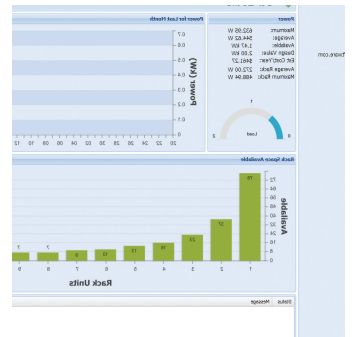
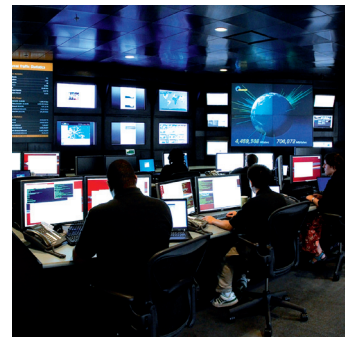
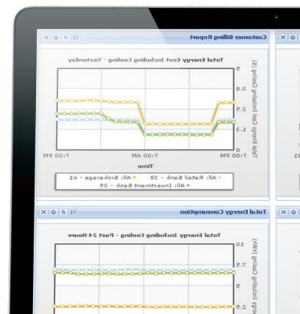
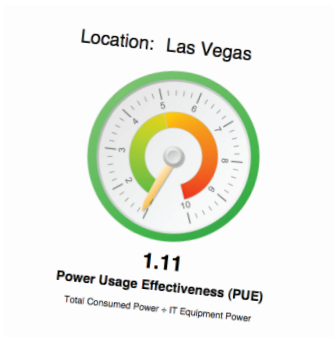


FOCUS ON DCIM

A special technology insert to **DatacenterDynamicsFOCUS**

Sponsored by



DatacenterDynamics
FOCUS
a DatacenterDynamicsFOCUS Insert



RACKWISE[®]

EVERY ASSET. EVERY LOCATION. EVERY TIME.[™]



Rackwise[®] Data Center Manager

+

Intel[®] Data Center Manager

=

#1 World-Wide DCiM[™] Deployments

#1 Fortune 1000 Customer for DCiM[™] Products & Services

#1 Reporting Real-Time Device Level Monitoring and Control

#1 Institutions of Higher Learning

#1 Time to Deploy and Time to Value

(888) 818-2385 • info@rackwise.com • www.rackwise.com

FOCUS ON DCIM

A special technology insert to **DatacenterDynamicsFOCUS**

CONTENTS

COMMENT 03

ASSET MANAGEMENT 04

DCIM DEFINITIONS 05

COMPANY AND PRODUCT PROFILES

Raritan	06 & 08
No Limits Software	08 & 10
Modius	10 & 12
AssetGen	12
Schneider Electric	14 & 15
Power Assure	15
Fieldview Solutions	16
Nlyte	18 & 19
Emerson Network Power	19
SynapSense	20

SPONSOR PROFILES AND DIRECTORY 22

JOURNEY TO THE CENTER OF DCIM

As with all FOCUS On supplements, the purpose of this publication is to help you track a particular technology sector, but it is not – and nor can it be – a journal of record for every event, product announcement or activity in a rapidly expanding market – in this case DCIM.

Depending on the optimism or caution of the predictions available today, DCIM will be, at the very least, a US\$1.5bn market within three years – but it could easily be twice that figure.

That means it is a sector that has attracted a huge amount of investment and attention from vendors with backgrounds as diverse as cable management and power monitoring. It has even attracted the attention of VMware – the server virtualization giant.

The nuances of product differentials mean that choice is not an issue. Hardware solutions, software solutions, integrated solutions – the list is long.

Specifying a DCIM product – like any other – requires an assessment of the current state of the data center.

And as with any other sector, the DCIM sector is not immune to jargon, so users must avoid drowning in alphabet and acronym soup.

In this special issue, we set out to give users some useful information on the market in a single document.

We devised a set of questions for the vendor community and reproduce their answers here – with some edits. We can neither confirm nor endorse the claims made by vendors. The profiles are mostly their own words, and we present them in good faith.

The challenge for users is identifying the functionality required and matching it against a fragmented supply side. But you must decide your objective and your journey.

Ambrose McNevin
Editor in Chief

Asset management

DCIM is becoming recognized for its importance to the data center industry, but with so much to measure, the vendor landscape, despite being widespread, is full of a number of approaches

In big sprawling data centers, upwards of 25% of IT assets go missing because of poor recordkeeping. That's a lot of kit.

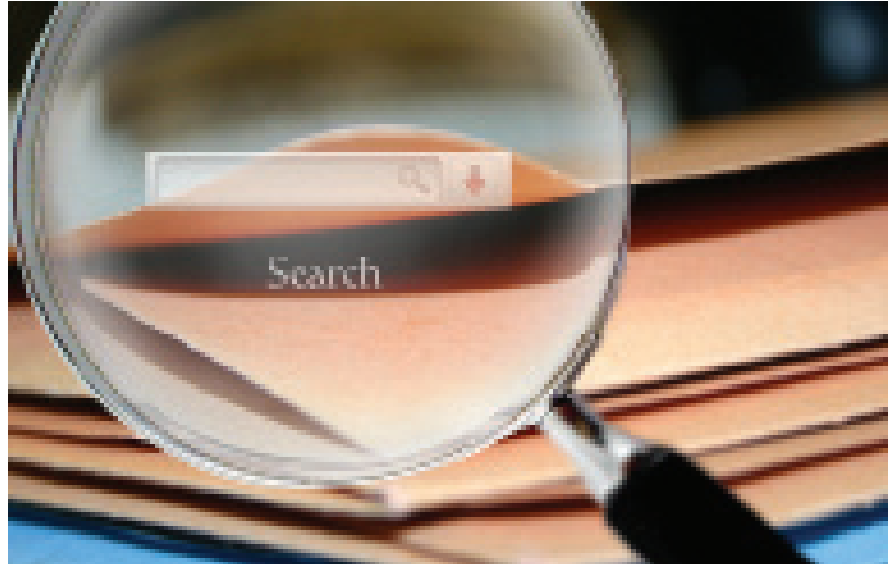
Data Center Infrastructure Management (DCIM) goes far beyond asset management. But even a simple task, such as tracking the assets within the white space, is beyond the ability of many operators.

Much has been written about the complexity of the DCIM market and the many claims – from firms with offerings as diverse as cable management to application optimization – that they play in the DCIM space.

But if we start at the top end there are some strata beginning to emerge. As we noted in FOCUS 17, DCIM as a market is being approached from all sides – Emerson, APC by Schneider Electric, IBM, CA Technologies all come from opposite sides of the industry, yet each is making a major DCIM play.

Firms such as nlyte claim they are a natural DCIM choice as they are focused purely on the DCIM space. But where does that leave companies such as Raritan, Rackwise Fieldview, Concurrent Thinking and Unite Technologies?

The most recent developments from the big beasts in the jungle have been Schneider Electric's StruxureWare 7.0 and Emerson's Trellis Universal Management Gateway hardware appliance. Another major announcement was from nlyte, which announced version 6.2 of its DCIM offering.



Also interesting have been Intel's moves. As the company at the center of all things IT, Intel has an obvious interest and an interesting approach to the market. Instead of announcing its own strategy, Intel embarked on building a network of partnerships with DCIM players. Companies such as Rackwise, Itracs and SynapSense, Viridity and Fieldview have all announced tie-ins with Intel.

Speaking at DatacenterDynamics London, Intel Chief Architect of Data Center Manager software Dror Shenkar said that unlike traditional DCIM offerings, which often work on a proprietary basis, Intel will work with DCIM vendors for the distribution of its Data Center Manager technology, which it says can monitor data center activity right down the server level.

"We try to simplify the work for DCIM vendors," Shenkar said. "We provide them with a middleware they can integrate into their solution. Our expertise is to collect granular power data from the servers and provide this to DCIM vendors."

"Obviously, we (Intel) have better ways to interface between [the technology]. We are the layer between the software and hardware itself, so we know how to talk to the servers themselves better than other players can."

DCIM is expected to come of age in 2012. Spending is expected to accelerate rapidly, and everyone wants to play. ■

DCIM definitions

In his 2011 report, *Datacenter Infrastructure Management Software Monitoring, Managing and Optimizing the Datacenter*, Andy Lawrence of the The451Group provided the following definitions of the DCIM functions and components

The descriptions below illustrate some of the functional components of a DCIM system.

