# Circuit Configuration Mode Commands

Circuit configuration mode allows you to configure a circuit on the CSS. A circuit on the CSS is a logical entity that maps IP interfaces to a logical port or group of logical ports.

To access circuit configuration mode, use the **circuit** command from global, IP, interface, and service. The prompt changes to (config-circuit [*circuit_name*]). You can also use this command from circuit mode to access another circuit. For information about commands available in this mode, see the following commands.

> **circuit** *circuit_name*

| Syntax Description | *circuit_name* | Name of the circuit you want to configure. To see a list of available circuits, enter: |
|---|---|---|
| | | **circuit ?** |

## (config-circuit) description

To specify the description for the circuit, use the **description** command. Use the **no** form of this command to delete the circuit description.

> **description "***circuit_description***"**
>
> **no description**

| Syntax Description | **"***circuit_description***"** | Description for the circuit. Enter a quoted text string with a maximum length of 32 characters. |
|---|---|---|

**Related Commands**    **show circuits**

# (config-circuit) dhcp relay-to

To specify the DHCP relay destination address to the DHCP server, use the **dhcp relay-to** command. Use the **no** form of this command to remove the relay destination address.

**dhcp relay-to** *ip_address*

**no dhcp relay-to** *ip_address*

| Syntax Description | *ip_address* | IP address for the DHCP relay destination. Enter an IP address in dotted-decimal notation (for example, 192.168.11.1). |
| --- | --- | --- |

**Usage Guidelines**   You can configure a maximum of five DHCP relay destination addresses per circuit.

Do not configure a relay destination on a circuit when the relay destination is directly connected to or reachable from one of the ports on the same circuit. In this case, the DHCP packets reach the relay destination through normal broadcast and a relay agent is not required.

**Related Commands**   **show dhcp-relay-agent global**
**(config-circuit) dhcp-relay-agent**

# (config-circuit) dhcp-relay-agent

To enable DHCP relay agent on the circuit, use the **dhcp-relay-agent** command. Use the **no** form of this command to disable the DHCP relay agent on the circuit.

**dhcp-relay-agent**

**no dhcp-relay-agent**

**Related Commands**    show dhcp-relay-agent global
(config) dhcp-agent max-hops
(config-circuit) dhcp relay-to

# (config-circuit) ip

To enter IP configuration mode and assign a local IP interface address to this circuit, use the **ip** command. Use the **no** form of this command to delete a local IP address from this circuit.

**ip address** *ip_or_host ip_mask*

**no ip address** *ip_or_host*

**Syntax Description**

| | |
|---|---|
| *ip_or_host* | IP address or host name you want to assign to the circuit. Enter an IP address in dotted-decimal notation (for example, 192.168.11.1) or a host name in mnemonic form (for example, myhost.mydomain.com). |
| *ip_mask* | IP mask. Enter the mask as either:<br><br>• A prefix length in CIDR bitcount notation (for example, /24). The valid prefix length range is from 8 to 31. Do not enter a space to separate the IP address from the prefix length.<br><br>• A subnet mask in dotted-decimal notation (for example, 255.255.255.0). |

**Usage Guidelines**    When you use the **ip** command to access IP configuration mode, the prompt changes to (config-circuit-ip [*circuit_name-ipaddress*]). For information about commands available in this mode, see the "IP Configuration Mode Commands" section.

**Related Commands**    show ip interfaces

# (config-circuit) no

To negate a command or set it to its default, use the **no** command. For information on general **no** commands you can use in this mode, see the general **no** command. The following options are available in circuit mode.

