

Overview

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

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Adding NMS Event Correlation Servers to AMP

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

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 your application (i.e the application that will receive the traps/informs) for SNMPv3. You will need to set up the engineID, authentication, and Priv 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 informs 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):

NMS servers for other roles:

	Role Name	Hostname	Port	SNMP Version	Enabled	Send Configuration Traps
<input type="checkbox"/>	 aruba-corp-users-via-radius	1.1.1.1	162	2c	Yes	Yes

Select All - Unselect All

[Netcool/OMNIbus Integration](#)
[HP ProCurve Manager Integration](#)

Configuring Alerts/Traps in AMP

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: 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: 1.1.1.1 2.2.2.2

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 AMP console.

Figure 3: System > Alerts Page Illustration

Alerts

1-6 ▾ of 6 Alerts Page 1 ▾ of 1 Choose columns Export CSV

<input type="checkbox"/>	Trigger Type	Trigger Summary	Triggering Agent	Time ▾	Severity	Details	Notes
<input type="checkbox"/>	Radio Down	802.11an	00:24:6c:c8:de:8a	2/1/2013 2:34 PM	Normal	-	-
<input type="checkbox"/>	Radio Down	802.11bgn	00:24:6c:c8:de:8a	2/1/2013 2:34 PM	Normal	-	-
<input type="checkbox"/>	Radio Down	802.11bgn	californian	2/1/2013 2:34 PM	Normal	-	-
<input type="checkbox"/>	Device Up	All device types	MSM720-CN24F2D38C	1/30/2013 12:57 PM	Normal	-	-
<input type="checkbox"/>	Client Count	Client Count on Devices is at least 1 (more...)	CN11DLL01J	1/26/2013 2:25 AM	Normal	-	-
<input type="checkbox"/>	Device Down	Device has rebooted: Device uptime (more...)	MSM720-CN24F2D38C	1/22/2013 12:31 PM	Normal	-	HP devi

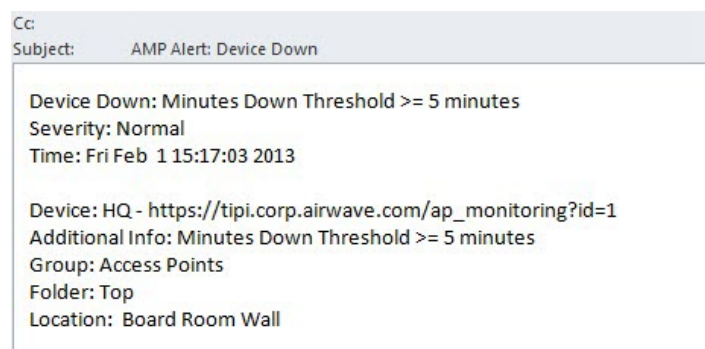
1-6 ▾ of 6 Alerts Page 1 ▾ of 1

Select All - Unselect All

[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, AMP, 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 AMP IP address.

Acknowledging Alerts

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

Compiling the AMP 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 AMP severity code.

Figure 5: Color Code Example

Node	Alert Group	Alert Key	Summary
dlrnc.arubanetworks.com: IP: 10.51.3.46	Access Point Monitoring Error	Device: HQ-Engineering	Signal Quality <= 45 - launch @URL for details [Device: HQ-Engineering]
dlrnc.arubanetworks.com: IP: 10.51.3.46	Access Point Status	Device: ArubaAP65-ap-2.2.3	Device Up - launch @URL for details [Device: ArubaAP65-ap-2.2.3]
dlrnc.arubanetworks.com: IP: 10.51.3.46	Access Point Status	Device: ArubaAP65-ap-2.2.3	Device Down - launch @URL for details [Device: ArubaAP65-ap-2.2.3]
dlrnc.arubanetworks.com: IP: 10.51.3.128	Access Point Status	Device: ArubaCH-200	Device Down - launch @URL for details [Device: ArubaCH-200]
dlrnc.arubanetworks.com: IP: 10.51.3.128	Access Point Status	Device: ArubaCH-200	Device Up - launch @URL for details [Device: ArubaCH-200]
dlrnc.arubanetworks.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]
dlrnc.arubanetworks.com: IP: 10.51.5.42	Access Point Status	Device: ap	Device Up - launch @URL for details [Device: ap]
dlrnc.arubanetworks.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]
dlrnc.arubanetworks.com: IP: 10.51.3.46	Bandwidth Usage per Client	Device: HQ-Engineering	Client Bandwidth >= 100 kbps for 60 seconds - launch @URL for details [Device: HQ-Engineering]

Enhanced Integration

AMP 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** – navigate to <https://www-304.ibm.com/software/brandcatalog/ismlibrary/details?catalog.label=1TW10NC16> to download the certified NetCool NIM
- **ProCurve Manager** – Navigate to **AMP Setup > NMS** and click on the **HP ProCurve Manager** section to obtain additional information.
- **HP OpenView NNM** – Contact Aruba Support for additional information.

MIB for SNMPv2c

You can download the MIB from the Documentation page in AirWave 8.0.