

Cisco IOS Software Release 12.2(40)EX2 Supporting Cisco Catalyst Blade Switches 3110 and 3012 for IBM

PB472907

Cisco® announces Cisco IOS® Software Release 12.2(40)EX2 supporting Cisco Catalyst® Blade Switch 3110 and 3012 for IBM Servers. This release furthers Cisco leadership by providing integrated services for Layer 2 and Layer 3 networks, quality of service (QoS), integrated security, and manageability for enterprise deployments.

The following is an overview of features available with Cisco IOS Software:

- The blade switch is capable of Layer 3 unicast and multicast forwarding, including IPv4 routing with Enhanced Interior Gateway Routing Protocol (EIGRP), Open Shortest Path First (OSPF), Border Gateway Protocol (BGP), and Routing Information Protocol (RIP). Multicast protocols include Protocol Independent Multicast (PIM) Sparse Mode, Dense Mode, and Source-Specific Multicast (SSM) support. Internet Group Management Protocol (IGMP) and Multicast Listener Discovery (MLD) snooping are also available for host connectivity to the multicast network. Virtualization of the network is provided with Virtual Route Forwarding (VRF)-Lite.
- Intelligent QOS will keep everything flowing smoothly. Industry-leading mechanisms for marking, classification, and scheduling deliver superior performance for data, voice, and video traffic, all at wire speed.
- Comprehensive Layer 2 local area network (LAN) features include 802.1D Spanning Tree Protocol, IEEE 802.1s Multiple Spanning Tree (MSTP), IEEE 802.1w Rapid Spanning Tree (RSTP), and Rapid per VLAN Spanning Tree (PVST+). High availability and connectivity are provided with EtherChannel®, FlexLinks, Hot Standby Router Protocol (HSRP), VLAN Trunk Protocol (VTPv2), Unidirectional Link Detection (UDLD), and more.
- A set of management and control features is available, including Cisco IOS Software CLI, Generic Online Diagnostics (GOLD), on-board failure logging (OBFL), Switch Port Analyzer (SPAN) to remotely monitor ports, enhanced traffic management monitoring, and analysis, using the embedded Remote Monitoring (RMON), Simple Network Management Protocol (SNMP), and syslog protocols. Network management tools such as CiscoWorks LAN Management System (LMS), Cisco Network Assistant Software, and PC-based tools for quick configuration based on preset templates are available. Another ease-of-use feature is Cisco Smartports macros to generate and reduce time to set up and administer Cisco IOS Software configurations.
- The Cisco Catalyst blade switch supports a complete set of security features for connectivity and access control, including access control lists (ACLs), authentication, port-level security, and identity-based network services with 802.1x and extensions. Primary features include Dynamic Host Configuration Protocol (DHCP) snooping, Dynamic ARP Inspection, IP source guard, and Private VLANs. IEEE 802.1x and other authentication methods such as Web Authentication and MAC Auth Bypass (MAB) are included.

This product bulletin contains content and delivery information for Cisco IOS Software Release 12.2(40)EX2.

The following new features are available with Cisco IOS Software Release 12.2(40)EX2 for enterprise blade switches:

