VERTIV™

Trellis™ Platform

for Data Center Infrastructure
Management (DCIM)

Is Your Data Center Operating at Peak Performance?

Mitigate Risk. Optimize Efficiency. Support Business Initiatives.

The goals for every IT and facilities organization are simple: Mitigate risk by maintaining high availability, access, and agility. Optimize the capacity and efficiency of data center resources and operations. And maximize the value of IT services by redeploying resources to support business growth initiatives.

But in the modern data center, these goals are easier said than done. Constant change, infrastructure complexity and rapid growth in resource needs requires IT and facilities to work together to reduce risk, deliver the balance of efficiency and availability required for peak performance and enable business transformation. For data centers to thrive now and in the future, they must be able to monitor, manage, and measure the assets using an integrated, cost-efficient and real-time solution.

Make the Right Decision with the *Trellis*™ Platform

For customers to effectively and efficiently realize the promised benefits of DCIM, their solution needs to have real-time visibility across all IT and facility resources. It should also be designed on a simple modular, scalable platform that allows custom configurations and the ability to scale from small to very large data centers.

Vertiv is addressing these data center challenges with the *Trellis* platform. Unlike any other DCIM solution, the *Trellis* platform delivers unprecedented, real-time visibility into critical infrastructures and the impact of changes. The *Trellis* platform monitors all IT and facilities resources in the data center and automates management and control to help your IT and facilities organizations realize their objectives. With this unified and complete solution, you gain the power to visualize the real situation in your data center, make the right decision and take action with confidence.
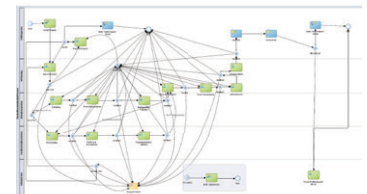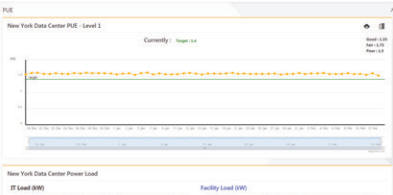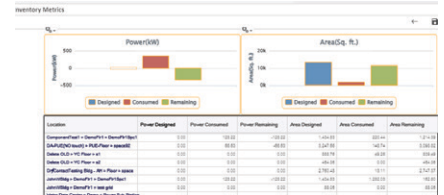
Understand Inventory

Manage Capacity

Control Change

Measure Performance

Take Action

Show Improvements

"Vertiv's R&D investment, sales channels and partnerships within the DCIM ecosystem position its solutions to meet the critical needs of data center availability and agility. The *Trellis*™ platform, in particular, represents the realization of many DCIM wish lists by delivering a single pane of glass that enables users to monitor, control and analyze data center assets in real time."

– JENNIFER KOPPY, Research Manager,
International Data Corporation (IDC)

The *Trellis™* Platform Difference

- **High Scalability**
  Multi-tenant, real-time architecture that is scalable with open APIs and vendor agnostic

- **Flexible, Extensible Industry-Standard Platform**
  Single "real-time" platform allows for data integration, filtering and processing (CEP) with temporality.

- **Enterprise Security**
  Integrated view into IT and facilities assets with enterprise-class security and fine-grained authorization.

- **Time-to-Market**
  Multi-tenant, real-time architecture getting enterprise service providers to market quicker.

Understand Inventory

Without accurate records, it is difficult to always know:

- What you have.

- Where it is.

- How changes affect services delivered.

This means each change must be checked with many stakeholders using their knowledge or adhoc records to verify the safety of the change. These changes can:

- Be slow and less agile.

- Be implemented with risk and chance of errors.

- Impact services.

- Reduce % of SLAs achieved.

Implementing a DCIM solution would allow a team to build a digital model of the physical environment of the data center including all containment, devices and interrelationships. This model could then be used by all team members to:

- Easily find devices.

- Understand how those devices relate to delivered services.

- Allow changes to happen quicker.

- Reduce errors; saving both time and cost.

The digital model would allow the data center staff to audit the contents of their domain much quicker than before saving time and improving audit accuracy.

Manage Capacity

The issue with capacity is that:

- It's expensive.

- It locks organization capital for long periods of time.

- It leads to unnecessary capacity spending.

With a DCIM digital model, it would be possible for a team to easily see:

- What capacity has been provided.

- Where it's being consumed.

- What capacity is remaining.

The digital model would allow planners to place more devices into the data center using the spare capacity that has been identified and reduce the potential risk and impact of incorrect placements.

Through better capacity management, the data center becomes more efficient leading to a reduction in CAPEX and lowering the risk to service delivery.