These functions include:

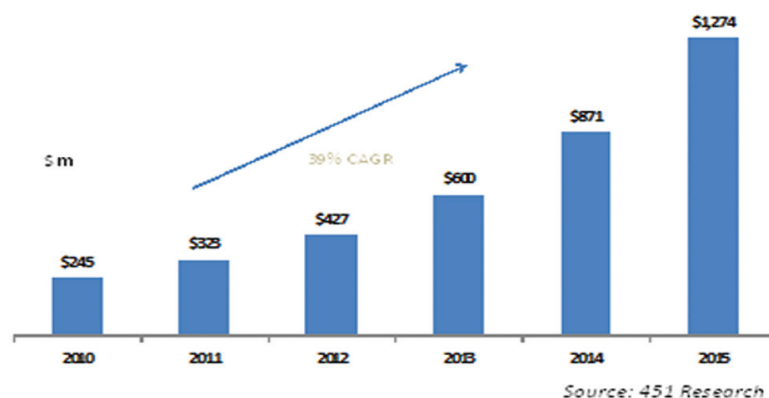
1. Data collection (meters, sensors)
2. Environmental monitoring and reporting
3. Asset, configuration and change management
4. Power/energy measurement and modeling
5. Power management, power scaling and power capping
6. Data management, integration and reporting
7. Capacity planning, forecasting, simulation and analytics
8. Optimization, operational BI and load management

In order to build an effective, functional DCIM system, it is necessary to have several of these functional components, and they must be able to interoperate.

It may also be necessary for these components to integrate with other systems, notably the building management system (or facility environmental system) and one or more IT service management systems.

Of course, there are various ways to divide up these functions. It is also clear that commercial software products rarely address only one of these areas – it is more common for them to serve between two and six of these functions.

DCIM Market expansion 2010-2015



In his latest market update, The451Group's Lawrence said: "The DCIM market was worth US\$245m in annual revenue in 2010, and it will grow to \$1,274m in 2015 – a growth rate of 39% a year.

"This growth figure far outstrips that for the data center equipment industries and for the enterprise IT industry as a whole; however, the actual numbers are still small compared with other categories of enterprise software – such as IT service management, ERP, databases or security – and are not necessarily large enough to encourage the entry of some of the big IT or building management software suppliers.

GROWTH ON GROWTH: OPTIMIZATION AND SELF MANAGEMENT

Although not formally quantified in Lawrence's report, our analysis suggests that the DCIM market will continue to grow after 2015.

Given that sales at this point will already be around \$1.3bn, this could lead to a substantial market in a few short years – the kind of market size that will attract new entrants. ■

TO BUY THIS REPORT CONTACT:

Outsales@the451group.com
www.the451group.com

Profiles

RARITAN INC



DCIM PRODUCT NAME ▶

dcTrack DCIM software

DCIM PRODUCT DESCRIPTION/SPECIFICATION ▶

dcTrack maintains accurate, up-to-the-minute views and granular details of every device, along with their connections across multiple data centers, including servers, networking and facilities elements.

It provides real-time views of a data center's power consumption, heat dissipation, raised-floor space and rack elevations. Its auto-discovery engine builds and keeps the inventory database updated on the data center physical assets and other resources, such as energy.

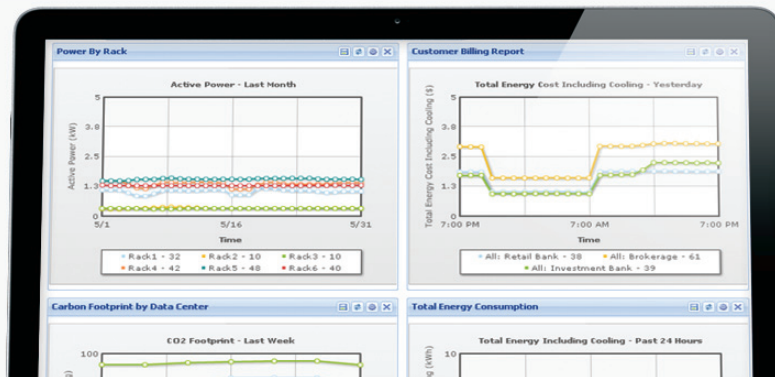
dcTrack is available as a VMware virtual appliance that contains the dcTrack application software, database and operating system, simplifying installation and operation. dcTrack is sold as a perpetual license and offers pay-as-you-grow pricing based on the number of cabinets in your data center.

dcTrack drills into the infrastructure layers of the data center, providing information on where best to place servers and devices in racks, as well as how best to provision network, cabling and power connectivity. It monitors, tracks and analyzes the entire power chain, including power loads and environmental data.

DCIM PRODUCT HISTORY ▶

November 2008 – Raritan acquired dcTrack data center infrastructure management software from Nassoura Technology.

August 2009 – Raritan released a major software upgrade (Release 2.2) to dcTrack. New wizards in the release help import



all data center IT and facility assets, including rack servers, chassis and blade servers, virtual machines, network and SAN infrastructure, rack PDUs, UPS and CRAC units. Also included are specialized wizards for importing structured cabling, power distribution panel boards, and cable connectivity and cross-connect schedules.

December 2010 – dcTrack is available as a VMware-ready virtual appliance. Release 2.4 also introduces a web-based architecture and a number of usability enhancements.

May 2011 – dcTrack Release 2.5

- Intelligent Capacity Search, Reserve and Place Tool – space, power and network connectivity for IT devices, simplifying capacity planning and change management. Capacity can be reserved by dcTrack for future provisioning of new IT equipment.
- Capacity Management Dashboard – real-time resource utilization data for electrical, cooling, floor, cabinet, cable and network capacity planning.
- Complete Power Distribution Management – power management begins with the UPS power feeds, supporting virtually any type of power distribution design. It determines power loads at any point in the circuit path using derated values and actual readings.
- Web Service API for Ticket Systems – integrates with BMC Remedy, LANDesk and other third-party systems.

DCIM PRODUCT UNIQUE SELLING POINT ▶

dcTrack automates many of the laborious tasks that data center managers face when managing capacity, assets and change.

1. Intelligent Capacity Management

Search, Place and Reserve capability allows you to quickly and easily search for and reserve space, power and network connectivity for all IT assets – both existing and future assets.

2. Accurate Asset Management

dcTrack provides detailed information on server, network and storage equipment. Details include:

- Front, back and side rack visualization
- Elevation and intelligent search for simplified provisioning
- Extensive visual library of device and equipment
- Data cable tracking and end-to-end visualization for easy tracing
- Complete power path analysis from UPS to individual outlets
- Color-coded drawings for easier space
- Power and heat distribution analysis
- Workflow for tracking and managing moves, adds and changes

Continued page 8

How can I cut data centre costs by 15%?

By choosing InfraStruxure and its triple promise of 24/7/365 availability, fast deployment, and energy efficiency

Introducing Next Generation InfraStruxure

Whether your company has just acquired another company or is planning 'follow the moon' virtualisation to streamline energy use, you're most likely facing pressing demands on your company's IT infrastructure. Your legacy data centre infrastructure may not be able to handle these business changes. That's where APC by Schneider Electric™ steps in with its proven high-performance, scalable data centre infrastructure. Only InfraStruxure™ ensures that your data centre can adapt effectively, efficiently, and quickly to business changes, making you the company hero! What's more, it gives you the capabilities you need to monitor and manage your data centre proactively and easily to ensure healthy operations at all times.

InfraStruxure data centres mean business!

We say that InfraStruxure data centres mean business. But what does that mean to you? The answer is simple. A data centre means business when it is always available, 24/7/365, and performs at the highest level at all times, is able to grow at the breakneck speed of business, lets you add capacity without waiting on logistical delays (e.g., work orders), continues to achieve greater and greater energy efficiency — from planning through operations, and is able to grow with the business itself. In addition, open architecture capabilities deliver any-IT vendor compatibility, affording you the flexibility and adaptability you need for speedy deployment of upgrades without overhauls.

The triple promise of InfraStruxure deployment

InfraStruxure fulfils our triple promise of superior quality, which ensures highest availability; speed, which ensures easy and quick alignment of IT to business needs; and cost savings based on energy efficiency. What better way to 'mean business' than to enable quality, speed, and cost savings — simultaneously?

InfraStruxure

InfraStruxure data centres also enable you to:

- 1) Accommodate high densities easily
- 2) Add cooling quickly and easily
- 3) Monitor threats proactively
- 4) Upgrade instead of overhaul
- 5) Manage in a 'single-pane' view
- 6) Model capacity changes
- 7) Ensure your business drives your IT
- 8) Manage new equipment in seconds
- 9) Optimise reliability and efficiency
- 10) Move at business speed



Download your white paper(s) within the next 30 days for **FREE** and get a chance to **WIN** a Lenovo® all-in-one touch screen PC!

Visit www.apc.com/promo Key Code 84941t Call 0845 0805034 Fax 0118 903 7840

APC[™]
by Schneider Electric

RARITAN INC



Know more. Manage smarter.

