BGP IPv6 Admin Distance

The BGP IPv6 Admin Distance feature lets you prioritize the BGP IPv6 routes in your network by enabling you to configure the source specific distance of a route and associate a prefix-list with the route. The RIB uses the distance from the source to determine the priority of the BGP IPv6 route in the network.

Information About BGP IPv6 Admin Distance

The BGP IPv6 Admin Distance feature supports selection of route path for a set prefix by prioritizing the BGP routes in the RIB. The BGP routes provided in the RIB are prioritized based on the distance they are configured from a source. With BGP IPv6 Admin Distance feature you can configure the distance from a source and can associate the route with a prefix-list. The route with the source specific distance and the prefix-list is then utilized by the RIB to prioritize the BGP IPv6 routes.

Benefits of Using BGP IPv6 Admin Distance

The BGP IPv6 Admin Distance feature can be used to prioritize or de-prioritize the BGP IPv6 routes in your network.

Configuring BGP IPv6 Admin Distance

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ipv6 unicast-routing**
4. **router bgp** *autonomous-system-number*
5. **address-family ipv6 unicast**
6. **distance** *admin-distance ipv6-address/prefix prelength* **interface** *name* **prefix-list**
7. **end**

DETAILED STEPS

	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	**ipv6 unicast-routing** Example: `Device(config)# ipv6 unicast-routing`	Enables the forwarding of IPv6 unicast datagrams
Step 4	**router bgp***autonomous-system-number* Example: `Device(config)# router bgp 5`	Specifies the number of an autonomous system that identifies the router to other BGP routers and tags the routing information that is passed along. • The range is from 1 to 65535.
Step 5	**address-family ipv6 unicast** Example: `Device(config-router)# address-family ipv6 unicast`	Enters the address family configuration mode for configuring routing sessions.
Step 6	**distance** *admin-distance ipv6-address/prefix prelengthinterface nameprefix-list* Example: `Device(config-router-af)# distance 12 2001:DB8:0:CC00::1/128 list1`	Specifies the administrative distance, IPv6 address, prefix length and prefix list name for configuring the source specific distance for BGP routes. Interface name is optional and is required only if the neighbor address is a link local address.
Step 7	**end** Example: `Device(config-router-af)# end`	Exits address family configuration mode and returns to privileged EXEC mode.

Verifying BGP Admin Distance Configuration

Use the **show run sec bgp** command to verify the BGP configuration:

```
Device(config-device-af)# show run | sec bgp
router bgp 200
bgp log-neighbor-changes
neighbor FE80::A8BB:CCFF:FE02:BE01%Ethernet0/0 remote-as 200
neighbor FE80::A8BB:CCFF:FE02:BE01%Ethernet0/0 update-source Ethernet0/0
```

```
!
address-family ipv4
  no neighbor FE80::A8BB:CCFF:FE02:BE01%Ethernet0/0 activate
exit-address-family
!
address-family ipv6
  distance 90 FE80::A8BB:CCFF:FE02:BE01/128 interface Ethernet0/0
  network 1:1:1:1::/120
  neighbor FE80::A8BB:CCFF:FE02:BE01%Ethernet0/0 activate
exit-address-family
```

Use the **do show ipv6 route** command to verify the IPv6 route configuration:

```
Device(config-device-af)# show ipv6 route
IPv6 Routing Table - default - 4 entries
Codes: C - Connected, L - Local, S - Static, U - Per-user Static route
       B - BGP, R - RIP, H - NHRP, I1 - ISIS L1
       I2 - ISIS L2, IA - ISIS interarea, IS - ISIS summary, D - EIGRP
       EX - EIGRP external, ND - ND Default, NDp - ND Prefix, DCE - Destination
       NDr - Redirect, O - OSPF Intra, OI - OSPF Inter, OE1 - OSPF ext 1
       OE2 - OSPF ext 2, ON1 - OSPF NSSA ext 1, ON2 - OSPF NSSA ext 2
       la - LISP alt, lr - LISP site-registrations, ld - LISP dyn-eid
       lA - LISP away, a - Application
C   1:1:1:1::/120 [0/0]
     via Ethernet0/0, directly connected
L   1:1:1:1::2/128 [0/0]
     via Ethernet0/0, receive
B   3:4:5:6::1/128 [90/0]
     via FE80::A8BB:CCFF:FE02:BF01, Ethernet0/0
L   FF00::/8 [0/0]
     via Null0, receive
```

Additional References for BGP IPv6 Admin Distance

Related Documents

Related Topic	Document Title
Cisco IOS commands	Cisco IOS Master Command List, All Releases
Cisco IOS IP Routing: BGP commands	Cisco IOS IP Routing: BGP Command Reference

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 BGP IPv6 Admin Distance

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 ASR1K NPTv6

Feature Name	Releases	Feature Configuration Information
BGP IPv6 Admin Distance	Cisco IOS XE Denali 16.3.1	The BGP IPv6 Admin Distance feature lets you prioritize the BGP IPv6 routes in your network by enabling you to configure the source specific distance of a route and associate a prefix-list with the route. The RIB uses the distance from the source to determine the priority of the BGP IPv6 route in the network. The following commands were modified: **distance**