

Integrating OmniVista 3600 Air Manager 7.7 with Centralized NMS Event Correlation

Overview

This document describes the OV3600 alert/trap workflow when integrating with a centralized NMS Event Correlation System. This document includes the following topics:

- "Adding NMS Event Correlation Servers to OV3600" on page 1
- "Configuring Alerts/Traps in OV3600" on page 2
- "Viewing Alerts in Various Destinations" on page 3
- "Acknowledging Alerts" on page 4
- "Compiling the OV3600 MIB on NMS" on page 4
- "Matching Severity in the NMS Event Correlation Servers" on page 4
- "Enhanced Integration" on page 5
- "Actual MIB for SNMPv2c" on page 5

Adding NMS Event Correlation Servers to OV3600

Perform the following steps to add an event correlation server to OV3600

1. Navigate to **OV3600 Setup> NMS** and click **Add**.
2. Configure server settings. Note that the configuration options can vary depending on the SNMP version that you select.



If you select SNMP Version 3, 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 OV3600 Setup> NMS > Add NMS Server Page Illustration

NMS Integration

OV3600 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 OV3600 to notify an NMS of each one's up/down and configuration status.

[Download](#) the OV3600 MIB files.

NMS servers:

New NMS Server

	Hostname ▲	Port	SNMP Version	Enabled	Send Configuration Traps
<input type="checkbox"/>	10.2.32.213	162	2c	Yes	Yes

Select All - Unselect All

No NMS servers for other roles found

[Netcool/OMNibus Integration](#)

[HP ProCurve Manager Integration](#)

Configuring Alerts/Traps in OV3600

1. Navigate to **Systems > Triggers**, as shown in [Figure 2](#).
2. Select one of the built-in Alerts/Traps.
3. Click **Add**.

Figure 2 *Configuring a Client Count Trigger*

Client Count Trigger

Type: Client Count

Client Count: At Least At Most
2

Severity: Normal

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

Limit by: Device
Changing this value will remove existing conditions

Conditions

Matching conditions: All Any

Available Conditions: Device Type

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: 10.2.32.213
[Select All](#) - [Unselect All](#)

Logged Alert Visibility: By Role

Suppress Until Acknowledged: Yes No

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

Viewing Alerts in Various Destinations

As seen on the **System > Alerts** page of the OV3600 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](#)

As seen in email from the recipient's perspective:

Figure 4 *Email recipient of an alert*

Cc:

Subject: OV3600 Alert: Device Down

Device Down: Minutes Down Threshold >= 5 minutes
 Severity: Normal
 Time: Fri Feb 1 15:17:03 2013

Device: HQ - https://tipi.corp.ov3600.com/ap_monitoring?id=1
 Additional Info: Minutes Down Threshold >= 5 minutes
 Group: Access Points
 Folder: Top
 Location: Board Room Wall

As seen by the NMS server via a tcpdump of the actual alerts:

Client Count

```
10:32:52.964243 IP (tos 0x0, ttl 64, id 0, offset 0, flags [DF], proto 17, length: 284) tipi.c
orp.ov3600.com.38979 > ov3600-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.ov3600.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.c
orp.ov3600.com.38934 > ov3600-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.ov3600.com/ap_monit
oringid=1: Device Down " E:12028.4.104=10.51.3.46 } }
```

OID Breakdown

12028.4.15.1.102 contains Severity Code

- 2 = Normal
- 3 = Warning
- 4 = Minor
- 5 = Major
- 6 = Critical

12028.4.15.1.103 contains several fields separated by colons

- Object Type {Client, OV3600, 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 OV3600's IP address.

Acknowledging Alerts

OV3600 alerts must be manually acknowledge from the **System > Alert** page. OV3600 does not currently provide an external interface to acknowledge alerts from an NMS server.

Compiling the OV3600 MIB on NMS

1. Navigate to **OV3600 Setup > NMS**.
2. Click on the **Download** link.
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 OV3600 severity code.

