Solutions Brief

High-Definition Video Conferencing, Real-Time Video Delivery and Video Surveillance Over Wi-Fi

Innovation in digital video technology has resulted in a trend away from analog video systems, to that of IP-based digital video systems. High performance servers and software make it now possible to digitize analog video, compress video for transport, to store and view -- all in real-time. Enterprises are increasingly deploying Wireless Local Area Networks (WLAN) to replace wired networks to provide converged video, voice and data mobility solutions within the office and outdoors. These changes, present a real alternative to quickly deploy cost-effective IP-video solutions both within and outside the Enterprise – from high-definition video conferencing to real-time video streaming.

Video solutions, however, impose unique requirements on existing data centric WLAN networks. Video conferencing is an interactive application that requires higher definition, bandwidth delivered to few users whereas video streaming uses lower bit rates but needs to scale to potentially thousands of users. In contrast, video surveillance has fixed bandwidth requirement and aggregates video from numerous cameras. To ensure high quality video conferencing and delivery, video-specific quality-of-service parameters must be supported. Key parameters like latency and jitter must be controlled for viewable video quality. RF interference renders micro and pico-cellular WLAN architecture to be unsuitable for Enterprise wide deployments. The WLAN system must be capable of handling the high-definition video content bandwidth, irrespective of whether the content is delivered locally, remotely, on-demand or as per schedule. Meru's WLAN system is the only WLAN system that is capable of efficiently handling bandwidth rich video content with voice and data traffic.

Video Conferencing

IP video conferencing systems provide significant performance, management and cost-benefits to Enterprises. Meru's advanced quality of service makes Enterprise wide deployments of video conferencing over Wi-Fi a reality. Meru's dynamic quality of service (QoS) mechanisms automatically detects standards based (SIP, H.323, etc) video streams and assigns video specific policies. Meru's Wi-Fi Alliance certified 802.11n access points provide abundant bandwidth (600 Mbps) to meet even the most demanding video conferencing applications.

Video Streaming/Delivery

Video delivery over Wi-Fi enables customers to view live events, broadcast TV and on-demand high-definition video using any wireless (Wi-Fi) enabled device. Meru's WLAN system minimizes traffic bandwidth requirements by using IP multicast to simultaneously delivering a single video stream to thousands of users within the Enterprise. Meru's flexible QoS rules can be applied to prioritize specific video streaming/delivery content or allocate dedicated resources to specific content type. Additionally, Meru's 7-layer security architecture offers utmost security without impacting scalability.

Video Surveillance

Meru makes it possible for organizations to deploy cost-effective IP video surveillance solutions to monitor assets in real-time, to secure sensitive areas and perimeters. By using the self-forming capability of Meru's Enterprise mesh, video surveillance solutions can be rapidly deployed with limited staff – retail, manufacturing plants, hospitals, learning institutions, and even in the harshest of outdoor environments. Meru's WLAN works independent of the video format, video management software and camera technology making open vendor video surveillance solution a reality.

Meru Access Points

Meru Access Points provide unparalleled performance for Video over 802.11n, 802.11b, 802.11g and 802.11. The Access Points work in conjunction with Meru Controllers to deliver the high-definition quality video over Wi-Fi service, excellent voice and data client performance, self-healing and rogue AP detection.

Meru Wireless LAN Controllers

Meru Controllers provide centralized management and control of Meru APs. Meru Controllers intelligently manage the RF air space to deliver a WLAN that is as reliable as the wired network. Intelligent management of client access ensures the highest performance for dense video, voice and data applications, delivering a true converged video, voice and data WLAN.

Meru E(z)RF

The E(z)RF™ Application Suite includes comprehensive network management, coverage planning tools and location management for the planning, monitoring, securing, and administration of Enterprise WLANs

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Lowest total cost of ownership

Meru's WLAN system provides the industry's highest capacity. Up to 30% less wireless infrastructure equipment is needed in a Meru WLAN deployment resulting in much lower capital expense than other vendor's WLAN gear. Meru's WLAN systems are deployed with minimal complexity. The WLAN controllers and access points can be setup in hours as opposed to several days while using competitor's products. Only basic coverage planning is recommended with Meru WLAN systems. i.e., no RF knowledge is needed to deploy Meru WLAN equipment further minimizing deployment and on-going operational expenditures.

The Enterprise WLAN business case

Enterprises are requiring the WLAN to support video, voice and data – all in one system, not separate video, voice and data networks. Meru's WLAN system overcomes all critical challenges involved in implementing and managing a converged, scalable WLAN infrastructure for high-definition video conferencing, video streaming/delivery , video surveillance, toll-grade voice and data applications. Meru's WLAN products are standards compliant, Wi-Fi alliance certified, are designed for flexible deployments and scale dynamically to provide multi-gigabit rates with 99.99% reliability.