

Application Note: Setting Your AeroGuard™ MIMO AP to WLAN Switch Mode

Embedded Software enables any AeroGuard™ MIMO AP to function as a WLAN switch to centrally control up to 20 APs

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The intelligence within AeroGuard™ MIMO APs includes Embedded WLAN Switch Appliance (EWSA™) software, which activates centralized management and control allowing the AP to function as a WLAN switch appliance, but without a dedicated appliance device. EWSA™ simplifies the deployment process and maximizes the return on investment for the VAR and end customer by allowing incremental scaling on an AP by AP basis.

When EWSA™ is activated, the AeroGuard™ AP can centrally manage up to 20 AeroGuard™ APs with the following WLAN switch functions:

1. Centralized AP Control
 - AP discovery and enrollment
 - Network topology viewing
 - 3rd party / rogue AP identification
 - Layer 3 roaming management
2. Centralized Security Enforcement
 - Policy creation and assignment
 - RADIUS authentication control
 - User session accounting
3. Network health
 - RF Performance management
 - RF monitoring and diagnostics
 - Administrative alerts
 - Event reporting
4. Software control
 - Configuration distributing
 - Revision tracking and control
 - Backup and restoration

Network Scenario for EWSA™ Managed Network

As with a conventional WLAN switch appliance, the AeroGuard™ AP with EWSA™ enabled can be positioned anywhere on the wired network to manage up to 20 edge APs on the same subnet. An example scenario is shown in Figure 1.

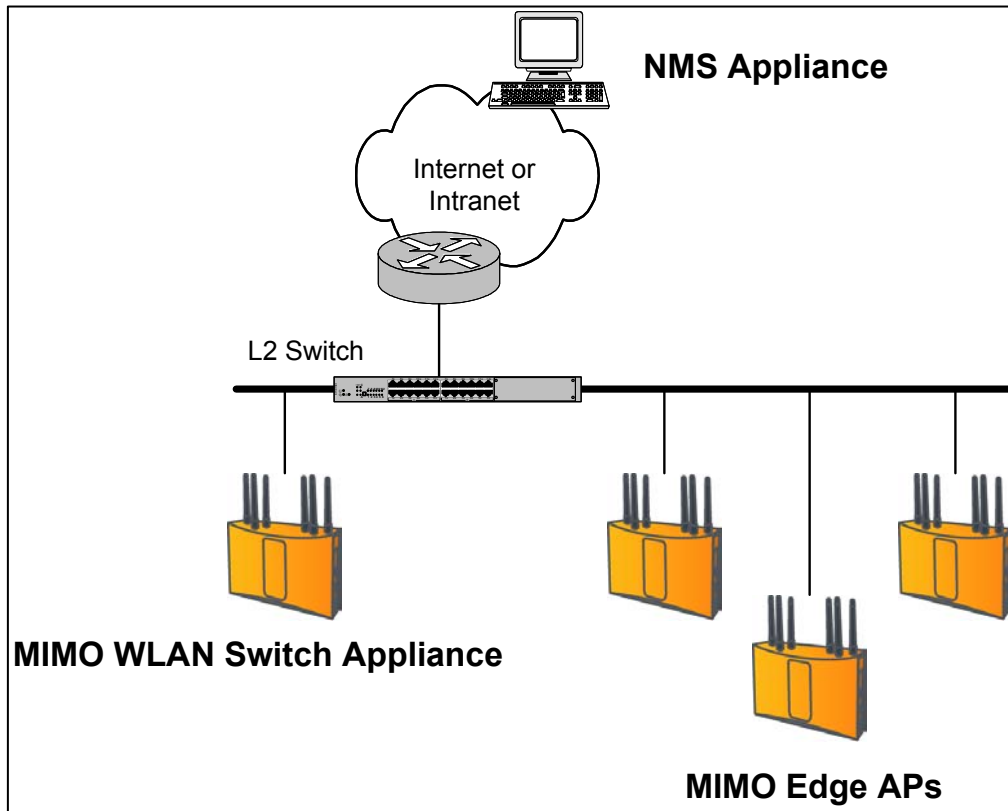


Figure 1: Scenario for AeroGuard™ MIMO Deployment with EWSA™

The AeroGuard™ WLAN Switch Appliance can be connected the Edge APs over the Ethernet LAN or wirelessly if the wireless backhaul Mesh feature is utilized. A business network may contain multiple WLAN switch appliance APs as appropriate to centralize the management of all AeroGuard™ Edge APs in the total network.

For larger networks, AeroGuard™ NMS is available to centrally manage multiple WLAN switch appliances in one or multiple sites to provide remote NMS control and management.

Activating EWSA™ in the Web GUI

AeroGuard™ APs include EWSA™ activation control in their Web setup screen. No additional software is required. The following is a guide to access the EWSA™ configuration menu to enable this feature.

1. Access the "https://..." address of the AeroGuard™ AP and login to launch the Web setup screen.

- From the main navigation panel (Figure 2), select the *Manage Wireless Network* button to launch the NM Portal window. NM Portal is the system identification for the EWSA™ feature. When an AeroGuard™ AP is configured as a WLAN switch appliance it is said to be in NM Portal mode.
- The NM Portal home page is presented as a separate window as shown in Figure 3, and includes a navigation panel to access the WLAN Switch features.

