



CHAPTER 4

SMI-S Notifications

This chapter includes the following sections:

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WBEM Server

WBEM server provides the interfaces to allow operators to specify the faults that needs to be notified. The CIM classes used to establish this monitoring are included in Event Common model.

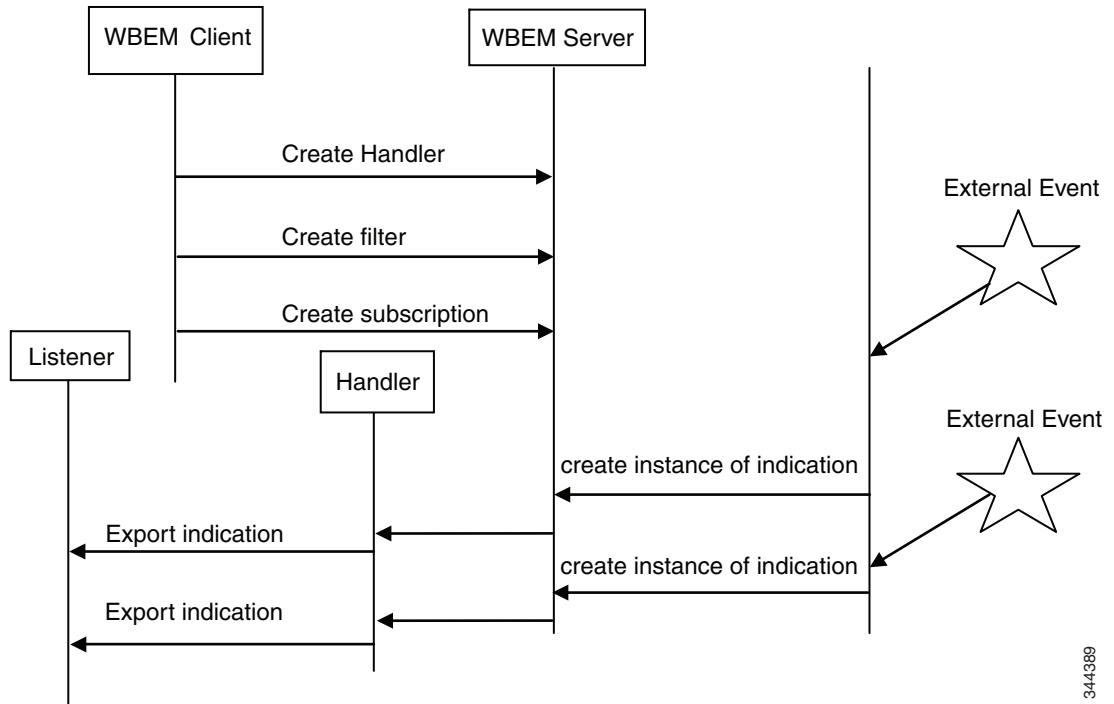
Event Common Model

The following are the components of the event common model:

- **Indication Provider**—Detects the traps and passes to the WBEM (CIMOM) server s indication. An indication is an instance of a class derived from the CIM_Indication.
- **Filters**—A predefined pattern checked by CIMOM against indications. Filters are instances of classes derived from CIM_Indication filter.
- **Subscriptio**—WBEM server consults the subscription to see if any operator is interested in being notified about indication. Subscriptions are instances of associations derived from CIM_IndicationSubscriptions.
- **Handlers**— WBEM server sends notifications to them. Handlers are defined in instances of classes derived from CIM_IndicationHandler.
- **Listenersq**—Represents the SMI-S clients and receive indications.

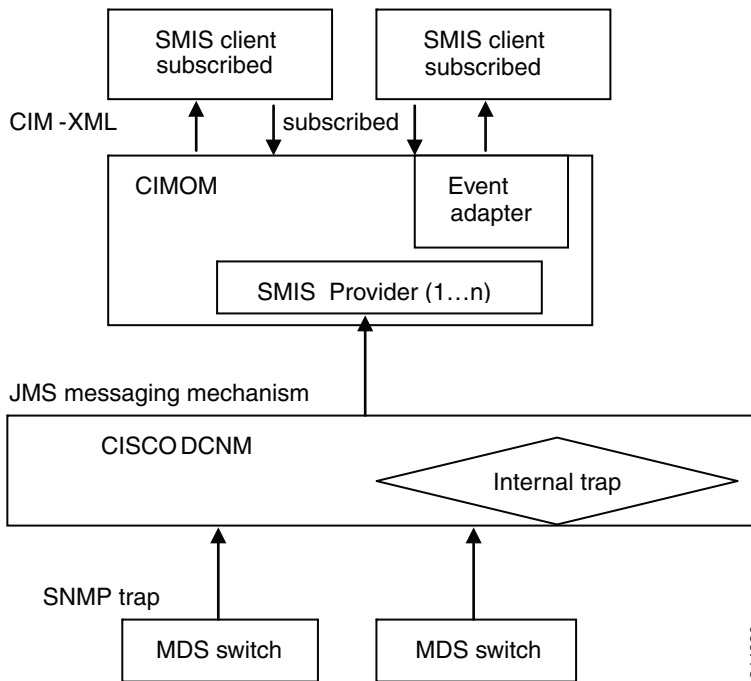
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Figure 4-1 Architecture of the Event Common Model



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Figure 4-2 Event Handling Mechanism in WBEM Server



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SNMP traps are sent asynchronously from the end devices like switches for changes in the ports, VSAN, and zone which are managed by CISCO DCNM. The SNMP traps are received and processed in the Cisco DCNM module. There can be internal traps generated in Cisco DCNM as a part of the

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intercommunication between the FM modules. All the traps are sent to SMI-S module through JMS messaging mechanism. SMI-S provider receives the events and formats it as per indication provider schema and forwards it to the CIMOM. CIMOM sends the indication to the SMI-S client which are subscribed for interested indication.

Supported Indications in SMI-S Server

The supported events are either CIM_InstIndication or CIM_AlertIndication type.

- CIM_InstIndication—Describes events for creation, deletion, and modification of instances . These are also known as Life cycle events.

The Subscription format of CIM_InstIndication is:

```
wbemclient -s https://localhost/cimv2 -u username -p password -f "SELECT * from CIM_InstDeletion WHERE sourceInstance ISA CISCO_endport"
```

The supported events are:

- CISCO_PortAdded
- CISCO_PortRemoved
- CISCO_SwitchAdded
- CISCO_SwitchRemoved
- CIM_AlertIndication—used for all external events.

For example, Poweralert ,tempalert, link up, and link down.

The subscription format of CIM_AlertIndication is:

```
wbemclient -s https://localhost/cimv2 -u username -p password -f "SELECT * FROM CISCO_LinkDown"
```

The supported events are:

- CISCO_FanAlert
- CISCO_LinkDown
- CISCO_LinkUp
- CISCO_PowerAlert
- CISCO_TempAlert
- CISCO_MediaFRUChanged
- CISCO_MediaFRUInserted
- CISCO_MediaFRURemoved
- CISCO_ZoneAlert
- CISCO_ZoneSetAlert
- CISCO_NameServerDatabaseChange
- CISCO_UserAdded
- CISCO_UserLoginFailed
- CISCO_UserModified
- CISCO_UserRemoved
- CISCO_VsanChanged

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