

Data Center Infrastructure Management (DCIM) Demystified

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Data Center Infrastructure Management (DCIM) software is quickly becoming the core engine of data center operations. Only 5 years ago, manual spreadsheets, sometimes supplemented with Visio diagrams, were accepted as the default tools for data center management. But the arrival of powerful, yet easy-to-use DCIM solutions has resulted in a 40% CAGR growth in DCIM adoption (sales) with annual revenue now close to half a Billion Dollars.

Since the IT function is so vital to the success of any modern organization, improving productivity, efficiency and reliability of data center operations deliver an immediate competitive advantage to DCIM adopters. This e-book will offer some facts about why this is so and, if not already the case, why DCIM is clearly in your future.

DCIM Market Expansion 2011-2016

(Source: 451 Research Market Monitor)

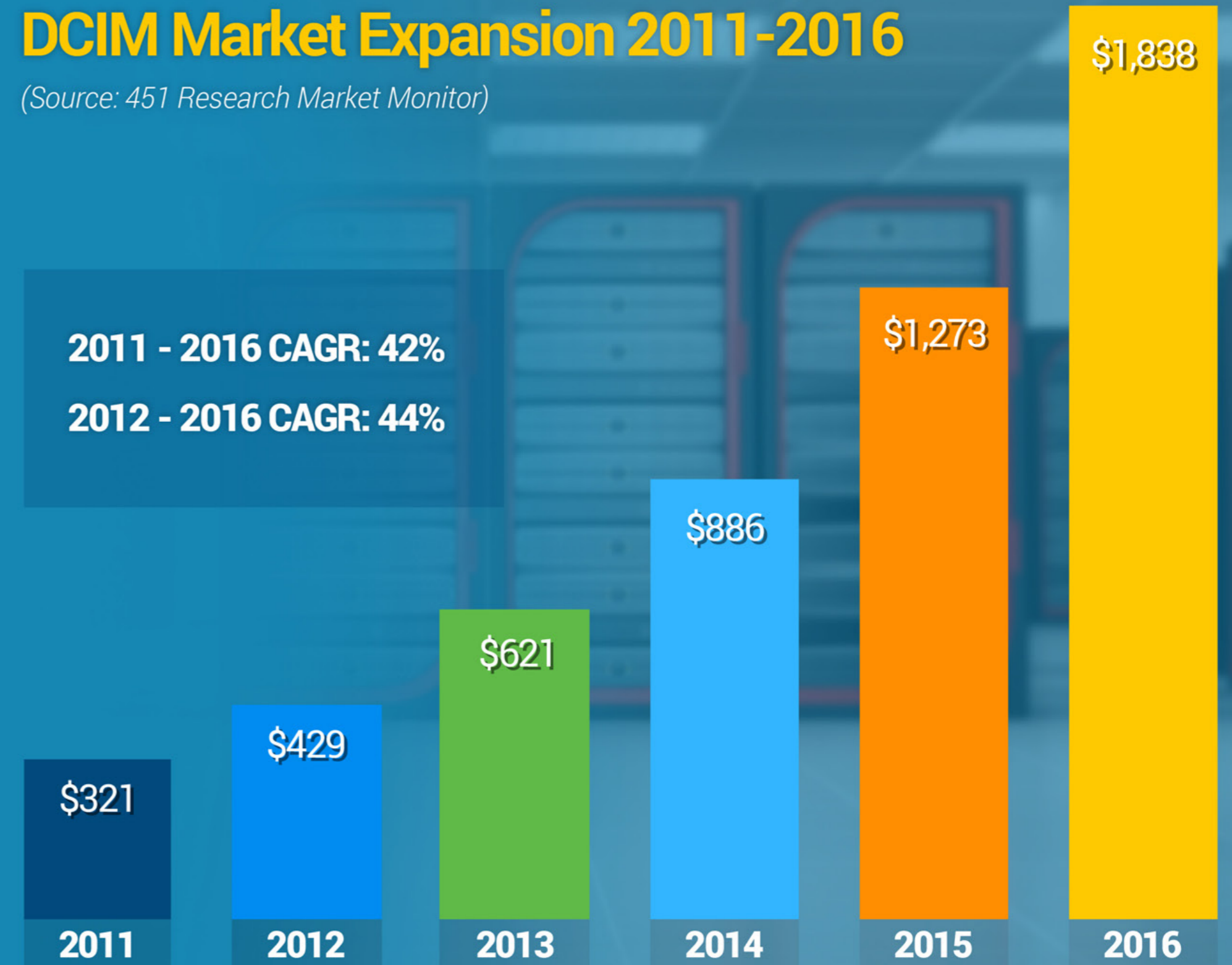


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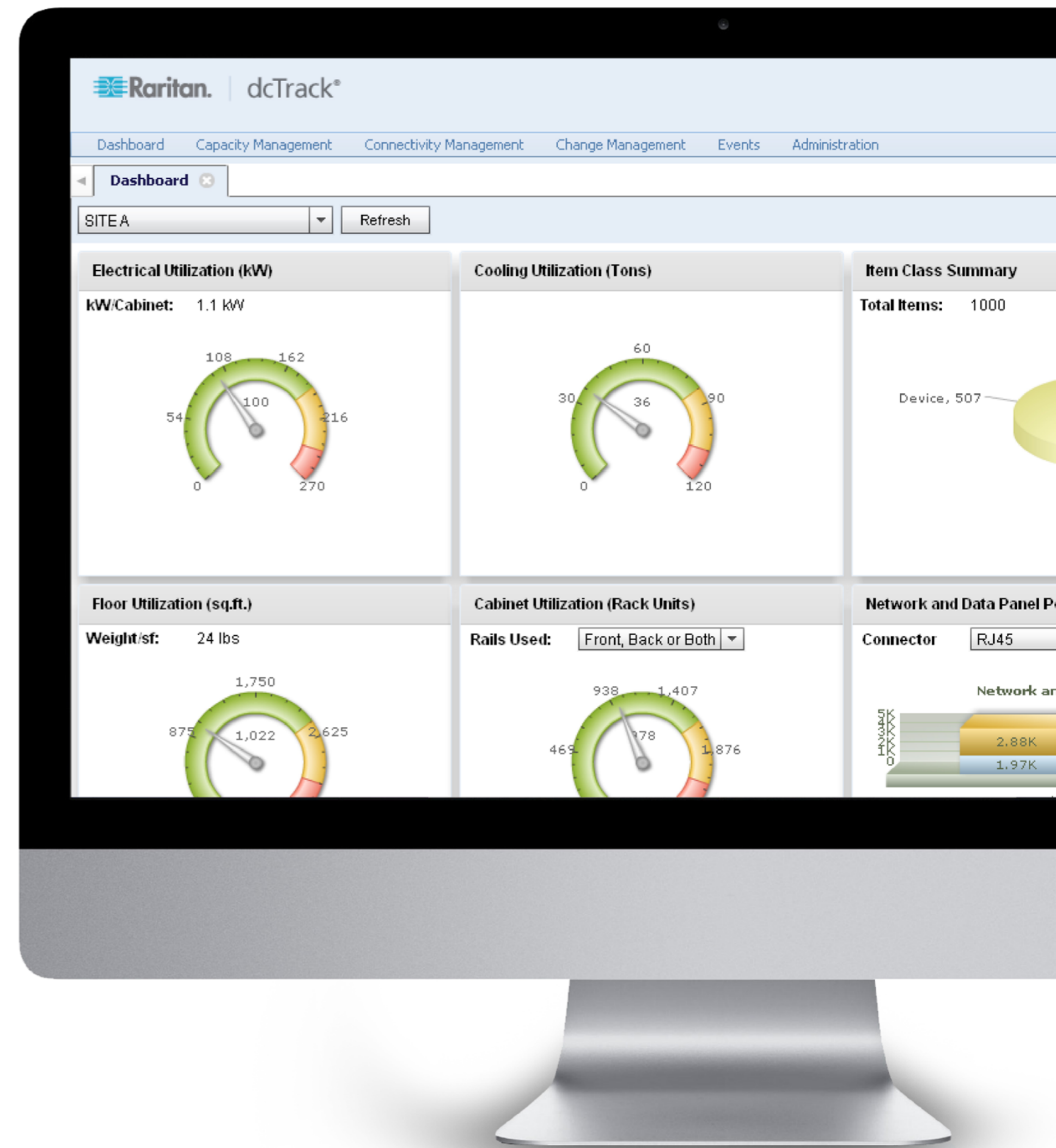


What is DCIM?

The most basic definition is offered by 451 Group: “A data center infrastructure management (DCIM) system collects and manages information about a data center’s assets, resource use and operational status. This information is then distributed, integrated, analyzed and applied in ways that help managers meet business and service-oriented goals and optimize their data center’s performance.”

DCIM is a **new class** of software for a data center that

- ◆ Enables data center operators to efficiently run data center operations.
- ◆ Replaces Excel, Visio, and home grown databases.
- ◆ Bridges information across organizational domains – Data Center Operations, Facilities, and IT to maximize utilization of the data center.
- ◆ Increases data center efficiency, capacity utilization, and operations workflow to save time and money.





