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Integrating OV3600 with Centralized NMS Event Correlation System

Overview

This document describes OV3600's alert/trap workflow when integrating with a centralized NMS Event Correlation System.

Add NMS Event Correlation Servers to OV3600

- Navigate to **OV3600 Setup** → **NMS** page and click on the `Add` button
- Configure server settings

NMS Integration

OV3600 provides basic integration with any NMS through SNMP traps. To enable integration, (1) configure individual OV3600 traps on [Triggers](#) page with a notification option of *NMS* and (2) configure the NMS destination parameters below.

[Download](#) the AMP MIB files.

NMS Server

Hostname:

Port:

Community String:

Confirm Community String:

SNMP Version:

Enabled: Yes No

Send Configuration Traps: Yes No

No NMS servers for other roles found.

[Netcool/OMNibus Integration](#)

[HP ProCurve Manager Integration](#)

Configure Alerts/Traps in OV3600

- Navigate to **Systems** → **Triggers** page
- Select one of the built-in Alerts/Traps
- Click `Add` button

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- 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

View Alerts in Various Destinations

- As seen on OV3600's console **System → Alerts** page

Alerts

	Trigger Type	Trigger Summary	Triggering Agent	Time ▼	Severity
<input type="checkbox"/>	New Device Discovered	All device types	bridge	4/7/2008 10:35 AM	Normal
<input type="checkbox"/>	New Device Discovered	All device types	nomadx-ag-2000-2	4/7/2008 10:35 AM	Normal

- As seen in email from the recipient's perspective.



- As seen by the NMS server via a tcpdump of the actual alert

AP User Count

```
10:32:52.964243 IP (tos 0x0, ttl 64, id 0, offset 0, flags [DF], proto
17, length: 284) demo.alcatel-lucent.com.38979 > alcatel-lucent-
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.alcatel-
lucent.com/ap_monitoring?id=11277: AP User Count >= 2 users for 60
seconds" 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) demo.alcatel-lucent.com.38934 > alcatel-lucent-
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:
Alcatel-Lucent-AP65-ap.2.2.3 - https://demo.alcatel-
lucent.com/ap_monitoring?id=11797: 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

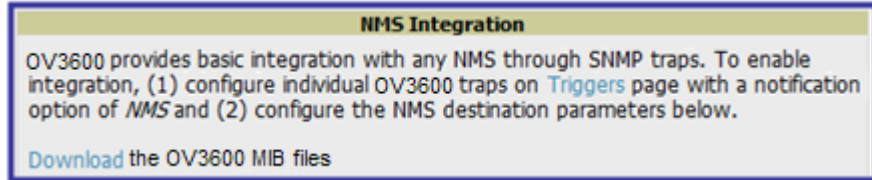
- Group Traps will contain OV3600's IP address.

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 OV3600's MIB on NMS

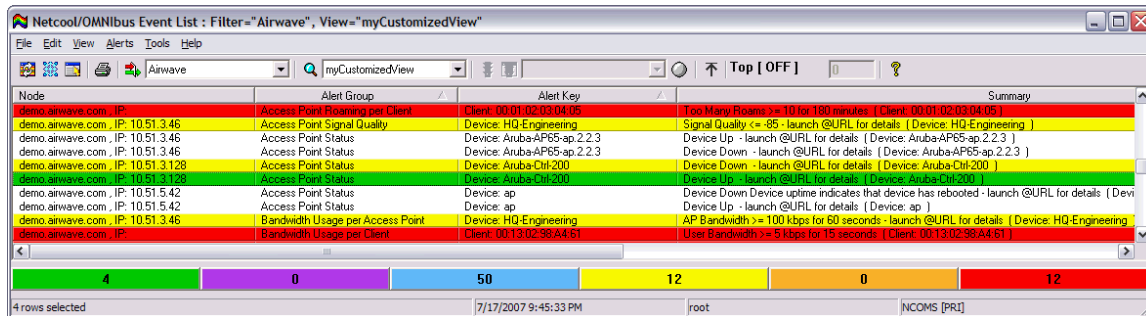
- Navigation to OV3600 Setup → NMS



- Click on the Download link
- Transfer to NMS server
- Compile on NMS server

Matching OV3600's Severity in the NMS Event Correlation Servers

Most NMS Event Correlation systems have the ability color code and escalate based on information received in the trap. The OID 12028.4.15.1.102 contains OV3600's severity code.



OV3600 Trap Data Source and Configuration Table

This table provides details about the source and configuration components of OV3600's trap MIB.

Trap Name	Source Data	OV3600 Setup	Active
tooManyDevAssocOV3600			No
tooManyDevAssocGroup			No
tooManyDevAssocAp	MIB	Group: Basic: User Data	
toomuchBWOV3600			No
toomuchBWGroup			No
toomuchBWAP	MIB	Group: Basic: Device BW	

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Trap Name	Source Data	OV3600 Setup	Active
toomuchBWClient	MIB	Group: Basic: User Data	
toomanyRoamsClient			No
poorSignalAP			No
nonOV3600APChange	MIB/Telnet/SSH	OV3600 Setup: General: Device Config Audit	
unauthenticatedClient			No
rogueAPDetected	MIB MIB SNMP/HTTP Scanning	Group: Basic: Rogue AP & Device Location Group: Basic: Read ARP Table Device Setup: Scan	
downAP	MIB MIB	Group: Basic: Up/Down Status Traps - Configuration Policy for the Device	
discoveredAP	MIB MIB SNMP/HTTP Scanning	Group: Basic: Thin AP Discovery Group: Basic: Read CDP for Device Discovery Device Setup: Scan	
upAP	MIB	Group: Basic: Up/Down Status Traps - Configuration Policy for the Device	
downRadio	MIB Trap	Group: Basic: Up/Down Status Configuration Policy for the Device	
clientAssociate	MIB Trap	Group: Basic: User Data Polling Configuration Policy for Device	
AuthIssueClient	Trap	Configuration Policy for Device	
AuthIssueAP	Trap RADIUS	Configuration Policy for Device Radius Accounting Packets from AP/Switch/Server	
AuthIssueOV3600	OV3600	RADIUS, TACACS+, and Local DB log	
IDSEventAP	Trap	Configuration Policy for Device	
RFIDTagNotHeard	MIB RTLS	Group: Basic: User Data Polling OV3600 Setup: General: Enable RTLS	
Dot11Counters	MIB	Group: Basic: 802.11 Counters	
QOSCounters	MIB	Group: Basic: 802.11 Counters	
DeviceResources	MIB	Group: Basic: Device to Device	
DiskUsage	OV3600	Internal log	
ManagedOV3600Down	OV3600	Master Console - ping and HTTP Get	
WatchedOV3600Down	OV3600	Failover - ping and HTTP Get	
genericTrap			No
internalAMLUnknown			No
internalAMLNormal			No
internalAMLMinor			No
internalAMLCritical			No
internalAMLWarning			No
internalAMLMajor			No

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 <http://catalog.lotus.com/wps/portal/topal> to download the certified NetCool™ NIM (NetCool Integration Module).

ProCurve Manager – Navigate to OV3600 Setup → NMS and click on the HP ProCurve Manager section to obtain additional information.

HP OpenView NNM – contact Esd.support@alcatel-lucent.com for additional information.

Actual MIB

