

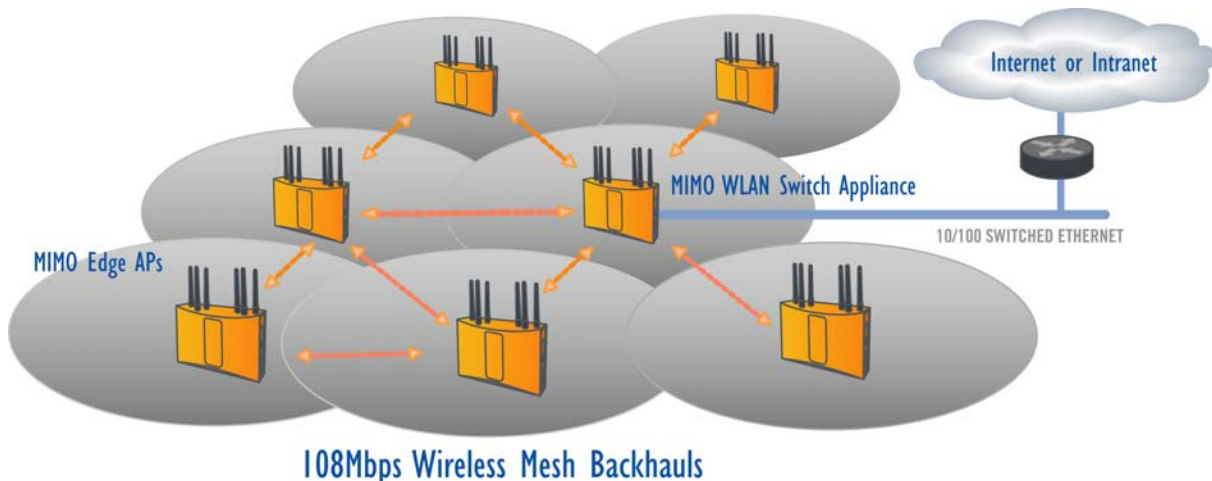
Application Note: Instantly Creating Indoor MIMO Wireless Mesh Networks

AeroGuard™ MIMO APs have integrated wireless Mesh option

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AeroGuard™ MIMO Access Points provide the option to support wireless Mesh networks for instant deployment of small and medium business wireless LANs. The wireless Mesh not only simplifies the physical deployment process but also substantially reduces costs by enabling all-wireless Mesh network infrastructure. By combining Mesh with advanced MIMO RF technology, AeroGuard™ wireless Mesh networks support the same reliability and performance of a conventional wired Ethernet network.

AeroGuard™ wireless Mesh access points provide a reliable, flexible, and simple to install Mesh network backbone solution. The wireless Mesh option includes a dual radio AP solution, which can form wireless backhaul links between APs automatically creating a Mesh network without wires. As a result, the AeroGuard™ Mesh solution needs no elaborate site survey or physical building modifications typical of wired infrastructure, dramatically reducing installation costs by eliminating time-consuming wiring between offices, walls, floors and different buildings. Access point provisioning is also simple and secure because built-in intelligence in the MIMO WLAN Switch appliance software embedded in each AP, locates and automates the connection of adjacent AeroGuard™ APs, while simultaneously identifying, tracking and restricting access from "rogue" APs that may be in the vicinity.



The AeroGuard™ wireless Mesh network is a highly portable network backbone, so moving your network is as easy as taking your AeroGuard™ access points and placing them in another location to quickly optimize wireless coverage without having to reconfigure the AP's Mesh connectivity.

High Capacity Wireless Mesh Backhaul

AeroGuard™ MIMO technology offers industry leading wireless performance; 108Mbps in a single 20MHz channel. For the MIMO wireless Mesh, this means a dedicated wire speed data link between APs, in either 802.11a or 802.11g. This high capacity Mesh network creates a robust backhaul for each access point, and the backhaul data path is both redundant and intelligent. Controlled by Mesh style auto-routing, the APs are able to select the most efficient path, supporting prioritized packets and bypassing link disruptions or potential bottlenecks.



AGN1202 – Dual Radio AP includes three MIMO antennas per radio

Furthering link coverage and range is the contribution of True MIMO™ technology.

The unique multiple antenna system capitalizes on, instead of fights against, multi-path – the natural distortion of RF that occurs in a multi-path wireless environment. AeroGuard™ comprises two transmit and three receive antenna that aggregate the multiple received RF signals thereby enhancing receiver sensitivity of each MIMO access point.