Typical Components of DCIM Systems

A DCIM solution provides accurate and meaningful information about your Data Center's assets, resources used, and operational status – from the lowest level in the power chain to the highest level – in an integrated fashion.

A good DCIM architecture has the flexibility to adjust to user needs, makes it easy for the user to do their job, and has the right components necessary to solve real-world Data Center issues. A comprehensive DCIM solution is comprised of components that provide:

Enterprise Class Monitoring

Monitoring for data collection, thresholds, and alerts to accommodate tens of thousands of nodes in the Data Center white space. This includes Intelligent Rack PDUs, Floor PDUs, Remote Power Panels (RPPs), Busways, UPS, CRACs, and environmental sensors.

Complete Inventory Information

Inventory Information from racks, servers, storage, network connectivity, power chain, and applications

Multiple Ways Visualize and Report on Data Center Assets

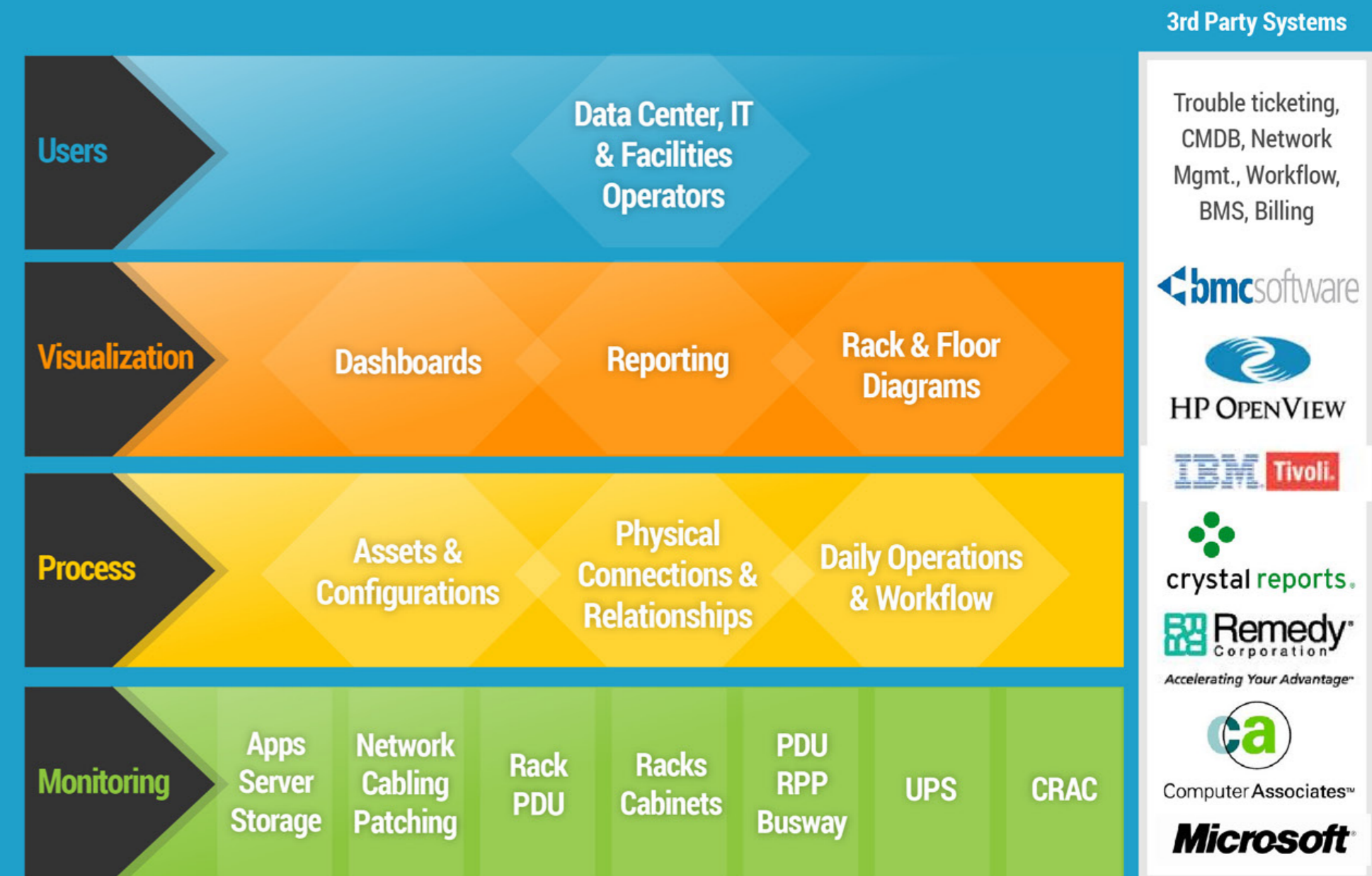
Information can be provided in terms of a dashboard, report, floor plan or rack elevations.