...Continued from page 6

- Works with Raritan's new (this month) Smart Asset Management Tag/Sensor solution

There is also visual guidance to help with equipment adds, moves and changes.

3. Flexible Change Management

In a single solution, dcTrack automates the change process by consolidating facilities drawings that provide the physical layout of a data center, along with power and data cabling, and detailed communication, power and environment information related to servers, networking, power and

environmental devices. dcTrack stores and safeguards changes made so there is no loss of information due to personnel changes.

Detailed visibility into the data center's operations allows for more intelligent provisioning, improved planning and better decision-making by easily analyzing all parameters that restrict component placement besides available space.

4. Power Chain Management

With dcTrack, end-to-end power and data circuits can be visually and accurately traced, while identifying all intermediate circuit points. dcTrack can monitor in real-time the power and environmental readings from SNMP-enabled power and environmental devices, such as UPS, PDU, rack PDU, power supplies, CRAC units and temperature and humidity probes.

dcTrack can update these readings down to one-second intervals.

COMPANY HISTORY

Raritan has been serving data centers since 1985. It is a proven innovator of power management and infrastructure management solutions for data centers.

In more than 50,000 locations worldwide, Raritan's award-winning hardware and software solutions – including intelligent rack PDUs, energy management software, DCIM software solutions, KVM-over-IP and Serial-over-IP access products – provide IT and facility directors, managers and administrators with the control needed to increase power management efficiency, improve data center productivity and enhance branch office operations.

Based in Somerset, New Jersey, the privately owned company has offices worldwide, serving customers in 76 countries.

COMPANY'S ANNUAL REVENUE

Privately held company.

NO LIMITS SOFTWARE



DCIM PRODUCT NAME

Rack Management Platform (RaMP)

DCIM PRODUCT DESCRIPTION/SPECIFICATION

Automated Asset Management

- 100% data accuracy through the automated discovery of detailed device information
- Automatically track device location down to the rack unit (including zero-U devices)
- Real-time data center auditing for IT asset accounting compliance (Sarbanes-Oxley, CFR-11)
- Automated change control to reduce mean time to repair and increase availability



- Software license management
- Published web services – API provides full interaction with other asset and change management systems

Real-Time Monitoring

- Power and environmental monitoring down to the device level
- Server monitoring to identify servers that should be retired or consolidated
- Real-time redundancy evaluation to reduce shutdown risk due to rack PDU overload on failover

- Identify servers that are not using server power management

Enhanced Capacity Planning

- More accurate capacity planning data helps to reduce stranded power and shutdown risks

User Interface Options

- BlackBerry, iPad, iPhone and Droid handheld applications put the data into your hands

Continued page 10

Unite puts DCIM in the zone

Six Zone Data Centre Management Brings Sustained Energy Efficiencies to Legacy and New Data Centres

A comprehensive monitoring and management information system from data centre energy experts, Unite Technologies, is set to realise the true potential of DCIM. Customer-proven, Six Zone Data Centre Management enables and sustains critical energy efficiencies through improved energy consumption, CO² emissions and PUE. Aside from reducing energy costs and exposure to energy taxes and regulations, greater overall resilience and optimisation is also provided. Six Zone Data Centre Management takes an holistic and fully integrated monitoring and management

approach to tackling the spiralling energy costs and growing environmental responsibilities facing today's legacy and new-build data centres. This enables IT and Facilities Management professionals to work together more closely, and, in the case of legacy facilities, regain control of power and cooling once and for all.

BRIDGING THE FM/IT GAP

At the heart of Six Zone Data Centre Management is Unite Technologies' DCIQ web-based enterprise software platform. Following a comprehensive energy audit by Unite Technologies' team of experienced consultants, this can be deployed in conjunction with the company's industry leading power management and environmental



monitoring solutions, offering better than 1 per cent accuracy, and with third party middleware / BMS systems. Six Zone Data Centre Management empowers FM, IT and Finance to collaborate more effectively in their energy optimisation initiatives, ensuring business and operational management objectives are always fully aligned and regulatory requirements either met or exceeded.

"In the face of rising energy costs contributing significantly to bottom line losses, CRC, and tougher compliance following ISO 50001, Six Zone Data Centre Management bridges the gap between the IT and FM departments. Going much deeper than traditional BMS and Modbus metering, Six Zone enables those concerned in data centre operation to monitor, understand and manage the entire operation far more efficiently, all from one central dashboard."

Simon Terry, Chief Executive, Unite Technologies

A SELF-FINANCING SOLUTION

Six Zone Data Centre Management can deliver ROI in less than 12 months.

CONTACT:
Unite Technologies
Tel: 0845 271 0130
www.unite technologies.com

COMPREHENSIVE REPORTING:

- Fiscal meter reporting
- Power monitoring of load draw, kVA, kWhrs, Volts, Amps, Power Factor, Frequency
- Energy cost reporting for facility totals down to individual Server payloads
- Alarm reporting and alerting
- Mandatory legislative reporting i.e. CRC, CO² footprint analysis
- Dynamic and historical reporting of key PUE / DCIE metrics
- Extensive environmental monitoring of data hall cabinets and active Cold Aisle Containment systems
- Security status/ reporting
- Trend analysis, capacity management and asset reporting
- Billing

HOLISTIC REAL - TIME MONITORING AND REPORTING

Through real-time holistic monitoring and reporting on data centre energy and environmental status, Six Zone Data Centre Management is fully integrated to capture and analyse highly accurate and granular real-time and historical information on all critical zones, for single and multi-site estates:

Zone 1: Fiscal Monitoring at Building Point of Entry

Zone 2: MV and LV Distribution Board

Zone 3: Monitoring and Control of Specific Plant Equipment

Zone 4: Input and Distributed Branch Circuit Monitoring

Zone 5: Data Rack and Room Monitoring

Zone 6: Individual Payload Monitoring at Server Level.

NO LIMITS SOFTWARE



...Continued from page 8

- Actionable data at your fingertips through fully interactive dashboards

DCIM PRODUCT HISTORY

No Limits Software has a long history of data center management products, starting as The Advantage Group in 2000 (acquired in 2007 by Aperture, a division of Emerson Network Power). The Rack Management Solution was introduced in January 2011 and is now on version 1.4.

DCIM PRODUCT LAUNCH DATE

January 2011 (Launched)

DCIM PRODUCT UNIQUE SELLING POINT

Rack Management Platform (RaMP) solves the manual data collection problem.

- Automates data collection and eliminates physical audits
- Provides 100% data accuracy and the continual tracking of location and detailed system configuration
- Automates change management to reduce problem analysis time by recommending a fix over 80% of the time, with a first-time fix rate of more than 90%
- Enhances capacity planning with accurate real-time data at the location, rack and device levels in order to reduce stranded power and shutdown risks
- Identifies servers that aren't being used effectively but are still consuming valuable resources (ie, space, power and cooling)

COMPANY HISTORY

No Limits Software was founded in 2009 by David Cole, a recognized industry leader in data center real-time management solutions.

The Advantage Group – the previous company he founded – provided solutions for leading companies around the world before being acquired in 2007 by Aperture Technologies (which is now a division of Emerson Network Power).

Understanding that 80% of issues in the data center stem from changes, and that 80% of the mean time to repair these issues is trying to determine what changed, the No Limits Software team recognized the need to automate the asset management process.

In addition to providing continually updated configuration data for problem resolution, the RaMP solution provides more detailed, actionable data with 100% accuracy.

MODIUS INC



DCIM PRODUCT NAME

OpenData Enterprise Edition v3.6

DCIM PRODUCT DESCRIPTION/SPECIFICATION

Modius OpenData Enterprise Edition provides real-time monitoring and decision support that enables unified visibility and better control over the critical systems in your data center, including power, cooling and space.

With OpenData Enterprise Edition, both facilities and IT managers can optimize capacity and increase efficiencies across the entire data center operations – from the mechanical yard equipment to server racks.

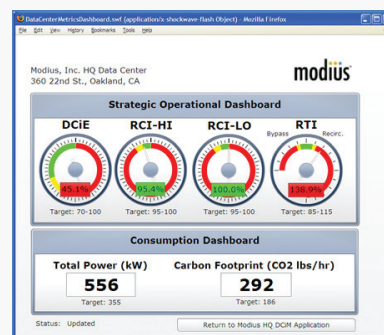
OpenData software solutions by Modius are completely vendor-neutral and highly scalable, with no coding required to add new devices across multiple sites. OpenData's ease-of-use and flexibility are unprecedented: users can configure their own dashboards and reports easily with the power of advanced OpenData Analytics at their fingertips.

Most recently, Modius announced that it has integrated OpenData with Intel Data Center Manager.

