Configuring Support for Remote Management by the Cisco Prime Network Services Controller

Configuring the Management Interface to Support Remote Management by the Cisco Prime Network Services Controller

Note The Cisco Prime Network Services Controller is unsupported using Cisco IOS XE Denali 16.3.1 or later, on the Cisco CSR 1000v.

(Cisco IOS XE Denali 16.3 or earlier) You can use the Cisco Prime Network Services Controller to provision, manage and monitor the Cisco CSR 1000v. This procedure configures the Cisco CSR 1000v management interface to support remote management using the Cisco Prime Network Services Controller.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **interface** *mgmt-interface*
4. **ip address** *mgmt-ipv4-addr subnet-mask*
5. **no shutdown**
6. **exit**
7. **interface virtualportgroup** *virtual-port-group-number-number*
8. **ip unnumbered** *management-interface*
9. **no shutdown**
10. **exit**
11. **virtual-service csr_mgmt**
12. **vnic gateway virtualportgroup** *virtual-port-group-number*

13. **guest ip address** *remote-mgmt-ipv4-addr*
14. **exit**
15. **activate**
16. **end**
17. **ip route** *ip-address subnet-mask* **virtualportgroup** *virtual-port-group-number*

DETAILED STEPS

	Command or Action	Purpose
Step 1	**enable** **Example:** `Router> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Router# configure terminal`	Enters global configuration mode.
Step 3	**interface** *mgmt-interface* **Example:** `Router(config)# interface gig1`	Enters interface configuration mode for the management interface.
Step 4	**ip address** *mgmt-ipv4-addr subnet-mask* **Example:** `Router(config-if)# ip address 172.25.29.235 255.255.255.128`	Configures the IP address for the management interface.
Step 5	**no shutdown** **Example:** `Router(config-if)# no shutdown`	Enables the management interface.
Step 6	**exit** **Example:** `Router(config-if)# exit`	Exits interface configuration mode.
Step 7	**interface virtualportgroup** *virtual-port-group-number-number* **Example:** `Router(config)# interface virtuaportgroup 0`	Creates a virtual port group and enters virtual port group interface configuration mode.
Step 8	**ip unnumbered** *management-interface* **Example:**	Enables IP processing on an interface without assigning it an explicit IP address.

	Command or Action	Purpose
	`Router(config-if)# ip unnumbered gigabitethernet1`	
Step 9	**no shutdown** **Example:** `Router(config-if)# no shutdown`	Enables the management interface.
Step 10	**exit** **Example:** `Router(config-if)# exit`	Exits virtual port group interface mode.
Step 11	**virtual-service csr_mgmt** **Example:** `Router(config)# virtual-service csr_mgmt`	Configures the **csr_mgmt** virtual services container and enters virtual services configuration mode.
Step 12	**vnic gateway virtualportgroup** *virtual-port-group-number* **Example:** `Router(config-virt-serv)# vnic gateway virtualportgroup 0`	Creates a vNIC gateway interface for the virtual services container and maps the vNIC gateway interface to the virtual port group.
Step 13	**guest ip address** *remote-mgmt-ipv4-addr* **Example:** `Router(config-virt-serv-intf) guest ip address 172.25.29.236`	Configures the remote-management IP address for the vNIC gateway interface for the virtual services container.
Step 14	**exit** **Example:** `Router(config-virt-serv-intf)# exit`	Exits virtual services interface configuration mode and enters virtual services configuration mode.
Step 15	**activate** **Example:** `Router(config-virt-serv)# activate`	Activates the **csr_mgmt** virtual services container.
Step 16	**end** **Example:** `Router(config-virt-serv)# end`	Exits virtual services configuration mode and enters global configuration mode.

	Command or Action	Purpose
Step 17	**ip route** *ip-address subnet-mask* **virtualportgroup** *virtual-port-group-number* **Example:** `Router(config)# ip route 172.25.29.236 255.255.255.255 VirtualPortGroup0`	Creates an IP route that maps to the virtual port group. Use the same IP address that was configured using the **guest ip address** command.

Enabling Remote Management by the Cisco Prime Network Services Controller Host

Note The Cisco Prime Network Services Controller is unsupported using Cisco IOS XE Denali 16.3.1 or later, on the Cisco CSR 1000v.