Control Change

These changes in the data center are:

- Occurring both quickly and frequently.

- Difficult, if not impossible to track and control.

- Susceptible to unforeseen errors which can impact SLAs and duplication of effort.

The use of a workflow tool with associated work orders and tickets would allow planners to schedule work to be done and provide:

- Specifics regarding the work to be done.

- Steps to be taken.

- The level of urgency required.

A DCIM solution would:

- Allow the data center management to manage the hours of their staff more tightly.

- Maximize labor costs.

- Avoid unnecessary OPEX due to extra labor.

By controlling the changes occurring, management can be assured that every staff member follows the same steps when carrying out a certain task, reducing the chance of individual error.

Measure Performance

Teams responsible for providing IT services require:

- Visibility into the health status and alarm conditions.

- Real-time data to head off failures and downtime.

- Accurate information to reduce SLA impact.

In addition, knowing where/what equipment is impacted and whether an alert condition is imminent or when an alarm occurs, expedites the remediation process.

Take Action

With all the data available, it is still difficult for operators to take manual or automated control of devices. The level of "noise" in the data center can be overwhelming and can lead to paralysis through analysis with the wrong decisions being made from a criticality standpoint. The ultimate end game of any DCIM solution is the ability to take action and take it quickly.

It is difficult for the operations teams to implement efficiency or resilience change, and over time the efforts deliver less and less value to the organization.

Through the use of a DCIM solution, operators are able to:

- Make manual control changes to equipment.

- Allow automated control changes to take place based on certain pre-determined conditions.

- Filter through the noise and respond quickly.

This would allow the operations teams to implement manual or automated control changes to improve the efficiency of data center operations; saving on overall operating expenses.

Show Improvements

The various teams responsible for addressing data center improvements or responding to problems cannot consume the data equally and cannot share the impacts with wider teams, leading to 'hero' mentality and over reliance on a small number of people to fix the big problems or solve the big issues.

Digital models, such as those found in DCIM, can share operational metrics among larger teams. Through visualization, the data being collected can be condensed and made easy to consume. Bringing the data center into view allows the full operations team to be more efficient as they will all understand what is going on.

Efficiencies of the work force reduce the overall operating expense of the data center.
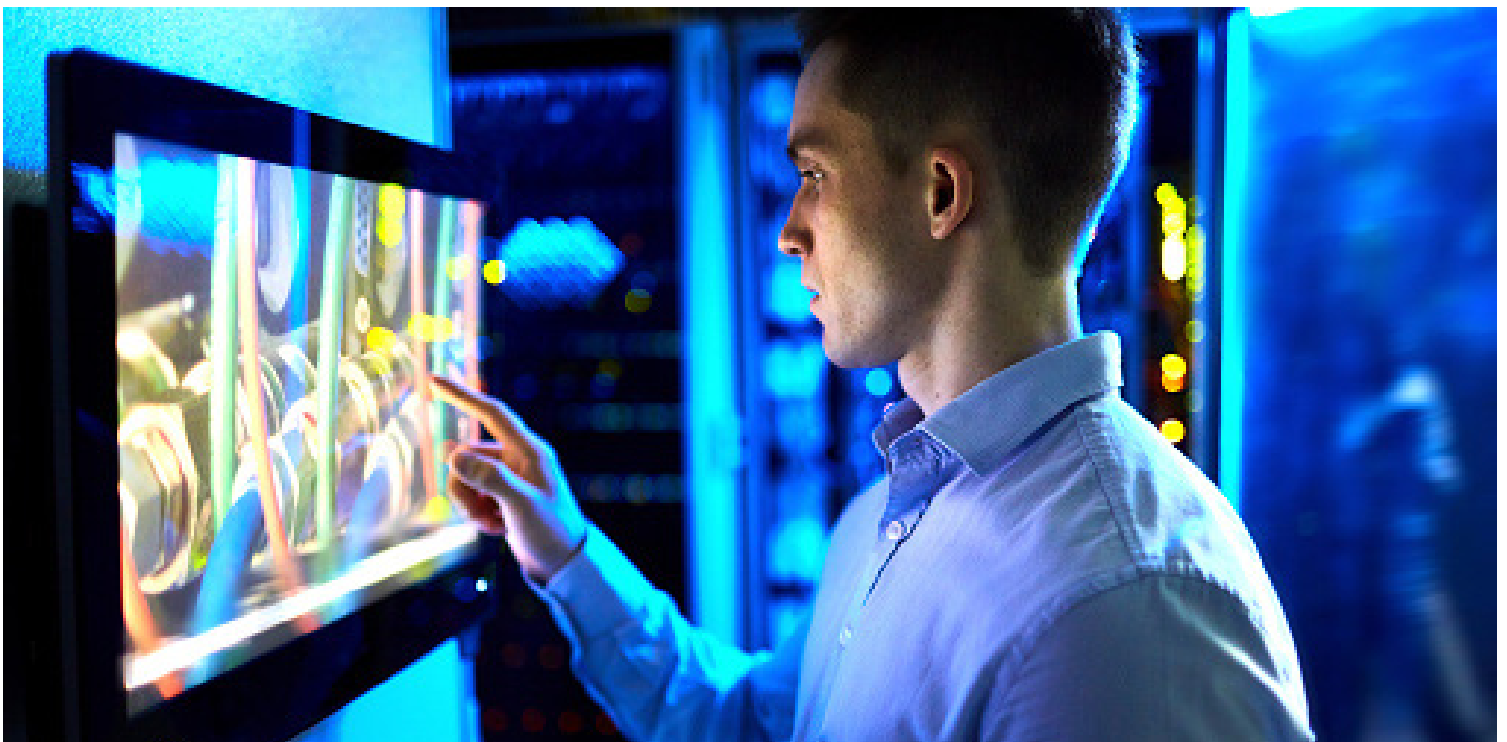
Reap the Benefits of a Modular Solution

