

















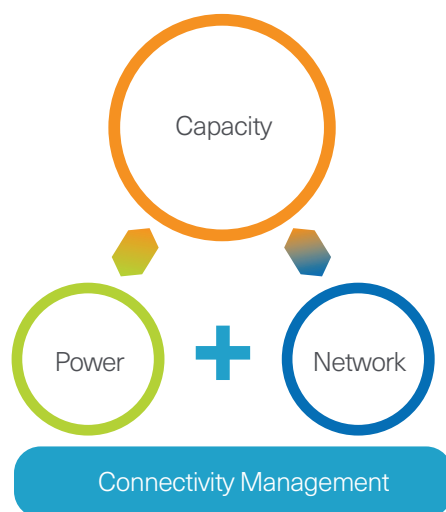




# The New Truth in Data Center Management

## Sunbird's dcTrack – Asset, Change, and Intelligent Capacity Management

Sunbird's DCIM solution offers all of the features and benefits of a basic DCIM and much more with its intelligent capacity management capabilities.



Intelligent Capacity Management is a capability unique to Sunbird's DCIM solution. The key components of Capacity Management are; visibility, intelligent search, place and reserve, along with connectivity management. Connectivity management has two sub-components; power management and network connectivity management.

Capacity Management transforms an already powerful DCIM solution with basic capacity management capabilities into one with enormous additional performance and financial benefits. Capacity Management provides complete visibility into your data center capacity, the ability to control all critical relationships within capacity, and the insight to make intelligent capacity plans about the future.

Capacity Management will not only help you optimize your data center planning but more importantly allow you to better manage, on a real-time basis, your resources through its connectivity management capabilities involving full power chain management and network connectivity management.



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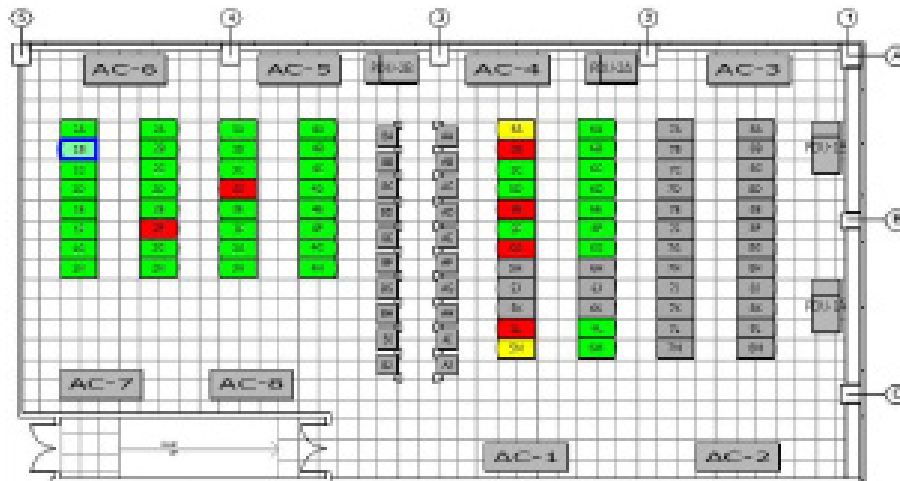
Capacity Management has sophisticated visualization, analysis and reporting so that you can achieve the following:

- Visualize
  - How much you have
  - Where you can deploy new IT equipment
  - How you can better utilize equipment
  - When it will run out
- Find available power, space and network
- Search, place and reserve IT equipment
- Capacity trend and forecast
- Make informed capacity planning decisions

The benefits of capacity management are enormous – by carefully managing and utilizing existing capacity, you can defer costly equipment purchases, delay new builds and make full use of your existing resources. By evenly balancing power, cooling and space, you can avoid stranded and fragmented resources. You’ll make use of your data center assets, minimize capital expenditures and put an end to the constant reorganizations to free up resources.

### Visualization Example: Coordination of Space, Power, Cooling, and More

Floor Map: The dcTrack floor map view is created from AutoCAD or Visio floor plans. CAD drawing changes are immediately visible and recognizable as new dcTrack objects. Customers can use multiple color-coded charts to view heat, space, weight and power load distributions.