```

_ *****
-- * awampEvent parameter definitions
-- *****
awampEventID OBJECT-TYPE
    SYNTAX INTEGER
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Random number OV3600 assigns to the event."
    ::= { awampEventObject 101 }

awampEventSeverityCode OBJECT-TYPE
    SYNTAX INTEGER
    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 OV3600."
    ::= { awampEventObject 103 }

awampEventAPIPOld OBJECT-TYPE
    SYNTAX IpAddress
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Old IP of the AP when OV3600 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 OV3600 from HPOV."
    ::= { awampEventObject 105 }

awampEventAPMonURL OBJECT-TYPE
    SYNTAX DisplayString
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "URL to monitor AP on OV3600 from HPOV."
    ::= { awampEventObject 106 }

awampEventGroupMngURL OBJECT-TYPE
    SYNTAX DisplayString
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "URL to manage Group on OV3600 from HPOV."
    ::= { awampEventObject 107 }

```

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```

awampEventGroupMonURL OBJECT-TYPE
    SYNTAX DisplayString
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "URL to monitor Group on OV3600 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 }

-- *****
-- * Fault Traps generated by the OV3600
-- * (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 OV3600 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 OV3600 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."

```

Shaded traps are not currently used


```

 ::= { 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 OV3600'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 OV3600 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 OV3600.
        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 OV3600."
    ::= { 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 }

```

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```

STATUS      current
DESCRIPTION
  "This trap is sent when a client experiences too many
  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 OV3600 detects too many
  authentication failures."
 ::= { awampEventPrefix 20 }

IDSEventAP NOTIFICATION-TYPE
  OBJECTS { awampEventID,
            awampEventSeverityCode,
            awampEventDescription,
            awampAPIP }
STATUS      current
DESCRIPTION
  "This trap is sent when OV3600 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,

```

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```

        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 OV3600 Down trigger fires."
 ::= { awampEventPrefix 27 }

WatchedAmpDown NOTIFICATION-TYPE
    OBJECTS { awampEventID,
              awampEventSeverityCode,
              awampEventDescription }
STATUS      current
DESCRIPTION
    "This trap is sent when a Watched OV3600 Down trigger fires."
 ::= { awampEventPrefix 28 }

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 OV3600.
    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 OV3600."

```

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```

        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 OV3600.
        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 OV3600.
        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 OV3600.
        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 OV3600.
        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 }

```

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```
-- *****
-- * Config Traps generated by the OV3600
-- * (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 OV3600. Also sent upon change to
        IP, Name, Firmware, Group Association."
    ::= { awampEventPrefix 200 }
```