Figure 5 Color Codes

Node	Alert Group	Alert Key	Summary
dnrc.airware.com, IP: 10.51.3.46	Access Point Powering on/Down	Device: HQ-Engineering	Signal Quality <= 45 - launch @URL for details (Device: HQ-Engineering)
dnrc.airware.com, IP: 10.51.3.46	Access Point Signal Quality	Device: HQ-Engineering	Signal Quality <= 45 - launch @URL for details (Device: HQ-Engineering)
dnrc.airware.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)
dnrc.airware.com, IP: 10.51.3.128	Access Point Status	Device: ArubaAP65-ap-2.2.3	Device Down - launch @URL for details (Device: ArubaAP65-ap-2.2.3)
dnrc.airware.com, IP: 10.51.3.128	Access Point Status	Device: ArubaC14-200	Device Up - launch @URL for details (Device: ArubaC14-200)
dnrc.airware.com, IP: 10.51.5.42	Access Point Status	Device: ArubaC14-200	Device Up - launch @URL for details (Device: ArubaC14-200)
dnrc.airware.com, IP: 10.51.5.42	Access Point Status	Device: ap	Device Down Device uptime indicates that device has rebooted - launch @URL & Device Up - launch @URL for details (Device: ap)
dnrc.airware.com, IP: 10.51.3.46	Access Point Status	Device: ap	Device Up - launch @URL for details (Device: ap)
dnrc.airware.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.airware.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)

4 0 50 12 0 11

4 items selected 7/17/2007 9:45:33 PM root NCOMS [PR2]

Enhanced Integration

OV3600 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 **OV3600 Setup > NMS** and click on the **HP ProCurve Manager** section to obtain additional information.
- **HP OpenView NNM** – Contact Alcatel-Lucent Support for additional information.

Actual MIB for SNMPv2c



Traps in grey text are unused.

```
-- *****
-- * Definitions
-- *****
awampApName OBJECT-TYPE
    SYNTAX DisplayString
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "The AP Name"
    ::= { awamp 101 }
awampGroupName OBJECT-TYPE
    SYNTAX DisplayString
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "The Group Name"
    ::= { awamp 102 }
awampAPEthMAC OBJECT-TYPE
    SYNTAX MacAddress
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "IEEE Unique Identifier"
    ::= { awamp 103 }
awampAPIP OBJECT-TYPE
    SYNTAX IpAddress
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "IP Address of the AP (Eth0)"
    ::= { awamp 104 }
awampAPMFG OBJECT-TYPE
    SYNTAX DisplayString
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "AP MFG"
    ::= { awamp 105 }
awampAPModel OBJECT-TYPE
    SYNTAX DisplayString
    MAX-ACCESS read-only
```

```

        STATUS current
        DESCRIPTION
            "AP Model"
        ::= { awamp 106 }
awampAPFirmware OBJECT-TYPE
    SYNTAX DisplayString
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "AP Firmware"
    ::= { awamp 107 }
awampROCommString OBJECT-TYPE
    SYNTAX DisplayString
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
"Read Only Community String (not currently used)"
    ::= { awamp 108 }
awampHPOVHostName OBJECT-TYPE
    SYNTAX DisplayString
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Hostname of the AP"
    ::= { awamp 109 }
awampHPOVSYSID OBJECT-TYPE
    SYNTAX DisplayString
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Hp OpenView Object Id"
    ::= { awamp 110 }
awampHPOVMAC1 OBJECT-TYPE
    SYNTAX MacAddress
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "First Radio MAC on AP"
    ::= { awamp 111 }
awampHPOVIP1 OBJECT-TYPE
    SYNTAX IpAddress
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "First Radio IP AP"
    ::= { awamp 112 }
awampHPOVMAC2 OBJECT-TYPE
    SYNTAX MacAddress
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Second Radio MAC on AP"
    ::= { awamp 113 }
awampHPOVIP2 OBJECT-TYPE
    SYNTAX IpAddress
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Second Radio IP AP"
    ::= { awamp 114 }
awampHPOVsysName OBJECT-TYPE
    SYNTAX DisplayString

