Intelligent Load Management

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

Benefits

- Maximize site availability by monitoring individual circuit breaker and fuse currents to prevent overload
- Optimize site load distribution with the site power consumption map, showing load, status and floor plan location of all connected DC loads
- Control cost and/or charge customers correctly by monitoring the aggregated power for each customer or equipment group
- Easily integrate and process your detailed load performance data with NCU controller supporting all major communication protocols
- Optimize investment thanks to scalable hall sensor hardware integration in the NetSure™ DC power system

Run your communications network more efficiently with increased visibility and detailed understanding of all loads in your core office or data center.

Intelligent Load Management is a patented optional capability in the Vertiv 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.

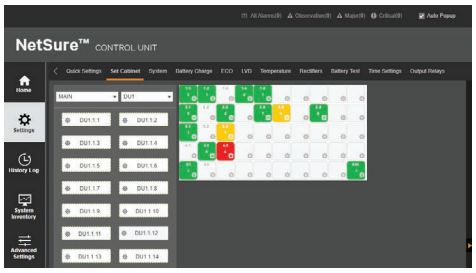
Intelligent Load Management

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 customer's collective load. The rack load measurement enables analysis of the load distribution on site level and actual power consumed for multi-tenant charges.

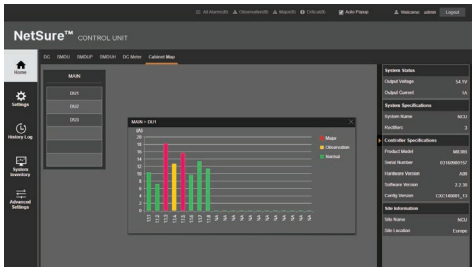


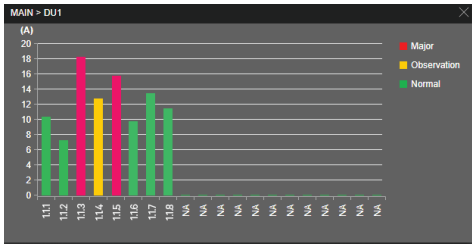
Individual Current Measurement

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

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