Management IP Interface

The management interface is used for the video control plane messages, such as session creation and deletion, between the Logical Edge Devices (LED) and the external Edge Resource Manager (ERM) server.

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Information About Management IP Interface

Video Logical Edge Device (LED) communicates with an external Edge Resource Manager (ERM) and a D6 server via the management interface. The physical interface for the connection is a front panel WAN port.

The following are the characteristics of the management interface:

- The management interface configuration is applied on both active and standby supervisor. However, only the active supervisor's management interface is connected to the external server.
- VirtualPortGroup interface must be configured prior to configuring the cable video management interface.
- Cable video management interface must be configured prior to configuring an LED that uses the management interface.

How to Configure the Management IP Interface

This section describes how to configure the management IP interface for the video session on Cisco cBR-8.

Configuring the Management IP Interface consists of the following three steps:

- Configuring the VirtualPortGroup Interface, on page 2
- Configuring the Cable Video Management Interface, on page 3
- Configuring the LED Management Interface, on page 3

Configuring the VirtualPortGroup Interface

First step towards configuring the Management IP Interface is to configure a VirtualPortGroup interface. You can also configure secondary IP addresses on the VirutalPortGroup interface, similar to a gigabit Ethernet interface IP address configuration.

To configure the VirtualPortGroup interface, complete the following procedure:

```
configure terminal
interface VirtualPortGroup virtual port group number
ip address ip address subnet-mask
ip address ip address subnet-mask secondary
end
```

Verifying the VirtualPortGroup Interface Configuration

To verify the VirtualPortGroup interface configuration, use the **show run interface VirtualPortGroup** command as shown in the example below:

```
show run interface VirtualPortGroup 0
Building configuration...

Current configuration : 145 bytes
!
interface VirtualPortGroup0
 ip address 1.22.3.1 255.255.255.0 secondary
 ip address 1.22.2.1 255.255.255.0
 no mop enabled
 no mop sysid
end
```

The VirtualPortGroup interface is in a down state. The interface comes up after the cable video management interface is configured.

Verifying the VirtualPortGroup Interface State

To verify the VirtualPortGroup interface state, use the **show interfaces VirtualPortGroup** command as shown in the example below:

```
show interfaces VirtualPortGroup 0
VirtualPortGroup0 is up, line protocol is up
  Hardware is Virtual Port Group, address is badb.ad09.7077 (bia badb.ad09.7077)
  Internet address is 1.22.2.1/24
  MTU 1500 bytes, BW 2500000 Kbit/sec, DLY 1000 usec,
     reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive not supported
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input never, output 00:24:14, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/375/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
     0 packets input, 0 bytes, 0 no buffer
     Received 0 broadcasts (0 IP multicasts)
     0 runts, 0 giants, 0 throttles
     0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
     0 input packets with dribble condition detected
```

```
 0 packets output, 0 bytes, 0 underruns
 0 output errors, 0 collisions, 0 interface resets
 0 unknown protocol drops
 0 babbles, 0 late collision, 0 deferred
 0 lost carrier, 0 no carrier
 0 output buffer failures, 0 output buffers swapped out
```

Troubleshooting Tips

- To check if the management interface IP route is up, use the following command:

```
show ip interface brief | include VirtualPortGroup 0
VirtualPortGroup0 1.22.2.1 YES NVRAM up up
```

- To ping the VirtualPortGroup interface, use the following command:

```
ping 1.22.2.1
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 1.22.2.1, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/1 ms
```

Configuring the Cable Video Management Interface

Before You Begin

VirtualPortGroup interface must be configured before configuring the cable video management.

To configure the cable video management interface, complete the following procedure:

```
configure terminal
cable video
mgmt-interface VirtualPortGroup virtual port group number
end
```

Verifying the Cable Video Management Interface Configuration

To verify the VirtualPortGroup interface configuration, use the **show run | include mgmt-intf** command as shown in the example below:

```
show run | include mgmt-intf
 mgmt-intf VirtualPortGroup 0
```

Configuring the LED Management Interface

Before You Begin

- Cable video management interface must be configured before configuring an LED that uses the management interface.
- Management IP address and the VirtualPortGroup IP address must be in the same subnet. It is recommended that the management IP addresses (for LED with Protocol GQI, DVB, PME and D6) are configured starting at the VirtualPortGroup IP address plus 2 and incrementing or Broadcast address minus 3 and decrementing. Typically, the VirtualPortGroup IP address is network address plus 1. Then, network address plus 2 is used internally by cBR-8. If the VirtualPortGroup IP is the Broadcast address minus 1, then the Broadcast address minus 2 is used internally by cBR-8.

To configure the LED management interface, complete the following procedure:

```
configure terminal
cable video
logical-edge-device device name
protocol gqi
mgmt-ip management ip address
exit
```

Verifying the LED Management Interface Configuration

To verify the VirtualPortGroup interface state, use the **show run | begin logical-edge-device test** command as shown in the example below:

```
sh run | begin logical-edge-device test
logical-edge-device test id 2
protocol gqi
mgmt-ip 1.22.2.10
```

Troubleshooting Tips

To ping the management interface, use the following command:

```
video-LWR-S-C2# ping 1.22.2.10
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 1.22.2.10, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/1 ms
```

Configuration Examples

This section provides configuration examples for the management IP interface.

Management IP Interface

The following example shows how to create a management IP interface:

```
configure terminal
interface VirtualPortGroup 0
ip address 1.23.2.1 255.255.255.0
cable video
mgmt-interface VirtualPortGroup 0
logical-edge-device test id 2
protocol gqi
mgmt-ip 1.23.2.10
exit
exit
```

Feature Information for Management IP Interface

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 Management IP Interface

Feature Name	Releases	Feature Information
Management IP Interface	Cisco IOS XE Everest 16.6.1	This feature was integrated on the Cisco cBR Series Converged Broadband Routers.