

Integrating AirWave 8.2.6 with Centralized NMS Event Correlation

Overview

This document describes the AirWave alert/trap workflow when integrating with a centralized NMS Event Correlation System. This document includes the following topics:

- "Adding NMS Event Correlation Servers to AirWave" on page 1
- "Configuring Alerts/Traps in AirWave" on page 2
- "Viewing Alerts in Various Destinations" on page 3
- "Acknowledging Alerts" on page 4
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Adding NMS Event Correlation Servers to AirWave

Perform the following steps to add an event correlation server to AirWave.

1. Navigate to **AMP Setup > NMS** and click **Add**.
2. Configure server settings. The configuration options can vary depending on the SNMP version that you select.



If you select SNMPv3, then you must also configure the application that will receive the traps/informs) for SNMPv3. You will need to set up the engineID, authentication, and privacy parameters and then restart your application before you can receive the SNMPv3 informs.

Figure 1: AMP Setup > NMS > Add NMS Server Page Illustration

The screenshot shows the "NMS Integration" configuration page. At the top, there is a header "NMS Integration". Below it, there is a paragraph explaining that AMP can send SNMPv1, SNMPv2 traps or SNMPv3 informs to NMS servers, and that users should first add one or more NMS servers and then select NMS as a notification option for triggers. A second paragraph states that the Sync action will send one trap/inform for each device managed by AMP to notify an NMS of each one's up/down and configuration status. There is a link to "Download the AMP MIB files". Below this is a section titled "NMS Server" with a form containing the following fields:

- Hostname: Enter a Value
- Port (1-65535): 162
- SNMP Version: 2c (dropdown menu)
- Community String: (empty text box)
- Confirm Community String: (empty text box)
- Enabled: Yes No
- Send Configuration Traps: Yes No
- SNMP Retries (1-40): 3
- SNMP Timeout (3-60): 3

At the bottom of the form are two buttons: "Add" (blue) and "Cancel" (orange).

Configuring Alerts/Traps in AirWave

1. Navigate to **System > Triggers** (see Figure 2).
2. Select Alerts/Traps.
3. Click **Add**.
4. Configure properties for the Alert/Trap.
 - Thresholds for the alert (quantity and time)
 - Severity of alert
 - Distribution options
 - Notification Method
 - Sender
 - Recipient
 - NMS – sends SNMP traps
 - Alert Suppression

Figure 2: Configuring a Client Count Trigger

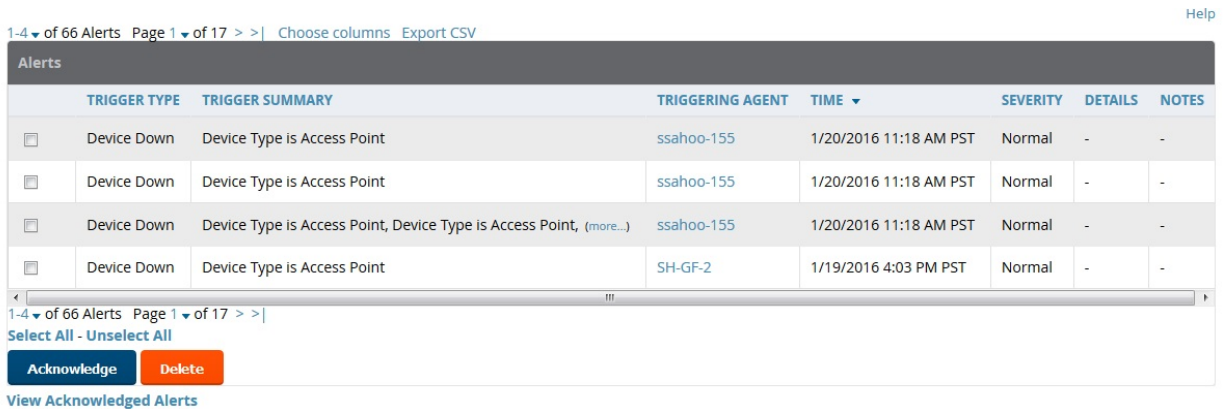
The screenshot shows the configuration page for a 'Trigger' in AirWave. The 'Trigger' section includes fields for Type (Client Count), Client Count (At Least/At Most), Severity (Normal), Duration, and Limit by (Device). The 'Conditions' section shows matching conditions (All/Any) and a table for 'New Trigger Condition' with columns for Option, Condition, and Value. The 'Trigger Restrictions' section includes Folder, Include Subfolders, and Group. The 'Alert Notifications' section includes Notes, Additional Notification Options (Email, NMS), NMS Trap Destinations, Logged Alert Visibility, and Suppress Until Acknowledged. At the bottom are 'Add' and 'Cancel' buttons.