Inventory Management

Real-time inventory of every asset's floor or rack position with detailed status.

- A single source for tracking inventory.

- Ability to search and locate equipment.

- Models showing the impact of proposed changes.

Process Management

Pre-defined, built in processes for installing, moving, decommissioning and renaming devices.

- Device placement decisions made easy through the *Trellis* smart install tool.

- User-friendly admin configuration that allows the organization to continuously improve their processes.

- Comprehensive reports provide insight into the status and performance of a project, process, group or individual.

- Customize processes that are specific to the organizations needs and requirements.

Mobile Access

Real-time, remote access allows users to manage inventory and keep the floor plan accurate as well as the ability to respond to alarms via a mobile device.

- Ability to scan devices and barcodes at the rack.

- Connectivity to data regardless of location on or off the data center floor.

Site Management

Details about operating status and site conditions such as event management, alarm notifications and current and historical efficiency metrics including PUE and DCIE.

- Visual representation of alarm locations.

- Real-time and historical metrics.

- Unified dashboard.

Power System Management

Comprehensive view into power system resource utilization and capacity improves business continuity.

- Insight into the active power path, dependencies and status of each device.

- Dynamic visualization and dashboards of status and capacity.

- Thresholds provide a complete view of resource utilization and capacity.

Thermal System Management

Unlock the true thermal capacity for your cooling units and data center and reduce stranded thermal capacity.

- Complete monitoring, reporting and alarm management for the entire mechanical chain from chillers and cooling towers to CRAC and CRAH cooling units.

- Prevents wasteful over cooling of the data center, and eliminates troublesome hot spots.

- Device Placement Optimization.

Control Your Data Center Operations

The *Trellis™* platform provides comprehensive, real-time insight into your data center and the interplay between IT and facility components. It also maps your data center so that all changes can have their effects predicted so that you can avoid problems and unnecessary downtime.

A modular solution that fits every sized company, the *Trellis* platform taps into servers, routers, storage, power distribution units, environmental monitors and more to intelligently aggregate, analyze and react to change and loads placed on environmental controls.

- **Comprehensive data** provides meaningful views to IT and facilities, making it far easier to collaborate, plan and control changes, proactively prevent downtime, discover hidden capacity and calculate actual data center costs.

- **Data center-wide monitoring and logging** visually present information for every asset so that you fully understand the current data or likely impact of changes on your operations, power consumption and cooling demands.

- **Automated device management** detects events and optionally automates managing devices, providing immediate insight and remedy so that you can increase data center management efficiency and proactively forestall outages.

Empower Every Member of Your Data Center Team

IT Management

- Ensure interdependencies are taken into account with one touch point for evaluating infrastructure.

- Automatically inventory all your assets with minimal to no manual effort.

- Control change with trend analysis and "before and after" real-time loading data.

Facilities Management

- Diagram your data center from end to end to identify opportunities for increasing efficiency and usage.

- Analyze current loads in real time and model proposed changes to assure availability and reduce costs.

- Exploit hidden efficiencies with automated processes to adjust power and cooling equipment.

Data Center Executive Management

- Empower your team with complete real-time data, mapping and modeling capabilities for smarter planning and change control.

- Understand where resources are deployed and how they are used.

- Continuously improve collaboration and communication with shared knowledge about the interplay between IT and facilities assets.

VERTIV™

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