Configuring BGP

BGP Overview

Border Gateway Protocol (BGP) is an interdomain routing protocol designed to provide loop-free routing between separate routing domains that contain independent routing policies (autonomous systems). The Cisco software implementation of BGP version 4 includes support for 4-byte autonomous system numbers and multiprotocol extensions to allow BGP to carry routing information for IP multicast routes and multiple Layer 3 protocol address families including IP Version 4 (IPv4), IP Version 6 (IPv6), Virtual Private Networks Version 4 (VPNv4), Connectionless Network Services (CLNS), and Layer 2 VPN (L2VPN). This module contains conceptual material to help you understand how BGP is implemented in Cisco software.

For more information, see Information About Cisco BGP.

Limitations for BGP

- BGP-PIC is not supported.

  But by default, BGP-PIC is enabled on all the Cisco IOS XE platforms, hence the BGP-PIC must be disabled using the **cef table output-chain build favor memory-utilization** command under configuration mode. If the BGP-PIC is not disabled, then the route update failure might occur.

How to Configure BGP

Configuring BGP on BDI

Configuring a basic BGP network consists of a few required tasks and many optional tasks. A BGP routing process must be configured and BGP peers must be configured, preferably using the address family configuration model. If the BGP peers are part of a VPN network, the BGP peers must be configured using the IPv4 VRF address family task.

For more information, see Configuring BGP.

Verifying BGP Configuration

Use the following **show** command to verify the BGP configuration:

```
router#show run int lo0
Building configuration...

Current configuration : 86 bytes
!
interface Loopback0
ip address 10.10.10.10 255.255.255.255
ip ospf 30 area 0
end

RTR10-Dom3(config)#do sh run | sec router bgp
router bgp 1
bgp router-id 10.10.10.10
bgp log-neighbor-changes
redistribute connected
neighbor 1.1.1.1 remote-as 1
neighbor 1.1.1.1 update-source Loopback0
neighbor 6.6.6.6 remote-as 1
neighbor 6.6.6.6 update-source Loopback0
neighbor 8.8.8.8 remote-as 1
neighbor 8.8.8.8 update-source Loopback0
```

Configuration Examples for BGP

Refer the examples described in the Configuration Examples for a Basic BGP Network.