OPTION	CONDITION	VALUE
Device Type	is	Access Point

Viewing Alerts in Various Destinations

Figure 3 below shows the **System > Alerts** page of the AirWave console.

Figure 3: System > Alerts Page Illustration



	TRIGGER TYPE	TRIGGER SUMMARY	TRIGGERING AGENT	TIME	SEVERITY	DETAILS	NOTES
<input type="checkbox"/>	Device Down	Device Type is Access Point	ssahoo-155	1/20/2016 11:18 AM PST	Normal	-	-
<input type="checkbox"/>	Device Down	Device Type is Access Point	ssahoo-155	1/20/2016 11:18 AM PST	Normal	-	-
<input type="checkbox"/>	Device Down	Device Type is Access Point, Device Type is Access Point, (more...)	ssahoo-155	1/20/2016 11:18 AM PST	Normal	-	-
<input type="checkbox"/>	Device Down	Device Type is Access Point	SH-GF-2	1/19/2016 4:03 PM PST	Normal	-	-

1-4 of 66 Alerts Page 1 of 17 > > | Choose columns Export CSV

1-4 of 66 Alerts Page 1 of 17 > > |

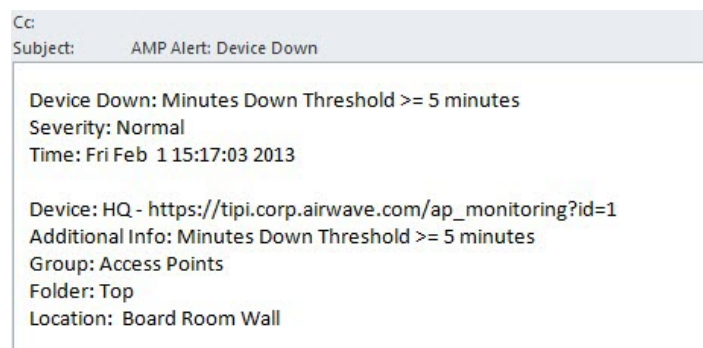
Select All - Unselect All

Acknowledge Delete

View Acknowledged Alerts

Figure 4 below shows an email from the recipient's perspective.

Figure 4: Email Recipient of an Alert



Below shows the actual alerts output as seen by the NMS server.

Client Count

```
10:32:52.964243 IP (tos 0x0, ttl 64, id 0, offset 0, flags [DF], proto 17, length: 284)
tipi.corp.airwave.com.38979 > airwave-openvie.snmptrap: [bad udp cksum ebf4!] { SNMPv2c C=foo {
V2Trap(242) R=47680 system.sysUpTime.0=10 S:1.1.4.1.0=E:12028.4.15.0.3 E:12028.4.15.1.101=2
E:12028.4.15.1.102=4 E:12028.4.15.1.103="Device: HQ-Engineering -
https://demo.airwave.com/ap_monitoringid=11277: AP User Count >= 2 users for 15 minutes"
E:12028.4.104=10.2.26.164 } }
```

Device Down

```
10:32:23.055999 IP (tos 0x0, ttl 64, id 0, offset 0, flags [DF], proto 17, length: 261)
tipi.corp.airwave.com.38934 > airwave-openvie.snmptrap: [bad udp cksum e740!] { SNMPv2c C=foo {
V2Trap(219) R=47676 system.sysUpTime.0=10 S:1.1.4.1.0=E:12028.4.15.0.13 E:12028.4.15.1.101=2
E:12028.4.15.1.102=4 E:12028.4.15.1.103="Device: Aruba-AP65-ap.2.2.3 -
https://demo.airwave.com/ap_monitoringid=1: Device Down " E:12028.4.104=10.51.3.46 } }
```

OID Breakdown

12028.4.15.1.102 contains Severity Code

- 1 = Normal
- 2 = Warning

- 3 = Minor
- 4 = Major
- 5 = Critical

12028.4.15.1.103 contains several fields separated by colons

- Object Type {Client, AirWave, Device/AP, Group}
- Object Name and URL (the URL is optional, if it exist then it will be separated by a dash (-))
- Trap Description and Evaluation Elements

12028.4.15.1.104 contains device IP Address

- Group Traps will contain the AirWave IP address.