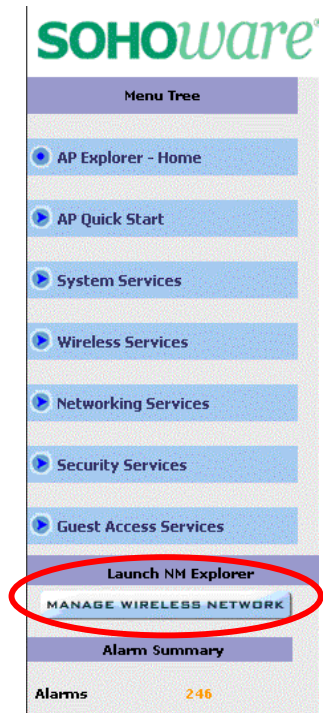


Figure 2: Main Navigation Panel

Controlling AeroGuard™ Edge APs

Now that the WLAN switch appliance has been established, you can identify and add access points into the enrollment list for control by the appliance.

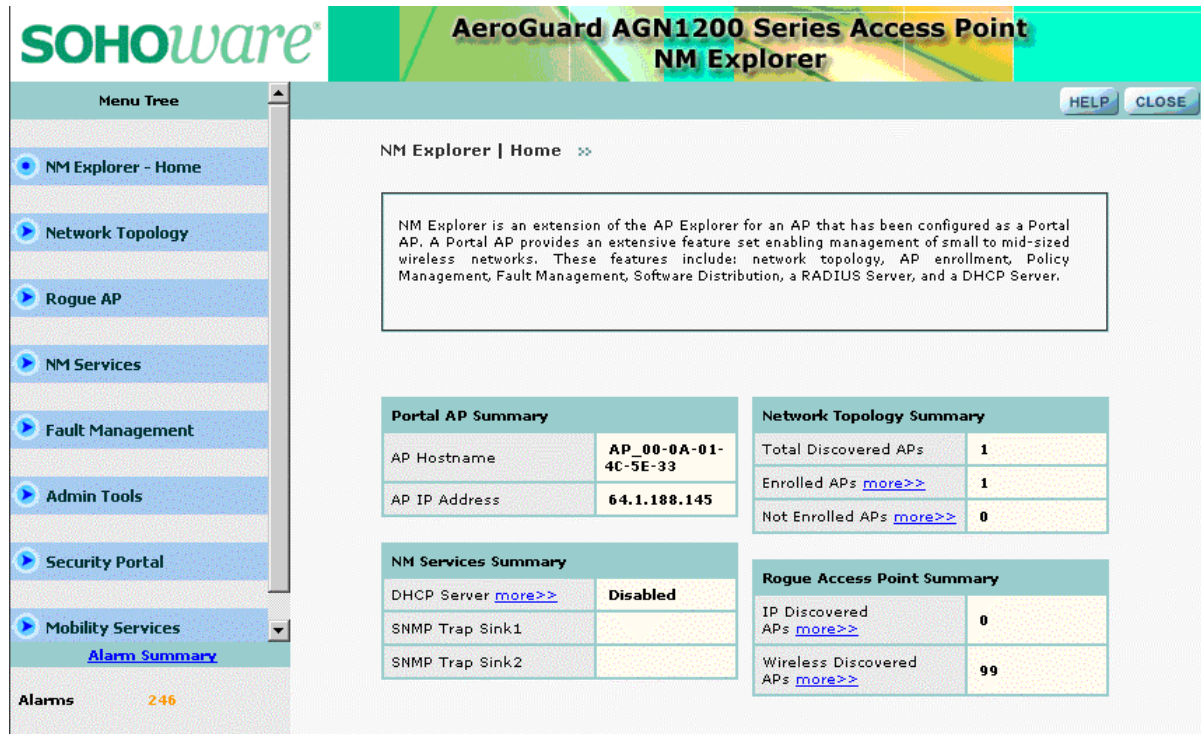


Figure 3: NM Portal Screen with EWSA™ Feature Menu

To add AeroGuard™ Edge APs to the network:

1. Connect each edge AP to the same subnet as the WLAN switch appliance and power the AP(s) on, making sure the Edge AP(s) are in factory default status.
2. From the NM Portal home page, select **Network Topology** from the menu and then click on **AP Enrollment**. This is the screen where APs are discovered and identified. As the APs are discovered, their identity information will be displayed as shown in Figure 4.
3. Each AP can now be highlighted and the *Enroll* button selected to allow the edge AP to join the managed subnet. This important security step assures that only authorized AeroGuard™ APs are allowed to connect to the network.