Workflow Management

Processes and relationship mapping to create workflows, quickly and easily understand the capacity at every point in the power chain, and relationships between devices within the data center – what is connected to what and the impact when changes are to be made.

Open Integration Capabilities

Integration Tools such as APIs that enable the integration between 3rd party CMDBs and ticketing systems



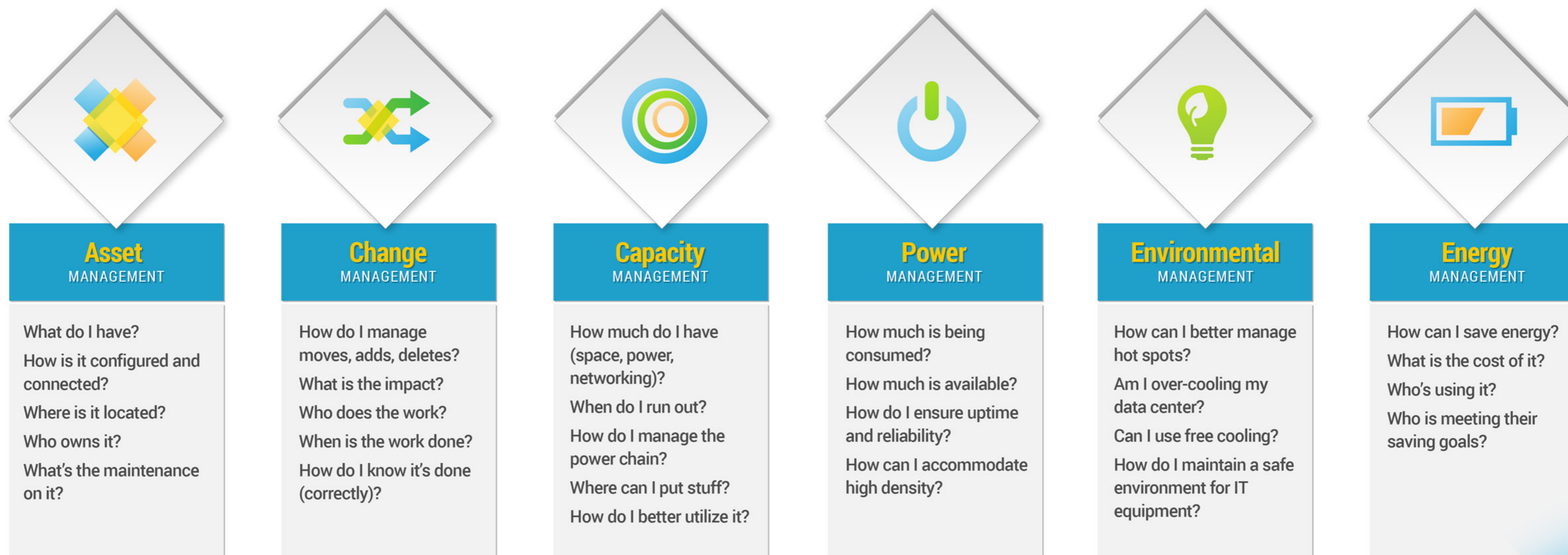


Common Data Center Management Problems

DCIM software solves problems related to gathering information needed to enable Data Center Managers to effectively and efficiently manage the Data Center infrastructure.

Specifically, DCIM enables Data Center Managers need to ensure continuity of service, reduce capex/opex spend, and meet capacity needs.