**Syntax Description**

| | |
|---|---|
| **no acl** *index* | Deletes an ACL |
| **no description** | Deletes the circuit description |
| **no dhcp relay-to** *ip_address* | Removes the DHCP relay destination address from the circuit |
| **no dhcp-relay-agent** | Disables the DHCP relay agent on the circuit |
| **no ip address** *ip_or_host* | Removes a local IP address from the circuit |
| **no keepalive** *name* | Deletes an existing keepalive |
| **no owner** *existing_owner_name* | Deletes an existing owner |
| **no redundancy** | Removes this circuit from the redundancy configuration |
| **no router-discovery lifetime** | Resets the maximum time for the hosts to remember the router advertisements to the default of 3 x *the maximum advertisement value* |
| **no router-discovery limited-broadcast** | Transmits router discovery packets using the default of 224.0.0.1 |
| **no router-discovery max-advertisement-interval** | Resets the maximum router advertisement interval to the default of 600 |

| no router-discovery min-advertisement-interval | Resets the minimum router advertisement interval to the default of 0.75 x *the maximum advertisement value* |
|---|---|

# (config-circuit) redundancy

To configure the circuit as a redundant circuit, use the **redundancy** command. Use the **no** form of this command to remove a circuit.

> **redundancy**

> **no redundancy**

**Related Commands**    **(config) ip redundancy**
**(config-circuit-ip) redundancy-protocol**

# (config-circuit) router-discovery

To configure router discovery advertisements, use the **router-discovery** command. The options for this circuit mode command are:

- **router-discovery lifetime** - Sets the maximum amount of time for the hosts to remember router advertisements

- **router-discovery limited-broadcast** - Transmits router advertisements to 255.255.255.255

- **router-discovery max-advertisement-interval** - Configures the maximum router advertisement interval

- **router-discovery min-advertisement-interval** - Configures the minimum router advertisement interval

For more information on these options and associated variables, see the following commands.

**Related Commands**    **(config-circuit-ip) router-discovery**

## router-discovery lifetime

To set the maximum amount of time for the hosts to remember router advertisements, use the **router-discovery lifetime** command. Use the **no** form of this command to set the time to the default of three times *the maximum advertisement value*.

**router-discovery lifetime** *time*

**no router-discovery lifetime**

**Syntax Description**

| *time* | Time in seconds. Enter an integer from 0 to 9000. The default is three times *the maximum advertisement value*. Use the **router-discovery max-advertisement-interval** command to set the maximum advertisement value. |
|---|---|

**Command Modes**    Circuit

## router-discovery limited-broadcast

To transmit router advertisements to 255.255.255.255, use the **router-discovery limited-broadcast** command. Use the **no** form of this command to transmit router advertisements to the default of 224.0.0.1.

**router-discovery limited-broadcast**

**no router-discovery limited-broadcast**

**Command Modes**    Circuit

## router-discovery max-advertisement-interval

To configure the maximum router advertisement interval, use the **router-discovery max-advertisement-interval** command. Use the **no** form of this command to reset the maximum router advertisement interval to the default of 600.

**router-discovery max-advertisement-interval** *max_value*

**no router-discovery max-advertisement-interval**

**Syntax Description**

| | |
|---|---|
| *max_value* | Maximum interval between advertisements in seconds. Enter an integer from 4 to 1800. The default is 600 (10 minutes). |

**Command Modes**    Circuit

## router-discovery min-advertisement-interval

To configure the minimum router advertisement interval, use the **router-discovery min-advertisement-interval** command. Use the **no** form of this command to reset the minimum router advertisement interval to the default of 0.75 x *the maximum advertisement value*.

**router-discovery min-advertisement-interval** *min_value*

**no router-discovery min-advertisement-interval**

**Syntax Description**

| | |
|---|---|
| *min_value* | Minimum interval between advertisements in seconds. Enter an integer from 0 to 1800. The default is 0.75 x *the maximum advertisement value*. If this argument is greater than 0, it must be less than the maximum advertisement value. Use the **router-discovery max-advertisement-interval** command to set the maximum advertisement value. |

**Command Modes**    Circuit

# IP Configuration Mode Commands

IP configuration mode allows you to assign a local IP interface address to this circuit and configure it. To access IP configuration mode, use the **ip** command from circuit configuration mode. The prompt changes to (config-circuit-ip [*circuit_name-ipaddress*]). You can also use this command in IP mode to configure another IP address for this circuit. For information about commands available in this mode, see the following commands.

Use the **no** form of this command to delete a local IP address from the circuit.