The Cisco Prime Network Services Controller control point agent (CPA) is used to manage the interface between the Cisco CSR 1000v and the Cisco Prime Network Services Controller host. The Cisco Prime Network Services Controller CPA must be activated on the Cisco CSR 1000v before Cisco Prime Network Services Controller can be used to remotely manage the router.

You must use the Cisco IOS XE CLI to manually activate the Cisco Prime Network Services Controller CPA in the following situations:

- If you did not enable Cisco Prime Network Services Controller support through bootstrap when you deployed the OVA.
- If you are manually configuring the Cisco CSR 1000v when it is up and running.

For more information about installing the Cisco CSR 1000v by deploying the OVA, see Deploying the Cisco CSR 1000v OVA to the VM using vSphere and Deploying the Cisco CSR 1000v OVA to the VM using COT.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. remote-management
4. **pnsc host** *ipv4-addr* **local-port** *number* **shared-secret** *string*
5. **end**
6. **show remote-management status**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**enable** **Example:**	Enables privileged EXEC mode. • Enter your password if prompted.

	Command or Action	Purpose
	`Router> enable`	
Step 2	**configure terminal** **Example:** `Router# configure terminal`	Enters global configuration mode.
Step 3	remote-management **Example:** `Router(config)# remote-management`	Enters remote-management configuration mode.
Step 4	**pnsc host** *ipv4-addr* **local-port** *number* **shared-secret** *string* **Example:** `Router(cfg-remote-mgmt)# pnsc host 172.25.29.234 local-port 8443 shared-secret ********`	Enables remote management by Cisco Prime Network Services Controller and sets up the access to the Cisco Prime Network Services Controller host. • The *ipvr-address* represents the IP address of the Cisco Prime Network Services Controller host. • The **local-port** is the TCP port number for receiving the HTTPS requests from Cisco Prime Network Services Controller. The valid range is from 1 to 65535. There is no default port number. The **local-port** number should not be the same port number configured with the **ip http port** command. • The **shared-secret** configured in this step should match the shared-secret configured on Cisco Prime Network Services Controller. Once configured, only the encrypted version of the shared secret is displayed. **Note** When remote management by Cisco Prime Network Services Controller is enabled using this command, the REST API PUT, POST, and DELETE operations are disabled. However, the GET operation is still available.
Step 5	**end** **Example:** `Router(config-remote-mgmt)# end`	Exits configuration mode and enters privileged EXEC mode.

Step 6	**show remote-management status**
	Example:
	`Router# show remote-management status`
	`RESTful-API: enabled`
		Displays the Cisco CSR 1000v remote management settings.

	Command or Action	Purpose

	`https port: 443`
	
	`PNSC CPA: enabled`
	
	`Host 172.27.208125 port 8443 shared-secret *******`	

What to do next

Once remote management by Cisco Prime Network Services Controller is enabled, the following warning is displayed when entering the Cisco IOS XE CLI mode directly on the router:

```
WARNING: This device is managed by Prime Network Services Controller. RESTful API is read only. Changing configuration using CLI is not recommended.
```

See documentation for Cisco Prime Network Services Controller.

Disabling Remote Management by the Cisco Prime Network Services Controller Host

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **remote-management**
4. **no pnsc host** *ipv4-addr* **local-port** *number* **shared-secret** *string*
5. **end**
6. **show remote-management status**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**enable** **Example:** `Router> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Router# configure terminal`	Enters global configuration mode.
Step 3	**remote-management** **Example:**	Enters remote-management configuration mode.

	Command or Action	Purpose
	`Router(config)# remote-management`	
Step 4	**no pnsc host** *ipv4-addr* **local-port** *number* **shared-secret** *string* **Example:** `Router(cfg-remote-mgmt)# no pnsc host 172.25.29.234 local-port 8443 shared-secret ********`	Disables remote management by Cisco Prime Network Services Controller. **Note** When remote management by Cisco Prime Network Services Controller is disabled using this command, the REST API PUT, POST and DELETE operations are enabled.
Step 5	**end** **Example:** `Router(cfg-remote-mgmt)# end`	Exits configuration mode and enters privileged EXEC mode.

Step 6	**show remote-management status**
	Example:
	`Router# show remote-management status`
	`RESTful-API: enabled`
	`https port: 443`
	`PNSC CPA: disabled`
	`Host 172.27.208.125 port 8443 shared-secret *******`
		Displays the Cisco CSR 1000v remote management settings.