, and how they are connected in a single solution.
- ▶ Reduce unplanned outages and related costs by visualizing the data center's power and cooling allocation and adjusting to prevent hot spots
- ▶ Maximize utilization of existing capacity to defer new builds and capital expenses
- ▶ 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
- ▶ Automate provisioning to eliminate manual processes to reduce operating expenses
- ▶ Support green data center initiatives to reduce energy and optimize cooling to save energy and increase reliability with real-time power usage monitoring and granular power usage breakdown
- ▶ Quickly identify user departments and applications that are affected by a server shutdown, a virus attack or a partial power failure
- ▶ Improve management of data center moves, adds and changes by using a robust change management and work order system
- ▶ Comply with Sarbanes-Oxley Act EU Code of Conduct and FDA regulations; FDA regulation 21 CFR Part 11 establishes stringent standards of data security, data integrity and traceability

## Features

### 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
- ▶ Can connect sites via structured cabling, i.e., a user can create a patch panel in site A with the far end panel in site B

### 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

<b>SNMP Auto-Discovery</b>
<ul style="list-style-type: none"><li>▶ Auto-discover dynamic server attributes such as processors, memory, disk utilization, processes and applications as well as IP and Mac<sup>®</sup> addresses</li></ul>
<ul style="list-style-type: none"><li>▶ Load any third-party MIB, browse it and walk it to determine the exact OID fields to map to dcTrack fields</li></ul>
<ul style="list-style-type: none"><li>▶ In the SNMP MIB Library, a user can map SNMP OIDs to customer-defined dcTrack fields</li></ul>
<ul style="list-style-type: none"><li>▶ Scan the network with maximum flexibility by selecting subnets or IP address ranges</li></ul>
<ul style="list-style-type: none"><li>▶ Use results of the auto-discovery scan to audit existing dcTrack items or use them to populate new items</li></ul>
<b>Servers and Host Devices</b>
<ul style="list-style-type: none"><li>▶ 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</li></ul>
<ul style="list-style-type: none"><li>▶ Track server network and power attributes including positions, labels, connector types, protocols, speed, Mac and IP addresses, voltage, phase, rated, derated and actual watts</li></ul>
<ul style="list-style-type: none"><li>▶ Manage all server types including physical, virtual and blade servers</li></ul>
<ul style="list-style-type: none"><li>▶ Manage virtual server information including clusters, data store locations, virtual switches and ports</li></ul>
<ul style="list-style-type: none"><li>▶ Automate conversion of physical servers to virtual servers</li></ul>
<ul style="list-style-type: none"><li>▶ Track server applications including their criticality, dependency, user departments and user sites</li></ul>
<ul style="list-style-type: none"><li>▶ Create unlimited number of user fields</li></ul>
<ul style="list-style-type: none"><li>▶ Manage maintenance and support contract information</li></ul>
<b>Data and Power Connectivity</b>
<ul style="list-style-type: none"><li>▶ 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</li></ul>
<ul style="list-style-type: none"><li>▶ 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</li></ul>
<ul style="list-style-type: none"><li>▶ 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</li></ul>
<ul style="list-style-type: none"><li>▶ 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</li></ul>

<b>Data Center Visualization</b>
▶ Visualize AutoCAD® and Visio floor plan drawings in real time without the need for licenses or software. Changes made to AutoCAD or Visio 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
<b>Data Cabling</b>
▶ 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
<b>Power and Environmental Management</b>
▶ 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
▶ Group and manage UPS and CRAC units in banks and define redundancy levels within each bank
▶ 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 graphical 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

**Change and Work Order 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 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

**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

<b>Library</b>
▶ 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
<b>Administration</b>
▶ Utility to import user data in bulk from spreadsheets. The utility can be customized to import 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
▶ Can define custom fields that contain URLs, which can launch web pages or programs
▶ 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 <sup>®</sup> or text files
▶ Dropdown lists are customizable by the administrator
▶ Security features limit user access by four administrator-defined access levels