To do all of these most efficiently they need to answer these specific questions:





DCIM Solutions Before & After Scenarios

Without the information provided by DCIM, these questions become much more difficult to answer, and your Data Center more difficult and costly to manage. With an intelligent DCIM solution, Data center operators have the ability to better manage assets, change and capacity. DCIM software also enables power monitoring, environmental monitoring and energy management. A DCIM solution helps with:

	Before	After
<p>Asset MANAGEMENT</p>	<p>Spreadsheets or homegrown tools Need to physically go on site to determine space availability and position Inaccurate and incomplete records</p>	<p>Instantaneous visual and textual information on the equipment in the data center reduces troubleshooting time No need to send someone physically on site. Centralized database enables accurate record keeping and processes</p>
<p>Capacity MANAGEMENT</p>	<p>Information contained within multiple systems with no way to integrate the data</p>	<p>Quickly model and allocate space for new servers, manage power and network connectivity in a single view or a few clicks</p>
<p>Change MANAGEMENT</p>	<p>Delays in processing work orders Inability to ensure processes are followed</p>	<p>Fully integrated workflow management including automation of work orders and workflow activities for process assurance, tracking and auditing trails</p>
<p>Energy MANAGEMENT</p>	<p>Proprietary monitoring systems or sneakernet to the data center to manually take readings</p>	<p>Constant monitoring with alerts before circuits fail Locate stranded capacity to avoid costly build outs</p>
<p>Environmental MANAGEMENT</p>	<p>Wasted capacity due to inability to understand cooling requirements Overcooling Unknown hot spots</p>	<p>Identification of Hot Spots with thresholds and alerts Know whether you are overcooling and wasting energy</p>
<p>Power MANAGEMENT</p>	<p>Information contained within multiple systems with no way to integrate the data</p>	<p>Intelligent PUE analytics and reporting tools provide the capability for bill-backs and management decision making</p>



Your Benefits with DCIM

The benefits of a DCIM solution can be found in time, productivity, and cost savings:

Reduce wasted time and increase productivity: Employees no longer need to be on-site to identify what assets are in the data center and what space, power and cooling is available. Data Center Managers can have access to accurate data in real time at a click of a button.

Optimize energy consumption: reduce waste and over-provisioning: Understanding asset details and their physical power and network connections enables highly accurate capacity planning, down to the single port or 1 rack U level.

Reduce risk of downtime: Critical path capacity points are automatically and easily identified, reducing risks of failures.

Adapt to change: Reservations, moves, adds, and changes are accomplished with ease. Plan investments and new data center capacity. Employee productivity and moral dramatically increases as processes and workflows are implemented to ensure high quality changes in the data center.

Confidence: A fully configured and instrumented DCIM will bring confidence in available data and capacity planning; confidence in analytics and reports; confidence in strategy and budget planning.

In his report, "**Datacenter Infrastructure Management Software: Monitoring, Managing and Optimizing the Datacenter**," [Andy Lawrence](#) summed up the impact of DCIM by saying "We believe it is difficult to achieve the more advanced levels of datacenter maturity, or of datacenter effectiveness generally, without extensive use of DCIM software"





Getting the Competitive Advantage with DCIM

- ◆ **84% of datacenters** had issues with power, space and cooling capacity, assets, and uptime that negatively impacted business operations
- ◆ **Successful DCIM Implementations** have the following characteristics: Availability of IT resources, accurate capacity planning, decreasing datacenter power usage, decreasing overall operating expenses, increased coordination between facilities and IT, user adoption and follow through, and increased business agility (IDC Datacenter Infrastructure Management 2012 survey)
- ◆ **“Infrastructure management and its asset management capabilities are becoming key components in identifying energy use, productivity and possible sources of inefficiency and cost.”**
Gartner Article Market Trends: Top-Down, Holistic Design Can Create Smart, Sustainable Data Centers
- ◆ **“71% of respondents listed “improved capacity planning” as a top driver for buying DCIM”**
Uptime Institute’s 2013 annual Data Center Survey

Raritan and [Shands HealthCare Case Study](#)

“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.”

Joseph Keena, Manager of Data Center Operations



[View Case Study](#)





Getting Started with DCIM

The first step is to identify your #1 challenge. Then you can deploy what will provide the greatest improvement or fix the most pressing problem. All else will follow.

Meets the Challenges & Question	Implement
Gain insight into what I have: Floor Plan, Cabinet elevation, RU Capacity	Asset Management, Dashboards and Reporting Tools
Plan and manage Power Chain, Power Capacity, Network Trace, Fiber/Copper Capacity, Relationship Mapping	Capacity, Power and Network Connectivity Management
Improve processes - Best practice Data Center management	Change/Workflow Management - Ticketing
Drive energy efficiencies, understand the cost and carbon footprint	Power and Energy Management, Environment Monitoring
Ensure components within the Data Center are up and running; alerted to issues/problems before they happen	Power and Environmental Monitoring
Leverage existing data, systems and processes	Integration through APIs, CMDB, 3rd Party Ticketing and other standard protocols (ODBC, SNMP, Modbus)

Download the new ebook **10 Key Considerations for a Successful DCIM Deployment** to learn more.

[eBook Download](#)



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Ready to Get Started?

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