



The Benefits of an Extricom Wireless LAN

Extricom's unique architecture provides complete coverage and high-speed connectivity throughout the enterprise

Extricom's Wireless LAN (WLAN) architecture eliminates the challenges that have hindered the adoption of WLAN, namely poor performance and high cost of ownership. Extricom's novel approach does away with cell planning, RF site surveys and maintenance, the most expensive aspects of WLAN ownership. Extricom WLAN provides complete coverage of the entire enterprise at the highest data rate with greatly increased capacity.

This paper describes key features of Extricom's WLAN architecture:

- Complete coverage and seamless scalability
- Significantly increased capacity
- No RF deployment or maintenance required
- Zero latency roaming
- Ubiquitous security
- Wire-line quality VoWLAN
- Effective Load balancing



Complete Coverage and Seamless Scalability

Ubiquitous coverage using a single channel

Challenge

It is difficult to cover an entire enterprise using a traditional WLAN installation. Performance must be sacrificed to provide coverage. Adding even a single Access Point (AP) requires careful planning and a site survey.

Extricom's Solution

In an Extricom WLAN deployment, each channel covers the entire enterprise with a continuous blanket. There are no shadows, "black holes", or areas of poor coverage. All users connect at the maximum data rate. APs can be added at will without limitation, resulting in true scalability.

Result:

Extricom covers the entire enterprise without compromising performance.

Significantly Increased Capacity

All users always at the highest data rate and optimal channel reuse

Challenge

Limited range at high data rates, edge users clogging up air time, dramatically reduced throughput caused by multiple users, rate adaptation, large collision domains, and co-channel interference caused by the reuse of frequencies are realities of traditional WLAN deployments. The result is that cell planning, though highly relied upon, is ineffective.

Extricom's Solution

Extricom covers the entire enterprise with continuous blankets of high data rate

coverage, one for each available channel. TrueReuse™ allows per channel optimal reuse and spatial density.

Result:

Greatly increased capacity, all users at highest data rate, many times more users (depending on the number of channels), and optimal channel reuse.

No RF Deployment or Maintenance Required

The need for cell planning and site surveys is completely eliminated

Challenge

Traditional WLAN deployments require expensive and complicated RF site surveys for cell planning. The survey requires specialized equipment and expertise, and must be constantly maintained, or repeated, due to the dynamic nature of the RF environment. The site survey dictates where APs will be placed, regardless of convenience. Each AP must be configured and updated regularly. The result is a nightmare scenario for maintenance and management.

Extricom's Solution

Extricom's blanket architecture requires no cell planning; in fact, it does away with the notion of "cells." APs are placed ubiquitously, wherever convenient. Due to the very low cost of Extricom's solution, a large number of APs may be used to provide full coverage. The UltraThin™ AP does not need to be configured and does not pose a security risk (as is traditionally the case).

Result

Extricom WLAN completely eliminates the need for cell planning and RF site surveys, thereby eliminating most of the cost and complications of owning a WLAN.



Zero Latency Roaming

One-time association for the entire network

Challenge

In a traditional WLAN, the mobile user is constantly moving from cell to cell within the network. As such, he/she has to reassociate with the network at every cell boundary. The handoff to the next cell causes delays, increased security overhead, and interruptions in both data flow and VoIP. To support roaming, APs must be configured to work together and must be interoperable.

Extricom's Solution

Extricom's WLAN covers the entire enterprise with continuous blankets, one on each channel. Roaming latencies are eliminated. The client remains on the same channel everywhere in the enterprise. Extricom provides inter-AP hand-off without delays or packet loss.

Result:

An Extricom wireless network means, no delays or packet loss associated with roaming, no security risks or IT management overhead.

Ubiquitous Security

Complete encryption from the client to the switch

Challenge

WLANs are notorious for their lack of security. The new WPA standard solves some problems, but War Driving (listening to wireless traffic from the parking lot), rogue APs (not placed by the organization), and theft of APs containing passwords, continue to threaten WLAN security.

Extricom's Solution

Extricom encrypts the data all the way from the client to the switch (not just to the AP), eliminating an important security gap. Rogue APs will be disabled at the Extricom wireless switch. Stolen APs do not compromise security, as they contain no passwords. Because transmission power is reduced and WPA, AES and 802.11i encryption is used,

War Driving will be ineffective.

Result:

Extricom WLAN is truly secure.

Wire-line Quality VoWLAN

A WLAN built for Voice

Challenge

Edge users and continuous reassociation create levels of latency and jitter that are unacceptable for voice. Large numbers of users (VoIP users in addition to data stream users) create an additional bottleneck. Power consumption restraints on VoWLAN phones limit the power of uplink packets and dictate the use of the 802.11b standard, which may slow the entire network.

Extricom's Solution

Extricom uses WME or 802.11e in addition to its zero latency roaming technology to greatly reduce latency and jitter. Since Extricom blankets the enterprise with closely spaced APs, mobile users are always close to an AP. This eliminates the latency and jitter caused by retransmission and reduces power consumption. Since slower users are moved to a different channel, the slower users do not affect the network.

Result:

VoWLAN with wire-line quality and wireless mobility.

Effective Load Balancing

The only dynamically load balanced wireless network

Challenge

In a traditional WLAN, the number of clients is limited (usually to not more than 60). Which channel a client uses is determined by geographic location. All users in a single location must use the same channel. Slower users slow down the network for all users.

Extricom's Solution

Extricom's unique WLAN architecture

provides multiple channels (depending on the channel configuration used) everywhere in the enterprise, enabling true load balancing. Any number of load balancing schemes are available. Channels can be assigned according to the traffic load on each channel, based on data rate (slower users to different channel), by application (voice on one channel, data on another), or arbitrarily (engineering on one channel, marketing on second, management on third).

Result:

Extricom provides true and meaningful load balancing, allowing a much larger number of concurrent users while maximizing capacity.

Conclusion

- Extricom's totally different WLAN architecture enables:
- Complete coverage and seamless scalability
- Significantly increased capacity
- No RF deployment or maintenance required
- Zero latency roaming
- Ubiquitous security
- Wire-line quality VoWLAN
- Effective Load balancing

These key features result in a low-cost real-world WLAN that increases enterprise connectivity and productivity and eliminates the barriers to enterprise WLAN deployments.

