



# VectaStar Network Management

## VNMS System datasheet

**VNMS delivers network wide remote monitoring and pro-active resource management, combined with service level assurance for VectaStar Networks.**

VectaStar Network Management System (VNMS) provides a powerful, flexible, scalable and reliable user portal for VectaStar networks enabling users to monitor and provision equipment and services across the entire VectaStar product range.

VNMS enables comprehensive FCAPS network management for VectaStar networks referencing standards-based requirements.

Alarms are stored in a centralised SQL database on the VNMS server allowing users to view and filter alarms from across the entire VectaStar network without having to query individual VectaStar network elements one by one. Notifications can also be sent to individual users or groups of users via email or SMS.

Integrated VectaStar EMS (Element Management System) applications support in-depth, end-to-end configuration management allowing users to remotely configure the complete range of VectaStar attributes. Changes can be made on-site or remotely using the same VectaStar EMS graphical user interface.

VectaStar performance data is stored for 10 years allowing for long term trend analysis using a Round Robin Database (RRDtool) which aggregates and summarises performance data over time.

Easily configurable northbound interfaces enable seamless integration with a wide range of popular Operations Support Systems using SNMP, XML, or CSV files over FTP or SFTP.

VNMS runs on the Ubuntu Linux Operating System that can be integrated with existing infrastructure to ensure carrier-class availability and performance, without the need to worry about virus protection.

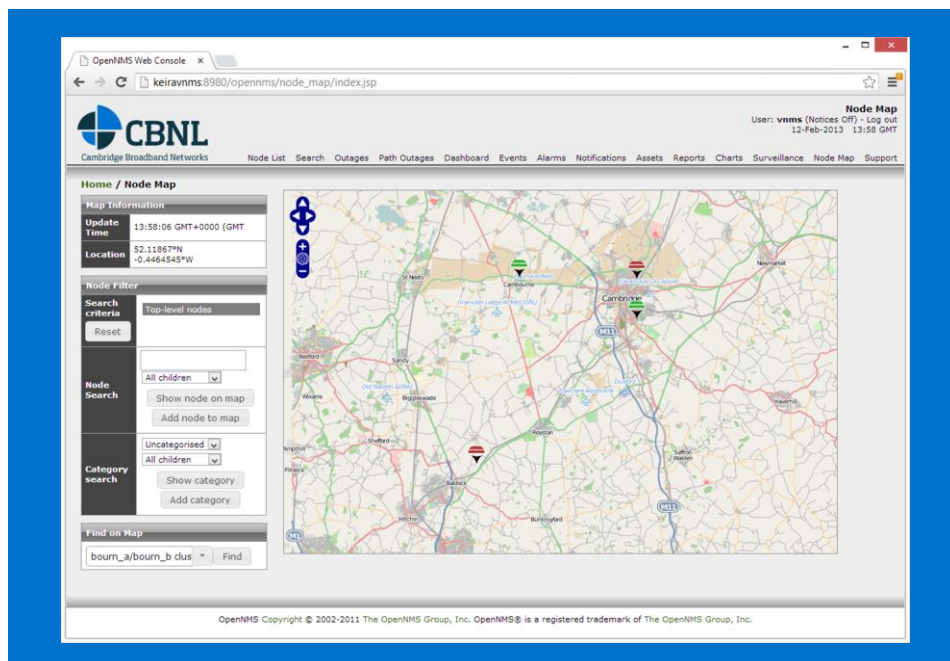
The system is installed on a Dell R310 19" rack-mounted server and secure online software updates allow VNMS to be updated remotely using CBNL software repositories.

Automated system backups are performed on a daily basis without affecting user access to the VNMS web console or EMS graphical user interface. Backup files are stored on the VNMS server but can be transferred and stored offline over secure connections using SFTP/SCP.

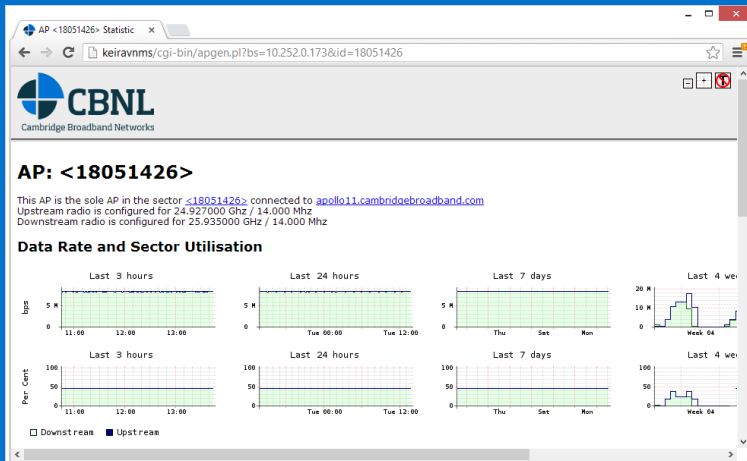
**Manage small networks or large networks with up to 10,000 VectaStar network elements from a single server with up to 40 users accessing the web-based user interface at the same time.**

The web-based user interface assures cross-platform compatibility so users can view the network from practically any type of modern computer including tablets and smart phones.