```

```

        MAX-ACCESS read-only
        STATUS current
        DESCRIPTION
            "Hostname of the AP"
        ::= { awamp 115 }
awampHPOVsysDescr OBJECT-TYPE
    SYNTAX DisplayString
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Hostname of the AP"
    ::= { awamp 116 }
- *****
-- * awampEvent parameter definitions
-- *****
awampEventID OBJECT-TYPE
    SYNTAX INTEGER32
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Random number AMP assigns to the event."
    ::= { awampEventObject 101 }
awampEventSeverityCode OBJECT-TYPE
    SYNTAX INTEGER32
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Level 1-6"
    ::= { awampEventObject 102 }
awampEventDescription OBJECT-TYPE
    SYNTAX DisplayString
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Concatenated String produced from AMP."
    ::= { awampEventObject 103 }
awampEventAPIPold OBJECT-TYPE
    SYNTAX IpAddress
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Old IP of the AP when AMP changes and
        sends trap to HPOV."
    ::= { awampEventObject 104 }
awampEventAPMngURL OBJECT-TYPE
    SYNTAX DisplayString
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "URL to manage AP on AMP from HPOV."
    ::= { awampEventObject 105 }
awampEventAPMonURL OBJECT-TYPE
    SYNTAX DisplayString
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "URL to monitor AP on AMP from HPOV."
    ::= { awampEventObject 106 }
awampEventGroupMngURL OBJECT-TYPE
    SYNTAX DisplayString
    MAX-ACCESS read-only
    STATUS current

```

```

        DESCRIPTION
            "URL to manage Group on AMP from HPOV."
        ::= { awampEventObject 107 }
awampEventGroupMonURL OBJECT-TYPE
    SYNTAX DisplayString
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "URL to monitor Group on AMP from HPOV."
    ::= { awampEventObject 108 }
awampEventAPICON OBJECT-TYPE
    SYNTAX DisplayString
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Name of ICON to display on HPOV screen"
    ::= { awampEventObject 109 }
awampEventRogueSSID OBJECT-TYPE
    SYNTAX DisplayString
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "SSID of detected Rogue AP."
    ::= { awampEventObject 110 }
awampEventRogueLANManufacturer OBJECT-TYPE
    SYNTAX DisplayString
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Manufacturer of LAN of detected Rogue AP."
    ::= { awampEventObject 111 }
awampEventRogueRadioManufacturer OBJECT-TYPE
    SYNTAX DisplayString
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Manufacturer of radio detected Rogue AP."
    ::= { awampEventObject 112 }
awampEventRogueIsWired OBJECT-TYPE
    SYNTAX TruthValue
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Detected Rogue AP was discovered on
the wired network."
    ::= { awampEventObject 113 }
awampEventRogueIsWireless OBJECT-TYPE
    SYNTAX TruthValue
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Detected Rogue AP was discovered on
the wireless network."
    ::= { awampEventObject 114 }
awampEventRogueClassifyingRule OBJECT-TYPE
    SYNTAX DisplayString
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Rule used to classify detected rogue AP."
    ::= { awampEventObject 115 }
awampEventRogueDiscoveringAgent OBJECT-TYPE

```



```

        SYNTAX DisplayString
        MAX-ACCESS read-only
        STATUS current
        DESCRIPTION
"The discovering agent that last detected the rogue AP."
        ::= { awampEventObject 116 }
awampEventRogueDiscoveringAgentFolder OBJECT-TYPE
        SYNTAX DisplayString
        MAX-ACCESS read-only
        STATUS current
        DESCRIPTION
        "The folder name of the discovering agent
that last detected the rogue AP."
        ::= { awampEventObject 117 }
awampEventRogueClientMac OBJECT-TYPE
        SYNTAX DisplayString
        MAX-ACCESS read-only
        STATUS current
        DESCRIPTION
        "MAC Address of client connected to rogue ap."
        ::= { awampEventObject 118 }
awampEventRogueName OBJECT-TYPE
        SYNTAX DisplayString
        MAX-ACCESS read-only
        STATUS current
        DESCRIPTION
        "SSID to which the client is connected on rogue ap."
        ::= { awampEventObject 119 }
-- *****
-- * Fault Traps generated by the AMP
-- * (1.3.6.1.4.12028.4.15.0.)
-- *****

tooManyDevAssocAMP NOTIFICATION-TYPE
OBJECTS { awampEventID,
          awampEventSeverityCode,
          awampEventDescription }
        STATUS current
        DESCRIPTION
        "This trap is sent when too many devices are
simultaneously associated with AMP for a period of time."
        ::= { awampEventPrefix 1 }
tooManyDevAssocGroup NOTIFICATION-TYPE
OBJECTS { awampEventID,
          awampEventSeverityCode,
          awampEventDescription }
        STATUS current
        DESCRIPTION
        "This trap is sent when too many devices are
simultaneously associated with AMP for a period of time."
        ::= { awampEventPrefix 2 }

tooManyDevAssocAp NOTIFICATION-TYPE
OBJECTS { awampEventID,
          awampEventSeverityCode,
          awampEventDescription,
          awampAPIP }
        STATUS current
        DESCRIPTION
        "This trap is sent when too many devices are associated
simultaneously associated with AP for a period of time. "
        ::= { awampEventPrefix 3 }

