

Canopy™ PrizmEMS™

Element Management System

FACT SHEET



BENEFITS

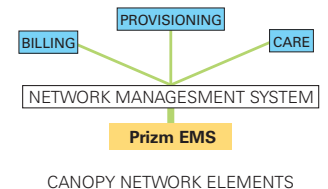
Providing reliable network services while:

- Helping to reduce operational costs by providing Canopy network performance information to the network operations center
- Helping to improve the end user experience
- Reducing the number of maintenance dispatches, and the time required to close out a dispatch on the Canopy network
- Integrating Canopy network elements into existing Network Management Systems (NMS), providing end-to-end view of network performance
- Building upon investment in existing Billing, Provisioning, and Maintenance network management functions; by incorporating data from the Canopy network
- PrizmEMS is able to integrate into the network via standard open interfaces, or operate as a stand alone management system

	Features	Benefits
Fault Management	<ul style="list-style-type: none"> • Fault Identification • Fault Isolation • Repair Verification 	Cost Reduction through reducing the number and time for maintenance dispatches
Configuration Management	<ul style="list-style-type: none"> • Installation Provisioning • Capacity Management • Database Interfaces 	Service Reliability by managing installations ensuring that service is initialized properly
Accounting Management	<ul style="list-style-type: none"> • Tiered Services • Billing Services 	Revenue Generation through adding new subscribers quickly, with accurate management
Performance Management	<ul style="list-style-type: none"> • Meet Service Requirements • Network Growth Modeling 	Revenue Generation through satisfying customers and extending the network to add capacity and services
Security Management	<ul style="list-style-type: none"> • User Authentication 	Network Security that meets the requirements of businesses, municipalities and healthcare institutions

Integration with Existing Network Management Systems

Carriers who have deployed existing network management systems (NMS), likely have significant investment in these and related systems to support Billing, Provisioning, and Customer Care processes. The Canopy system's PrizmEMS functions as a Canopy network aggregator or concentrator providing timely performance information to the existing NMS regarding the Canopy network elements.



Integrate Canopy System into Network Management

Network operators with networks in excess of 1,000 subscribers, routinely use Element Management Systems (EMS) to provision, monitor and manage the network. Many of these operators have made a significant investment in Network Management Systems (NMS), requiring a real-time end-to-end view of the complete network performance managing the Canopy wireless broadband access network, as well as managing their other embedded technologies. PrizmEMS can be used as a standalone system by smaller network operators, or can also be configured to integrate into installed NMS systems to provide larger network operators detailed management information on the Canopy

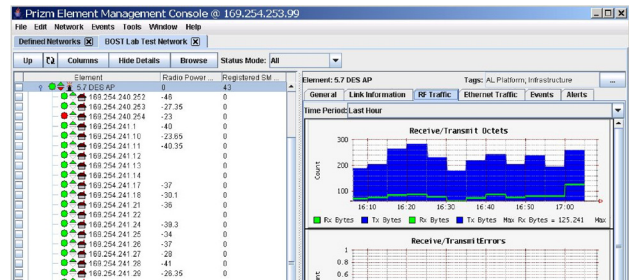
wireless segments of their network. The Canopy PrizmEMS provides auto discovery, network monitoring, fault management, and element management capabilities on the Canopy network. In addition, the PrizmEMS provides users a range of tiered permission levels to grant and block access to the PrizmEMS data so that an appropriate balance between efficiency and security can be maintained in customers' network operations.

The Motorola Canopy system is a field-proven, secure, scalable wireless broadband solution; comprised of an array of modules that can be configured to meet the unique needs of service providers and private network operators worldwide.

FUNCTION	DESCRIPTION
Element Performance and Status Monitoring	Monitors performance of Canopy network elements determining current status and performance. All data is exchanged via SNMP to the PrizmEMS controller. Data Collection for all Performance Monitoring (PM) parameters can be configured for reporting to the EMS at user defined time intervals — automatically without user intervention. Data collection can be performed on 5 minute, or operator configurable intervals, independent for parameter classes. The PrizmEMS can also collect the MAC Address and polling status for non-Canopy elements.
Element Configuration Management	Monitors the network associations between Backhaul (BH) modules, Access Point (AP) modules and Subscriber Modules (SM) throughout the Canopy network. Network operators can quickly understand the associations among network links, performance of sectors, and specific subscribers in the network. The PrizmEMS system also performs configuration management of all parameters for Canopy modules, manages performance templates, and communicates these performance templates to the Canopy network elements deployed in the network.
Event and Alert Monitoring and Notification	Canopy PrizmEMS users will automatically receive an alarm report when performance information exceeds or falls below user defined thresholds. Signal performance for jitter, Receiver Signal Strength Index (RSSI), and decibel (dBm) are among the key parameters monitored. Threshold crossings can be categorized as types and/or categorized as: Information, Success, Warning and Severe, in order to assist network operators in prioritizing response procedures.
Data Export	Canopy system PrizmEMS data can be viewed via a web GUI interface, or can also be exported in tabular or text form for inclusion in pre-defined report formats.
Element Event Logs	Each element in the network can have historical performance report information viewed to assist in managing the network. The event and alarm log for each element shows the date and time that conditions were reported and also the date and time that conditions were reported cleared. This vital information assists in network maintenance and service assurance reports.
Access to Customer Database	Customer database information such as name, address and contact information can be stored in the PrizmEMS so that customers can be contacted promptly when needed. The operator can use the PrizmEMS as their primary repository of this information, or can import data for view-only access from other Customer Relationship Management (CRM) systems.

Network View Screens

Network view screens are available via a browser based GUI. The display shows the network hierarchy and associations between BH, AP and SMs in tabular form using easy to understand icons for network elements. The system also indicates the IP address and vital information in an easy to read format. Histograms of key performance information are also available to provide easy analysis when performing provisioning, maintenance, or creating performance reports.



Alert Handling

Customers can define alerts, enabling the PrizmEMS to make an event record to view later and then act upon. These alerts; will then be displayed in the Event Viewer tab with the PrizmEMS system-level alerts and other alerts and events predefined by an alert generator.

Motorola's Canopy System

The Canopy platform's flexible product design allows network operators to tailor installations to efficiently meet the bandwidth demand of business and residential subscribers. High throughput services such as video and high speed data, can now be offered to network users as an optional upgrade to their broadband service.

As demand for bandwidth continues to grow, Canopy network operators can offer reliable high throughput services sooner, and at favorable prices when compared with wireline alternatives.



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