

# Cisco IOS Software Release 12.2(40)SG for Cisco Catalyst 4900 Series Switches

PB403873

## Overview

This product bulletin describes the hardware and software features supported by Cisco IOS® Software Release 12.2(40)SG for the Cisco® Catalyst® 4900 Series Switches and Cisco ME 4900 Series Ethernet Switch.

## New Features

### Embedded Event Manager

Embedded Event Manager (EEM) enables management and monitoring of the switch by harnessing the network intelligence intrinsic to Cisco IOS Software. Switch behavior can be automated or customized based on network events that happen in real time. Cisco IOS Software Release 12.2(40)SG provides powerful and flexible tools to automate many network management tasks, such as collecting information, notifying external systems or personnel about critical events, or programming actions to take based on certain events.

### Gateway Load Balancing Protocol

The Gateway Load Balancing Protocol (GLBP) feature provides automatic router backup for IP hosts configured with a single default gateway on a LAN. Multiple first hop routers on the LAN combine to offer a single virtual first hop IP router while sharing the IP packet-forwarding load. GLBP devices share packet-forwarding responsibilities, optimizing resource usage, thereby reducing costs. Other routers on the LAN might act as redundant GLBP routers that will become active if any of the existing forwarding routers fails. This improves the resiliency of the network and reduces administrative burden.

### Cisco IOS Software Packaging for the Cisco Catalyst 4900 and Cisco ME 4900 Series

A new Cisco IOS Software package for Cisco Catalyst 4900 Series switches was introduced in Cisco IOS Software Release 12.2(25)SG. It is a new foundation for features and functionality and provides consistency across all Cisco Catalyst switches. The new Cisco IOS Software release train is designated as 12.2SG.

Prior Cisco Catalyst 4900 Series Cisco IOS Software images for the Cisco Catalyst 4900 Series Switches, formerly known as Basic Layer 3 and Enhanced Layer 3, now map to IP Base and Enterprise Services, respectively. Border Gateway Protocol (BGP) is now included in the Enterprise Services image. All currently shipping Cisco Catalyst 4900 software features based on Cisco IOS Software are supported in the IP Base image of Release 12.2(40)SG with a few exceptions.

The IP Base image does not support enhanced routing features such as Nonstop Forwarding/Stateful Switchover (NSF/SSO), BGP, Enhanced Interior Gateway Routing Protocol (EIGRP), Open Shortest Path First (OSPF), Intermediate System-to-Intermediate System (IS-IS), Internetwork Packet Exchange (IPX), AppleTalk, Virtual Routing Forwarding (VRF-lite), GLBP, and policy-based routing (PBR). The IP Base image supports EIGRP-Stub for limited routing on Cisco Catalyst 4900 and Cisco ME 4900 Series Switches.

The Enterprise Services image supports all Cisco Catalyst 4900 Series software features based on Cisco IOS Software, including enhanced routing. BGP capability is included in the Enterprise Services package. Table 1 shows a more detailed description of the feature differences between the IP Base and Enterprise Services (ES) images as they relate to the Cisco Catalyst 4900 Series Switches.

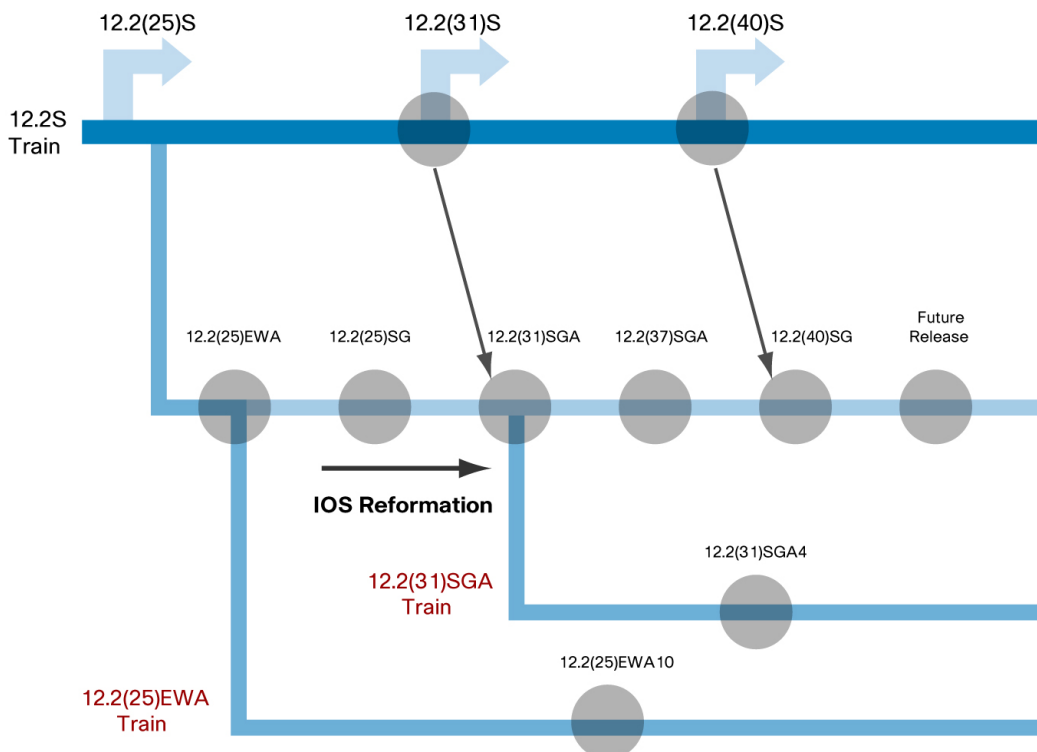
**Table 1.** Feature Comparison for Cisco IOS Software Release 12.2(40)SG IP Base and Enterprise Services