# The New Truth in Data Center Management

## The Connectivity Management Component

Data center managers often think of capacity planning as just being about physical space and power at the rack, things that you can manage with Microsoft® Visio and Excel Spreadsheets. In reality, capacity planning should correlate a number of additional attributes that will require you to have a comprehensive DCIM solution to perform. Power Chain Management and Network Connectivity Management are elements of Capacity Management and provide that extra level of correlation. Combined they create an entirely new DCIM solution capability called “Connectivity Management.”

### What Is Connectivity Management?

Connectivity management encompasses two areas – full power chain and network connection management:

- Full power chain management is the ability to track the data center power path from the UPS to the PDU to the Branch Circuit to the Rack PDU to Outlet the Load. It tracks power capacity, nameplate, actual load, connector type and color code at each power connection point
- Network connection management tracks from the device NIC to switch to the patch panel to the structure cable to the router to the uplink. It tracks connections usage or availability, protocol data rate connector type, and color code

### Why Is Connectivity Management Important?

A dynamic data center will have frequent adds, moves, and changes. Each of these actions in a high density environment requires you to answer the following questions – What is the impact on my power chain? Do I have available power and network connection capacity? Full power chain and network connection management provide fast, accurate answers to these and other questions which greatly reduces time and increases the reliability of making changes in the data center. It budgets power the same way an electrical engineer would, only the calculations are done in real time by the system before you make the change. This just might save you from overloading and faulting a branch circuit.

Have you ever needed a fast, accurate answer for the following question? – “How is this connected?” This question is frequently asked just after a service incident when time means money. You can improve your ability to respond to incidents by ensuring that you have your full power chain and all network connections documented for easy access to aide in tracking routes. You can search by Cable ID and display full connection paths with one click. Color code labels allow for easy identification in the troubleshooting and service-restoration process.

Most data center managers are tasked with getting the most out of the existing facility. This means uncovering all stranded capacity before you spend the millions of dollars to build a new facility. Full power chain and network connection management plays an important part in finding stranded capacity. By tracking power capacity and actual load at each point in the power chain you know exactly how much load you can add to each circuit. No need to strand capacity by over-engineering.



# The New Truth in Data Center Management

## How Can Connectivity Management Benefit You?

Connectivity Management is part of a DCIM solution that offers a modern, easy to use web interface with intelligent guidance for creating power and network connections. This will save you time in making moves, adds and changes within your data center.

End-to-end power chain management gives you the ability to budget power at every connection point and the calculations are done instantly eliminating manual calculations and possible human error. It also prevents you from overloading a power circuit, and a visual trace route helps you reduce troubleshooting time and ultimately improves all important data center uptime. You also have the ability to view nameplate, budgeted and actual power (when metered) at every connection point. This provides the added advantages of helping you increase capacity planning accuracy and reduce unused power, which lowers PUE.

Virtual to physical network connectivity is a powerful component that provides the capability of connectivity of your physical devices to the virtual host. This is important for IP management, network color coordination, troubleshooting, planned outages, and building redundancy into your network to ensure availability. Having the ability to generate a visual trace route of the network chain is like that of the power chain and it also helps reduce troubleshooting time by gaining a perspective on the circuit to determine problems.

Intelligent search and place capabilities will correlate space, power, cooling, and connection resources and this will help you improve your data center capacity utilization. You have the ability to cable pathway from origin to termination when only the cable ID is known.

## Connectivity Management Benefits Summary

- Circuit overload prevention
- Reduced troubleshooting time
- Improved data center availability
- Increased capacity planning accuracy
- Reduction in unused power
- Increased capacity utilization

## Sunbird's DCIM: Intelligent Capacity Management Application Examples

Data Center Visualization, Reports – Reclaiming Capacity. For all new DCIM users, for the first time they will be able to have point-and-click access to visualize and identify every physical asset in the entire data center; i.e. where each rack is located, what device is installed in each rack elevation, how each device is powered and connected in the network. This visualization alone offers managers a new perspective and confidence to understand what they have and what low-hanging fruit is available for improvement – empty open rack space, excess PDU capacity, and network connections. DCIM tools will also enable you to “drag and drop” servers into empty rack space and quickly search for necessary power, HVAC and network resources that are available and avoid possible circuit overloading. Detailed reports provide information on all items present in racks, cabinets and ports with exact information about capacity that will help avoid over- or under-utilization.



