

SuprOS

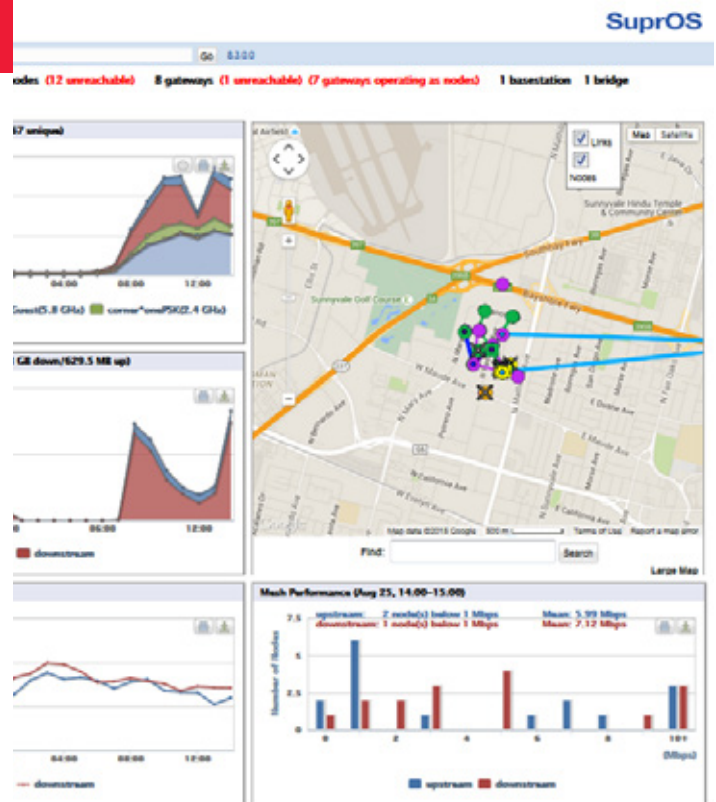
Communication network management system

SuprOS

SuprOS is a purpose built communication network management system that streamlines the planning, deployment, optimization, and ongoing operation of Hitachi Energy communication networks. SuprOS provides network-wide visibility from a single pane of glass, increasing operational effectiveness and efficiency.

Features and benefits

- Network-wide visibility provides insight into performance, usage, and RF environment
- Simple, powerful search retrieves information on any device, anywhere in the network
- Seamless integration with Google maps offers real-time views of router locations and visibility into operational data
- Auto-discovery reduces the need for extensive pre-planning and streamlines deployments
- Network analytics accelerate introduction of new services through access to historical trending data



SuprOS is a powerful communication network management system that maximizes the efficiency of IT personnel by simplifying complex tasks such as network performance analysis and system optimization. It monitors and manages Hitachi Energy communication networks as a system and provides device management services. At the network edge, SuprOS collects and processes extensive amounts of network and client statistics. On-board intelligence enables each router to process data gathered as close to endpoints as possible, then forward it to the SuprOS management server for analysis. The result is a complete profile of network and endpoint activity with negligible impact on available network capacity.

Intelligent statistical processing

Intelligent processing of data collected from devices across the network enables SuprOS to capture highly detailed information on network behavior at the management server without flooding the network with excess traffic.

- Examines network traffic, compiling a complete record of activity and performance
- Collected data undergoes processing at the router before it is sent to the SuprOS server, preserving network performance by minimizing management traffic
- Complete historical data is available at the management server for detailed drill-down analysis and trending

Detailed endpoint analysis

SuprOS offers rich performance statistics on a per-endpoint basis. Network administrators have immediate access to a complete endpoint history, including performance data, connection events, time of use, and endpoint-mesh interactions.

- Continuous data collection provides minute-by-minute historical data on endpoint activity, including connection history and send/receive data rates
- Drill-down access to granular endpoint data facilitates detailed troubleshooting

Network provisioning

Configuration changes and code upgrades must be performed with care to keep network devices in sync and avoid mismatched configurations. SuprOS features built-in checks, smart retries, and knowledge of the network topology to make upgrades and reconfigurations of thousands of devices as easy as managing a single local device.

- Automated upgrades of large networks conserve valuable IT resources, freeing personnel to focus on other tasks
- Intelligent, sequenced, provisioning ensures that connectivity is maintained and costly truck rolls are prevented

Network planning and deployment

SuprOS simplifies initial network deployments, expansions, and reconfigurations. Through use of advanced auto-discovery, routers automatically find one another to create the network, reducing the need for extensive planning, and streamlining network deployment.

During network roll-out, SuprOS continuously analyzes the network and automatically determines strategies for optimizing performance. Areas experiencing unanticipated coverage dropouts caused by RF interference, new construction, or foliage growth can benefit from additional routers to provide fill-in coverage. SuprOS provides the guidance required for trouble-free deployments, and simplifies creative customized router profiles to optimize performance.

- Sophisticated network self-configuration capabilities enable managers to easily plan network roll-outs and expansions
- Router provisioning is streamlined by using pre-configured or customized files and applying them to targeted devices
- Individual routers can be specifically identified and profiles customized on an as-needed basis

Network optimization

SuprOS provides communication network managers with a comprehensive summary view, and enables them to drill down for more detailed performance data. By consulting current and historical data on key thresholds, managers can ensure high levels of performance through proactive responses during network expansions, reconfigurations, or remedial actions. Relevant thresholds include network throughput, latency, RF environment, and traffic levels at specific nodes and gateways.

- Supplies a high-level view of every aspect of network performance, and highlights potential areas for optimization
- Automatically tracks key network, mesh, and backhaul performance thresholds to provide managers with clear notification of optimization opportunities
- Offers access to detailed per-router performance data in hourly, daily, and weekly time periods
- Provides granular detail on client link and connection history, offering context for performance optimization
- Provides insight into performance levels from client devices, enabling managers to determine optimization strategies to ensure subscriber satisfaction

Network monitoring and troubleshooting

IT personnel need quick access to critical fault, performance and statistical data about the network. SuprOS provides high-level and granular visibility into network operation and health. The network can be monitored from a variety of views, including a map view of TropOS routers, MicrOS client nodes, TeleOS and ArcheOS PTMP radios, AFS switches and AFR routers using Google maps. Alarm and event thresholds can be set so that fault notifications are sent and acted upon before network performance is compromised.

- Full integration with Google maps supports the creation of network maps with multiple zoom levels and terrain views. Status updates, and performance data can all be accessed directly from the map
- Offers a complete, unified network view to provide visibility into an entire network of interdependent devices
- Enables managers to identify, view, and diagnose problems with comprehensive alarm and event monitoring tools and root cause diagnostics
- Provides performance measurement tools to track network usage, overall capacity, and the correlated impact on client, mesh and backhaul performance
- Provides an XML-based northbound interface to business and network management applications

Network analytics

SuprOS generates detailed historical trend information through continuous data collection. Essential to network optimization and troubleshooting, trend analysis enables managers to assess changes in network performance and reliability over time. As a result, problems can be addressed before they adversely affect performance, and additional capacity or network configuration changes can be implemented proactively.

- Determines whether the network is adequately provisioned or if additional capacity is required for optimal operation
- Extends detailed analysis and mapping capabilities to facilitate introduction of new services
- Enables managers to monitor heavy users and determine if they should be black-listed or rate-limited
- Determine impact of network updates and configurations

Minimum system requirements – SuprOS

Linux-based server requirements

- 2.6 GHz (or greater) dual processor
- 4 GB RAM
- 200 GB minimum disk space
- Linux versions supported
- CentOS 6
- Red Hat Enterprise version 6