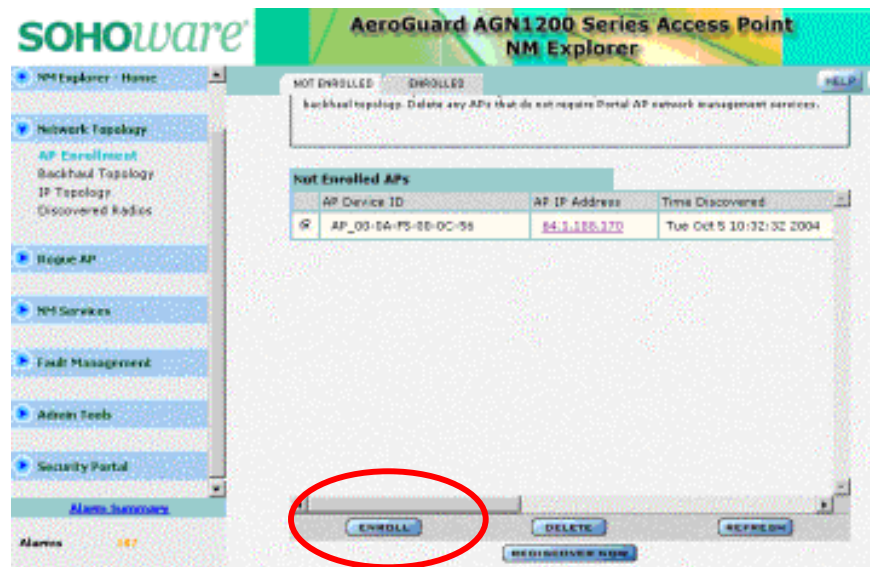


Figure 4: AP Enrollment Screen

Distributing Policies to the Edge APs

Once the desired edge APs have been enrolled under the WLAN switch appliance, a policy can be shared by the appliance using a distribution command that controls security, QoS and other parameters.

1. From the NM Portal home page, select **NM Services** from the menu and then click on **Policy Management**.
2. To share the policy currently configured in the WLAN switch appliance, first generate the policy on the **Define Policy** tab. Make sure the "Use This AP's Startup Config" button is highlighted, then click on the *Generate Default Policy* button, as shown in Figure 5.

- To distribute the newly generated Default Policy, click on the **Distr. Policy** tab. Highlight the edge APs desired for updating and then click on the Distribute Now button.

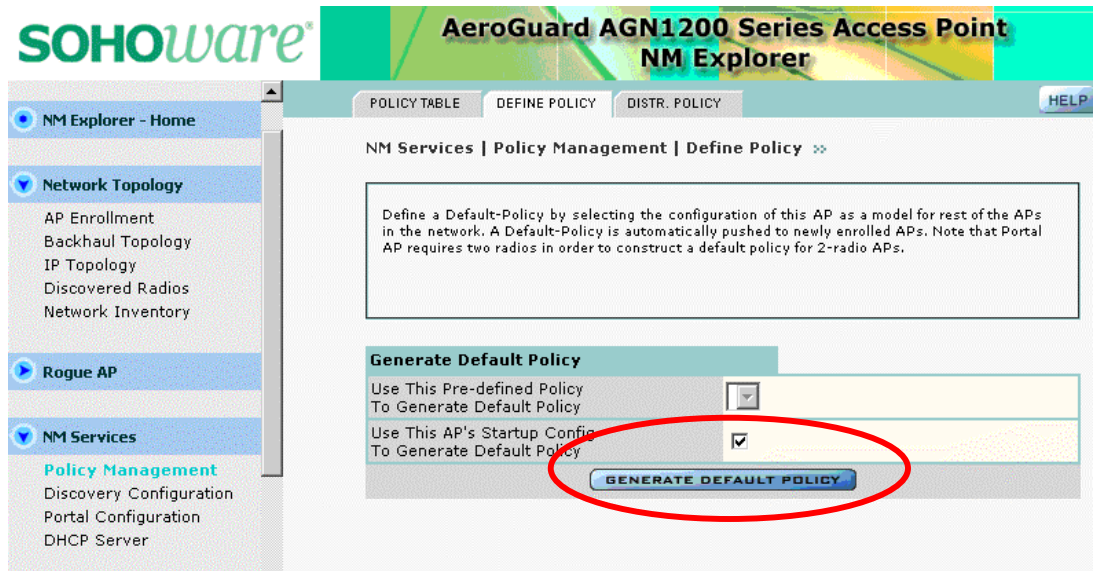


Figure 5: Generating a Policy for Distribution

The AeroGuard™ WLAN Switch Appliance has now updated the network with a unified policy and will remain in control of these APs for ongoing monitoring and fault management.

WLAN Switch Functions

Additional features available in EWSA™ allow the WLAN switch appliance to control and manage every aspect of the assigned wireless network. Referring back to the main navigation panel in the NM Portal window (Figure 3), the administrator can access features organized in the following categories:

Network Topology – allows the WLAN switch to establish a complete RF inventory of the surrounding environment, including AP and wireless backhaul topology, and detailed identification of each discovered radio.

Security Portal – centralizes the management of internal and external RADIUS authentication and other user management functions.

Rogue AP – lists unidentified “rogue” APs in the network environment, whether detected wirelessly or over Ethernet infrastructure.

NM Services – manages edge AP enrollment, provides policy definition and file creation, and the distribution of policies to subordinate APs.

Fault Management – aggregates Syslog data and provides for alarm definition and internal event logging.

Mobility Services – oversees client roaming within the subnet and across subnets.