OpenData supports both current and previous versions of Microsoft Internet Explorer and Firefox. The Enterprise Edition includes:

- Modius OpenData software application
- Complete library of OpenData device interface templates
- Unlimited OpenData data collectors with protocol translators (eg, Modbus, BACnet and SNMP)
- Optional serial data collectors

The application runs natively, or as a virtual machine within VMware ESX. The package



includes Microsoft SQL Server Express 2008 and Windows Server 2008 R2 operating system (which requires a license key). Other installation options are available upon request. For more information, please contact info@modius.com.

DCIM PRODUCT HISTORY

OpenData first released in a production environment in 2004. Release 4.0 is anticipated year-end 2011.

Continued page 12

Energy savings with a clear focus on ROI



Save up to 50% of cooling energy with the
SynapSense Data Center Optimization Platform

CASE STUDY

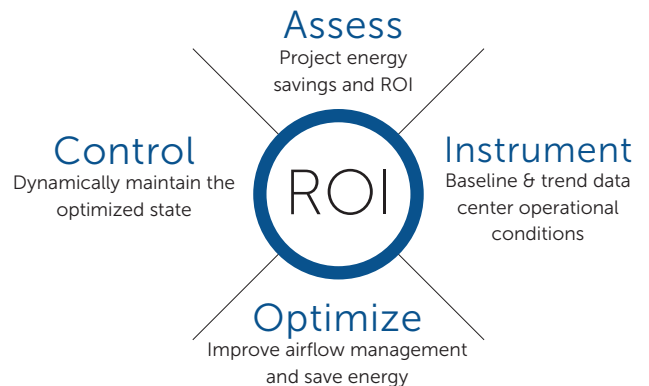
COLOCATION PROJECT:

75,000 square feet, 3,119 sense points

Total Energy Savings: \$597,000

Annual kWh savings Savings: 3.5kWh

Return on Investment: 12 months



SYNAPSENSE®

The NEW Standard in Power & Cooling Optimization

Contact us about your own complete turnkey solution focused on delivering real ROI to our customers.

Contact us at 916. 294. 0110, or visit us at www.synapsense.com

MODIUS INC



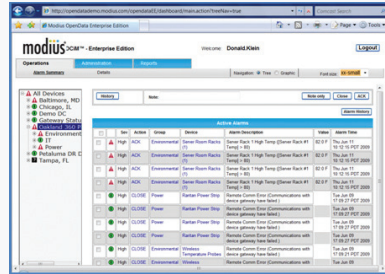
...Continued from page 10

DCIM PRODUCT LAUNCH DATE

2004

DCIM PRODUCT UNIQUE SELLING POINT

Now dynamic power and cooling requirements – from the mechanical yard



equipment to servers – can be optimized through a unified view of real-time data center infrastructure performance.

OpenData provides all data points from all devices, so facility and IT managers can run any calculation and create dashboards and reports whenever needed. OpenData enables alarm thresholds and alerts to be set on any

data point on any device or computed point, such as PUE. This broad and granular data capture enables data center managers to assess their PUE, available redundant capacity and any other data center metric required for analysis.

DCIM CUSTOMERS

Charles Schwab, Sybase, Wells Fargo and XIOLINK

COMPANY HISTORY

Founded in 2004, Modius' mission is to simplify the operations of the increasingly diverse and complex facilities and IT environment, while improving performance efficiencies. Go to www.datacenterdynamics.com to read an article on measuring and managing available redundant capacity by Jay Hartley, chief scientist, Modius.

ASSETGEN LIMITED



DCIM PRODUCT NAME

AssetGen Connect

DCIM PRODUCT DESCRIPTION/SPECIFICATION

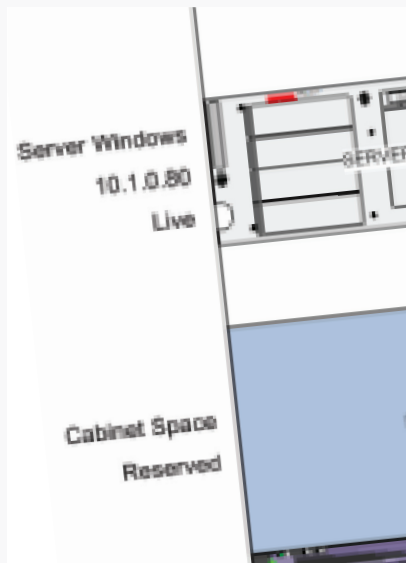
- Single- and multi-user infrastructure configuration management and DCIM
- AssetGen Connect – physical infrastructure management: space, power, inventory, connectivity, workflow
- AssetGen SysMap – application infrastructure management: impact analysis, risk management, data mapping

DCIM PRODUCT HISTORY

AssetGen Connect released in 2006 as a multi-user web application. Client app with Visio visualization released in 2009. Single-user version for data center planning and migration released in 2010.

DCIM PRODUCT LAUNCH DATE

2006



DCIM PRODUCT UNIQUE SELLING POINT

Combines inventory, connectivity (power and data) and visio visualization to provide space, asset, network, rack, impact and other views for planning and operational management.

DCIM CUSTOMERS

Mastercard, Lloyds, BT, USMC, Blue Cross, BNP Paribas, ICM



COMPANY HISTORY

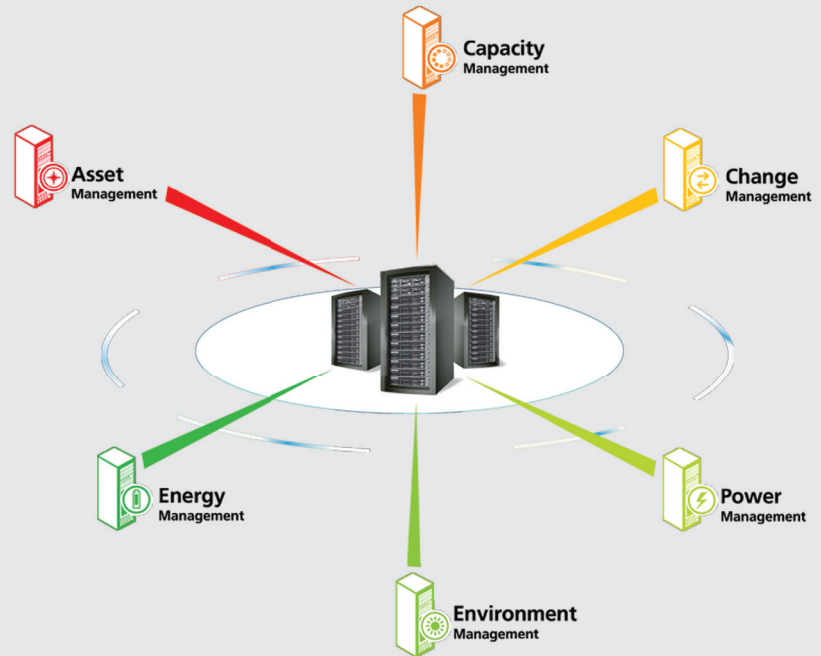
AssetGen is privately owned by two original founders and has been trading since 2006. Sister company Square Mile Systems provides services and techniques around data management techniques and standards. AssetGen has recently appointed a number of US and other resellers to expand activities.

COMPANY'S ANNUAL REVENUE

US\$1m in 2011

360-Degree Management of Data Center Infrastructures

Data centers and IT labs must turn their attention to metering and monitoring their IT equipment racks in ways, and at a level of detail, they have not done so before. In this interview, Raritan Power SBU Director Herman Chan addresses data center infrastructure management (DCIM) at the rack and how deploying DCIM solutions can lead to optimal capacity planning, increased uptime, improved efficiency and productivity and decreased costs.



What is DCIM and why is it critically important to data center managers?

DCIM consists of six management areas: **Asset**, **capacity**, **change**, **power**, **environment** and **energy**. For Asset, it's about what do I have, where is it located, and how is it connected to my infrastructure? For Capacity, it's about how much space, power, cooling, and connectivity do I have? Where can I put new equipment? For Change, it's about managing people's work. Are there approval processes? How do I know the work is done correctly? For Power, it's about how much do I have, can I get alerts before circuits fail, and can I find stranded power to avoid costly build outs? For Environment, it's about knowing if I am overcooling and wasting energy. Are there hot spots? For Energy, it's about who's using it, how much does it cost, where can I save?

What is Raritan's view and key recommendations for building out a DCIM plan?

We believe data center managers don't need to implement all the solutions at once. Rather, they should deploy now what will provide the greatest improvement or fix the most pressing problem, without a major rip and replace.

However, they should keep their options open to implement additional improvements in the future without undoing or redoing past fixes.

