

# Cisco IOS Software Release 12.0(10)SX

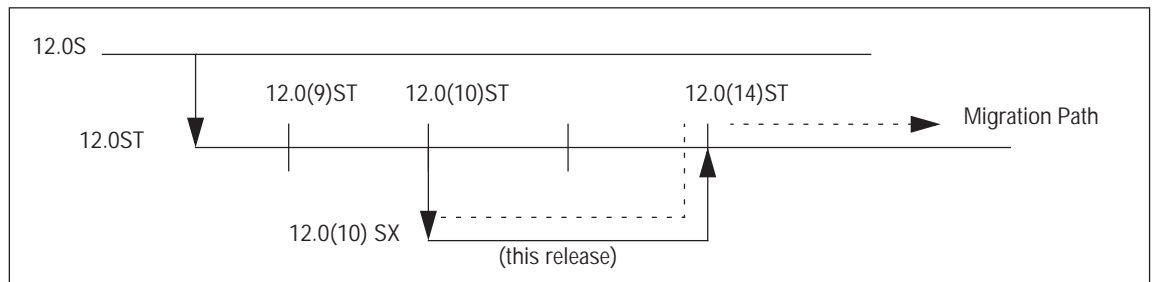


## Introduction

This Product Bulletin describes the content and delivery information concerning Cisco IOS® Software Release 12.0(10)SX. It should be used in conjunction with Product Bulletin titled, Cisco IOS Release 12.0(10)SL. Software Release 12.0(10)SX is a short lived, early deployment (ED) release, parented to 12.0ST and supports Cisco 10000 ESR. Cisco IOS Release 12.0(10)SX draws functionality from Cisco IOS Release 12.0(10)ST and Cisco IOS Release 12.0(10)SL. This release contains all new features delivered in 12.0SL up to 12.0(10)SL.

It is important to note that there is a planned maintenance releases for this ED release. In addition, please note the migration path to the latest ST release. Customers should prepare to upgrade using this migration path.

**Figure 1** Cisco IOS Release 12.0(10)SX Release Train and Migration Guide



## New Features in Cisco IOS Release 12.0(10)SX

The following features will be delivered in the initial release of 12.0(10)SX.

**Table 1** Cisco IOS Release 12.0(10)SX New Features

New Feature	Cisco 10000 ESR
MPLS Traffic Engineering	Cisco 10000 ESR
MPLS/VPN	Cisco 10000 ESR
MPLS/COS	Cisco 10000 ESR

Please see the next section for documents that address details on these new features. Any ED release of software should be utilized first in a test network before being deployed in a production network.



## Detailed Information

### MPLS/VPN

Multiprotocol Label Switching (MPLS)/virtual private network (VPN) provides a scalable solution for providing VPN support by having the Cisco 10000 Edge Service Router (ESR) operating as a PE router within and MPLS/VPN network. The use of MPLS/VPN provides:

- Support for outsourcing of IP backbone services for enterprise networks.
- Ability for enterprise customers to keep their configurations for VPN access simple
- Scalable solution for Service Providers
- Ability for Service Providers to add value
- Ability to use the VPN itself to provide IP services to customers

Other features supported in 12.0(10)SX are:

- Label Distribution Protocol (LDP)
- Tag Distribution Protocol (TDP)
- Open Shortest Path First (OSPF)
- Intermediate System to Intermediate System (IS-IS)
- Enhanced Interior Gateway Routing Protocol (EIGRP)
- Routed Information Protocol (RIP) as a routing protocol between the PE and the CE.

### MPLS/COS

To provide support for MPLS/COS, with the 12.0(10)SX release, the IP precedence bits are copied into the MPLS Experimental field.

### MPLS Traffic Engineering

Traffic engineering refers to the process of selecting the paths chosen by data traffic in order to balance the traffic load on the various links routers, and switches in the network. Traffic engineering is most important in networks where multiple parallel or alternate paths are available. The Cisco 10000 ESR as a label edge router computes a path from one given node to another (source routing), such that the path does not violate the constraints. The Cisco ESR 10000 with MPLS traffic engineering capabilities will:

- Fit IP traffic to available link bandwidths to make best use of the links, as described above
- Prepare for operational events such as taking a link out of service, by shifting traffic off the link ahead of time
- To deal with unexpected events, such as an increase of traffic to a particular destination—spread the traffic around several alternate paths
- To select specific routes for certain traffic

### MPLS/VPN Support on Channelized OC-12 and OC-12 ATM Line Card

The support for MPLS/VPN on the channelized OC-12 line card and the single port OC-12 ATM line card will be on an early field trial test (EFT), basis.

### Product Numbers

**Table 2** Cisco IOS Release 12.0(10)SX Feature Sets, Images, and Memory Recommendations

Platform	Software Feature Set	Product Code	Image	Flash	DRAM
Cisco ESR 10000	none	none	C10K-P6-MZ	40 MB	512 MB



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