

AeroGuard™

True MIMO™ WLAN Switch System Overview

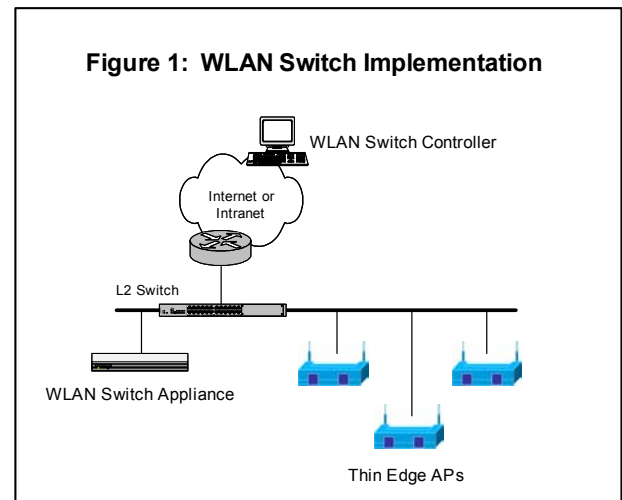
A Central Management and Security Policy Enforcement Enterprise Solution with MIMO WLAN Switch Architecture

An enterprise wireless local area network (WLAN) solution requires the ability of central security policy and network management. One elegant way to accomplish this is through a tiered architecture that utilizes a WLAN switch or a WLAN switch appliance as shown in the Figure 1.

In this conventional implementation, the edge access points are attached to a WLAN switch or controlled by a WLAN switch appliance over an Ethernet infrastructure. In addition, a WLAN switch controller centrally manages the whole WLAN network that may consist of multiple WLAN switches or WLAN switch appliances. The edge access point in this architecture can be "thin" but must support adequate intelligence to meet the performance requirements of an application-rich wireless environment.

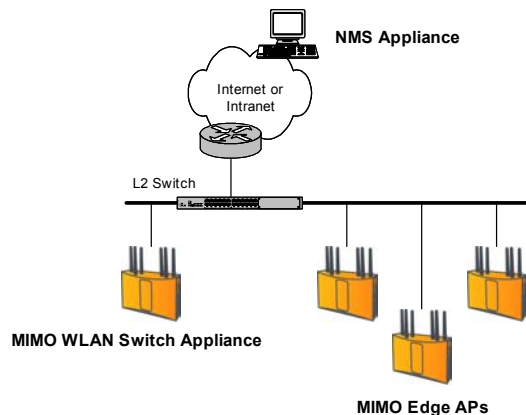
A More Cost Effective WLAN Switch Solution for Enterprise

The AeroGuard™ MIMO WLAN Switch implementation, shown in Figure 2, is similarly architected following this industry norm. One of the AeroGuard™ MIMO access points is designated to function as a WLAN switch by enabling Embedded WLAN Switch Appliance (EWSA™) software, built into each access point.



When EWSA™ is configured, the access point will function as a WLAN Switch for up to 20 AeroGuard™ MIMO access points, instantly enabling centralized enrollment and configuration of edge APs, policy sharing for security and QoS, auto detection of APs including the 3rd party APs, Layer 3 roaming, network management and much more. Multiple switch appliances, each managing its own subnet of up to 20 edge APs, make the entire wireless LAN very robust and easy to scale. The AeroGuard™ NMS Appliance is available to create a hierarchical, policy based and scalable management environment for up to 3,000 remote AeroGuard™ installations with an aggregate of 30,000 AeroGuard™ MIMO APs.

Figure 2: MIMO Enhanced WLAN Switch Implementation



In this implementation of a MIMO AP configured with EWSA™ to be a MIMO WLAN Switch automatically detects edge APs, secures connections and manages the entire wireless environment, without elaborate

site surveys, making the MIMO WLAN Switch solution ideal not just for a single site SMB application but for distributed Enterprise deployments as well. For centralizing such controls, even when multiple MIMO WLAN Switches are located at different sites, an optional AeroGuard™ NMS Appliance is also available.