# The New Truth in Data Center Management

**Power Consumption/Reduction** – All server manufacturers provide nameplate information on peak power load, a conservative number that will be far greater than actual power requirements. Many data center managers, without automated tools like a DCIM, will use this nameplate data as a guide for server-PDU connection and therefore minimize the number of servers supported within a rack and a PDU, resulting in a significant, unnecessary waste of money and energy. Merely adopting an industry-accepted standard of de-rating nameplate power by 30% and using a DCIM to measure and manage the effect will increase the number of servers supported by a PDU by 37% with corresponding savings in floor, rack and PDU costs while maintaining quality service levels.

**Data Center Expansion, Consolidation Modeling** – Once you have a complete, accurate representation of all data center physical assets, both IT and executive management will have the confidence to establish operational benchmarks, performance goals, and procedures for measuring improvements toward maximizing the use of existing data center capacity. Ongoing DCIM controls and reports will facilitate the alignment of the IT function with the organization's overall business plan, which may result in data center expansion and/or consolidation. DCIM modeling tools with sophisticated "what-if" scenarios enable IT management to "build and layout" the entire data center and then work with executive management to smoothly plan, finance, manage and complete the project.

## dcTrack Product Capabilities and Benefits Summary

### Capabilities

#### Intelligent Capacity Management

- Available power, space and network
- Search, place and reserve IT equipment
- Capacity trend and forecast

#### Change Management

- Workflow for moves, adds and changes
- Approvals and status
- APIs to third-party ticketing

#### Accurate Asset Management

- All data center physical resources and logical connections
- Maintenance and lease information
- Intelligent rack asset strip

#### Energy, Power and Environmental Management

- Accurate view of power usage
- Real-time power and environmental monitoring
- Easily monitor energy trends

#### Visualization

- Dashboard
- Floor plans
- Rack and row
- elevations Power chain
- Network and data ports

### Benefits

- Improved Planning
- Reduced costs
- Increased service levels
- Handle application growth
- Better power and space utilization
- Increased staff efficiency
- Delay capital expenditures
- Eliminate over-provisioning
- Avoid stranded and fragmented resources
- Balance power, cooling and space
- End reorganizations to free up resources
- Circuit overload prevention
- Reduced troubleshooting time
- Improved data center availability
- Increased capacity planning accuracy
- Reduction in unused power
- Increased capacity utilization



# The New Truth in Data Center Management

## dcTrack DCIM Operations: The Rest of the Story

Sunbird's dcTrack solution allows you to create a single data base as the trusted repository of all assets, their attributes and their relationships. It provides the software tools to discover, document, visualize, and report on physical and virtual data center assets – e.g., floor space, racks, servers, PDUs, UPS, panels, storage, network environment and cables.

It includes the automated functions to facilitate building and maintaining the database. It contains the automated processes for all users to manage the entire cycle of all changes with complete audit trails to ensure the continued accuracy of the database. In addition, it has the capability to interface with monitoring tools to collect data on power usage to ensure that conditions for potential system failures (e.g., overloading power circuits) are avoided.

It offers compatibility with any current Microsoft® Excel and/or Visio worksheets so that the setup and transfer of existing information is quick and easy. It has a common data model, cross database integrity and it is open to third-party applications.

dcTrack software contains automated preloaded product libraries for additional setup efficiency with automated calculating capabilities to convert certain data elements into powerful real-time analytics. It provides key dashboard summary data and graphics with the ability to drill down a little or a lot for whatever level of detail is needed at any particular time. It offers a high degree of "visualization" capabilities to instantly see floor plans, physical assets, power chain and network chain connecting points, and to enhance reporting.

dcTrack and Power IQ DCIM solutions are designed to work together. Enter data once in the dcTrack database, and it's automatically populated into Power IQ functionality. Additional assets are automatically uploaded using Raritan's intelligent asset management tags for real-time accuracy and precision down to the 1U level. Immediate alerts occur if an asset is moved, which keeps your data accurate and virtually eliminates costly miscalculations in space and capacity.

Sunbird's DCIM solution virtually allows you to mechanize your world, allows you to mechanize it now, and gives you the ability to meet today's data center challenges. It allows you to be proactive and get ahead of growing future facility and IT needs in data center planning, management, and optimization. Consider this:

dcTrack software offers you the possibility to "Future-Proof" your environment by allowing you to prepare for almost any business scenario related to data center management.