What makes Raritan's solution different or superior to other offerings in the market?

Our focus is on data center problems. The solutions for those problems include hardware and software. We want to make the implementation of new DCIM technology as easy as possible to buy, deploy, configure and maintain. That means software with rack-based pricing and delivering it as either a hardware or software appliance. Our software and hardware are standards based and open, so that they can work with other tools in the data center.

What kind of results are your customers seeing?

We're seeing customers who are now able to track and manage their IT assets easier with dcTrack software, others who have reduced energy costs significantly, and others who

have extended the life of their data centers by finding more capacity. DCIM is all about better managing all the resources in the data center. We have one customer who gutted and rebuilt a data center in the New York metro area. In the same space and power footprint, they're able to get 10X the compute performance and operate with a PUE of 1.17 with almost 100% air side economization. They've implemented our PX intelligent rack PDUs along with environment and humidity sensors and Power IQ energy management software to help them know when to mix server exhaust air with outside air, when to turn on humidity or evaporative cooling, and as a last resort, when to turn on chillers. ■

SCHNEIDER ELECTRIC



DCIM PRODUCT NAME ▶

StruxureWare for Data Centers. Latest iteration: StruxureWare Operations 7.0

DCIM PRODUCT DESCRIPTION/SPECIFICATION ▶

StruxureWare Operations 7.0 is designed to solve the most complex challenges of operating enterprise data centers. It replaces Schneider Electric's InfraStruxureM Operations version 6.2.

The StruxureWare for Data Centers Suite is a combination of Schneider Electric's Data Center Infrastructure Management (DCIM) and Data Center Facility Management (DCFM) software tools.

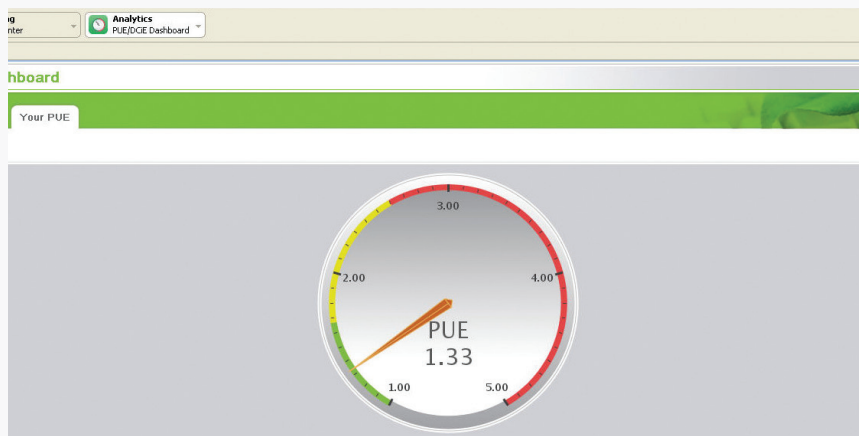
The suite provides data-gathering, monitoring, automation, and planning and implementation functionalities to enable an integrated, multifaceted view of all the mission-critical physical systems of the data center.

As a cornerstone of that suite, the StruxureWare Operations 7.0 platform allows C-level executives, data center managers and facility managers to have complete visibility and control over their data center's daily operations.

StruxureWare Operations 7.0 offers a comprehensive, easily deployable solution that performs duties such as alarming, data collection, planning, optimizing and analytics. StruxureWare Operations 7.0 is able to provide reporting on any aspect of the data center's physical infrastructure.

With the continuing evolution of DCIM and DCFM technologies, and industry-leading software suites such as StruxureWare for Data Centers, IT professionals now have access to all the tools they need to operate data centers that are more reliable, efficient, safe and green, from a single software suite.

As challenges such as rising complexity, availability and increasing energy costs become a reality in today's data center environments, customers struggle to find the correct set of tools to effectively operate



...ays the Power Usage Effectiveness (PUE), which is a measure of the ratio of the total amount of power used by the data center facility to the power used by the IT load. Your PUE is measured a ...dnight, providing you with a Power Usage Effectiveness summary for the previous 24 hours.

and report on the various systems and functions of their data centers.

StruxureWare Operations 7.0 software can be deployed on both physical and virtual servers, providing the option of adding a clustering architecture to achieve the highest levels of availability and redundancy desired by the end user, while allowing for the flexibility to scale to any size data center.

Other new features of StruxureWare Operations 7.0 include the functionality to 'drill down' into any data center location globally, and get detailed real-time capacity and alarm summaries for any specific location within the data center.

A revolutionary instant 3D Computational Fluid Dynamics (CFD) airflow view of any data center design enables users to prevent and resolve thermal issues quickly and efficiently.

LATEST PRODUCT UPDATES ▶

Within StruxureWare Operations 7.0, two new modules provide multiple options to create customized reports.

StruxureWare Operations: Insight is an advanced report designer that allows for customization of reports to match business needs with data integrated from any third-party database or web service.

The Insight module consists of a wide array of plug-in templates and scripting options, allowing for customization specific to a

customer's data center.

The second module – StruxureWare Operations: VIZOR – provides key data center capacity parameters and utilization for power, cooling, space and network directly to Apple iPhone, iPad or Android-based smartphones.

DCIM PRODUCT HISTORY ▶

In addition to new functionality in StruxureWare Operations 7.0, users enjoy the same benefits of the original InfraStruxure Operations 6.2 platform, which consists of optional add-on modules to meet specific user requirements:

- Capacity – simulation, planning and optimization of infrastructure capacities to right-size the data center
- Change – fully integrated workflow management for IT physical infrastructure
- Energy efficiency – intelligent PUE analytics at the subsystem level
- Energy cost – instant overview of rack energy usage
- Insight – tool for customizing report designs to visualize data
- Dashboard – live overview of data center operations using widgets and data sets
- Mobile – wireless operation of your data center, allowing for real-time tracking of adds, moves and changes
- VIZOR – on-the-go access for smartphone and tablet applications

SCHNEIDER ELECTRIC



All new offerings and updates within StruxureWare Operations 7.0 continue to be compatible with existing components of the previous

InfraStruxure branded management software portfolio.

Available globally, StruxureWare Operations 7.0 joins StruxureWare Central 6.3 as the first offerings available in the StruxureWare for Data Centers software suite.

Other components of the software suite will be announced throughout the coming months, featuring additional solutions to meet the needs of all data center and facility professionals.

COMPANY HISTORY

Schneider Electric's corporate headquarters are in Rueil-Malmaison, France. The company's 110,000-plus employees achieved sales of more than \$26bn in 2010 through an active commitment to help individuals and organizations "make the most of their energy".

Continually updated configuration data for problem resolution, the RaMP solution provides more detailed, actionable data with 100% accuracy.

POWER ASSURE



DCIM PRODUCT NAME

Power Assure EM/4 Data Center Energy Manager Platform

DCIM PRODUCT DESCRIPTION/ SPECIFICATION

Power Assure EM/4 software solutions allow data center managers to collect, synthesize and analyze the overwhelming amount of raw data available from facilities and IT equipment, and turn it into useful business information for making decisions in real time.

This insight allows data center managers to improve the efficiency, capacity and utilization of their data centers.

EM/4 solutions take analytics to the next level by linking real-time information with automated processes.

Using EM/4's run-book automation capabilities, data center managers can automate existing processes and take action based on environmental changes or other trigger events in order to optimize performance, reliability and service levels.

DCIM PRODUCT LAUNCH DATE

May 2011



DCIM PRODUCT UNIQUE SELLING POINTS

Unlike other solutions in the market, Power Assure EM/4 not only arms customers with information about their data center infrastructure, but enables them to quickly visualize and identify inefficiencies in a comprehensive way. While customers can view one or many data centers on a "single pane of glass" EM/4 gives data center managers the ability to monitor power consumption down to the device level, as well as monitor environmental factors that impact power consumption.

EM/4's strength lays in its ability to analyze power and energy consumption, delivering BI and automated decision-making mechanisms to data center operators.

DCIM CUSTOMERS

NASA is one of Power Assure's biggest customers, rolling out EM/4 across 50 data centers in a consolidation effort mandated by the US government.

DCIM PRODUCT HISTORY

Power Assure was founded in 2007. Clemens Pfeiffer, Power Assure's founder and CTO, led the development of key automation process technologies and authored related patents over a 10-year period.

DCIM PRODUCT HISTORY

Power Assure is a privately held company and does not disclose revenue details.

FIELDVIEW SOLUTIONS



DCIM PRODUCT NAME ▶

FieldView 4.0

DCIM PRODUCT DESCRIPTION/SPECIFICATION ▶

The company's flagship product – FieldView – has helped data center operations professionals in many of the largest data centers in the US, Europe and Asia to run facilities more efficiently since 2006. FieldView Solutions meets the needs of a broad range of users – from smaller, single-site operators to large-scale global corporate clients.

