Configuring AIS on Channelized T1E1-CEM

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This document describes the Alarm Indication Signal (AIS) on channelized T1/E1 circuit emulation (CEM) over IP feature. This feature is supported on the NM-CEM-4T1E1 module.

The following Cisco Integrated Service Routers (ISRs) are supported:

- Cisco 3800 Series ISRs
- Cisco 2800 Series ISRs

Feature History

Release	Modification
12.4(15)T9	This feature was introduced on the CEM-4T1E1 module.

Finding Support Information for Platforms and Cisco IOS Software Images

Use Cisco Feature Navigator to find information about platform support and Cisco IOS software image support. Access Cisco Feature Navigator at http://www.cisco.com/go/fn. You must have an account on Cisco.com. If you do not have an account or have forgotten your username or password, click **Cancel** at the login dialog box and follow the instructions that appear.

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Prerequisites

The following are prerequisites to configuring the AIS on Channelized T1E1 feature:

Americas Headquarters:
Cisco Systems, Inc., 170 West Tasman Drive, San Jose, CA 95134-1706 USA

- You must be familiar with Cisco IOS software

Overview of Alarm Indication Signal on Failure

This feature allows an AIS alarm to be sent on the T1/E1 line when a CEM transitions to the down state. Typically, this is used to signal to the equipment connected to the CEM that the CEM is in a failed state. This allows the end equipment to trigget switchover to a standby link.

Note By default, this feature is disabled. To use this feature, you must enable it using the **ais-on-failure** command.

When the feature is enabled and the CEM transitions to a down state, an AIS alarm is sent on the corresponding T1/E1 line. When the CEM transitions back to the up state, the AIS alarm is removed.

How to Configure AIS on CEM

To configure the AIS on channelized T1 or E1 CEM feature, follow this procedure:

SUMMARY STEPS

ais-on-failure

DETAILED STEPS

	Command or Action	Purpose
Step 1	`Router#enable`	Enters privileged EXEC mode.
Step 2	`Router#configure terminal`	Enters global configuration mode.

Step 3	`Router#cem <slot/wic/port> ais-on-failure`
	
	Example:
	`Router#cem 0/0/0 ais-on-failure`
		Enables the alarm indication feature in the event of a failure on the module.

Additional References

The following sections provide references related to the Cisco NM-CEM-T1E1 Module

Related Documents

Related Topic	Document Title
Cisco NM-CEM-T1E1	• Cisco IOS Software Release 12.4 Features and Hardware Support

Technical Assistance

Description	Link
The Cisco Technical Support & Documentation website contains thousands of pages of searchable technical content, including links to products, technologies, solutions, technical tips, and tools. Registered Cisco.com users can log in from this page to access even more content.	http://www.cisco.com/techsupport

Command Reference

This section documents new commands.

- ais-on-failure

ais-on-failure

To enable alarm indication signal (AIS) if there is a cable loss or malfunction and the CEM transitions to a down state, use the ais-on-failure command.

ais-on-failure

Use the no form of this command to disable AIS.

Command Default By default, AIS is disabled.

Command Modes CEM

Command History

Release	Modification
12.4(15)T9	This command was introduced.

Usage Guidelines You can verify the updated AIS state by using the **show run** command .

Examples The following example shows output from the **ais-on-failure** command:

From the UUT side:

```
====================
cem 2/0/1
dejitter-buffer 100
ais-on-failure
xconnect 18.1.1.1 0 encapsulation udp
  local ip addr 18.1.1.2
  local udp port 15906
  remote udp port 16034
!

Router#sh controller e1 2/0
E1 2/0 is up.
   Applique type is Channelized E1 - balanced
   Transmitter is sending AIS.   <<<<<<<< When CEM is down and AIS is on.

   Receiver has no alarms.
   alarm-trigger is not set
   Version info Firmware: 00000000, FPGA: 0
   Framing is CRC4, Line Code is HDB3, Clock Source is Internal.
   CRC Threshold is 320. Reported from firmware  is 320.
  CEIPNM specific information:
```

From CPE side:

```
==================
Router#
*Mar  1 08:28:56.861: %CONTROLLER-5-UPDOWN: Controller E1 0/3/0, changed state to down
(AIS detected)
```

```
bsky_3825_r1#sh Controller E1 0/3/0
E1 0/3/0 is down.
   Applique type is Channelized E1 - balanced
   Receiver is getting AIS.    <<<<<<<<
   alarm-trigger is not set
```

Related Commands

Command	Description
no ais-on-failure	Disables the AIS alarm on CEM failure.

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