

# Integrating Dell Networking W-AirWave 8.0 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
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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 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

The screenshot shows the "NMS Integration" configuration page. At the top, it explains that AMP can send SNMPv1, SNMPv2 traps or SNMPv3 informs to NMS servers and instructs the user to add servers and select NMS as a notification option. It also notes that the Sync action will send traps/informs for device status and provides a link to download AMP MIB files. Below this is the "NMS Server" configuration section with the following fields: Hostname (text input), Port (1-65535) (text input with value 162), SNMP Version (dropdown menu with value 2c), Community String (text input), Confirm Community String (text input), Enabled (radio buttons for Yes and No, with Yes selected), Send Configuration Traps (radio buttons for Yes and No, with Yes selected), SNMP Retries (1-40) (text input with value 3), and SNMP Timeout (3-60) (text input with value 3). At the bottom of the form are "Add" and "Cancel" buttons. Below the form, it says "No NMS servers for other roles found".

## 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 displays the configuration interface for a Client Count Trigger, organized into several sections:

- Trigger:** Includes fields for Type (Client Count), Client Count (At Least/At Most), Severity (Normal), Duration (e.g., '15 minutes', '75 seconds', '1 hr 15 mins'), and Limit by (Device).
- Conditions:** Features Matching conditions (All/Any), Available Conditions (Device Type), and an Add button for New Trigger Condition. A table below shows a condition: Device Type is Access Point.
- Trigger Restrictions:** Includes Folder (Top), Include Subfolders (Yes/No), and Group (- All Groups -).
- Alert Notifications:** Contains a Notes field and Additional Notification Options (Email, NMS, 1.1.1.1, 2.2.2.2) with checkboxes. It also includes NMS Trap Destinations, Logged Alert Visibility (By Role), and Suppress Until Acknowledged (Yes/No).

Buttons for Add and Cancel are located at the bottom of the configuration area.

## Viewing Alerts in Various Destinations

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

**Figure 3: System > Alerts Page Illustration**

Alerts

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

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, 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 ok-45 - 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: AnubaCH-200	Device Down - launch @URL for details: [ Device: AnubaCH-200 ]
device.airwave.com: IP: 10.51.3.128	Access Point Status	Device: AnubaCH-200	Device Up - launch @URL for details: [ Device: AnubaCH-200 ]
device.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 ]
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 Bandwidth >= 100 kbps for 60 seconds - launch @URL for details: [ Device: HQ-Engineering ]

4 0 50 12 0 10

Items selected 7/17/2007 01:45:33 PM root NCOHS [F11]

## 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** – 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** – Refer to the HP web site for additional information.

## MIB for SNMPv2c

You can download the MIB from the **Home > Documentation** page in Dell Networking W-AirWave 8.0.

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