

INTELLIGENT LOAD MANAGEMENT

Visualizing DC Load Use at Core Telecom, Cable and Data Center Facilities



Enables increased visibility and detailed understanding of all loads in your telecom central office or data center, providing early warnings of potential overload and preventing load buildup

KEY FEATURES

- Intuitive and user friendly software with easily identifiable icons and comparable altitudes that simplify handling and monitoring site loads
- Compliant with all major communication protocols, displaying load data via web based graphical user interface
- Overload prevention with individual current reading, displaying current measurement of each fuse or breaker in relation to predefined threshold values
- Cabinet map view enables optimized load distribution by visualizing load allocation in each separate cabinet
- Facilitated load balancing and site planning with site power consumption map showing load, status and location on the floor plan of all connected DC equipment
- Accurate billing and cost control with customer power consumption map by monitoring the aggregated power for each customer or operator on site level
- Scalable hardware with hall sensor boards available in ten or twenty current increments for integration with the DC power supply.

Intelligent Load Management is a patented optional capability in Vertiv's NetSure™ Control Unit (NCU) that enables comprehensive real-time monitoring of your DC power network infrastructure.

This advanced functionality enables you to visualize load location, power performance, and distribution inefficiencies in order to optimize the DC power supply, control cooling and avoid overload. Securing power availability is critical at core sites such as central offices and data centers. With Intelligent Load Management from Vertiv, high availability can be achieved while optimizing efficiency and saving cost.

Securing power availability

With preventive capacity adjustments

Individual current measurement, a function of Intelligent Load Management, makes it possible to configure and monitor each load, and display performance data down to the distribution/fuse/breaker level. Icons representing each load are easy to identify and breaker load status is color coded to highlight evolving overloads based on predefined threshold levels. This eliminates the need to install excess capacity up-front to cover for load buildups. Distribution capacity can be upgraded incrementally to meet power demand at an optimal investment pace with improved power availability from the onset.

Improving cost control

By measuring power consumption and billing according to usage

Rack load measurement aggregates individual loads in a rack view, showing cabinet performance in relation to each rack's power rating. This enables early warning ahead of potential rack power overload. Maintenance staff can easily view and obtain rack current/power/energy and cyclical power consumption data for each rack on site. Operators at co-location sites can determine each network element's energy consumption with this user-friendly tool. Network elements such as servers/switches/routers can be logged and billed based on their energy utilization. Operators can charge their tenants based on how much energy a specific rack consumes.

Optimizing Energy Efficiency

By finding hotspots and adjusting power and cooling accordingly

Power consumption mapping is a function of Intelligent Load Management that identifies each racks physical location on the site floor and displays its power performance characteristics. Discovering when and where power is consumed helps operators identify site load distribution inefficiencies. Since power to servers typically relates to heat dissipation, power consumption data is a good indicator of site hotspots while working on cabinet load adjustments or cabinet placements to obtain optimal site cooling efficiency. Understanding power distribution on site is the first step of a cost effective energy saving plan.

Application

Intelligent Load Management is the ideal solution for core network facilities, including telecom central offices and data centers that need to secure power availability while undergoing rapidly changing load conditions. With full power consumption control over each individual load and rack, network providers can operate shared/hosted co-location sites with full energy cost control.

Power Consumption Map

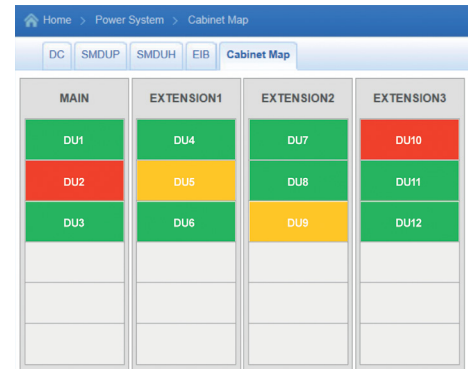
Shows an overview of the site, displaying either each physical rack's location on the floor, alternatively, in the case of multi tenants on a site, each square can represent one customers collective load. The rack load measurement enables analyses of the load distribution on site level and actual power consumed for multi-tenant charges.



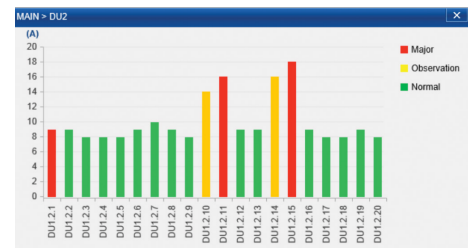
Individual Current Measurement

The cabinet map shows each distribution unit in the power cabinet, and whether there are any alarms on the individual circuit breakers within that unit.

When clicking on a distribution unit in the cabinet map, the circuit breaker readings are displayed, showing current for each circuit breaker in relation to predefined threshold levels.



The height of each bar symbolizes the amplitude of the current, while the color of the bars indicate the amplitude in relation to the predefined thresholds. Yellow or red bars indicate that the current is higher than the predefined threshold level.



Software, Components and Equipment

ITEM	DETAILS
Intelligent Load Management	Optional software block, factory installed in the NetSure™ Control Unit (NCU), providing individual load measurements through hall sensor boards and shunts mounted in NetSure DC power systems
NetSure Control Unit (NCU)	Model M830B or M830D
DC Power Supply	NetSure 7100 Series or NetSure 8100 Series