Media Controller

This chapter describes the Media Controller and Programmable Media Network (PMN) AMQP notification in Cisco DCNM. This chapter contains the following sections:

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Overview

Cisco's IP fabric for media solution helps transition from an SDI router to an IP-based infrastructure. In an IP-based infrastructure, a single cable has the capacity to carry multiple bidirectional traffic flows and can support different flow sizes without requiring changes to the physical infrastructure.

The IP fabric for media solution consists of a flexible spine and leaf architecture or a single modular switch topology. The solution uses Cisco Nexus 9000 Series switches in conjunction with the Cisco non-blocking multicast (NBM) algorithm (an intelligent traffic management algorithm) and with or without the Cisco Data Center Network Manager (DCNM) Media Controller. Using open APIs, the Cisco DCNM Media Controller can integrate with various broadcast controllers. The solution provides a highly reliable (zero drop multicast), highly visible, highly secure, and highly available network.

For information about Cisco's IP fabric for media solution, see the *Cisco Nexus 9000 Series NX-OS IP Fabric for Media Solution Guide, Releases 7.0(3)I4(5), 7.0(3)I6(1), and 7.0(3)F2(1)* at the following URL:

http://www.cisco.com/c/en/us/td/docs/switches/datacenter/nexus9000/sw/7-x/ip_fabric_for_media/solution/guide_703i45/b_Cisco_Nexus_9000_Series_IP_Fabric_for_Media_Solution_Guide_703I45.html

For information about the media controller functionality in the Cisco DCNM Web Client, see the *Cisco DCNM Web Client Online Help* at the following URL:

http://www.cisco.com/c/en/us/td/docs/switches/datacenter/sw/DCNM_OLH/Web_Client/b_DCNM_web_client_olh/Media_Controller.html

For information about the PMN APIs, see the Cisco DCNM API reference guide at the following URL:

https://developer.cisco.com/site/data-center-network-manager/

PMN AMQP Notification in Cisco DCNM

Cisco DCNM uses the Advanced Message Queuing Protocol (AMQP), which is an open standard protocol to exchange messages with other entities. It generates real-time AMQP notification for various operations. The message contains routing key, properties, and payload sections. The consumer of the message can use the routing key to quickly filter the required messages. The properties section provides additional information about the message such as message priority, delivery mode, content type, content encoding, and header. The payload is the actual notification content.

Notification Body

The Cisco DCNM notification payload contains necessary information about the event. The table below shows the event categories that Cisco DCNM generates.

Table 5-1   Event Categories

Category	Operation
Host	Create/update/delete/import
Host Policy	Create/update/delete/import, association with Host, dissociation from the Host, host policy (ACL) deployment status
Flow	Create/delete/migration Insufficient bandwidth of interface, HTTP error during config deployment to the switch, flow stitch status
Flow Policy	Create/delete/update/import
Flow Alias	Create/delete/update/import
Switch	Switch reload, switch interface status update, line card status update, failed flow update,

Sample Notification

Host Creation

```
Host created with name: Host-2.1.1.3 by admin
```

Host Policy Creation

```
Host Policy with policy name LabVideoPolicy successfully created by admin
```

Flow Migration

```
Successful Migration:NodeDown: 4130(93180YC-68) is down [broken node 4130(93180YC-68)
triggers flow 225.3.2.1 with sender:13080/6580 removal]
```

Switch Reload

```
Switch with IP:192.0.2.1 has recovered from a reload and is up now
```

Note In the upcoming Cisco DCNM release, the PMN notification body will be changed to JSON format and the routing key will consist of event type, operation status and so on for notification filtering. Some information. The keys used in REST APIs will be added to notification body to simplify the integration of external application.