(config-circuit) **ip address** *ip_or_host ip_mask*

**no ip address** *ip_or_host*

| **Syntax Description** | *ip_or_host* | IP address or host name you want to assign to the circuit. Enter an IP address in dotted-decimal notation (for example, 192.168.11.1) or a host name in mnemonic form (for example, myhost.mydomain.com). |
|---|---|---|
| | *ip_mask* | IP mask. Enter the mask as either: |
| | | • A prefix length in CIDR bitcount notation (for example, /24). The valid prefix length range is from 8 to 31. Do not enter a space to separate the IP address from the prefix length. |
| | | • A subnet mask in dotted-decimal notation (for example, 255.255.255.0). |

# (config-circuit-ip) broadcast

To change the broadcast address, use the **broadcast** command. The default broadcast address is an all-ones host address (for example, an IP address 192.168.1.1/24 has a broadcast address of 192.168.1.255).

Use the **no** form of this command to reset the broadcast IP address to the default all-ones host address.

**broadcast** *ip_address*

**no broadcast**

| Syntax Description | *ip_address* | Broadcast IP address associated with the entry. If left at zero, the all-ones host is used for numbered interfaces. 255.255.255.255 is always used for unnumbered interfaces. |
|---|---|---|

# (config-circuit-ip) enable

To enable the IP interface on this circuit, use the **enable** command. This is the default state. Use the **no** form of this command to disable the interface.

**enable**

**no enable**

| Related Commands | show ip interfaces |
|---|---|

# (config-circuit-ip) ip

To configure VIP and virtual interface redundancy, use the **ip** command and
options. The options for this IP mode command are:

- **ip critical-reporter** - Associates a reporter with a virtual router
- **ip critical-service** - Associates a service with a virtual router
- **ip redundant-interface** - Configures a virtual redundant interface and
  associate it with a virtual router
- **ip redundant-vip** - Configures a redundant VIP and associates it with a
  virtual router
- **ip virtual-router** - Configures a virtual router on a CSS

For more information on these options and associated variables, see the following
commands.

## ip critical-reporter

To associate a reporter with a virtual router, use the **ip critical-reporter**
command. Use the **no** form of this command to remove a critical reporter from a
virtual router.

> **ip critical-reporter** *vrid reporter_name*

> **no ip critical-reporter** *vrid reporter_name*

**Syntax Description**

| | |
|---|---|
| *vrid* | ID for an existing virtual router. |
| *reporter_name* | Name of the reporter. To see a list of reporters, enter: |
| | **ip critical-reporter** *vrid* **?** |

**Command Modes**    Circuit-IP

**Usage Guidelines**   There are three types of critical reporters that you can configure:

- A scripted service, as defined by the **(config-service) keepalive type named** or **(config-service) keepalive type script** command, that is constantly scanning for service and network availability. The keepalive sets the service to a down state whenever network or service availability is a problem. The virtual router goes down if *any* associated scripted service goes down.

- A redundancy uplink critical service, as defined by the **(config-service) type redundancy-up** command. The virtual router goes down when all associated redundancy uplink services go down regardless of any configured keepalive type.

> ✎
>
> **Note**   You cannot add redundant uplink services to a content rule.

- Local critical services for any service other than scripted or redundancy uplink, such as a web service. The virtual router goes down when *all* associated local critical services go down.

> ✎
>
> **Note**   The **show service** command displays the current service type only. It does, however, display the keepalive type, so you can determine from it the behavior of a configured critical service. To display critical service-specific information, use the **show critical-services** command.

> ✎
>
> **Note**   SNMP values returned for services show the current service type only. To determine the critical service behavior of a particular service, you need to consult the service keepalive type.

**Related Commands**   **show critical-services**
**(config-circuit-ip) ip virtual-router**

# ip critical-service

To associate a service to a virtual router, use the **ip critical-service** command. Use the **no** form of this command to remove a critical service from a virtual router.