```

```

toomuchBWAMP NOTIFICATION-TYPE
OBJECTS { awampEventID,
           awampEventSeverityCode,
           awampEventDescription }
STATUS current
DESCRIPTION
"This trap is sent when there is too much BW being
used on the WLAN for a period of time."
::= { awampEventPrefix 4 }
toomuchBWGroup NOTIFICATION-TYPE
OBJECTS { awampEventID,
           awampEventSeverityCode,
           awampEventDescription }
STATUS current
DESCRIPTION
"This trap is sent when there is too much BW being
used by a Group for a period of time."
::= { awampEventPrefix 5 }

toomuchBWAP NOTIFICATION-TYPE
OBJECTS { awampEventID,
           awampEventSeverityCode,
           awampEventDescription,
           awampAPIP }
STATUS current
DESCRIPTION
"This trap is sent when there is too much BW being
used on an AP for a period of time."
::= { awampEventPrefix 6 }
toomuchBWClient NOTIFICATION-TYPE
OBJECTS { awampEventID,
           awampEventSeverityCode,
           awampEventDescription }
STATUS current
DESCRIPTION
"This trap is sent when there is too much BW being
used by a Client for a period of time."
::= { awampEventPrefix 7 }

toomanyRoamsClient NOTIFICATION-TYPE
OBJECTS { awampEventID,
           awampEventSeverityCode,
           awampEventDescription }
STATUS current
DESCRIPTION
"This trap is sent when Client roams too often from
AP to AP for a period of time."
::= { awampEventPrefix 8 }
poorSignalAP NOTIFICATION-TYPE
OBJECTS { awampEventID,
           awampEventSeverityCode,
           awampEventDescription,
           awampAPIP }
STATUS current
DESCRIPTION
"This trap is sent when an AP has poor Signal
quality for a period of time."
::= { awampEventPrefix 9 }

nonAMPAPChange NOTIFICATION-TYPE
OBJECTS { awampEventID,

```

```

                awampEventSeverityCode,
                awampEventDescription,
            awampAPIP }
    STATUS current
    DESCRIPTION
    "This trap is sent when an AP Changes configuration
    without the AMP's knowledge"
    ::= { awampEventPrefix 10 }

unauthenticatedClient NOTIFICATION-TYPE
    OBJECTS { awampEventID,
                awampEventSeverityCode,
                awampEventDescription }
    STATUS current
    DESCRIPTION
    "This trap is sent when Client is associated with
    WLAN for a period of time without authenticating."
    ::= { awampEventPrefix 11 }

rogueAPDetected NOTIFICATION-TYPE
    OBJECTS { awampEventID,
                awampEventSeverityCode,
                awampEventDescription }
    STATUS current
    DESCRIPTION
    "This trap is sent when the AMP discovers a Rogue
    AP."
    ::= { awampEventPrefix 12 }

downAP NOTIFICATION-TYPE
    OBJECTS { awampEventID,
                awampEventSeverityCode,
                awampEventDescription,
                awampAPIP }
    STATUS current
    DESCRIPTION
    "This trap is sent when the AP is down as in
    missed SNMP Ping or SNMP Get"
    ::= { awampEventPrefix 13 }

discoveredAP NOTIFICATION-TYPE
    OBJECTS { awampEventID,
                awampEventSeverityCode,
                awampEventDescription,
                awampAPIP }
    STATUS current
    DESCRIPTION
    "This trap is sent when AP is discovered by AMP.
    The AP is not authorized, but only discovered.
    A Config trap is when AP is authorized"
    ::= { awampEventPrefix 14 }

upAP NOTIFICATION-TYPE
    OBJECTS { awampEventID,
                awampEventSeverityCode,
                awampEventDescription,
                awampAPIP }
    STATUS current
    DESCRIPTION
    "This trap is sent when AP is detected as UP after being
    marked DOWN by the AMP."
    ::= { awampEventPrefix 15 }

