



CHAPTER 1

Overview

The Cisco Datacenter Network Manager (DCNM) supports IP addressing, object tracking, and Gateway Load Balancing Protocol (GLBP).

This chapter includes the following sections:

- [IPv4 and IPv6, page 1-1](#)
- [First-Hop Redundancy Protocols, page 1-2](#)
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The Cisco NX-OS divides the FIB to support multiple address families. The FIB TCAM is 128K physical entries, which is divided into the following sections by default:

- 56K IPv4 unicast routes (56K physical entries)
- 32K IPv4 multicast routes or IPv6 unicast routes (64K physical entries)
- 2K IPv6 multicast routes (8K physical entries)



Note

You cannot change the FIB default sections.



Note

Full IPv4 Internet route tables have more than 256K routes, which is more than the maximum number Cisco NX-OS FIB entries.

IPv4 and IPv6

Layer 3 uses either the IPv4 or IPv6 protocol. IPv6 is a new IP protocol designed to replace IPv4, the Internet protocol that is predominantly deployed and used throughout the world. IPv6 increases the number of network address bits from 32 bits (in IPv4) to 128 bits. For more information, see [Chapter 2, “Configuring IPv4”](#) or [Chapter 3, “Configuring IPv6.”](#)

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First-Hop Redundancy Protocols

First-hop redundancy protocols allow you to provide redundant connections to your hosts. In the event that an active first-hop router fails, the FHRP automatically selects a standby router to take over. You do not need to update the hosts with new IP addresses since the address is virtual and shared between each router in the FHRP group. For more information on the Gateway Load Balancing Protocol (GLBP), see [Chapter 4, “Configuring GLBP”](#).

Object Tracking

Object tracking allows you to track specific objects on the network, such as the interface line protocol state, IP routing, and route reachability, and take action when the tracked object’s state changes. This feature allows you to increase the availability of the network and shorten recovery time if an object state goes down. For more information, see [Chapter 5, “Configuring Object Tracking”](#).