## A Sunbird DCIM Testimonial

*"With dcTrack software we have an up-to-minute picture of capacities in all of our data centers in terms of power, space, networking and cooling. As a result, we are able to track our data center capacity more accurately and assess our infrastructure needs for the future. Before we deployed dcTrack software, it would mean a trip out onto the data center floor to confirm or deny that a server is in a certain location. Now, we can just pull up the asset information on the dcTrack screen and see that server X is located in this rack, in this U; or see that it is no longer a physical server, but is now a virtual server. Accurate asset records have given us a 50 percent gain in efficiency in terms of locating an asset's physical location within the data centers. dcTrack's change management leads us through each step of the process to fulfill a new server request. Once the IT equipment gets delivered to us, we then go do the physical racking, connecting, labeling – and then come back and close out the request in the dcTrack workflow, which notifies LANDesk that the equipment is ready to go. This process makes it easier to make adds and changes, and improves the accuracy of our asset inventory."*

Joseph Keena

Manager of Data Center Operations, **UF Health Shands Hospital**



# The New Truth in Data Center Management

Finally, you will find Sunbird's dcTrack DCIM Operations solution to be financially affordable and flexible with the ability to demonstrate a positive ROI to your organization. It includes the internal analytical tools to accurately calculate the bottom line cost savings with the ability to do it real time, per week, and yearly. It captures your total investment, performs the change analysis that shows savings and completes the ROI and payback period.

## Options to Deploy Sunbird's DCIM Solution

Sunbird's dcTrack and Power IQ DCIM solutions offer you a complete solution that is flexible and future-proof. You can purchase the entire solution for full coverage, or choose what you need right now and add on later.

You can choose to deploy as much or as little as you want, when you want to. The range of data center problems noted above are common in most data centers today. Which problem areas are most critical to your company only you know for sure but you probably have multiple areas immediately in mind that you would like to attack right now.

One reasonable approach then is to do just that and utilize Sunbird's dcTrack solution as part of a pilot to prove a hypothesis around an important business need related to your data center. Because dcTrack software is easy to deploy with module flexibility you can isolate one or more key problem areas to focus on right now. Once you have realized the initial benefits then the ability to expand into other key elements for extended coverage and greater benefit can be realized.

This gives you the flexibility to architect a larger solution after pilot success. Creating a measured upgrade cycle over time would be a logical next step. Gaining the necessary budget approval in advance will be easier because your previous investments would have proven successful in controlling expenses, improving productivity while achieving more reliable service and increased availability.

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# The New Truth in Data Center Management

## The Simple Truth

As we have discussed, Data Center Infrastructure Management software solutions offer data center managers and related colleagues and management with a powerful new tool for dealing with their facilities, IT and network challenges today and in the future. As a data center manager deploying a DCIM solution you can position yourself and your organization to drive significant operational and cost-saving benefits to your company. Now is the time to take advantage of a total DCIM solution offered by Sunbird, Inc., that is easy to use, fully supported, and that has the flexibility to be implemented and adapted to your environment based on your particular challenges and needs. Sunbird offers a simple rack-based licensing model that includes all modules and allows for unlimited users with participation from outside of the data center.

**The simple truth of Sunbird's DCIM solution is that it will help you find the space and capacity you have in your data center and will tell you how all your assets are physically connected so you can know where you have power and if you have enough power. The Sunbird DCIM solution will help you organize all of your assets to achieve new levels in your data center planning, management, and optimization. It will simply make you and your organization more valuable to your company.**

Call 732.993.4476 or visit [SunbirdDCIM.com](https://SunbirdDCIM.com)

Sunbird Software is changing the way data centers are being managed. With a focus on real user scenarios for real customer problems, we help data center operators manage tasks and processes faster and more efficient than ever before, while saving costs and improving availability. We strive to eliminate the complexity they have been forced to accept from point tools and home grown applications, removing the dependency on emails and spreadsheets to transform the delivery of data center services. Sunbird delivers on this commitment with unexpected simplicity through products that are easy to find, buy, deploy, use, and maintain. Our solutions are rooted in our deep connections with our customers who share best practices and participate in our user groups and product development process.

Based in Piscataway, NJ, Sunbird serves over 1,850 DCIM customers worldwide. For more information, please visit [SunbirdDCIM.com](https://SunbirdDCIM.com).

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