Physical to Virtual Binding

The Virtual Carrier Group (VCG) is bound to a Service Distribution Group (SDG) using a bind command (bind-vcg). This connects the virtual carriers to the physical ports listed in the SDG. After binding, a path from the Virtual Edge Input (VEI) is mapped to the RF ports.

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Information About Physical to Virtual Binding

In general, more than one VCG can be bound to the same SDG, only if the RF-channels in the VCG are not overlapping each other. However, one VCG cannot be bound to multiple SDGs.

If you want to configure one VCG to multiple SDGs, you should configure QAM replication instead. For more information, see Configuring QAM Replication section.

How to Configure VPME Encryption

This section describes how to configure physical to virtual binding and QAM replication on Cisco cBR-8.

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Configuring Physical to Virtual Binding

To bind a set of virtual RF-channels defined in the VCG to the physical port in the SDG, perform the following:

```
enable
configure terminal
cable video
bind-vcg
vcg vcg-name sdg sdg-name
exit
```

Configuring QAM Replication

To configure QAM replication to one or more ports, add the ports to an SDG configuration as following:

```
enable
configure terminal
cable video
service-distribution-group name
rf-port integrated-cable slot/bay/port
rf-port integrated-cable slot/bay/port
exit
```

Configuration Examples

This section provides configuration examples for the physical to virtual binding configuration.

Example 1: Physical to Virtual Binding Configuration

The following is a sample in which the port 7/0/2 of SDG *west-region* binds with 0 to 10 RF-channels of VCG *movie-channels* to physically identify the 7/0/2:0 to 7/0/2:10 QAM carriers.

Example 1 :

```
Router#config t
Router(config)#cable video
Router(config-video)#service-distribution-group  west-region
Router(config-video-sdg)#rf-port  integrated-cable  7/0/2
Router(config-video-sdg)#exit
Router(config-video)#virtual-carrier-group movie-channels
Router(config-video-vcg)#rf-channel 0-10 tsid 1-11 output-port-num 1-11
Router(config-video-vcg)#exit
Router(config-video)#bind-vcg
Router(config-video-bd)# vcg movie-channels sdg west-regions
```

Example 2: Physical to Virtual Binding Configuration

The following is a sample in which the *movie-channels* VCG and *news-channels* VCG bind with *west-regions* SDG.

Example 2 :

```
Router#config t
Router(config)#cable video
Router(config-video)#service-distribution-group  west-region
Router(config-video-sdg)#rf-port  integrated-cable  7/0/2
Router(config-video-sdg)#exit
Router(config-video)#virtual-carrier-group movie-channels
Router(config-video-vcg)#rf-channel 0-10 tsid 1-11 output-port-num 1-11
Router(config-video-vcg)#exit
Router(config-video)#virtual-carrier-group news-channels
Router(config-video-vcg)#rf-channel 11-15 tsid 12-16 output-port-num 12-16
Router(config-video-vcg)#exit
Router(config-video)#bind-vcg
Router(config-video-bd)# vcg movie-channels sdg west-regions
Router(config-video-bd)# vcg news-channels sdg west-regions
```

Example 3: QAM Replication Configuration

The following is a sample in which video replication is set across 7/0/0 and 7/0/1 ports:

Example 3 :

```
Router#config t
Router(config)#cable video
Router(config-video)# service-distribution-group  qrg-example
Router(config-video-sdg)# rf-port  integrated-cable  7/0/0
Router(config-video-sdg)# rf-port  integrated-cable  7/0/1
```

Feature Information for Physical to Virtual Binding

Use Cisco Feature Navigator to find information about the platform support and software image support. Cisco Feature Navigator enables you to determine which software images support a specific software release, feature set, or platform. To access Cisco Feature Navigator, go to the https://cfnng.cisco.com/ link. An account on the Cisco.com page is not required.

Note The following table lists the software release in which a given feature is introduced. Unless noted otherwise, subsequent releases of that software release train also support that feature.

Table 1: Feature Information for Physical to Virtual Binding

Feature Name	Releases	Feature Information
Physical to Virtual Binding	Cisco IOS XE Everest 16.6.1	This feature was integrated on the Cisco cBR Series Converged Broadband Routers.