> **ip critical-service** *vrid service_name*

> **no ip critical-service** *vrid service_name*

| Syntax Description | | |
|---|---|
| *vrid* | ID for an existing virtual router. |
| *service_name* | Name of the service. To see a list of services, enter:<br><br>**ip critical-service** *vrid* **?** |

**Command Modes**     Circuit-IP

**Usage Guidelines**     There are three types of critical services that you can configure:

- A scripted service, as defined by the **(config-service) keepalive type named** or **(config-service) keepalive type script** command, that is constantly scanning for service and network availability. The keepalive sets the service to a down state whenever network or service availability is a problem. The virtual router goes down if *any* associated scripted service goes down.

- A redundancy uplink critical service, as defined by the **(config-service) type redundancy-up** command. The virtual router goes down when all associated redundancy uplink services go down regardless of any configured keepalive type.

  ✎
  **Note**     You cannot add redundant uplink services to a content rule.

- Local critical services for any service other than scripted or redundancy uplink, such as a web service. The virtual router goes down when *all* associated local critical services go down.

**Note** The **show service** command displays the current service type only. It does, however, display the keepalive type, so you can determine from it the behavior of a configured critical service. To display critical service-specific information, use the **show critical-services** command.

**Note** SNMP values returned for services show the current service type only. To determine the critical service behavior of a particular service, you need to consult the service keepalive type.

**Related Commands**  **show critical-services**
**(config-circuit-ip) ip virtual-router**

## ip redundant-interface

To configure a redundant virtual interface address used for a backend server's default route, use the **ip redundant-interface** command. Use the **no** form of this command to remove an interface from a virtual router.

