

Multiple Cores

This document describes the multiple cores in the Remote PHY system.

Finding Feature Information

Your software release may not support all the features that are documented in this module. For the latest feature information and caveats, see the release notes for your platform and software release. The Feature Information Table at the end of this document provides information about the documented features and lists the releases in which each feature is supported.

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Hardware Compatibility Matrix for Cisco Remote PHY Device

Note Unless otherwise specified, the hardware components introduced in a given Cisco Remote PHY Device Software Release are supported in all subsequent releases.

Table 1: Hardware Compatibility Matrix for the Cisco Remote PHY Device

Cisco HFC Platform	Remote PHY Device
Cisco GS7000 Super High Output Node	**Cisco 1x2 / Compact Shelf RPD Software 2.1 and Later Releases** Cisco Remote PHY Device 1x2 • PID—RPD-1X2= **Cisco 1x2 / Compact Shelf RPD Software 2.1a and Later Releases** Cisco Remote PHY Device 1x2 • PID—RPD-1X2-PKEY=

Cisco HFC Platform	Remote PHY Device
Cisco GS7000 Super High Output Intelligent Node (iNode)	**and Later Releases** Cisco Intelligent Remote PHY Device 1x2 • PID—iRPD-1X2= • PID—iRPD-1X2-PKEY=



Note The -PKEY suffix in the PID indicates units that enable the SCTE-55-2 Out-of-Band protocol support.

Information about Multiple Cores

The RPD can be managed by more than one CCAP core. An RPD is controlled by exactly one principal CCAP core and zero or more auxiliary CCAP core(s). Each CCAP core manages a subset of RPD resources, e.g., particular channels or RF ports.

Principal core is responsible for the configuration of common parameters for the RPD and for certain device management functions. Principal core can provide DOCSIS, video or OOB service. Auxiliary cores are responsible for providing video or OOB services. They are restricted to the resource set assigned to them by the principal core.

Restrictions for Multiple Cores Configuration

The following restrictions are applicable to mutiple cores configuration:

- Maximum four cores are supported.
- DOCSIS controllers can only be configured to principal core, while video controllers can be configured to all cores.
- Only one core can be principal, the rest will be auxiliary.
- Principal core needs to be configured explicitly.
- At least one DOCSIS downstream controller and one upstream controller are needed for principal core.
- No upstream controller for auxiliary core and at least one downstream controller is needed for auxiliary core.
- Only single CMTS is supported.
- No downstram frequency and channel id overlap is allowed for all the cores.

How to Configure Multiple Cores

This section describes how to configure multiple cores on Cisco cBR-8.

Configuring Multiple Cores

To configure the multiple cores, follow the example below:

```
Router(config)# cable rpd sjc_block22   /* unique name for each rpd */
Router(config-rpd)# description rpd for sjc block 22
Router(config-rpd)# identifier 1122.3344.5566   /* unique id for each rpd.*/
Router(config-rpd)# rpd-ds 0 power-level 5   /* DS max-carrier and power-level info */
Router(config-rpd)# rpd-ds 0 dedicated-cw-tone cw1   /* DS pilot tone info */
Router(config-rpd)# core-interface Te3/1/0   /* Core side interface (D-PIC interface) for
services below */
Router(config-rpd-core)# principal   /* Specify the principal core */
Router(config-rpd-core)# rpd-ds 0 controller downstream-cable 3/0/0 profile 100 /* DS docsis
 channel config*/
Router(config-rpd-core)# rpd-ds 0 controller downstream-cable 3/0/1 profile 200 /* DS docsis
 channel config*/
Router(config-rpd-core)# rpd-ds 0 downstream-cable 3/0/2 profile 300 /* DS video channel
config*/
Router(config-rpd-core)# rpd-ds 0 downstream-cable 3/0/3 profile 400 /* DS video channel
config*/
Router(config-rpd-core)# rpd-us 0 upstream-cable 3/0/0 profile 101 /* US 0 docsis channel
config*/
Router(config-rpd-core)# rpd-us 1 upstream-cable 3/0/1 profile 101   /* US 1 docsis channel
 config*/
Router(config-rpd-core)# depi depi_rpd_block22    /* RPD DEPI configuration.*/
Router(config-rpd-core)# exit
Router(config-rpd)# core-interface Te9/1/1 /* Support multiple core-interface for cases
such as video is using separate LC*/
Router(config-rpd-core)# rpd-ds 0 downstream-cable 9/0/1 profile 200  /* DS video channel
config*/
Router(config-rpd-core)# depi depi_rpd_block22    /* RPD DEPI configuration.*/
Router(config-rpd-core)# exit
Router(config-rpd)# r-dti 1
Router(config-rpd)# rpd-event profile 0
Router(config-rpd)# rpd-55d1-us-event profile 0
```

Verifying Multiple Cores Configuration

To display the information of the principal and auxiliary cores, use the **show cable rpd** command as shown in the example below:

```
Router# show cable rpd
MAC Address     IP Address         I/F          State        Role HA  Name
0004.9f00.0907  120.100.2.20     Te1/1/6   online       Pri   Act  node
0004.9f00.0907  120.100.2.20     Te1/1/0   online       Aux  Act  node
0004.9f00.0907  120.100.2.20     Te1/1/1   online       Aux  Act  node
0004.9f00.0907  120.100.2.20     Te1/1/2   online       Aux  Act  node
```



Note Only the active cores are displayed, stand-by cores are hidden.