```

```

downRadio NOTIFICATION-TYPE
OBJECTS { awampEventID,
           awampEventSeverityCode,
           awampEventDescription,
           awampAPIP }
STATUS current
DESCRIPTION
"This trap is sent when the radio of an AP is not operating."
 ::= { awampEventPrefix 16 }

clientAssociate NOTIFICATION-TYPE
OBJECTS { awampEventID,
           awampEventSeverityCode,
           awampEventDescription,
           awampAPIP }
STATUS current
DESCRIPTION
"This trap is sent when a watched client mac address
associates to an AP."
 ::= { awampEventPrefix 17 }
authIssueClient NOTIFICATION-TYPE
OBJECTS { awampEventID,
           awampEventSeverityCode,
           awampEventDescription }
STATUS current
DESCRIPTION
"This trap is sent when a client experiences too man
authentication failures."
 ::= { awampEventPrefix 18 }

authIssueAP NOTIFICATION-TYPE
OBJECTS { awampEventID,
           awampEventSeverityCode,
           awampEventDescription,
           awampAPIP }
STATUS current
DESCRIPTION
"This trap is sent when an AP experiences too many
authentication failures."
 ::= { awampEventPrefix 19 }

authIssueAMP NOTIFICATION-TYPE
OBJECTS { awampEventID,
           awampEventSeverityCode,
           awampEventDescription }
STATUS current
DESCRIPTION
"This trap is sent when AMP detects too many
authentication failures."
 ::= { awampEventPrefix 20 }

idsEventAP NOTIFICATION-TYPE
OBJECTS { awampEventID,
           awampEventSeverityCode,
           awampEventDescription,
           awampAPIP }
STATUS current
DESCRIPTION
"This trap is sent when AMP receives too many IDS
events from an AP."
 ::= { awampEventPrefix 21 }

```

```

rfidTagNotHeard NOTIFICATION-TYPE
OBJECTS { awampEventID,
           awampEventSeverityCode,
           awampEventDescription }
STATUS current
DESCRIPTION
"This trap is sent when an RFID tag is not heard for
a certain period of time."
::= { awampEventPrefix 22 }

dot11Counters NOTIFICATION-TYPE
OBJECTS { awampEventID,
           awampEventSeverityCode,
           awampEventDescription }
STATUS current
DESCRIPTION
"This trap is sent when a Dot11 counter trigger fires."
::= { awampEventPrefix 23 }

qosCounters NOTIFICATION-TYPE
OBJECTS { awampEventID,
           awampEventSeverityCode,
           awampEventDescription }
STATUS current
DESCRIPTION
"This trap is sent when a QOS counter trigger fires."
::= { awampEventPrefix 24 }

deviceResources NOTIFICATION-TYPE
OBJECTS { awampEventID,
           awampEventSeverityCode,
           awampEventDescription }
STATUS current
DESCRIPTION
"This trap is sent when a Device Resources trigger fires."
::= { awampEventPrefix 25 }

diskUsage NOTIFICATION-TYPE
OBJECTS { awampEventID,
           awampEventSeverityCode,
           awampEventDescription }
STATUS current
DESCRIPTION
"This trap is sent when a Disk Usage trigger fires."
::= { awampEventPrefix 26 }

managedAmpDown NOTIFICATION-TYPE
OBJECTS { awampEventID,
           awampEventSeverityCode,
           awampEventDescription }
STATUS current
DESCRIPTION
"This trap is sent when a Managed AMP Down trigger fires."
::= { awampEventPrefix 27 }

watchedAmpDown NOTIFICATION-TYPE
OBJECTS { awampEventID,
           awampEventSeverityCode,
           awampEventDescription }
STATUS current
DESCRIPTION
"This trap is sent when a Watched AMP Down trigger fires."