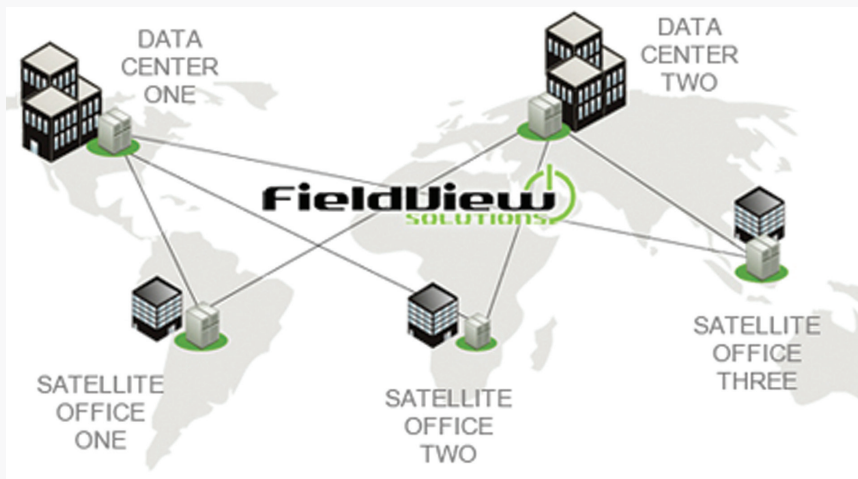
FieldView 4.0 is the enhanced version of the company's award-winning solution. The version boasts advanced system measurement tools and streamlined analytical reports that improve and control data center energy usage, while validating cost savings across globally distributed environments.

DCIM PRODUCT LAUNCH DATE ▶

June 2011

DCIM PRODUCT HISTORY ▶

Because the FieldView platform has been running in some of the largest data centers on three continents since 2006, we've got five years of everyday experience in the real world, as well as the constant improvements to the platform that go with that experience. Since we constantly communicate with our clients, and never stop asking questions, listening and including their requests in new iterations of the software, FieldView 4.0 is based on not only the intelligence of our own team of experienced developers and engineers, but also the guidance of the people who use the platform every day.



DCIM PRODUCT UNIQUE SELLING POINTS ▶

FieldView is 100% browser-based, so it supplies real-time data, available any time, anywhere.

It is built on a relational database, designed from the ground up to handle high transaction, dynamic environments, scalable to hundreds of thousands of points, trending and tracking in real time.

TCO is very competitive, with out-of-the-box functionality, quick, no-risk, real-time deployment, and users empowered to make changes without vendor assistance.

It is hardware- and vendor-neutral, so it integrates seamlessly with the systems you already have in place, making sense of their information.

FieldView gives managers a window into all their data centers, small or large.

It is the only solution on the market created by data center experts, specifically for data center managers.

DCIM PRODUCT CUSTOMERS ▶

Telx, a leading interconnection and cloud connection company, the world's largest stock exchange, two of the world's five largest banks, the world's largest online

retailer, as well as the world's largest cloud provider, a Fortune 50 financial institution, a large international publishing company, a noted educational and research institution, and a giant technology firm, to name just a few of FieldView's customers.

COMPANY HISTORY ▶

FieldView Solutions was established in 2009, when the rights to the FieldView platform were acquired. This allowed us to continue providing ground-breaking data center operations, management and efficiency software solutions as an independent entity.

FieldView helps data center managers, and IT and facilities management professionals, make better use of their physical floor space, rack space, power and cooling by showing them real-time representations of all the critical systems in their data center.

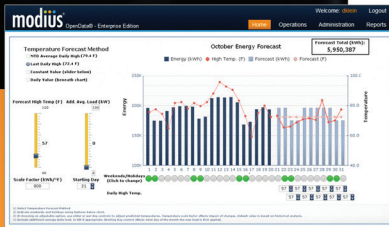
The FieldView team comprises industry thought leaders with demonstrated experience in both the design and operation of data centers, and the development of technology platforms that service them.

COMPANY'S ANNUAL REVENUE ▶

FieldView Solutions is privately held and declined to release sales figures or revenue details.

2012 Goal:

Manage my entire data center operations from a single pane of glass.



Contact Modius
ASAP:

+1 (888) 323-0066
www.modius.com

Multi-site visibility. Massively scalable.

Whether your data centers, server rooms or technology closets are across continents or across the street, *OpenData Enterprise Edition* provides the visibility and decision support to optimize capacity and increase the efficiency of your entire data center operations.

Achieve your 2012 goal today.

Getting started: *OpenData® Enterprise Edition* by Modius® is a software application that can be either installed on-premise or hosted in the cloud. Typically the application installs on MS Server OS 2008, and runs Express, Workgroup or the Enterprise version of MS SQL Server 2008 and is accessed via standard browsers. Many customers choose to run the application within VMware ESX.

NYLYTE SOFTWARE



DCIM PRODUCT NAME ▶

nlyte DCIM Suite

DCIM PRODUCT DESCRIPTION/
SPECIFICATION ▶

The nlyte DCIM suite provides data center professionals with the predictive intelligence and management controls they need to reduce operational risks and achieve smarter, more efficient and highly available data centers.

The nlyte DCIM Suite provides intelligent capacity planning for optimizing the use of power, cooling and space through the optimal placement of data center assets and business process automation that improves availability and operational excellence, resulting in:

- A 50% decrease in the cost and time of migrations and consolidations
- A 50% decrease in the business risk and expense caused by downtime and catastrophic failure
- Five years or more deferral in capital expense for new data center buildouts
- The information needed to attain a power usage effectiveness (PUE) rating of 2.0 or less
- A 20% annual reduction in data center operating expenses

The nlyte DCIM solution is based on a set of best practice processes its calls the DCIM Process Cycle. The DCIM Process Cycle involves six steps: Discover, Visualize, Model, Control, Report and Predict.

The nlyte DCIM solution can automatically discover IT assets; visualize the physical and virtual infrastructure; model and manage the Move, Add, Change (MAC) initiatives; control data center processes and



personnel; report on progress from a highly optimized BI architecture utilizing best practices in data warehousing, analytics and dimensional modelling; and predict capacity resources well into the future.

nlyte Software launched DCIM version 6.2, with a claim that it is the first DCIM solution to provide large-scale data center project lifecycle management.

“It allows customers to auto-allocate hundreds of assets, create what-if models for any number and size of data center projects, convert those models into actionable project plans with associated work orders, and predict the impact those projects have on the availability of power, space, cooling and connectivity. Each model can support moves for hundreds of assets tracked through Gantt charts to an on-time project completion.

“nlyte DCIM project lifecycle management makes it easy to simulate and manage large-scale moves, adds and changes, technology refreshes, migrations, consolidations and other complex data center projects,” the company said.

“Using predictive intelligence and analytics to automatically create actionable outputs is extremely useful to operators who need to make moves, adds and changes in the data center. I would expect data center professionals involved with planning and

executing large-scale initiatives who use the capabilities in nlyte 6.2 to generate substantial time and cost savings,” said Andy Lawrence, research director for Datacenter Technologies at The451Group.

Additional capabilities available in the nlyte 6.2 release include expanded browser support for Safari on the Mac, and ongoing support for French and enhanced cable visualization. The cable visualization features allow users to selectively show one or many levels of connectivity so they can rapidly navigate even the largest networks to trace connections and identify potential redundancy issues at a glance.

“The DCIM Project Lifecycle Management functionality allows us to easily orchestrate the end-to-end process for deploying new assets in the data center. It handles prototyping the deployment, verifying the capacity, projecting the impact, reserving the space, generating the work orders and tracking the project to a successful completion.

“With nlyte 6.2, Nomura gains extended control of our data center projects and decreases the time and cost to deploy hundreds of assets in our data center,” explained Mark Andrews, data center manager at Nomura.

“DCIM needs to become simpler to adopt and use. In August of this year, nlyte

NLYTE SOFTWARE



introduced an entry-level solution – nlyte Express Edition – that makes it easy for companies to get started both quickly and easily with DCIM.

DCIM Project Lifecycle Management makes it easy for customers interested in enterprise

class capabilities to move rapidly up the DCIM maturity curve and take advantage of advanced features that more effectively optimize the user of power, cooling and space,” said Jon Temple, president and CEO of nlyte Software.

DCIM PRODUCT HISTORY ▶

nlyte 6.0 December 2010

DCIM PRODUCT USP ▶

Perpetual pricing per rack, or one- and three-year subscription-based pricing.

DCIM CUSTOMERS ▶

nlyte Software has approximately 100 customers and is recognized as a market leader by Gartner and The451Group, having won numerous industry awards.