   **ip redundant-interface** *vrid ip_address*

   **no ip redundant-interface** *vrid ip_address*

**Syntax Description**

| | |
|---|---|
| *vrid* | ID for an existing virtual router. |
| *ip_address* | Address for the redundant interface. Enter an IP address in dotted-decimal notation (for example, 192.168.11.1). |
| | You cannot use an IP address that already exists for a VIP, redundant VIP, source group, service, log host, or IP interface address on a circuit. If you do, the following error message appears: |
| | ```
Address conflicts with local I/F, VIP,
service, or sourcegroup.
``` |

**Command Modes**    Circuit-IP

**Usage Guidelines**    Servers use the IP address of the virtual interface as a default route to guarantee packets will be sent to the CSS containing the master virtual router. A redundant interface should be matched with the same virtual router of a VIP that has a rule that references the server. This ensures that the master for a VIP is also the CSS is master for the redundant virtual interface.

**Related Commands**    **show redundant-interfaces**
**(config-circuit-ip) ip virtual-router**

## ip redundant-vip

To associate an existing VIP to a virtual router, use the **ip redundant-vip** command. Use the **no** form of this command to remove a VIP from a virtual router.

**ip redundant-vip** *vrid vip_address* {**range** *number*} {**shared**}

**no ip redundant-vip** *vrid vip_address*

**Syntax Description**

| | |
|---|---|
| *vrid* | ID for an existing virtual router. |
| *vip_address* | Address for the redundant VIP. This address must be already configured in a content rule. Enter an IP address in dotted-decimal notation (for example, 192.168.11.1). |
| **range** *number* | (Optional) Defines the IP address range specified in the content rule. You cannot specify a range that differs from the content rule. Also, you cannot specify address ranges to overlap. Enter a number from 0 to 65535. |
| **shared** | (Optional) Enables shared VIP redundancy. When you use this option, the master and backup virtual routers share the processing of traffic directed to the VIP, so the backup does not forward packets to the master. Each VIP should be configured identically on each CSS. |

**Command Modes**    Circuit-IP

**Usage Guidelines**    Before you use the **ip redundant-vip** command, the VIP must be configured in at least one active content rule or source group.

**Related Commands**    **show redundant-vips**
**(config-circuit-ip) ip virtual-router**

## ip virtual-router

To create a virtual router on a CSS and configure its identifier and priority used when negotiating control of associated VIPs, use the **ip virtual-router** command. Use the **no** form of this command to remove the virtual router from the CSS.

**ip virtual-router** *vrid* {**priority** *number*} {**preempt**}

**no ip virtual-router** *vrid*

**Syntax Description**

| | |
|---|---|
| *vrid* | Virtual router identifier (VRID). Enter an integer between 1 and 255. You can configure 255 virtual routers per VLAN. Virtual routers are considered peers when they have the same VRID and are on the same VLAN. |

| priority *number* | (Optional) Sets the priority for the virtual router with its peer. The default priority value is 100. Enter an integer between 1 and 255. When the virtual router is the master, it handles the traffic directed to its associated VIPs. To set the virtual router as the master when it becomes alive, set its priority to 255 and configure it with the **preempt** option. You can configure only one virtual router as the master. |
|---|---|
| **preempt** | (Optional) Allows a backup virtual router to assert mastership over a lower-priority router. By default, if you create a virtual router, the router does not assert itself as the master even though the current master has a lower priority. For example, if a CSS with a virtual router that has a low priority boots before other CSSs, that router becomes the master. When another CSS with a virtual router that has a higher priority boots, it will not take the mastership from the first router unless you specify the **preempt** option. |

**Command Modes**    Circuit-IP

**Usage Guidelines**    You must configure the virtual router before you can configure redundant VIPs. A virtual router's role as a master or backup is determined during negotiations between all virtual routers with the same ID and on the same VLAN.

⚠
**Caution**    Never configure the **preempt** option on the same virtual router on both CSSs. Such a configuration may result in both CSSs becoming master, which will cause network problems.

**Related Commands**    **show virtual-routers**

**Cisco Content Services Switch Command Reference**

# (config-circuit-ip) no

To negate a command or set it to its default, use the **no** command. For information on general **no** commands you can use in this mode, see the general **no** command. The following options are available in IP mode.

| | | |
|---|---|---|
| **Syntax Description** | **no acl** *number* | Deletes an ACL |
| | **no broadcast** | Resets the broadcast IP address to the default all-ones host address |
| | **no enable** | Disables the interface |
| | **no ip address** *ip_or_host* | Removes a local IP address |
| | **no ip critical-service** *vrid service_name* | Removes a critical service from a virtual router |