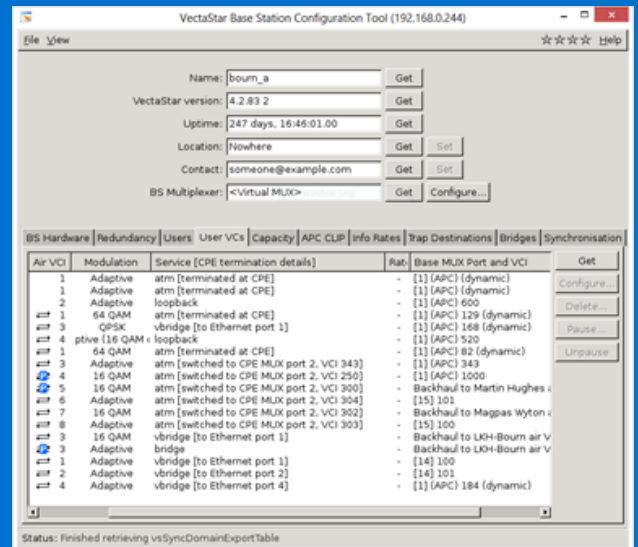
Network maps are created using OpenStreetMap mapping data. VectaStar map icons reflect the alarm status of equipment and services and are automatically located using latitude and longitude coordinates. Search tools and filters allow users to focus on specific network segments or step-back to view their entire network.



For each VectaStar network element, performance data such as RF power levels, SNR, and data throughput rates are polled at one minute intervals and displayed graphically using a web-based user interface. Performance reports can also be exported to file in CSV format. Pre-defined graphical KPI reports summarise network wide alarm and performance data such as top ten alarms and traffic utilization statistics on a service and port basis.



VNMS performance graphs  
showing VectaStar sector utilisation



VectaStar EMS equipment configuration and  
service provision user interface

Telephone and email support are available to customers with an active technical support contract. Using secure remote access protocols such as SSH, CBNL customer support engineers can investigate and often resolve VNMS or VectaStar issues remotely saving costly site visits and delayed response times.

## Technical Specifications

|                                           |                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Scalability</b>                        | <ul style="list-style-type: none"> <li>Up to 2,000 nodes and 10 users with 8 GB RAM</li> <li>Up to 5,000 nodes and 20 users with 16 GB RAM</li> <li>Up to 10,000 nodes and 40 users with 32 GB RAM</li> </ul>                                                                                                                                                        |
| <b>NMS Protocol Support / Transport</b>   | <ul style="list-style-type: none"> <li>SNMP v1, V2c, V3</li> <li>SSH v2, HTTP</li> </ul>                                                                                                                                                                                                                                                                             |
| <b>Recommended Hardware Specification</b> | <ul style="list-style-type: none"> <li>2.4 GHz Quad-core CPU</li> <li>8 GB RAM (expandable to 32 GB)</li> <li>2x 500 GB Hot-Swap SATA hard drives configured for RAID 1 redundancy</li> <li>16x DVD-ROM</li> <li>Dual port gigabit NIC</li> <li>Redundant power supply</li> </ul>                                                                                    |
| <b>Software Components</b>                | <ul style="list-style-type: none"> <li>Ubuntu 64-bit Linux server operating system</li> <li>OpenNMS Network Management System Framework</li> <li>PostgreSQL relational database</li> <li>RRDTool Round Robin Database</li> <li>Jetty webserver</li> <li>OpenStreetMap web map services</li> <li>VectaStar EMS tools, plus various Perl and Python scripts</li> </ul> |

To confirm the latest product information and to find your nearest CBNL representative, please contact our head office [sales@cbnl.com](mailto:sales@cbnl.com)

**About CBNL:** Pioneering the development and deployment of next generation microwave transmission equipment since 2000, CBNL is the global market leader in multipoint microwave backhaul and access solutions. Our carrier-class VectaStar platform serves over 50 communication providers across 37 countries, including 7 of the top 10 world's largest mobile operators. +44 1223 703000 [www.cbnl.com](http://www.cbnl.com)

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