```

```

 ::= { awampEventPrefix 28 }

interfaceBandwidth NOTIFICATION-TYPE
OBJECTS { awampEventID,
          awampEventSeverityCode,
          awampEventDescription }
STATUS current
DESCRIPTION
"This trap is sent when an Interface Bandwidth trigger fires."
 ::= { awampEventPrefix 29 }

radioUtilization NOTIFICATION-TYPE
OBJECTS { awampEventID,
          awampEventSeverityCode,
          awampEventDescription }
STATUS current
DESCRIPTION
"This trap is sent when a Radio Utilization trigger fires."
 ::= { awampEventPrefix 30 }

deviceEvent NOTIFICATION-TYPE
OBJECTS { awampEventID,
          awampEventSeverityCode,
          awampEventDescription }
STATUS current
DESCRIPTION
"This trap is sent when a Device Event trigger fires."
 ::= { awampEventPrefix 31 }

rogueAPDetectedDetail NOTIFICATION-TYPE
OBJECTS { awampEventID,
          awampEventSeverityCode,
          awampEventDescription,
          awampEventRogueSSID,
          awampEventRogueRadioManufacturer,
          awampEventRogueIsWired,
          awampEventRogueIsWireless,
          awampEventRogueClassifyingRule,
          awampEventRogueDiscoveringAgent,
          awampEventRogueDiscoveringAgentFolder }
STATUS current
DESCRIPTION
"This trap is sent when the AMP classifies a
Rogue AP. It includes more details: SSID, Manufacturer,
Wired (boolean), Wireless (boolean), Classifying Rule Name,
Last Discovering Agent, and AP Folder Name."
 ::= { awampEventPrefix 32 }

ipv4LinkLocalAddresses NOTIFICATION-TYPE
OBJECTS { awampEventID,
          awampEventSeverityCode,
          awampEventDescription }
STATUS current
DESCRIPTION
"This trap is sent when a IPv4 Link-Local Addresses trigger fires."
 ::= { awampEventPrefix 33 }

vpnUserConnect NOTIFICATION-TYPE
OBJECTS { awampEventID,
          awampEventSeverityCode,
          awampEventDescription,
          awampAPIP }

```

```

STATUS current
DESCRIPTION
"This trap is sent when a new VPN user
connects to a controller."
::= { awampEventPrefix 34 }

clientOnRogueAP NOTIFICATION-TYPE
OBJECTS { awampEventID,
          awampEventSeverityCode,
          awampEventDescription,
          awampAPIP,
          awampEventRogueClientMac,
          awampEventRogueSSID,
          awampEventRogueName }

STATUS current
DESCRIPTION
"This trap is sent when a new client is discovered
on Rogue AP. It includes more details: Client MAC,
Rogue SSID and Rogue Device Name."
::= { awampEventPrefix 35 }

vpnUserAssociate NOTIFICATION-TYPE
OBJECTS { awampEventID,
          awampEventSeverityCode,
          awampEventDescription,
          awampAPIP }

STATUS current
DESCRIPTION
"This trap is sent when a watched VPN username
associates to a controller."
::= { awampEventPrefix 36 }

toomuchBWVPNUser NOTIFICATION-TYPE
OBJECTS { awampEventID,
          awampEventSeverityCode,
          awampEventDescription,
          awampAPIP }

STATUS current
DESCRIPTION
"This trap is sent when a new VPN user
connects to a controller."
::= { awampEventPrefix 37 }

toomuchGoodputClient NOTIFICATION-TYPE
OBJECTS { awampEventID,
          awampEventSeverityCode,
          awampEventDescription }

STATUS current
DESCRIPTION
"This trap is sent when there is too much Goodput being
used by a Client for a period of time."
::= { awampEventPrefix 38 }

speedClient NOTIFICATION-TYPE
OBJECTS { awampEventID,
          awampEventSeverityCode,
          awampEventDescription }

STATUS current
DESCRIPTION
"This trap is sent when speed of a Client is
below (or above) a threshold for a period of time."
::= { awampEventPrefix 39 }

