



Configuring OSPFv3 Max-Metric Router LSA

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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.

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

Configuration Examples for OSPFv3 Max-Metric Router LSA

Example: Verifying the OSPFv3 Max-Metric Router LSA

```
Device#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	<i>IPv6 Configuration Guide</i>
OSPFv3 Max-Metric Router LSA	“ <i>OSPF Link-State Advertisement Throttling</i> ” module

Standards and RFCs

Standard/RFC	Title
RFCs for IPv6	IPv6 RFCs

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.

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

Releases	Feature Information
Cisco IOS XE Gibraltar 16.11.1	The feature was introduced.