| | **no ip redundant-interface** *vrid ip_address* | Removes a virtual interface |
| | **no ip redundant-vip** *vrid vip_address* | Removes a VIP from a virtual router |
| | **no ip virtual-router** *vrid* | Removes the virtual router from the CSS |
| | **no keepalive** *name* | Deletes an existing keepalive |
| | **no ospf area** | Resets this interface to the default area of 0.0.0.0 |
| | **no ospf cost** | Resets the packet cost to its default value |
| | **no ospf dead** | Resets the dead router interval to its default of 40 seconds |
| | **no ospf enable** | Disables OSPF on this interface |
| | **no ospf hello** | Resets the hello interval to its default value of 10 seconds |
| | **no ospf password** | Removes the OSPF password from this interface |
| | **no ospf poll** | Resets the poll interval to its default value of 120 seconds |
| | **no ospf priority** | Resets the router priority to its default value of 1 |

| | |
|---|---|
| **no ospf retransmit** | Resets the retransmit interval to its default value of 5 seconds |
| **no ospf transit-delay** | Resets the transit delay to its default value of 1 second |
| **no owner** *existing_owner_name* | Deletes an existing owner |
| **no redirects** | Disables the transmission of ICMP redirect messages |
| **no redundancy-protocol** | Stops running the redundancy protocol on this interface |
| **no rip** | Stops running RIP on the interface |
| **no rip advertise** *ip_address ip_mask* | Stops advertising a route through RIP on the interface |
| **no rip default-route** | Does not advertise a default route |
| **no rip log** [**rx**|**tx**] | Disables the logging of received or transmitted RIP packets |
| **no router-discovery** | Disables router discovery |
| **no router-discovery preference** | Resets the router discovery preference value to the default of 0 |
| **no unreachables** | Disables the transmission of ICMP "destination unreachable" messages |

**Cisco Content Services Switch Command Reference**

# (config-circuit-ip) ospf

To run OSPF on an IP interface and configure the OSPF parameters, use the **ospf** command. The syntax and options for this IP configuration mode command are:

- **ospf** - Configures this IP interface as an OSPF interface
- **ospf area** - Configures an OSPF area to the IP interface
- **ospf cost** - Configures the cost for sending a data packet on the IP interface
- **ospf dead** - Sets the interval for determining that a neighbor router is dead
- **ospf enable** - Enables OSPF on the IP interface
- **ospf hello** - Sets the interval between the hello packets that the CSS sends on the interface
- **ospf password** - Sets the password for the interface
- **ospf poll** - Sets the interval between the hello packets that the CSS sends to a dead neighbor router
- **ospf priority** - Sets the CSS priority to elect the designated router
- **ospf retransmit** - Sets the interval between link-state advertisement retransmissions for adjacencies belonging to the interface
- **ospf transit-delay** - Sets the interval to transmit a link-state update packet over the interface

For more information on these options and associated variables, see the following commands.

**Related Commands**    **show ospf**
**(config) ospf**

## ospf

To configure the IP interface as an OSPF interface, use the **ospf** command. You must enter this command before the **(config-circuit-ip)** **ospf enable** command can take effect.

> **ospf**

**Command Modes**    Circuit-IP

## ospf area

To assign the interface to an OSPF area that you globally configured to the CSS, use the **ospf area** command. Use the **no** form of this command to reset the interface to the default area.

> **ospf area** *area_id*

> **no ospf area**

| **Syntax Description** | *area_id* | ID for the area that was globally configured to the CSS. Enter the ID in dotted-decimal notation (for example, 0.0.0.1). An area ID of 0.0.0.0 is the default and is reserved for the OSPF backbone. |
|---|---|---|

**Command Modes**    Circuit-IP

**Related Commands**    **(config) ospf area**

## ospf cost

To set the cost for sending a data packet on the interface, use the **ospf cost** command. Use the **no** form of this command to reset the packet cost for the interface to its default value.

**ospf cost** *cost*

**no ospf cost**

**Syntax Description**

| | |
|---|---|
| *cost* | Cost for the interface. Enter a number from 0 to 65535. The default value for a given type of circuit is $10^8$ / interface_speed. For a Gigabit Ethernet interface, the value is 1. For a 10/100-Mbps Ethernet interface, the value is 10. |

**Command Modes**    Circuit-IP

## ospf dead

To set the dead router interval for the interface, use the **ospf dead** command. The interface declares that a neighbor router is dead if the interface does not receive hello packets from the router before the interval expires. Use the **no** form of this command to reset the dead router interval to its default of 40 seconds.

**ospf dead** *interval*
    **no ospf dead**

**Syntax Description**

| | |
|---|---|
| *interval* | Dead router interval in seconds. This value must be a multiple of the hello interval, and it must be the same for all routers attached to a common network. Enter a number from 1 to 2147483647. The default is 40. |