```

```

noisefloorRadio NOTIFICATION-TYPE
OBJECTS { awampEventID,
           awampEventSeverityCode,
           awampEventDescription }
STATUS current
DESCRIPTION
"This trap is sent when noise floor of AP is
below (or above) a threshold for a period of time."
::= { awampEventPrefix 40 }

genericTrap NOTIFICATION-TYPE
OBJECTS { awampEventID,
           awampEventSeverityCode,
           awampEventDescription,
           awampAPIP }
STATUS current
DESCRIPTION
"This trap will catch things not defined."
::= { awampEventPrefix 50 }

internalAMLUnknown NOTIFICATION-TYPE
OBJECTS { awampEventID,
           awampEventSeverityCode,
           awampEventDescription,
           awampAPIP }
STATUS current
DESCRIPTION
"This is an internal trap designed for AML
running on the NNM. It allows the AML to
dynamically accept severity codes from the AMP.
Because HP OpenView statically defines these in
trapd.conf per trap, we are creating an internal
for each severity level to work around issue.
Represents Blue and level 1"
::= { awampEventPrefix 51 }

internalAMLNormal NOTIFICATION-TYPE
OBJECTS { awampEventID,
           awampEventSeverityCode,
           awampEventDescription,
           awampAPIP }
STATUS current
DESCRIPTION
"This is an internal trap designed for AML
running on the NNM. It allows the AML to
dynamically accept severity codes from the AMP.
Because HP OpenView statically defines these in
trapd.conf per trap, we are creating an internal
for each severity level to work around issue.
Represents Green and level 2"
::= { awampEventPrefix 52 }

internalAMLMinor NOTIFICATION-TYPE
OBJECTS { awampEventID,
           awampEventSeverityCode,
           awampEventDescription,
           awampAPIP }
STATUS current
DESCRIPTION
"This is an internal trap designed for AML
running on the NNM. It allows the AML to

```


dynamically accept severity codes from the AMP.
Because HP OpenView statically defines these in
trapd.conf per trap, we are creating an internal
for each severity level to work around issue.
Represents yellow and level 3"
::= { awampEventPrefix 53 }

```
internalAMLCritical NOTIFICATION-TYPE
OBJECTS { awampEventID,
          awampEventSeverityCode,
          awampEventDescription,
          awampAPIP }
STATUS current
DESCRIPTION
"This is an internal trap designed for AML
running on the NNM. It allows the AML to
dynamically accept severity codes from the AMP.
Because HP OpenView statically defines these in
trapd.conf per trap, we are creating an internal
for each severity level to work around issue.
Represents Red and level 4"
::= { awampEventPrefix 54 }
```

```
internalAMLWarning NOTIFICATION-TYPE
OBJECTS { awampEventID,
          awampEventSeverityCode,
          awampEventDescription,
          awampAPIP }
STATUS current
DESCRIPTION
"This is an internal trap designed for AML
running on the NNM. It allows the AML to
dynamically accept severity codes from the AMP.
Because HP OpenView statically defines these in
trapd.conf per trap, we are creating an internal
for each severity level to work around issue.
Represents Cyan and level 6"
::= { awampEventPrefix 56 }
```

```
internalAMLMajor NOTIFICATION-TYPE
OBJECTS { awampEventID,
          awampEventSeverityCode,
          awampEventDescription,
          awampAPIP }
STATUS current
DESCRIPTION
"This is an internal trap designed for AML
running on the NNM. It allows the AML to
dynamically accept severity codes from the AMP.
Because HP OpenView statically defines these in
trapd.conf per trap, we are creating an internal
for each severity level to work around issue.
Represents Orange and level 7"
::= { awampEventPrefix 57 }
```

```
uplinkDevice NOTIFICATION-TYPE
OBJECTS { awampEventID,
          awampEventSeverityCode,
          awampEventDescription,
          awampAPIP }
STATUS current
DESCRIPTION
```

```

"This trap is sent when the device uplink status is changed."
 ::= { awampEventPrefix 58 }

-- *****
-- * Config Traps generated by the AMP
-- * (1.3.6.1.4.12028.4.15.)
-- *****
configAlert NOTIFICATION-TYPE
    OBJECTS { awampAPIP,
              awampEventAPIPOld,
              awampAPEthMAC,
              awampEventAPMngURL,
              awampEventAPMonURL,
              awampGroupName,
              awampEventGroupMngURL,
              awampEventGroupMonURL,
              awampEventAPICON,
              awampAPMFG,
              awampAPModel,
              awampAPFirmware,
              awampApName }

    STATUS current
    DESCRIPTION
        "This trap is sent every time a new device is discovered
        and authenticated on the AMP. Also sent upon change to
        IP, Name, Firmware, Group Association."
    ::= { awampEventPrefix 200 }

--
-- conformance information
--
awampConformance OBJECT IDENTIFIER ::= { awamp 2 }
awampCompliances OBJECT IDENTIFIER ::= { awampConformance 1 }
awampGroups      OBJECT IDENTIFIER ::= { awampConformance 2 }

-- compliance statements
awampCompliance MODULE-COMPLIANCE
    STATUS current
    DESCRIPTION
        "The compliance statement for the AirWave AMP."
    MODULE -- this module
    MANDATORY-GROUPS { awampInfoGroup, awampEventGroup, awampNotificationGroup }
    ::= { awampCompliances 1 }

awampInfoGroup OBJECT-GROUP
    OBJECTS { -- these are defined in this module
            awampApName,
            awampGroupName,
            awampAPEthMAC,
            awampAPIP,
            awampAPMFG,
            awampAPModel,
            awampAPFirmware,
            awampROCommString,
            awampHPOVHostName,
            awampHPOVSYSID,
            awampHPOVMAC1,
            awampHPOVIP1,
            awampHPOVMAC2,
            awampHPOVIP2,
            awampHPOVsysName,
            awampHPOVsysDescr }