The conventional implementation of a WLAN switch has a high start-up cost at installation, even for the very first access point, as a result of the initial switch investment of \$2,000 to \$10,000 depending on the switch size. The MIMO WLAN Switch avoids this cost entirely. All AeroGuard™ MIMO APs have the EWSA™ software already embedded, and additional savings continue to occur over time as business growth occurs. To add more MIMO WLAN Switches it is a simple matter of selecting the configuration in the intuitive Web interface to convert a MIMO access point to a MIMO WLAN Switch. For the traditional WLAN switch solution, an additional device must be purchased and installed every time the network grows beyond the capacity of the switch. The ease of operation compared to the traditional WLAN switch solution is well complemented by the optional network management appliance, resulting in a simple, affordable, high performance and scalable Enterprise WLAN solution.

AeroGuard™ MIMO WLAN Switch Solution Includes:



The AeroGuard™ MIMO WLAN Switch

Each AeroGuard™ MIMO AP includes Embedded WLAN Switch Appliance (EWSA™) software, which when activated enables the AP to function as a WLAN Switch appliance controlling up to 20 AeroGuard™ MIMO APs. EWSA™ features centralized control of auto-discovery, enrollment, RF Management, Security policy and revision management, configuration management, L3 roaming, QoS designations for mobile clients and network management.

The AeroGuard™ MIMO AP

Standard AP provides business class features such as multiple SSID, Layer 2 isolation, guest portal, WPA security, VLAN support and simultaneous 11a and 11b/g coverage. Each AP supports Wi-Fi compliant 802.11a/b/g networking with enhanced True MIMO™ range and a 108 Mbps in a 20 MHz channel performance. Plus, complete application layer intelligence to support the requirements of advanced roaming based services.

The AeroGuard™ NMS Appliance

Each EWSA™ enabled WLAN Switch Appliance can be remotely managed by the AeroGuard™ NMS (ANMS) appliance, a client / server based solution designed to scale with the network management needs of the Operations Center. ANMS fully integrates with deployed AeroGuard™ WLAN Switch Appliances enabling the NOC to view, monitor and manage the entire WLAN environment of nearly 3,000 AeroGuard™ installation sites, up to an aggregate of 30,000 AeroGuard™ APs.

The Embedded EWSA™ Advantage

By embedding EWSA™ software features, SOHware has uniquely enabled a True MIMO™ WLAN Switch Appliance capability in every AeroGuard™ MIMO AP. The AP with EWSA™ enabled can centrally manage up to 20 edge APs as a subnet, providing enrollment security, automated configuration push downs, security and QoS policy unifying and Layer 3 roaming for the entire subnet. Since each AP contains EWSA™ software, any AP can be designated to take over the WLAN Switch Appliance function as a failover option.

MIMO AP	MIMO WLAN Switch	ANMS Appliance
<p>Zero-configuration deployment The AeroGuard system is deployed without modifying existing routing and switching infrastructures, and once you enroll, without touching access points</p> <p>3rd Party AP detection Integrated wireless intrusion protection preserves the integrity of wireless networks and sensitive corporate information</p>	<p>Embedded Switch Software Creates an intelligent RF control plane for self-configuration, self-healing, and self-optimization</p> <p>Built-in Layer 1-4 security Flexible security policies adapt to changing corporate security needs</p> <p>Improved Seamless mobility Inter-subnet and Intra-subnet roaming control without client software facilitates device management</p>	<p>Better Enterprise reliability Automated recovery from switch/appliance, access point and backhaul failures maximizes the availability of the wireless network</p> <p>Intuitive management interface Better visibility and control of the air space reduces operational costs</p>

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SOHware®

Your Partner For SMB Networking. SOHware, Inc. Headquarters 3050 Coronado Dr. Santa Clara, CA 95054 Tel 1.800.632.1118 Fax 1.408.565.9889 www.sohware.com