**Command Modes**    Circuit-IP

# ospf enable

To enable OSPF on the IP interface, use the **ospf enable** command. By default, OSPF is disabled on an IP interface. Do not enable OSPF until you have finished configuring its interface attributes. Use the **no** form of this command to disable OSPF on the interface.

> **ospf enable**

> **no ospf enable**

**Command Modes**    Circuit-IP

# ospf hello

To set the hello interval for the interface, use the **ospf hello** command. This interval is the length of time between hello packets that the interface sends to its neighbor routers. Use the **no** form of this command to reset the hello interval to its default value of 10 seconds.

> **ospf hello** *interval*

> **no ospf hello**

**Syntax Description**

| | |
|---|---|
| *interval* | Hello interval in seconds. This value must be the same for all routers attached to a common network. Enter a number from 1 to 65535. The default is 10 seconds. |

**Command Modes**    Circuit-IP

## ospf password

To set the password for the interface, use the **ospf password** command. The OSPF password is used for authentication of all OSPF protocol exchanges. Use the **no** form of this command to remove the OSPF password from the interface.

**ospf password "***password***"**

**no ospf password**

**Syntax Description**

| "*password*" | OSPF password. This password must be the same for all routers attached to a common network. Enter a quoted text string with a maximum of eight characters. |
|---|---|

**Command Modes**    Circuit-IP

## ospf poll

To set the poll interval for the interface, use the **ospf poll** command. This interval is the length of time between hello packets that the CSS sends to an assumed inactive neighbor router in a nonbroadcast, multi-access network. Use the **no** form of this command to reset the poll interval to its default value of 120 seconds.

**ospf poll** *interval*

**no ospf poll**

**Syntax Description**

| *interval* | Poll interval in seconds. The interval should be larger than the hello time interval. Enter a number from 1 to 2147483647. The default is 120 seconds. |
|---|---|

**Command Modes**    Circuit-IP

**Usage Guidelines**     The **ospf poll** command has no effect when you operate the CSS over a broadcast LAN (an Ethernet network).

## ospf priority

To set the router priority for the interface, use the **ospf priority** command. The priority determines which router is the designated router. The router with the highest priority becomes the designated router. In case of a tie, routers use their router ID as a tie breaker. Use the **no** form of this command to reset the router priority to its default value of 1.

**ospf priority** *priority*

**no ospf priority**

| **Syntax Description** | *priority* | Priority of the interface. Enter an integer from 0 to 255. The default is 1. The value of 0 signifies that the CSS is not eligible to become the designated router on a particular network. |
| --- | --- | --- |

**Usage Guidelines**     If a designated router exists on the network, it remains the designated router regardless of its router priority.

**Command Modes**     Circuit-IP

## ospf retransmit

To set the retransmission interval for the interface, use the **ospf retransmit** command. The retransmission interval is the number of seconds between link-state advertisement retransmissions for adjacencies belonging to the interface. OSPF creates adjacencies between neighboring routers for the purpose of exchanging routing information. The CSS also uses this interval when retransmitting database descriptions and link-state request packets.

Use the **no** form of this command to reset the retransmit interval to its default value of 5 seconds.

**ospf retransmit** *interval*

**no ospf retransmit**

| Syntax Description | *interval* | Retransmit interval in seconds. Enter a number from 1 to 3600 (1 hour). The default is 5 seconds. |
|---|---|---|

| Command Modes | Circuit-IP |
|---|---|

## ospf transit-delay

To set the transit delay for the interface, use the **ospf transit-delay** command. Transit delay is the estimated number of seconds to transmit a link-state update packet over the interface. Use the **no** form of this command to reset the transit delay to its default value of 1 second.

**ospf transit-delay** *delay*

**no ospf transit-delay**

| Syntax Description | *delay* | Delay in seconds. Enter a number from 0 to 3600 (1 hour). The default is 1 second. |
|---|---|---|

**Command Modes**    Circuit-IP

# (config-circuit-ip) redirects

To enable the transmission of Internet Control Message Protocol (ICMP) redirect messages, use the **redirects** command. This is the default state. Use the **no** form of this command to disable the transmission of ICMP redirect messages.

**redirects**

**no redirects**

**Related Commands**    show ip interfaces

# (config-circuit-ip) redundancy-protocol

To run the router redundancy protocol on the interface, use the **redundancy-protocol** command. Use the **no** form of this command to stop running the redundancy protocol on the interface.

**redundancy-protocol**

**no redundancy-protocol**

**Related Commands**    **(config) ip redundancy**
**(config) vrrp-backup-timer**
**(config-circuit) redundancy**

# (config-circuit-ip) rip

To configure Routing Information Protocol (RIP) parameters and run RIP on the interface, use the **rip** command. The default mode is to send RIP version 2 (v2) and receive either version. The options for this IP mode command are:

