



OSPFv3 Max-Metric Router LSA

The Open Shortest Path First version 3 (OSPFv3) max-metric router link-state advertisement (LSA) feature enables OSPFv3 to advertise its locally generated router LSAs with a maximum metric. The feature allows OSPFv3 processes to converge but not attract transit traffic through the device if there are better alternate paths.

- [Finding Feature Information, on page 1](#)
- [Information About OSPFv3 Max-Metric Router LSA, on page 1](#)
- [How to Configure OSPFv3 Max-Metric Router LSA, on page 2](#)
- [Configuration Examples for OSPFv3 Max-Metric Router LSA, on page 3](#)
- [Additional References, on page 3](#)
- [Feature Information for OSPFv3 Max-Metric Router LSA, on page 4](#)

Finding Feature Information

Your software release may not support all the features documented in this module. For the latest caveats and feature information, see [Bug Search Tool](#) and the release notes for your platform and software release. To find information about the features documented in this module, and to see a list of the releases in which each feature is supported, see the feature information table.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to www.cisco.com/go/cfn. An account on Cisco.com is not required.

Information About OSPFv3 Max-Metric Router LSA

OSPFv3 Max-Metric Router LSA

The OSPFv3 max-metric router LSA feature enables OSPFv3 to advertise its locally generated router LSAs with a maximum metric. The feature allows OSPFv3 processes to converge but not attract transit traffic through the device if there are better alternate paths. After a specified timeout or a notification from Border Gateway Protocol (BGP), OSPFv3 advertises the LSAs with normal metrics.

The max-metric LSA control places the OSPFv3 router into the stub router role using its LSA advertisement. A stub router only forwards packets destined to go to its directly connected links. In OSPFv3 networks, a device could become a stub router by advertising large metrics for its connected links, so that the cost of a path through this device becomes larger than that of an alternative path. OSPFv3 stub router advertisement

allows a device to advertise the infinity metric (0xFFFF) for its connected links in router LSAs and advertise the normal interface cost if the link is a stub network.

How to Configure OSPFv3 Max-Metric Router LSA

Configuring the OSPFv3 Max-Metric Router LSA

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **router ospfv3 *process-id***
4. **address-family ipv6 unicast**
5. **max-metric router-lsa [external-lsa [*max-metric-value*]] [include-stub] [inter-area-lsas [*max-metric-value*]] [on-startup {*seconds* | wait-for-bgp}] [prefix-lsa] [stub-prefix-lsa [*max-metric-value*]] [summary-lsa [*max-metric-value*]]**
6. **end**
7. **show ospfv3 [*process-id*] max-metric**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Device> enable	Enables privileged EXEC mode. <ul style="list-style-type: none"> • Enter your password if prompted.
Step 2	configure terminal Example: Device# configure terminal	Enters global configuration mode.
Step 3	router ospfv3 <i>process-id</i> Example: Device(config)# router ospfv3 1	Enables OSPFv3 router configuration mode.
Step 4	address-family ipv6 unicast Example: Device(config)# address-family ipv6 unicast	Configures an instance of the OSPFv3 process in the IPv6 address family.
Step 5	max-metric router-lsa [external-lsa [<i>max-metric-value</i>]] [include-stub] [inter-area-lsas [<i>max-metric-value</i>]] [on-startup {<i>seconds</i> wait-for-bgp}] [prefix-lsa]	Configures a device that is running the OSPFv3 protocol to advertise a maximum metric so that other devices do not prefer the device as an intermediate hop in their SPF calculations.

	Command or Action	Purpose
	<p>[stub-prefix-lsa [max-metric-value]] [summary-lsa [max-metric-value]]</p> <p>Example:</p> <pre>Device(config-router-af)# max-metric router-lsa on-startup wait-for-bgp</pre>	
Step 6	<p>end</p> <p>Example:</p> <pre>Device(config-router-af)# end</pre>	Exits address family configuration mode and returns to privileged EXEC mode.
Step 7	<p>show ospfv3 [process-id] max-metric</p> <p>Example:</p> <pre>Device# show ospfv3 1 max-metric</pre>	Displays OSPFv3 maximum metric origination information.

Configuration Examples for OSPFv3 Max-Metric Router LSA

Example: Verifying the OSPFv3 Max-Metric Router LSA

```
Router# show ipv6 ospf max-metric

          OSPFv3 Router with ID (192.1.1.1) (Process ID 1)

Start time: 00:00:05.886, Time elapsed: 3d02h
Originating router-LSAs with maximum metric
Condition: always, State: active
```

Additional References

Related Documents

Related Topic	Document Title
IPv6 addressing and connectivity	IPv6 Configuration Guide
Cisco IOS commands	Cisco IOS Master Commands List, All Releases
IPv6 commands	Cisco IOS IPv6 Command Reference
Cisco IOS IPv6 features	Cisco IOS IPv6 Feature Mapping

Related Topic	Document Title
OSPFv3 Max-Metric Router LSA	“ <i>OSPF Link-State Advertisement Throttling</i> ” module

Standards and RFCs

Standard/RFC	Title
RFCs for IPv6	IPv6 RFCs

MIBs

MIB	MIBs Link
	To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL: http://www.cisco.com/go/mibs

Technical Assistance

Description	Link
The Cisco Support and Documentation website provides online resources to download documentation, software, and tools. Use these resources to install and configure the software and to troubleshoot and resolve technical issues with Cisco products and technologies. Access to most tools on the Cisco Support and Documentation website requires a Cisco.com user ID and password.	http://www.cisco.com/cisco/web/support/index.html

Feature Information for OSPFv3 Max-Metric Router LSA

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.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to www.cisco.com/go/cfn. An account on Cisco.com is not required.

Table 1: Feature Information for OSPFv3 Max-Metric Router LSA

Feature Name	Releases	Feature Information
OSPFv3 Max-Metric Router LSA	15.1(3)S	<p>The OSPFv3 max-metric router LSA feature enables OSPF to advertise its locally generated router LSAs with a maximum metric.</p> <p>The following commands were introduced or modified: max-metric router-lsa, show ipv6 ospf max-metric, show ospfv3 max-metric.</p>

