

Integrating AirWave 8.2.11.1 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
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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

NMS Integration

AMP can send SNMPv1, SNMPv2 traps or SNMPv3 in forms to NMS servers. First, add one or more NMS servers below, then select NMS as a notification option for **triggers**.

The Sync action will send one traps/informs for each device managed by AMP to notify an NMS of each one's up/down and configuration status.

[Download](#) the AMP MIB files.

NMS Server

Hostname:

Port (1-65535):

SNMP Version:

Community String:

Confirm Community String:

Enabled: Yes No

Send Configuration Traps: Yes No

SNMP Retries (1-40):

SNMP Timeout (3-60):

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

Trigger

Type: Client Count

Client Count: At Least At Most

Severity: Normal

Duration: e.g. '15 minutes', '75 seconds', '1 hr 15 mins'

Limit by: Changing this value will remove existing conditions Device

Conditions

Matching conditions: All Any

Available Conditions: Device Type

Add New Trigger Condition

OPTION	CONDITION	VALUE	
Device Type	is	Access Point	✕

Trigger Restrictions

Folder: Top

Include Subfolders: Yes No

Group: - All Groups -

Alert Notifications

Notes:

Additional Notification Options: Email NMS

NMS Trap Destinations: NMS_Server_1 Select All - Unselect All

Logged Alert Visibility: By Role

Suppress Until Acknowledged: Yes No

Add
Cancel

Viewing Alerts in Various Destinations

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

Figure 3: System > Alerts Page Illustration

Help

1-4 of 66 Alerts Page 1 of 17 > > | [Choose columns](#) [Export CSV](#)

Alerts							
	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	-	-

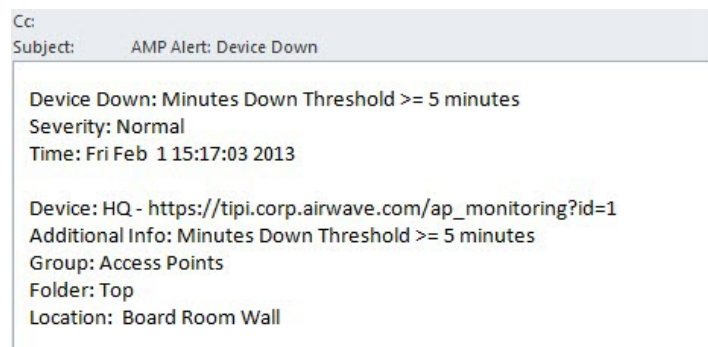
1-4 of 66 Alerts Page 1 of 17 > > | [Select All - Unselect All](#)

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
dnrc.airwave.com, IP: 10.51.3.46	Access Point Monitoring - Alert	Device: HQ-Engineering	Signal Quality <= 45 - launch @URL for details [Device: HQ-Engineering]
dnrc.airwave.com, IP: 10.51.3.46	Access Point Status	Device: AnubaAP65-ap-2.2.3	Device Up - launch @URL for details [Device: AnubaAP65-ap-2.2.3]
dnrc.airwave.com, IP: 10.51.3.46	Access Point Status	Device: AnubaAP65-ap-2.2.3	Device Down - launch @URL for details [Device: AnubaAP65-ap-2.2.3]
dnrc.airwave.com, IP: 10.51.3.128	Access Point Status	Device: AnubaCH-200	Device Down - launch @URL for details [Device: AnubaCH-200]
dnrc.airwave.com, IP: 10.51.3.128	Access Point Status	Device: AnubaCH-200	Device Up - launch @URL for details [Device: AnubaCH-200]
dnrc.airwave.com, IP: 10.51.5.42	Access Point Status	Device: ap	Device Down Device uptime indicates that device has rebooted - launch @URL for details [Device: ap]
dnrc.airwave.com, IP: 10.51.5.42	Access Point Status	Device: ap	Device Up - launch @URL for details [Device: ap]
dnrc.airwave.com, IP: 10.51.3.46	Bandwidth Usage per Access Point	Device: HQ-Engineering	AP Bandwidth >= 100 kbps for 60 seconds - launch @URL for details [Device: HQ-Engineering]
dnrc.airwave.com, IP: 10.51.3.46	Bandwidth Usage per Access Point	Device: HQ-Engineering	AP Bandwidth >= 100 kbps for 60 seconds - launch @URL for details [Device: HQ-Engineering]

4 0 50 12 0 12

4 rows selected 7/17/2007 5:45:33 PM root INCOME [PRD]

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 8.2.11.1.

Contacting Support

Main Site	arubanetworks.com
Support Site	asp.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	lms.arubanetworks.com
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



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