



Tech Memo: LAN Encryption with WirelessWall

The WirelessWall is not just for “wireless” anymore! Our Access Controller appliances and virtual appliances are ideal as a wired strong AES encryption solution with authentication and audit trails. The same “sniffer proof” protection provided for wireless networks can prevent unauthorized access of data in-transit over LANs which may have sensitive information not intended for everyone. Email, financial information and customer records are often only protected by application security and filesystem or database security. This data is often communicated over Ethernet with little or no protections. A new generation of viruses and spyware have specifically targeted such vulnerabilities to tap information once considered safe within the internal security perimeter. Smart-BOTs can easily penetrate a machine on a trusted network which can sniff traffic between servers, bypassing user and group access controls.

Technology

The WirelessWall “SoftWPA2” protocol was intended to provide end-to-end encryption over the wire as well as over the air. The reason it’s protocol agnostic is that it leaves provisioning and association to the radios. In fact, our Mac OS X clients explicitly allow you to set wired as well as wireless. The Windows client allows users to select a default Device Configuration that can be either a WLAN or LAN interface.

WirelessWall is a high-performance Layer 2 security solution that scales to protect all Ethernet networks at 10Mbps, 100Mbps, 1GbE, to 10Gps for seamless end-to-end integration for the corporate or retail LANs or between network bridges.

Multicast support is possible because the Ethernet payload is encoded, not the addressing. Multiple subnets can be supported on a single Access Controller via the WirelessWall VLAN tagging feature to allow it to work with VLAN Switches.

Use Cases

There’s a huge market for LAN encryption where distributed/replicated databases are copied / updated over networks often with inefficient security, or none at all. In this industry there’s a large demand. It’s not just a user-level solution.

The primary market for distributed information processing is in the business and financial sector. Other vendors are still providing solutions with (respectively) application-specific software, specialized appliances, and crypto hardware.

SQL uses relatively simple, plain text commands to select database tables, add and update columns. Transaction processing often uses these commands over the network. If security is provided, they are usually per-transaction secure sessions done with SSL. The overhead for this approach is enormous. In OLTP, there’s been awareness of this cost. Doing the encryption at Layer 2 avoids all that overhead and handshaking. We can apply some of the same Layer 2 versus SSL measurements and there is probably already a body of data with comparative benchmarks.

There are many popular Open Source database products which don’t have integral security for their remote transactions. There are many other distributed data environments that could benefit



by Layer 2 encryption. Even at HP in the Tandem division, a big component was the network backplane with hardware encryption. Lots of companies would benefit from the ability to approach those levels of efficiency without special hardware.

Features:

- Layer 2 Ethernet encryption of high bandwidth communications
- Removes overhead and latency associated with layer 3 solutions such as IPsec VPNs
- Ideal for securing data in-transit over networks
- Intrusion detection available
- Complete Firewall Policy and Audit capability
- Automatically enforces Access Control and Identity Management policies
- FIPS 140-2 cryptographic module

The advantages of the WirelessWall are considerable. Of course, the Access Controllers support all WiFi protocols as well as, Mesh and WiMax, so a single controller can provide the cohesive management for mobile PCs and devices as well as for stationary computers on the LAN.

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