Configuring Graceful Shutdown Support for OSPFv3

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Graceful Shutdown Support for OSPFv3

This feature provides the ability to temporarily shut down an Open Shortest Path First version 3 (OSPFv3) process or interface in the least disruptive manner, and to notify its neighbors that it is going away. A graceful shutdown of a protocol can be initiated on all OSPFv3 interfaces or on a specific interface.

Information About Graceful Shutdown Support for OSPFv3

OSPFv3 Graceful Shutdown

The Graceful Shutdown for OSPFv3 feature provides the ability to temporarily shut down the OSPFv3 protocol in the least disruptive manner and to notify its neighbors that it is going away. All traffic that has another path through the network will be directed to that alternate path. A graceful shutdown of the OSPFv3 protocol can be initiated using the **shutdown** command in router configuration mode or in address family configuration mode.

This feature also provides the ability to shut down OSPFv3 on a specific interface. In this case, OSPFv3 will not advertise the interface or form adjacencies over it; however, all of the OSPFv3 interface configuration will be retained. To initiate a graceful shutdown of an interface, use the **ipv6 ospf shutdown** or the **ospfv3 shutdown** command in interface configuration mode.

How to Configure Graceful Shutdown Support for OSPFv3

Configuring Graceful Shutdown of the OSPFv3 Process

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. Do one of the following:

- **ipv6 router ospf** *process-id*
- **router ospfv3** *process-id*

4. **shutdown**
5. **end**
6. Do one of the following:
   - **show ipv6 ospf** [*process-id*]
   - **show ospfv3** [*process-id*]

DETAILED STEPS

Procedure

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

Step 3	Do one of the following:
	• **ipv6 router ospf** *process-id*
	• **router ospfv3** *process-id*
	Example:
	`Device(config)#ipv6 router ospf 1`
	Example:
	`Device(config)#router ospfv3 101`
		Enables OSPFv3 routing and enters router configuration mode.

Step 4	**shutdown** **Example:** `Device(config-router)#shutdown`	Shuts down the selected interface.
Step 5	**end** **Example:** `Device(config-router)#end`	Returns to privileged EXEC mode.
Step 6	Do one of the following: • **show ipv6 ospf** [*process-id*] • **show ospfv3** [*process-id*] **Example:** `Device#show ipv6 ospf`	(Optional) Displays general information about OSPFv3 routing processes.

	Command or Action	Purpose
	Example: `Device#show ospfv3`	

Configuring Graceful Shutdown of the OSPFv3 Process in Address-Family Configuration Mode

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **router ospfv3** [*process-id*]
4. **address-family ipv6 unicast** [**vrf** *vrf-name*]
5. **shutdown**
6. **end**
7. **show ospfv3** [*process-id*]

DETAILED STEPS

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device>enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Device#configure terminal`	Enters global configuration mode.
Step 3	**router ospfv3** [*process-id*] **Example:** `Device(config)#router ospfv3 1`	Enables router configuration mode for the IPv6 address family.
Step 4	**address-family ipv6 unicast** [**vrf** *vrf-name*] **Example:** `Device(config-router)#address-family ipv6`	Enters IPv6 address family configuration mode for OSPFv3.
Step 5	**shutdown** **Example:** `Device(config-router-af)#shutdown`	Shuts down the selected interface.

	Command or Action	Purpose
Step 6	**end** **Example:** `Device(config-router-af)#end`	Returns to privileged EXEC mode.
Step 7	**show ospfv3** [*process-id*] **Example:** `Device#show ospfv3`	(Optional) Displays general information about OSPFv3 routing processes.

Configuration Examples for Graceful Shutdown Support for OSPFv3

Example: Configuring Graceful Shutdown of the OSPFv3 Process

The following example shows how to configure graceful shutdown of the OSPFv3 process in IPv6 router OSPF configuration mode configuration mode:

```
ipv6 router ospf 6
 router-id 10.10.10.10
 shutdown
```

The following example shows how to configure graceful shutdown of the OSPFv3 process in router OSPFv3 configuration mode:

```
!
router ospfv3 1
 shutdown
 !
 address-family ipv6 unicast
  exit-address-family
```

The following example shows how to configure graceful shutdown of the OSPFv3 process in address-family configuration mode:

```
!
router ospfv3 1
 !
 address-family ipv6 unicast
  shutdown
  exit-address-family
```

Example: Configuring Graceful Shutdown of the OSPFv3 Interface

The following example shows how to configure graceful shutdown of the OSPFv3 interface using the **ipv6 ospf shutdown** command:

```
!
interface Serial2/1
 no ip address
 ipv6 enable
 ipv6 ospf 6 area 0
 ipv6 ospf shutdown
 serial restart-delay 0
 end
```

The following example shows how to configure graceful shutdown of the OSPFv3 interface using the **ospfv3 shutdown** command:

```
!
interface Serial2/0
 ip address 10.10.10.10 255.255.255.0
 ip ospf 1 area 0
 ipv6 enable
 ospfv3 shutdown
 ospfv3 1 ipv6 area 0
 serial restart-delay 0
 end
```

Additional References for Graceful Shutdown Support for OSPFv3

Related Documents

Related Topic	Document Title
Configuring OSPF	"Configuring OSPF"
OSPF commands	*Cisco IOS IP Routing: OSPF Command Reference*

Feature Information for Graceful Shutdown Support for OSPFv3

The following table provides release information about the feature or features described in this module. This table lists only the software release that introduced support for a given feature in a given software release train. Unless noted otherwise, subsequent releases of that software release train also support that feature.

Table 1: Feature Information for Graceful Shutdown Support for OSPFv3

Releases	Feature Information
Cisco IOS XE Fuji 16.8.1a	The feature was introduced.