- **rip** - Starts RIP on the interface
- **rip advertise** - Advertises a route through RIP on this interface
- **rip default-route** - Advertises a default route on this interface
- **rip log** - Enables the logging of transmitted or received RIP packets on the interface
- **rip receive** - Specifies the RIP version packets that the interface receives
- **rip send** - Specifies the RIP version packets that the interface sends

For information on these options and associated variables, see the following commands.

## rip

To start RIP on the interface, use the **rip** command. Use the **no** form of this command to stop RIP on the interface.

**rip**

**no rip**

**Command Modes**    Circuit-IP

## rip advertise

To advertise a route through RIP on this interface, use the **rip advertise** command. Use the **no** form of this command to stop advertising a route through RIP on the interface.

> **rip advertise** *ip_address ip_mask_prefix* {*metric*}

> **no rip advertise** *ip_address ip_mask*

**Syntax Description**

| | |
|---|---|
| *ip_address* | IP address for the route prefix. Enter an IP address in dotted-decimal notation (for example, 192.168.11.1). |
| *ip_mask_prefix* | IP mask. Enter the mask as either:<br><br>• A prefix length in CIDR bitcount notation (for example, /24). Do not enter a space to separate the IP address from the prefix length.<br><br>• A subnet mask in dotted-decimal notation (for example, 255.255.255.0). |
| *metric* | (Optional) Metric to use when advertising this route. Enter a number from 1 to 15. The default is 1. |

**Usage Guidelines**    You can use the **rip advertise** command in global configuration mode. When you do, it applies to all interfaces.

**Command Modes**    Circuit-IP

**Related Commands**    **show rip**

## rip default-route

To advertise a default route on the interface, use the **rip default-route** command. Use the **no** form of this command to stop advertising the default route.

**rip default-route** {*metric*}

**no rip default-route**

**Syntax Description**

| | |
|---|---|
| *metric* | (Optional) Metric to use when advertising the route. Enter a number from 0 to 15. The default is 1. A value of zero indicates that no default route originates from the interface. In this case, a default route through another router may be propagated. |

**Command Modes**    Circuit-IP

**Related Commands**    **show rip**

## rip log

To enable the logging of received or transmitted RIP packets on the interface, use the **rip log** command. Use the **no** form of this command to disable logging, the default setting.

**rip log** [**rx**|**tx**]

**no rip log** [**rx**|**tx**]

**Syntax Description**

| | |
|---|---|
| **rx** | Logs the received RIP packets |
| **tx** | Logs the transmitted RIP packets |

**Command Modes**    Circuit-IP

# rip receive

To specify the type of RIP packets that the interface can receive, use the **rip receive** command.

**rip receive** [**both**|**none**|**v1**|**v2**]

**Syntax Description**

| both | Receives both version 1 and version 2 (default) |
|------|--------------------------------------------------|
| none | Receives no RIP packets |
| v1 | Receives RIP version 1 packets only |
| v2 | Receives RIP version 2 packets only |

**Command Modes**    Circuit-IP

**Related Commands**    show rip

# rip send

To specify the type of RIP packets that the interface can send, use the **rip send** command.

**rip send** [**none**|**v1**|**v2**]

**Syntax Description**

| none | Does not send RIP packets |
|------|----------------------------|
| v1 | Sends RIP version 1 packets only |
| v2 | Sends RIP version 2 packets only (default) |

**Command Modes**    Circuit-IP

**Cisco Content Services Switch Command Reference**

**Related Commands**    **show rip**

# (config-circuit-ip) router-discovery

To enable router discovery and configure the router discovery preference value, use the **router-discovery** command. The syntax and option for this IP mode command are:

- **router-discovery** - Enables router discovery
- **router-discovery preference** - Configures the router discovery preference value

## router-discovery

To enable router discovery, use the **router-discovery** command. The default setting disables router discovery. Use the **no** form of this command to disable router discovery.

> **router-discovery**

> **no router-discovery**

**Command Modes**    Circuit-IP

**Related Commands**    **show ip interfaces**
**(config-circuit) router-discovery**

## router-discovery preference

To configure the router discovery preference value, use the **router-discovery preference** command. Use the **no** form of this command to reset the router discovery preference value to the default of 0.

**router-discovery preference** *value*

**no router-discovery preference**

**Syntax Description**

| | |
|---|---|
| *value* | Preference value to advertise. Enter an integer from 0 (default) to 4294967295. |

**Command Modes**    Circuit-IP

# (config-circuit-ip) unreachables

To enable the transmission of ICMP "destination unreachable" messages, use the **unreachables** command. This is the default state. Use the **no** form of this command to disable the transmission of ICMP "destination unreachable" messages.

**unreachables**

**no unreachables**

**Related Commands**    show ip interfaces