```

```

STATUS current
DESCRIPTION
    "The group of objects providing AMP information."
::= { awampGroups 1 }

awampEventGroup OBJECT-GROUP
OBJECTS { -- these are defined in this module
    awampEventID,
    awampEventSeverityCode,
    awampEventDescription,
    awampEventAPIOld,
    awampEventAPMngURL,
    awampEventAPMonURL,
    awampEventGroupMngURL,
    awampEventGroupMonURL,
    awampEventAPICON,
    awampEventRogueSSID,
    awampEventRogueLANManufacturer,
    awampEventRogueRadioManufacturer,
    awampEventRogueIsWired,
    awampEventRogueIsWireless,
    awampEventRogueClassifyingRule,
    awampEventRogueDiscoveringAgent,
    awampEventRogueDiscoveringAgentFolder,
    awampEventRogueClientMac,
    awampEventRogueName }

STATUS current
DESCRIPTION
    "The group of objects providing AMP events."
::= { awampGroups 2 }

awampNotificationGroup NOTIFICATION-GROUP
NOTIFICATIONS { -- these are defined in this module
    tooManyDevAssocAMP,
    tooManyDevAssocGroup,
    tooManyDevAssocAp,
    toomuchBWAMP,
    toomuchBWGroup,
    toomuchBWAP,
    toomuchBWClient,
    toomanyRoamsClient,
    poorSignalAP,
    nonAMPAPChange,
    unauthenticatedClient,
    rogueAPDetected,
    downAP,
    discoveredAP,
    upAP,
    downRadio,
    clientAssociate,
    authIssueClient,
    authIssueAP,
    authIssueAMP,
    idsEventAP,
    rfidTagNotHeard,
    dot11Counters,
    qosCounters,
    deviceResources,
    diskUsage,
    managedAmpDown,
    watchedAmpDown,
    interfaceBandwidth,

```

```

    radioUtilization,
    deviceEvent,
    rogueAPDetectedDetail,
    ipv4LinkLocalAddresses,
    vpnUserConnect,
    clientOnRogueAP,
    vpnUserAssociate,
    toomuchBWVPNUser,
    toomuchGoodputClient,
    speedClient,
    noisefloorRadio,
    genericTrap,
    internalAMLUnknown,
    internalAMLNormal,
    internalAMLMinor,
    internalAMLCritical,
    internalAMLWarning,
    internalAMLMajor,
    uplinkDevice,
    configAlert }

STATUS current
DESCRIPTION
    "The group of objects providing AMP notifications."
 ::= { awampGroups 3 }

```