COMPANY HISTORY ▶

Founded by data center professionals in 2003, nlyte Software is based in Menlo Park, California. The company also has a European headquarters and R&D facility in London, England, as well as a local presence in France and Germany.

EMERSON NETWORK POWER



DCIM PRODUCT NAME ▶

Trellis

DCIM PRODUCT DESCRIPTION/ SPECIFICATION ▶

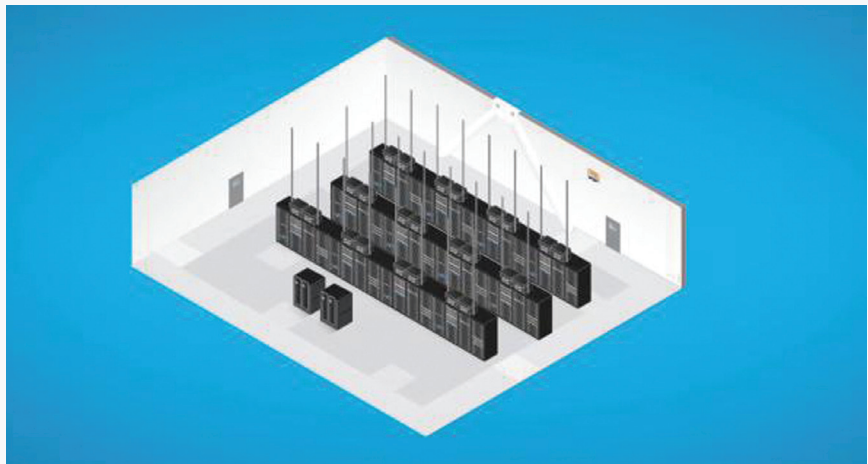
The latest development in the Trellis project was the rollout of the hardware appliance.

The Universal Management Gateway, an appliance by Avocent – Emerson’s DCIM arm – is integral to the company’s DCIM platform, Trellis, Emerson said.

Combined with Trellis, the device will provide real-time IT and infrastructure monitoring and control capabilities.

Avocent president Steve Hassell said the appliance’s role will be key in the Trellis platform, leveraging Emerson’s hardware, software and services expertise to enable more efficient data center management.

“This device integrates capabilities delivered traditionally through multiple disparate IT and facilities devices into a single product that delivers dramatically enhanced



functionality, along with reduced space utilization,” Hassell said.

Avocent expects the appliance to become available in February 2012.

DCIM PRODUCT HISTORY ▶

Trellis is the integration of products from the Aperture (Aperture Configuration Manager) and Avocent acquisitions and Liebert (Liebert SiteScan).

DCIM PRODUCT LAUNCH DATE ▶

As an integration and development of existing products, some modules began life as far back as 2002, with many updates and iterations since then.

COMPANY HISTORY ▶

Based in St Louis, Missouri, Emerson Network Power provides innovative solutions and expertise in areas including AC and DC power and precision cooling systems, embedded computing and power, integrated racks and enclosures, power switching and controls, infrastructure management and connectivity. All solutions are supported globally by Emerson Network Power service technicians. Liebert AC power, precision cooling and monitoring products and services from Emerson Network Power deliver efficiency without compromise by optimizing the data center infrastructure.

COMPANY’S ANNUAL REVENUE ▶

Sales in fiscal 2010 were US\$21bn.

SYNAPSENSE



DCIM PRODUCT NAME ▶

Data Center Optimization Platform

DCIM PRODUCT DESCRIPTION/SPECIFICATION ▶

SynapSoft 6.0 - features provide enhancements to all of the SynapSense products, including Environmental Monitoring, Active Control and Power Suite.

Power Suite - PowerImaging (the convergence of power and cooling with intuitive visualization of rack-level power data with cooling capacity for server placement), graphical rack details (consolidated graphical rack display for branch circuit monitoring and rack-level monitoring), power alerts (rack-level alerts indicate phase imbalance or maximum threshold violations).

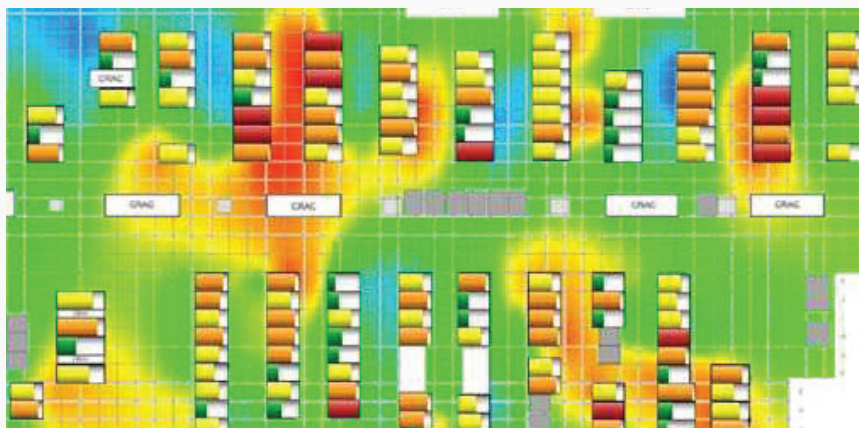
SmartLink™ - vendor agnostic, captures data from multiple RPDUs in a mixed environment and eliminates the need for an IP drop and configuration.

Environmental monitoring -

- Improved graphical interfaces and reporting features for increased business intelligence, including Livelmaging™ annotations.
- New optimization filter allows customers to zero in on a select set of data
- Enabled offline reporting for the extraction of data for improved reporting capability, including report scheduling in any format

Active Control - the number of data points collected has increased from 1M per day to 1M per 5 minutes for enhanced data center fine-tuning and control.

Other features - Livelmaging (thermal maps and movies of temperature, humidity and plenum pressure), real-time PUE and airflow efficiency metrics, custom metrics,



comprehensive power metering, Branch Circuit Monitoring, BMS integration (or integration with other third party equipment) enabled via SNMP, Modbus and BACnet protocols.

Data Center Efficiency Metrics - CRAH cooling efficiency metrics comprehend how effectively cooling resources are being employed. The console will calculate and display the following metrics, which have been developed in conjunction with the DOE:

- Rack Cooling Index (RCI) RCIHI and RCILO
- Measure of the cooling effectiveness of IT equipment racks to ASHRAE levels
- Rack Moisture Index Hi/Lo
- Measure of the moisture content of cooling air to IT equipment racks to ASHRAE levels
- Recirculation Air Ratio (RA)
- Measure of the temperature rise in the cold aisle from re-circulating hot discharge air
- Bypass Air Ratio (BPA)
- Measure of the temperature decrease in the cold aisle from re-circulation hot discharge air
- Air Loss Ratio (ALR)
- Measure of the CRAC/CRAH airflow wasted due to recirculation and by-pass air

In June 2011 Synapsense added SynapSense

Power Suite, tools include the P3 SmartPlug and SmartLink that optimize energy loads, reduce stranded power and identify in real-time available power and cooling capacity.

The SynapSense P3 Smartplug is a server/networking/storage replacement power cord with built-in wireless energy metering capabilities that automatically connects to the SynapSense wireless network.

SmartLink devices connect to a data center's smart PDUs (Power Distribution Units) and replace the IP backhaul, providing rack- and plug-level power information from most major PDU vendors.

