

CellNode

Wireless Management System

KEY FEATURES

- Centralized Node Management
- Automated Node Provisioning
- Integrated Billing for ISP Sessions and Voice-over-IP Calls
- Centralized Traffic and Node Monitoring
- Comprehensive Reporting
- Fault-Tolerant Architecture
- Seamless Network Roaming
- Real-Time Node Status Notification

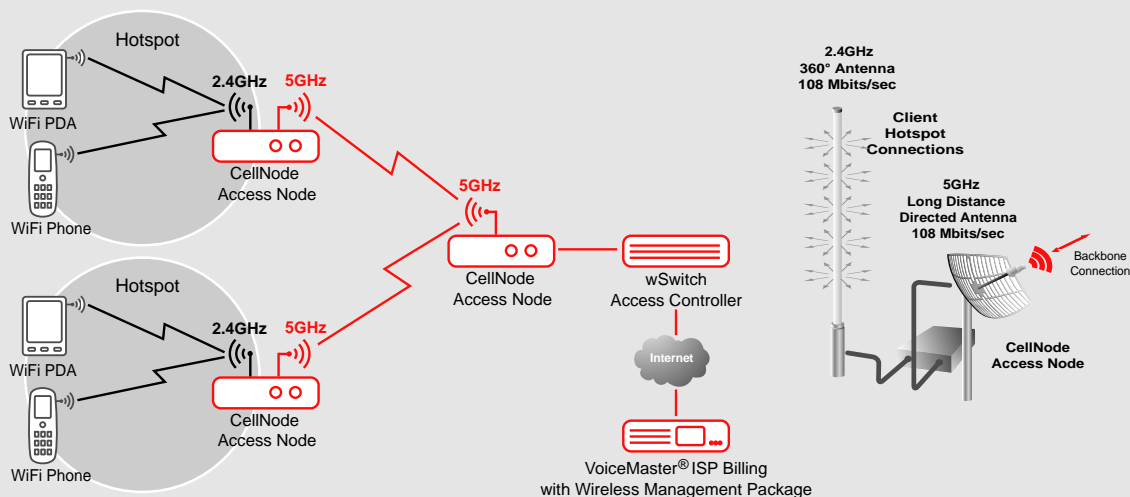
System Overview

CellNode Wireless Management System enables service providers to build and operate wireless networks with extended coverage. Such wireless networks provide the perfect infrastructure for offering mobile Internet access, VoIP telephony, and IPTV services to subscribers. The CellNode Wireless Management System utilizes the 2.4GHz and the 5GHz WiFi bands and is compatible with the 802.11 b/g/a standards. The system provides centralized management, monitoring and provisioning of a network of wireless CellNodes. It also performs roaming between network nodes, flood and broadcast prevention, and billing for data (ISP) sessions and VoIP calls.

SYSTEM COMPONENTS

- **VoiceMaster® ISP Billing** (with Wireless Management Package), a robust and feature rich ISP billing server that enables providers to authenticate and bill their subscribers in broadband and/or wireless environments.
- **wSwitch Access Controller**, a wireless network appliance that provides dynamic session authentication, client session management and traffic and bandwidth optimization for wireless networks built with CellNodes.
- **CellNode M100**, a unique wireless device, designed for operation in wireless mesh networks with central management and provisioning, and built-in network optimization.

CELLNODE WIRELESS MANAGEMENT SYSTEM ARCHITECTURE



CellNode

Wireless Management System

Centralized Node Management

The CellNode Wireless Management System supports centralized management of unlimited number of wireless nodes. The system allows information to be exchanged among system components in order to support client and infrastructure network isolation and provide security layers. The system automatically detects node problems and notifies administrators.

Automated Node Provisioning

With the CellNode Wireless Management System, the provisioning of the whole network is a breeze. Administrators have access to a browser based administration console, where they can make configuration or firmware changes. The system distributes automatically such changes to all wireless nodes in the network.

Integrated Billing for ISP Sessions and VoIP Calls

The CellNode Wireless Management System includes the VoiceMaster® Billing server which enables scalable implementation of VoIP, ISP and Wireless billing. VoiceMaster® supports pre/post paid billing and allows granular billing for ISP sessions and VoIP calls.

Centralized Traffic and Node Monitoring

Another valuable feature supported by the CellNode Wireless Management System is the centralized monitoring and traffic information which is enabled via Packet InterNet Groper (PING) and Multi Router Traffic Grapher (MRTG). The system can detect node failure and can generate a notification event that will be sent to the system administrator via email or SMS. In addition, administrators can view real-time status and traffic statistics information from the centralized system console.

Comprehensive Reporting

The CellNode Wireless Management System offers comprehensive reporting capabilities which enable providers to manage their businesses more effectively on a daily basis. Administrators can generate multiple customizable reports, including revenues, expenses, accounting and others. Additionally, the system can generate reports in the form of 2D and 3D graphs which help administrators spot any positive/negative trends easier.

Fault-Tolerant Architecture

The CellNode Wireless Management System operates in a wireless mesh architecture which makes substitution of failed access nodes easy. If one CellNode becomes temporarily unavailable, traffic can be transparently redirected to alternative nodes.

Seamless Network Roaming

The CellNode Wireless Management System offers seamless network roaming for wireless clients. Each client can transparently switch from one CellNode to another without experiencing session interruption while moving within the wireless network. All roaming services are performed in real-time while retaining ongoing client connections, including active telephony calls.

Real-Time Node Monitoring

The CellNode Wireless Management System also offers real-time monitoring of the status of each wireless node. Administrators have access to real-time information about each node, including online status, last activity and ping. The system also provides information related to power or battery problems of each node.



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