



1:1 Timing, Communication, and Control Card Redundancy

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The Timing, Communication, and Control (TCC) card operates in 1:1 redundancy configuration where each TCC card has its own dedicated backup card in case of failure (hot standby mode). Only the active TCC card provides functionality in the RF Gateway 10 (RFGW-10) Universal Edge Quadrature Amplitude Modulation (UEQAM) chassis. The standby TCC card is accessible from other line cards, but does not provide any functionality.

Finding Feature Information

Your software release may not support all the features documented in this module. For the latest feature information and caveats, see 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 for 1:1 Timing, communication, and Control Card Redundancy” section on page 112](#).

Use Cisco Feature Navigator to find information about platform support and Cisco IOS, Catalyst OS, and Cisco IOS XE software image support. To access Cisco Feature Navigator, go to <http://www.cisco.com/go/cfn>. An account on Cisco.com is not required.

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Prerequisites for 1:1 Timing, Communication, and Control Card Redundancy

- Two TCC cards must be installed in the Cisco RFGW-10 UEQAM chassis in slots 13 and 14.

Restrictions for 1:1 Timing, Communication, and Control Card Redundancy

- Both the TCC cards should synchronize its clock with the same DTI server.

Information About 1:1 Timing, Communication, and Control Card Redundancy

The Timing, Communication, and Control (TCC) card is part of the Cisco RF Gateway 10 chassis. The TCC is 1:1 redundant and the standby will be a hot standby.

How to Configure 1:1 Timing, Communication, and Control Card Redundancy

There is no TCC redundancy configuration command. The system automatically configures slots 13 and 14 in a 1:1 protection scheme (no user provisioning is needed for TCC redundancy).

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Initiating Timing, Communication, and Control Card Switchover

To force a switchover from the active TCC to the standby TCC, use the following command in privileged EXEC mode on the Supervisor:

```
Router# redundancy tcc-group switchover from slot [slot]
```

Displaying the Redundancy Status of a Specific Timing, Communication, and Control Card

This section describes how to display the redundancy status of a particular TCC. The commands are executed on the Supervisor.

SUMMARY STEPS

1. `enable`
2. `show redundancy tcc slot [slot]`

DETAILED STEPS

	Command or Action	Purpose
Step 1	<code>enable</code> Example: Router> <code>enable</code>	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	<code>show redundancy tcc slot [slot]</code> Example: Router# <code>show redundancy tcc slot 13</code>	Displays the redundancy status of the specified TCC card. The TCC card must be installed in slot 13 or 14.

Displaying the Redundancy Status of All the Timing, Communication, and Control Cards

This section describes how to display the redundancy status of all the TCC cards in the RF Gateway 10 chassis. The commands are executed on the Supervisor.

SUMMARY STEPS

1. `enable`
2. `show redundancy tcc all`

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable	Enables privileged EXEC mode. Enter your password if prompted.
	Example: Router> enable	
Step 2	show redundancy tcc all	Displays the redundancy status of all the TCC cards in the RF Gateway 10 chassis.
	Example: Router# show redundancy tcc all	

Example

The following example shows sample output of the **show redundancy tcc all** command:

```
Router# show redundancy tcc all
      My      Peer
Slot State   Slot  Role
-----
13    -      14    -
14  Ready    None  Active
```

Additional References

The following sections provide references related to the 1:1 Timing, Communication, and Control Card Redundancy feature.

Related Documents

Related Topic	Document Title
Cisco RFGW-10 commands	Cisco RF Gateway 10 Command Reference http://www.cisco.com/en/US/docs/cable/rf_gateway/command/reference/RFGW-10_Book.html
New Software Features in Cisco IOS Release 12.2SQ	Cisco RF Gateway 10 Software Feature and Configuration Guide http://www.cisco.com/en/US/docs/cable/rf_gateway/feature/guide/rfgw_scg.html

Standards

Standard	Title
No new or modified standards are supported by this feature, and support for existing standards has not been modified by this feature.	—

MIBs

MIB	MIBs Link
No new or modified MIBs are supported by this feature, and support for existing MIBs has not been modified by this feature.	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

RFCs

RFC	Title
No new or modified RFCs are supported by this feature, and support for existing RFCs has not been modified by this feature.	—

Technical Assistance

Description	Link
The Cisco Support website provides extensive online resources, including documentation and tools for troubleshooting and resolving technical issues with Cisco products and technologies. To receive security and technical information about your products, you can subscribe to various services, such as the Product Alert Tool (accessed from Field Notices), the Cisco Technical Services Newsletter, and Really Simple Syndication (RSS) Feeds. Access to most tools on the Cisco Support website requires a Cisco.com user ID and password.	http://www.cisco.com/techsupport

Command Reference

The following commands are introduced or modified in the feature or features documented in this module. For information about these commands, see the *Cisco RF Gateway 10 Command Reference* at http://www.cisco.com/en/US/docs/cable/rf_gateway/command/reference/RFGW-10_Book.html. For information about all Cisco IOS commands, use the Command Lookup Tool at <http://tools.cisco.com/Support/CLILookup> or the *Cisco IOS Master Command List, All Releases*, at http://www.cisco.com/en/US/docs/ios/mcl/allreleasemcl/all_book.html.

- **redundancy tcc-group switchover from slot** [*slot*]
- **show redundancy tcc slot** [*slot*]
- **show redundancy tcc all**

Feature Information for 1:1 Timing, communication, and Control Card Redundancy

Table 1 lists the release history for this feature.

Not all commands may be available in your Cisco IOS software release. For release information about a specific command, see the command reference documentation.

Use Cisco Feature Navigator to find information about platform support and software image support. Cisco Feature Navigator enables you to determine which Cisco IOS, Catalyst OS, and Cisco IOS XE software images support a specific software release, feature set, or platform. To access Cisco Feature Navigator, go to <http://www.cisco.com/go/cfn>. An account on Cisco.com is not required.



Note

Table 1 lists only the Cisco IOS software release that introduced support for a given feature in a given Cisco IOS software release train. Unless noted otherwise, subsequent releases of that Cisco IOS software release train also support that feature.

Table 1 Feature Information for 1:1 Timing, communication, and Control Card Redundancy

Feature Name	Releases	Feature Information
1:1 Timing, communication, and Control Card Redundancy	12.2(44)SQ	This feature was introduced in the Cisco IOS Release 12.2(44)SQ to support the Cisco RF Gateway 10. The following commands were introduced or modified: • redundancy tcc-group switchover from slot [<i>slot</i>] • show redundancy tcc slot [<i>slot</i>] • show redundancy tcc all

Glossary

EQAM—Edge Quadrature Amplitude Modulation. A network element, which receives MPEG-TS frames over a network interface such as Ethernet, and modulates them onto QAM carriers for use on an HFC plant.

LCRED—Line Card Redundancy

TCC—Timing, Communication, and Control

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