Acknowledging Alerts

AirWave alerts must be manually acknowledged from the **System > Alert** page. AirWave does not currently provide an external interface to acknowledge alerts from an NMS server.

Compiling the AirWave MIB on NMS

1. Navigate to **AMP Setup > NMS**.
2. Click **Download**.
3. Transfer to NMS server.
4. Compile on NMS server.

Matching Severity in the NMS Event Correlation Servers

Most NMS Event Correlation systems have the ability to color code and escalate based on information received in the trap, as shown in [Figure 5](#). The OID **12028.4.15.1.102** contains the AirWave severity code.

Figure 5: Color Code Example

Node	Alert Group	Alert Key	Summary
device.airwave.com, IP: 10.51.3.46	Access Point Signal Quality	Device: HQ-Engineering	Signal Quality cr-55 - launch @URL for details: [Device: HQ-Engineering]
device.airwave.com, IP: 10.51.3.46	Access Point Status	Device: AnubaAP55-ap2.2.3	Device Up - launch @URL for details: [Device: AnubaAP55-ap2.2.3]
device.airwave.com, IP: 10.51.3.46	Access Point Status	Device: AnubaAP55-ap2.2.3	Device Down - launch @URL for details: [Device: AnubaAP55-ap2.2.3]
device.airwave.com, IP: 10.51.3.128	Access Point Status	Device: AnubaCst-203	Device Down - launch @URL for details: [Device: AnubaCst-203]
device.airwave.com, IP: 10.51.3.128	Access Point Status	Device: AnubaCst-203	Device Up - launch @URL for details: [Device: AnubaCst-203]
device.airwave.com, IP: 10.51.5.42	Access Point Status	Device: ap	Device Down Device uptime indicates that device has rebooted - launch @URL
device.airwave.com, IP: 10.51.5.42	Access Point Status	Device: ap	Device Up - launch @URL for details: [Device: ap]
device.airwave.com, IP: 10.51.3.46	Bandwidth Usage per Access Point	Device: HQ-Engineering	AP B bandwidth vs 100 kbps for 60 seconds - launch @URL for details: [Device: HQ-Engineering]
device.airwave.com, IP: 10.51.3.46	Bandwidth Usage per Client	Client: 10.17.1.100-110	Client B bandwidth vs 100 kbps for 60 seconds - [Client: 10.17.1.100-110]

4 0 50 12 0 13

Items selected: 7/17/2007 5:45:33 PM root INCOMES [F13]

Enhanced Integration

AirWave has enhanced integration modules with several NMS Event Correlation Systems. These integrations provide enhanced functionality like quicklink problem diagnostics, configuration, and WLAN topology views.

- **IBM Netcool** – Go to [Netcool/OMNibus V7.4 Documentation](#) to download the software or product documentation.
- **ProCurve Manager** – Navigate to **AMP Setup > NMS** and click on the **HP ProCurve Manager** section to obtain additional information.

MIB for SNMPv2c

You can download the MIB from the **Home > Documentation** page in AirWave 8.2.6.

Contacting Support

Main Site	arubanetworks.com
Support Site	support.arubanetworks.com
Airheads Social Forums and Knowledge Base	community.arubanetworks.com
North American Telephone	1-800-943-4526 (Toll Free) 1-408-754-1200
International Telephone	arubanetworks.com/support-services/contact-support/
Software Licensing Site	hpe.com/networking/support
End-of-life Information	arubanetworks.com/support-services/end-of-life/
Security Incident Response Team (SIRT)	Site: arubanetworks.com/support-services/security-bulletins/ Email: aruba-sirt@hpe.com



www.arubanetworks.com
3333 Scott Blvd
Santa Clara, California 95054
Phone: 1-800-WIFI-LAN (+800-943-4526)
Fax 408.752.0626