Feature	IP Base Image	Enterprise Services Image
<b>Network Admission Control (NAC) v2.0</b>	Yes	Yes
<b>Routing Information Protocol (RIP) and Static Route</b>	Yes	Yes
<b>EIGRP</b>	No	Yes
<b>EIGRP-Stub</b>	Yes	Yes
<b>OSPF/IS-IS</b>	No	Yes
<b>BGP</b>	No	Yes
<b>NSF-aware</b>	Yes	Yes
<b>NSF-aware EIGRP-stub</b>	Yes	Yes
<b>VRF-lite</b>	No	Yes
<b>AppleTalk</b>	No	Yes
<b>IPX</b>	No	Yes
<b>GLBP</b>	No	Yes
<b>PBR</b>	No	Yes

### Cisco Catalyst 4900 Cisco IOS Software Migration Guide

Figure 1 displays the Cisco IOS Software Release 12.2(40)SG plan relative to the 12.2S release train and identifies the recommended migration path. Note that 12.2(40)SG will not be the base release for a new maintenance train. Moving forward, the Cisco Catalyst 4900 platform has two active maintenance trains: 12.2(25)EWA and 12.2(31)SGA.

**Figure 1.** Cisco IOS Software Release Plan for the Cisco Catalyst 4900 Series



### Summary of Migration Plan

- Customers requiring the latest Cisco Catalyst 4900 Series hardware and software features should migrate to Cisco IOS Software Release 12.2(40)SG.
- Cisco IOS Software Release 12.2(31)SGA will continue offering maintenance releases. The latest release from the 12.2(31)SGA maintenance train is 12.2(31)SGA4.
- Cisco IOS Software Release 12.2(25)EWA will continue offering maintenance releases. The latest release from the 12.2(25)EWA maintenance train is 12.2(25)EWA10.

### Support

Support for Cisco IOS Software Release 12.2(40)SG follows the standard Cisco support policy, available at: [http://www.cisco.com/en/US/products/products\\_end-of-life\\_policy.html](http://www.cisco.com/en/US/products/products_end-of-life_policy.html).

For more information about the Cisco Catalyst 4500 Series, visit: <http://www.cisco.com/univercd/cc/td/doc/product/lan/cat4000/index.htm>.

### Ordering Information

Tables 2 and 3 provide product numbers and ordering information for Cisco IOS Software Release 12.2(40)SG and supporting hardware.

**Table 2.** Cisco IOS Software Release 12.2(40)SG Product Numbers and Images

Product Number	Description	Image
<b>S49IPB-12240SG(=)</b>	Cisco IOS Software for Cisco Catalyst 4900 Series Switches (IP Base image)	cat4500-ipbase-mz
<b>S49IPBK9-12240SG(=)</b>	Cisco IOS Software for Cisco Catalyst 4900 Series Switches (IP Base image with Triple Data Encryption Standard [3DES])	cat4500-ipbasek9-mz
<b>S49ES-12240SG(=)</b>	Cisco IOS Software for Cisco Catalyst 4900 Series Switches (Enterprise Services image with BGP support)	cat4500-entservices-mz

<b>S49ESK9-12240SG(=)</b>	Cisco IOS Software for Cisco Catalyst 4900 Series Switches (Enterprise Services image with 3DES and BGP support)	cat4500-entservicesk9-mz
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**Table 3.** Cisco IOS Software Release 12.2(40)SG Hardware Support

Product Number	Description
<b>WS-C4948</b>	Cisco Catalyst 4948 Switch, optional software image, optional power supplies, fan tray
<b>WS-C4948-S</b>	Cisco Catalyst 4948 Switch, IP Base image, one AC power supply, fan tray
<b>WS-C4948-E</b>	Cisco Catalyst 4948 Switch, Enterprise Services image, one AC power supply, fan tray
<b>WS-C4948-10GE</b>	Cisco Catalyst 4948 10 Gigabit Ethernet Switch, optional software image, optional power supplies, fan tray
<b>WS-C4948-10GE-S</b>	Cisco Catalyst 4948 10 Gigabit Ethernet Switch, IP Base image, one AC power supply, fan tray
<b>WS-C4948-10GE-E</b>	Cisco Catalyst 4948 10 Gigabit Ethernet Switch, Enterprise Services image, one AC power supply, fan tray
<b>ME-4924-10GE</b>	Cisco ME 4924-10GE Switch, optional software image, optional power supplies, fan tray



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