DSP Operational State Notifications

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The DSP Operational State Notifications feature enables notifications to be generated when digital signaling processor (DSP) failure and recovery events occur. These notifications help facilitate troubleshooting and lessen downtime.

This feature module describes updates to the Cisco DSP Management MIB (CISCO-DSP-MGMT-MIB) for enabling and generating DSP operational state notifications. Also described is how to enable the feature either using the command-line interface (CLI) or by modifying settings at the network management device.

Finding Feature Information

Your software release may not support all the features documented in this module. For the latest caveats and feature information, see Bug Search Tool and the release notes for your platform and software release. To find information about the features documented in this module, and to see a list of the releases in which each feature is supported, see the feature information table at the end of this module.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to www.cisco.com/go/cfn. An account on Cisco.com is not required.

Prerequisites for DSP Operational State Notifications

- Familiarity with the CISCO-DSP-MGMT-MIB and Simple Network Management Protocol (SNMP).

Information About DSP Operational State Notifications

To enable DSP operational state notifications when a DSP fails and when it recovers, you should understand the following concepts:

CISCO-DSP-MGMT-MIB

The CISCO-DSP-MGMT-MIB monitors DSP resources and status.

DSP Operational State Notification

A DSP notification consists of a DSP ID that indicates which DSP is affected and an operational state that indicates whether the DSP has failed or recovered.

When this feature is configured using the **snmp-server enable traps dsp oper-state**command, a notification is generated when a single DSP fails instead of after all DSPs have failed. For example, a DSP fails, and you lose your voice calls. In a DSP failure notification, the problem is identified. If no DSP failure notification is generated, a network management station (NMS) has to poll the router for configuration and status information to diagnose the problem.

Benefits of DSP Operational State Notifications

The DSP Operational State Notifications feature enables the generation of notifications when DSP failure and recovery events occur. These notifications help facilitate troubleshooting and lessen downtime because an NMS does not have to poll the router for configuration and status information to diagnose the problem..

How to Enable DSP Operational State Notifications

DSP operational state notifications can be configured in two ways. To configure these notifications, perform one of the following tasks:

Enabling DSP Operational State Notifications from the CLI

Perform this task to enable DSP operational state notifications from the CLI.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **snmp-server enable traps** [*notification-type*][**vrrp**]
4. **end**
5. **exit**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**enable** **Example:** `Router> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Router# configure terminal`	Enters global configuration mode.
Step 3	**snmp-server enable traps** [*notification-type*][**vrrp**] **Example:** `Router(config)# snmp-server enable traps dsp oper-state`	Enables the generation of DSP notifications made up of the DSP ID that indicates which DSP is affected and the operational state that indicates whether the DSP has failed or recovered.
Step 4	**end** **Example:** `Router(config)# end`	Returns the device to privileged EXEC mode.
Step 5	**exit** **Example:** `Router# exit`	Returns the device to user EXEC mode.

Enabling DSP Operational State Notifications Using an SNMP Application

Perform this task to enable DSP operational state notifications using your SNMP application.

SUMMARY STEPS

1. setany -v2c 1.4.198.75 test cdspEnableOperStateNotification.0 -i 1

DETAILED STEPS

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setany -v2c 1.4.198.75 test cdspEnableOperStateNotification.0 -i 1
This SNMP command sets the enable operation state notification object identifier (OID) to true.

After entering this command, the system returns the followinbg response: cdspEnableOperStateNotification.0 = true(1).

Configuration Examples for DSP Operational State Notifications

Enabling DSP Operational State Notifications Using the CLI Example

The following sample configuration code shows how to enable DSP operational state notifications using the CLI:

```
Router> enable
Router# configure terminal
Router(config)# snmp-server enable traps dsp oper-state
```

The following example shows a typical DSP failure notification:

```
*Jun 1 02:37:05.720:SNMP:V1 Trap, ent cdspMIBNotificationPrefix, addr 1.4.198.75, gentrap
6, spectrap 2
cdspOperState.37 = 2
entPhysicalEntry.7.37 = DSP (C549) 1/2/0
```

The following example shows a typical DSP recover notification:

```
*Jun 1 02:37:10.820:SNMP:V1 Trap, ent cdspMIBNotificationPrefix, addr 1.4.198.75, gentrap
6, spectrap 2
cdspOperState.37 = 1
entPhysicalEntry.7.37 = DSP (C549) 1/2/0
```

Enabling DSP Operational State Notifications Using an SNMP Application Example

The following sample configuration code shows how to enable DSP operational state notifications from your SNMP application:

In your SNMP application, you type the following command:

setany -v2c 1.4.198.75 test cdspEnableOperStateNotification.0 -i 1

The application shows the following response:

cdspEnableOperStateNotification.0 = true(1)

Additional References

The following sections provide references related to the DSP Operational State Notifications feature.

Related Documents

Related Topic	Document Title
Network management commands	*Cisco IOS Network Management Command Reference*

MIBs

MIB	MIBs Link
• CISCO-DSP-MGMT-MIB • CISCO-DSP-MGMT-CAPABILITY-MIB	To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL: http://www.cisco.com/go/mibs

Technical Assistance

Description	Link
The Cisco Support and Documentation website provides online resources to download documentation, software, and tools. Use these resources to install and configure the software and to troubleshoot and resolve technical issues with Cisco products and technologies. Access to most tools on the Cisco Support and Documentation website requires a Cisco.com user ID and password.	http://www.cisco.com/cisco/web/support/index.html

Feature Information for DSP Operational State Notifications

Table 1   *Feature Information for DSP Operational State Notifications*

Feature Name	Releases	Feature Information
DSP Operational State Notifications	12.4(4)T	The following command was modified: **snmp-server enable traps**

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