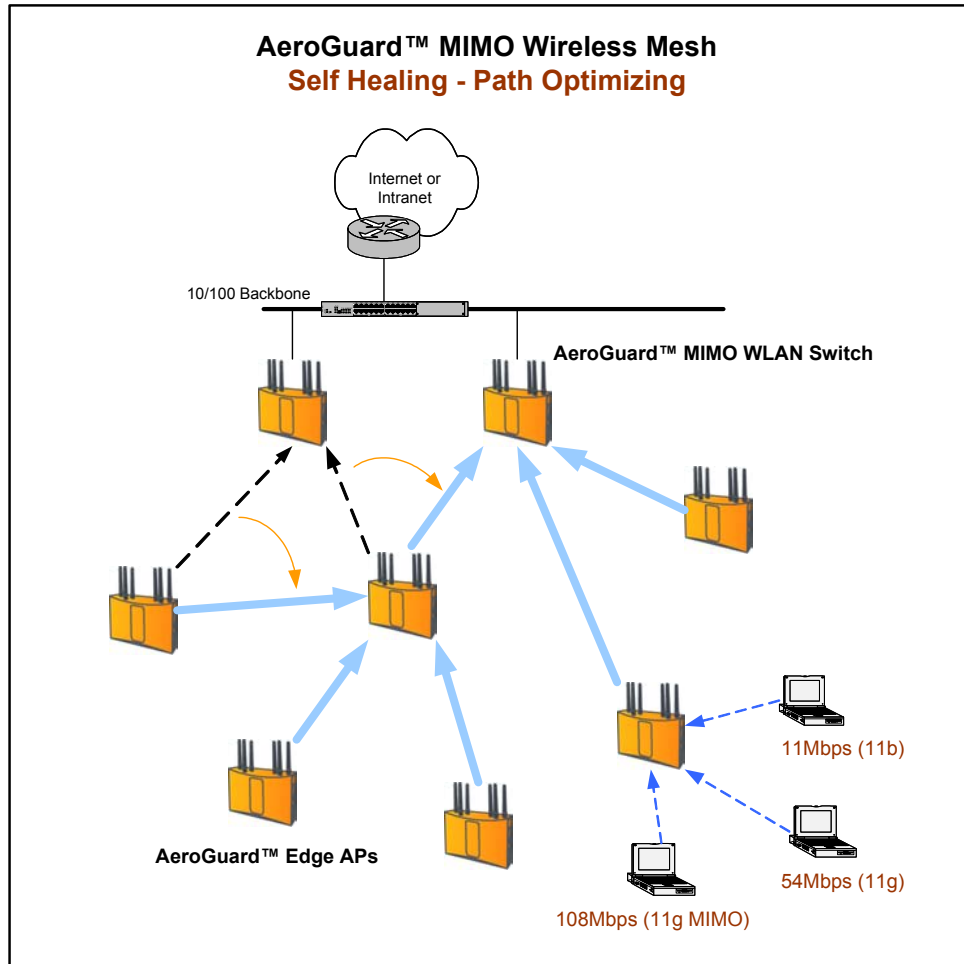
AeroGuard™ Mesh networks support multi-hop, point-to-point and point-to-multipoint data routing dynamically, to optimize path efficiency and Class of Service support for each client on the network. Should a data path be disrupted, physically or by changes in the RF environment, the AeroGuard™ Mesh self heals by rerouting traffic accordingly.

Mesh Network and Access Point in One Device

The dual radio design also allows each AeroGuard™ MIMO unit to be more than simply a wireless backhaul solution by simultaneously providing access point coverage. This exceptionally simple deployment solution means that only one type of wireless device is needed to complete a business wireless LAN with the convenience of Mesh topology.

The access point supports Wi-Fi client activity at up to 108 Mbps MIMO using 802.11g with backward compatibility for 802.11b. In a mixed 11b / 11g client environment, AeroGuard™ supports the highest level performance for each with packet level intelligence that tracks the Wi-Fi protocol capability of

each client. Where conventional Wi-Fi systems drop data rates to the lowest common performance level supported by all clients connected at a given time, AeroGuard™ enables each client to maintain their maximum performance specific to their client.



Secure Dynamic IP Routing

The AeroGuard™ MIMO wireless Mesh network functions as a dynamic IP network. Data traffic encounters each access point as it would a switch, where each access point has a single IP address and performs packet forwarding. For security purposes, the IP address of the access point and the management of each device is securely hidden and protected by login authentication.

The wireless Mesh network requires financial-grade security to insure the integrity of the wireless Mesh backhaul payload remains intact and unmolested. Each wireless Mesh backhaul link is fully encrypted with 802.11i compliant AES to insure end-to-end data privacy. The wireless Mesh

link itself will not form until appropriate authentication steps are completed in the Mesh enrollment process.

Client Mobility Across Subnets

As wireless LAN becomes pervasive in business networks, the need to support intra-subnet roaming is an essential component for mobile users. AeroGuard™ MIMO wireless Mesh networks do not restrict the WLAN to a single subnet. Multiple subnets may be deployed to support various departmental segmentations, or multiple end user domains as may occur in a Multi-Tenant complex (MTU). AeroGuard™ supports Layer 3 roaming, which manages the exchange of clients throughout the Mesh network from AP to AP and from subnet to subnet without loss of connectivity or performance due to 108 Mbps backbone.

For Wi-Fi voice applications, as an example, this essential roaming requirement allows clients the freedom to maintain critical business applications without interruption and with the performance and security expected of Enterprise networks.

Further Information

SOHware makes AeroGuard™ MIMO solutions available for WLAN applications in SMB and distributed Enterprise networks through qualified VARs. To learn more about AeroGuard™ or SOHware's direct-to-VAR channel program, contact our partner marketing representatives.

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