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IP Telephony
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Services

PRODUCT BRIEF

Avaya and Meru Networks

Providing a WLAN Solution

How can enterprises in different environments — including corporate, health care and education — build a wireless network with unprecedented reliability, security, quality of service and scalability, while leveraging their existing investment in wired infrastructure?

Meru Networks, an Innovator-level member in the Avaya DeveloperConnection program, meets this need with the Meru Wireless Local Area Network (WLAN) Solution. The solution has three key components: Access Point (AP), Controller and System Director. It also includes an optional virtual private network (VPN) module.

The solution is designed to work with Avaya Communication Manager and Avaya IP Office. Communication Manager integrates telephony call processing, call control, messaging, contact center and an application programming interface into a highly scalable architecture that can support both circuit-based and IP-based telephony within a distributed enterprise communications network. IP Office is an all-in-one solution designed to meet the communications challenges facing small and medium-sized businesses.

Components of the Solution

The solution includes three key components, plus an optional module:

- APs are third generation coordinated APs representing a quantum leap forward in AP functionality.
- Controller provides coordination of APs to deliver a highly scalable, reliable and secure wireless LAN. The Controller is the central engine that enforces all wireless LAN policies.
- System Director delivers distributed intelligence with centralized control for Meru WLAN solutions. Embedded software on the APs and Controllers, System Director manages all WLAN system features.
- VPN module is designed for large-scale WLANs that require maximum security.

Features

Quality of Service (QoS) — Unlike most WLANs, the Meru WLAN solution can support real-time applications such as voice. Meru's system overcomes latency problems and provides predictable performance. The system automatically detects traffic types to apply QoS policies. The Meru AP supports up to five times more voice calls than competitive APs. Meru also equips WLANs to support real-time applications by transmitting voice and data on the same channel, thus eliminating the need for extensive RF planning.

High Density — Meru's patent-pending Air Traffic Control technology manages signal contention with sophisticated time-based traffic controls.The technology delivers predicable performance, free of latency and jitter problems, to increase user density by a factor of five: no performance degradation, 5x client density per AP and 5x aggregate throughput per AP.

Transparent Mobility — With virtual AP technology, Meru allows multiple Meru APs to serve as one powerful, wide-ranging AP, providing optimized load balancing, zero-handoff between physical APs and integrated RF monitoring for network awareness and self-healing.

Easy Deployment and Management — Meru's Air Traffic Control Technology with RF intelligence eliminates the need for managing RF interference, determining channel and power settings, and optimizing the network, thus reducing the RF planning requirements for large-scale deployments.

Comprehensive Security — By nature, RF signals are everywhere, creating the fundamental security challenge for wireless. The Meru solution provides a cost-effective defense for both the perimeter and internal networks. Its unified approach to wireless security includes firewall, protection against DoS attacks and antivirus. The solution provides eight layers of security, from location to application.

System Requirements

Hardware Architecture of the AP:

The platform has two wireless interfaces bridged by an Ethernet interface. One interface is an omni 802.11B interface, and the second is a directional 802.11B migrating to a directional 802.11G mesh interface. The air interfaces

are on separate daughter boards connected to the mother-board by a PCMCIA interface, and may be 802.11A/B/G, or even 802.16 in the evolutionary path. The platform also has multiple PCI slots where additional interfaces may be added. The platform has five main components:

- 10/100Mbps Ethernet interface controller (with programmable Ethernet MAC with fixed Ethernet PHY)
- The processor board including a PPC 8241 processor, 32 MB of SDRAM, 4 MB of Flash, and a 66/32 PCI bus; it houses the AP control and management functions, bridging, and the 802.11 MAC software
- Virtex 1000 FPGA for housing timing sensitive lower MAC 802.11 functions, security cores, and other optional dedicated functions
- PHY/RF board with the baseband and radio interface
- Two internal and two external antennas per interface with several certified antenna choices (ranging from omni to highly directional, indoor to outdoor, and with different dielectric properties)

Software Architecture of the AP:

- Embedded OS functions including scheduling, interrupt processing, memory and cache management, and bus arbitration
- Ethernet interface
- Configurable repeater/bridging/routing module
- Physical and virtual interface modules including L2 and L3 tunneling capabilities to support different deployment configurations
- Pluggable classification, traffic shaping/policing, and scheduling modules for both the air interface and wireline interface
- AAA and security modules including 802.1x and filtering
- The 802.11 MAC module governing channel access and managing the lower MAC policies for the client-side interface
- Wireless point-to-point link manager for the mesh network
- Mesh generator, for creating and maintaining the backbone wireless mesh network

About Meru Networks

Meru Networks designs and develops standards-compliant 802.11 Wireless LAN Systems for large-scale data, voice and real-time applications. Meru's products include coordinated APs and Controllers that manage multiple APs. The Meru solution, deployed in FORTUNE 500 companies, universities and health care organizations, provides over-the-air Quality of Service, predictable performance and roaming with seamless handoffs. Meru's WLAN System greatly simplifies RF planning associated with large-scale WLAN deployment and provides the industry's most comprehensive WLAN security from location to application, with continuous monitoring. Meru also provides a comprehensive set of network management tools to minimize ongoing operational costs. Founded in early 2002 by Ujjal Kohli (CEO) and Dr. Vaduvur Bharghavan (CTO), Meru Networks is based in Sunnyvale, California.

For more information, visit www.merunetworks.com.

About DevConnect

The Developer*Connection* Program (DevConnect) is a comprehensive set of innovative sales, support, marketing and services programs through which Avaya works with members to develop and promote their products and solutions that interoperate with Avaya solutions.

For more information, visit DevConnect at www.devconnectprogram.com.

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