DCIM PRODUCT HISTORY ▶

Continuous development since 2006

DCIM CUSTOMERS ▶

See <http://www.synapsense.com/go/index.cfm/customers/>

COMPANY HISTORY ▶

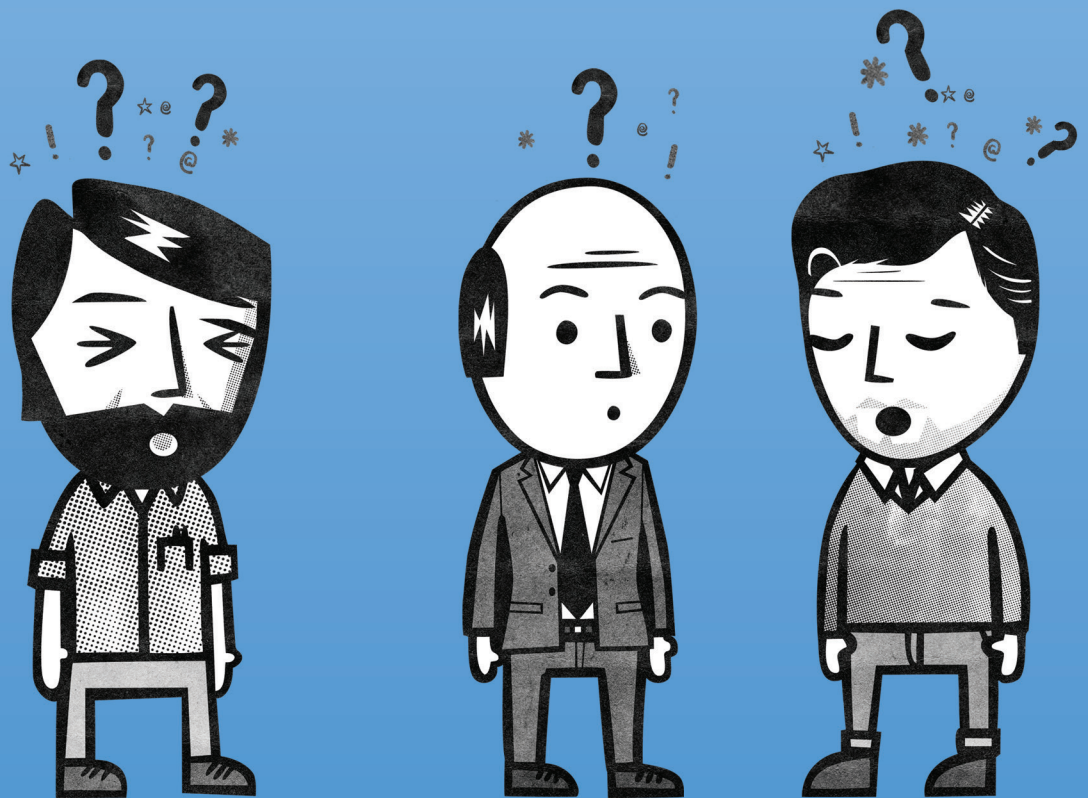
Formed 2006 by Peter Van Deventer, President & CEO and Dr Raju Pandey. Deventer is an ex Intel global sales executive and Pandey, Chief Technology Officer, is an Associate Professor in the Department of Computer Science at the University of California, Davis.

COMPANY TURNOVER ▶

Privately held

The best time to stop a data center problem is before it starts

dc-professional.com



 **DCProfessional**Development

Global Training and Certification Services

Optimizing People



Sponsors



by Schneider Electric

APC by Schneider Electric provides protection against some of the leading causes of downtime, data loss and hardware damage, such as power problems and temperature. It is a global leader in network-critical physical infrastructure (NCPI) solutions.
www.apc.com



With 25 years of experience, **Unite Technologies** is considered to be the UK's market leading IT Systems Manufacturer, Integrator and Solutions Provider to the IT and FM space within the Data Centre and Network Infrastructure industries.
<http://www.unitechnologies.com>



No Limits Software is a leading provider of data center management solutions, including asset and change management, capacity planning and real-time monitoring. No Limits Software provides a unique solution through the automation of asset and change management, including the discovery of the asset location down to the rack unit.
www.nolimitssoftware.com



An industry pioneer, **Raritan** was established in 1985. Today, we are a leading provider of power and energy management, KVM and access solutions.
www.raritan.com



Rackwise data center management software focuses on the hierarchy of needs within a data center organization. Our flagship software RACKWISE Data Center Manager (DCM) is a multi-layered software consisting of Data Center Essentials, Data Center Intelligence and Real-world Integration
www.rackwise.com



The **SynapseSense** Solution comprises a complete hardware and software set that enables a robust sensor net platform and extensive customer applications. It provides data center operators up granular visibility and monitoring, and real-time data, which can enable energy savings of up to 20%. It provides new data intelligence, triangulation, and tools to monitor and react to actual data center conditions.
www.synapsense.com



Modius, Inc. is a leading provider of data center infrastructure management (DCIM) software for optimizing the infrastructure and operations of critical facilities. The company's mission is to simplify the operations of the increasingly diverse and complex facilities and IT environment, while markedly improving performance efficiencies
<http://www.modius.com>

Directory 0 – Z

Companies in this issue

APC by Schneider Electric

www.apc.com

AssetGen Limited

www.assetgen.com

CA Technologies

www.ca.com

Concurrent Thinking

www.concurrent-thinking.com

Emerson Network Power

www.emersonnetworkpower.com

Fieldview solutions

www.fieldviewsolutions.com

Gartner

www.gartner.com

IBM

www.ibm.com

Intel

www.intel.co.uk

Itracs

www.itracs.com

Modius Inc.

www.modius.com

Nlyte

www.nlyte.com

No Limits Software

www.nolimitssoftware.com

Power Assure

www.powerassure.com

Rackwise

www.rackwise.com

Raritan

www.raritan.com

Schneider Electric

www.schneider-electric.com

SynapseSense

www.synapsense.com

The 451 Group

www.451group.com

Unite Technologies

www.unitechnologies.com

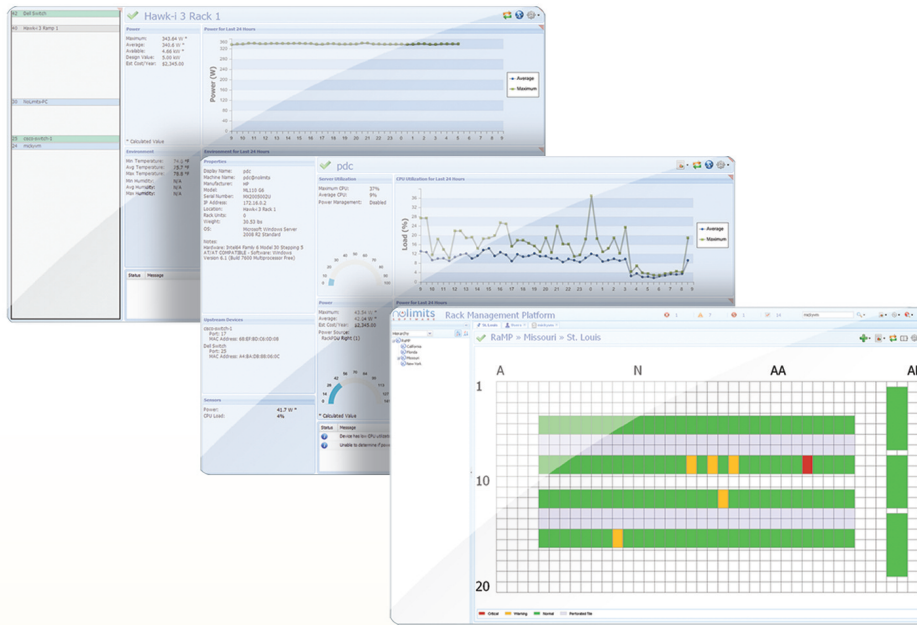
Viridity

www.viridity.com

VMware

www.vmware.com

Automated Asset Management • Real-Time Monitoring • Automated Change Management • Reduce Operating Costs
Enhanced Capacity Management • Server Monitoring • Web and Handheld Interfaces • Software License Management



Take Data Center Management to a New Level with **Rack Management Platform (RaMP™)**

Today's data center is likely your IT department's most valuable, most expensive and most mission-critical asset. Yet many departments rely on tools and techniques that have been pieced together over time to manage the day-to-day operation. That approach is not only costly and inefficient, but even the most skilled manager can struggle to keep up when manually managing data.

We built our **RaMP™** solution from the ground up to solve these common data center issues. RaMP is the first solution

to provide 100% data accuracy, automatic discovery of detailed device configuration and exact location of all devices.

RaMP reduces costs by eliminating the time and expense associated with manually collecting data and allows for enhanced capacity planning through the use of real-time data. **Actionable data is even available remotely through popular mobile devices such as iPad and Droid.**

RaMP truly offers a new level of productivity in data center management ... visit us online today for more information.



nolimits
S O F T W A R E

www.NoLimitsSoftware.com

Changing the Way You Manage Your Data Center

The Leader in DCIM, Any Way You Look at It



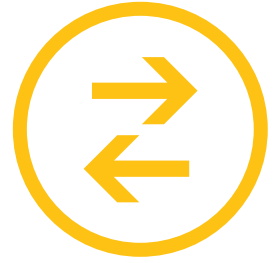
Asset Management

Easier, more accurate tracking and visualization of your data center assets.



Capacity Management

Manage your data center capacity more easily than using Excel® and Visio®.



Change Management

Manage moves, adds and changes in your data center easily and efficiently.



Energy Management

Know more about your energy use so you can intelligently manage energy costs.



Environment Management

Intelligent environmental monitoring to help you maintain the health of your data center.



Power Management

For highly accurate and detailed information about the power in your data center.

There are many Data Center Infrastructure Management options out there, but only Raritan leverages over 25 years as a trusted data center vendor to offer proven, complete, preintegrated solutions that are all available today.

www.raritan.com/DCIM1
