How to Track When a Power Supply Dies or Redundant Supply Changes State Using SNMP

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Contents

Introduction

When devices contain redundant power supplies, you can choose to have the device generate traps when one of the power supplies dies or changes state. Traps exist on both routers and switches, and they notify of a state change or failure, and point to further information as to the nature of the change. This document explains how to track when one of the redundant power supplies dies or changes state using Simple Network Management Protocol (SNMP).

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

The information in this document is valid for Cisco routers and switches that have redundant power supplies.

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Conventions

For more information on document conventions, refer to the Cisco Technical Tips Conventions.

Tracking Procedure

For routers, watch for the ciscoEnvMonRedundantSupplyNotification trap from the CISCO−ENVMON−MIB MIB. The variables ciscoEnvMonSupplyDescr and ciscoEnvMonSupplyState provide details on the nature of the change. You must configure the **snmp−server enable traps envmon** command to enable traps.

```
.1.3.6.1.4.1.9.9.13.3.0.5
ciscoEnvMonRedundantSupplyNotification OBJECT−TYPE
−− FROM CISCO−ENVMON−MIB TRAP VARBINDS { ciscoEnvMonSupplyStatusDescr, ciscoEnvMonSupplySta
DESCRIPTION "A ciscoEnvMonRedundantSupplyNotification is sent if the redundant power supply
```

```
   (where extant) fails. Since such a
notification is usually generated before the shutdown state is reached, it can convey more
   and has a better chance of being sent than does the
ciscoEnvMonShutdownNotification."
::= { iso(1) org(3) dod(6) internet(1) private(4) enterprises(1) cisco(9) ciscoMgmt(9) cis
ciscoEnvMonMIBNotificationPrefix(3)ciscoEnvMonMIBNotifications(0) 5 }

.1.3.6.1.4.1.9.9.13.1.5.1.2
ciscoEnvMonSupplyStatusDescr OBJECT-TYPE
-- FROM CISCO-ENVMON-MIB
-- TEXTUAL CONVENTION DisplayString
SYNTAX OCTET STRING (0..32) DISPLAY-HINT "255a"
MAX-ACCESS read-only
STATUS Current
DESCRIPTION "Textual description of the power supply being instrumented. This description
   short textual label, suitable as a
human-sensible identification for the rest of the information in the entry."
::= { ISO(1) org(3) DOD(6) Internet(1) private(4) enterprises(1) cisco(9) ciscoMgmt(9)
   ciscoEnvMonMIB(13) ciscoEnvMonObjects(1)
ciscoEnvMonSupplyStatusTable(5) ciscoEnvMonSupplyStatusEntry(1) 2 }

.1.3.6.1.4.1.9.9.13.1.5.1.3 ciscoEnvMonSupplyState OBJECT-TYPE
-- FROM CISCO-ENVMON-MIB
-- TEXTUAL CONVENTION CiscoEnvMonState
SYNTAX Integer { normal(1), warning(2), critical(3), shutdown(4), notPresent(5) }
MAX-ACCESS read-only
STATUS Current
DESCRIPTION "The current state of the power supply being instrumented."
::= { ISO(1) org(3) DOD(6) Internet(1) private(4) enterprises(1) cisco(9) ciscoMgmt(9)
   ciscoEnvMonMIB(13) ciscoEnvMonObjects(1)
ciscoEnvMonSupplyStatusTable(5) ciscoEnvMonSupplyStatusEntry(1) 3 }
```

For switches, watch for the SNMP trap chassisAlarmOn. The variables chassisTempAlarm, chassisMinorAlarm, and chassisMajorAlarm are included with the trap and are necessary for determining the specific chassis alarm in progress. All these traps are from the CISCO-STACK-MIB.

```
.1.3.6.1.4.1.9.5.0.5 chassisAlarmOn OBJECT-TYPE
-- FROM CISCO-STACK-MIB TRAP VARBINDS { chassisTempAlarm, chassisMinorAlarm, chassisMajorA
DESCRIPTION "A chassisAlarmOn trap signifies that the agent entity has detected the chassi
   chassisMinorAlarm, or
chassisMajorAlarm object in this MIB has transitioned to the on(2) state. The generation o
   can be controlled by the
sysEnableChassisTraps object in this MIB."
::= { ISO(1) org(3) DOD(6) Internet(1) private(4) enterprises(1) cisco(9) workgroup(5)
   ciscoStackNotificationsPrefix(0) 5 }

.1.3.6.1.4.1.9.5.1.2.13 chassisTempAlarm OBJECT-TYPE
-- FROM CISCO-STACK-MIB SYNTAX Integer { off(1), on(2), critical(3) }
MAX-ACCESS read-only
STATUS Current
DESCRIPTION "The chassis temperature alarm status."
::= { ISO(1) org(3) DOD(6) Internet(1) private(4) enterprises(1) cisco(9) workgroup(5) cis
   chassisGrp(2) 13 }

.1.3.6.1.4.1.9.5.1.2.11 chassisMinorAlarm OBJECT-TYPE
-- FROM CISCO-STACK-MIB SYNTAX Integer { off(1), on(2) }
MAX-ACCESS read-only
STATUS Current
DESCRIPTION "The chassis minor alarm status."
::= { ISO(1) org(3) DOD(6) Internet(1) private(4) enterprises(1) cisco(9) workgroup(5) cis
   chassisGrp(2) 11 }

.1.3.6.1.4.1.9.5.1.2.12 chassisMajorAlarm OBJECT-TYPE
-- FROM CISCO-STACK-MIB
SYNTAX Integer { off(1), on(2) }
```

```
MAX-ACCESS read-only
STATUS Current
DESCRIPTION "The chassis major alarm status."
::= { ISO(1) org(3) DOD(6) Internet(1) private(4) enterprises(1) cisco(9) workgroup(5) cis
   chassisGrp(2) 12 }
```

Related Information

- **Simple Network Management Protocol Support Resources**
- **Technical Support − Cisco Systems**

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