- **Configuration Replace:** The configuration replacement and configuration rollback feature provides the capability to replace the current running configuration with any saved Cisco IOS Software configuration file. This functionality can be used to revert to a previous configuration state, effectively rolling back any configuration changes that were made since that configuration file was saved. This feature simplifies and reduces operational overhead.
- **Multicast VRF-Lite:** VRF-Lite allows the customer to configure multiple private routing domains for network virtualization and VPNs. Multicast support has now been added to VRF-Lite, allowing multicast traffic per VRF.
- **SSM:** The capability is an efficient and optimized multicast protocol that is used for one-to-many multicast applications such as video. The protocol is easier to deploy than traditional multicast protocols and utilizes IGMPv3.
- **IP Service-Level Agreement (IP SLA) Support:** Cisco IOS Software IP SLAs help enable customers to assure new business-critical IP applications, as well as IP services that utilize data, voice, and video. With Cisco IOS Software IP SLAs, users can verify service guarantees, increase network reliability by validating network performance, proactively identify network issues, and increase return on investment (ROI) by easing the deployment of new IP services. Cisco IOS Software IP SLAs use active monitoring to generate traffic in a continuous, reliable, and predictable manner, thus facilitating the measurement of network performance and health.
- **IP SLAs Enhanced Object Tracking:** IP SLAs Enhanced Object Tracking support will allow switches utilizing HSRP to track IP SLA measurements and trigger hot standby failover based upon jitter, packet loss, or latency.
- **VRF-Aware IP Services:** Various IP services can now obtain information per VRF and are now VRF aware. The following services are now VRF aware: Address Resolution Protocol (ARP), ping, traceroute, SNMP, syslog, HSRP, IP SLAs, Trivial File Transfer Protocol (TFTP), FTP, and Unicast Reverse Path Forwarding (uRPF).
- **Link Layer Discovery Protocol Media Extensions (LLDP-MED) Location Support:** LLDP support has been extended to include client location information using the LLDP Media Extensions. The device location information can be used by inventory management for emergency response services, such as Enhanced 911 (E911).
- **EIGRP for IPv6:** The ability to route IPv6 prefixes is now available using EIGRP. EIGRP IPv6 utilizes IPv6 transport, communicates with IPv6 peers, and advertises IPv6 routes.
- **Cisco Media Access Control (MAC) Notification MIB:** The MAC Notification MIB enables the switch to track MAC addresses that are learned or removed. Histories of the MAC addresses that are learned and deleted from the switch are tracked, and notifications can be generated based on threshold limits.

Table 1 describes product support for new features of Cisco IOS Software Release 12.2(40)EX2 for enterprise blade switches, and Table 2 lists the supported switches and software.

Table 1. Cisco IOS Software Release 12.2(40)EX2 New Features for IBM Blade Switches

Feature	WS-CBS3110G-S	WS-CBS3110X-S	WS-CBS3012-IBM	3110-IPS-LIC	3110-AISK9-LIC
IP SLAs Support	No	No	No	Yes	Yes
IP SLAs Responder	Yes	Yes	Yes	Yes	Yes
IP SLAs Enhanced Object Tracking	No	No	No	Yes	Yes
Multicast VRF-Lite	No	No	No	Yes	Yes
SSM	No	No	No	Yes	Yes
VRF-Aware IP Services	No	No	No	Yes	Yes
Configuration Replace	Yes	Yes	Yes	Yes	Yes
LLDP-MED Location Support	Yes	Yes	Yes	Yes	Yes
EIGRP for IPv6	No	No	No	No	Yes
Cisco MAC Notification MIB	Yes	Yes	Yes	Yes	Yes

In Table 1, -S = IP Base feature set; CBS3012 = LAN Base feature set; IPS = IP Services feature set; AIS = Advanced IP Services feature set; Yes = Feature supported, No = Feature not supported.

Note: The CBS 3012 does not support IP Services or Advanced IP Services features but does support the LAN Base feature set.

Table 2. Cisco Catalyst Switches Supported and Software Licenses for Cisco IOS Software Release 12.2(40)EX2 for IBM Blade Switches

Cisco Catalyst CBS3110 Series License Part Numbers	Cisco Catalyst CBS3012 Series License Part Numbers
<ul style="list-style-type: none"> • WS-CBS3110X-S • WS-CBS3110X-S-I • WS-CBS3110G-S • WS-CBS3110G-S-I • 3110-IPS-LIC • 3110-AISK9-LIC • 3110-IPS-IBM • 3110-AISK9-IBM 	<ul style="list-style-type: none"> • WS-CBS3012-IBM • WS-CBS3012-IBM-I

Additional Resources

Software Download

Software is available for download from the following links:

- Cisco IOS Software Upgrade Planner: <http://www.cisco.com/cgi-bin/Software/iosplanner/Planner-tool/iosplanner.cgi?majorRel=>.
- Guest Level Access Planner: <http://www.cisco.com/kobayashi/sw-center/index.shtml>.

You must purchase the EMI/IP Services or Advanced IP Services software upgrade kit when upgrading a switch from SMI/IP Base to EMI/IP Services or Advanced IP Services software. Downloads of SMI/IP Base, EMI/IP Services, and Advanced IP Services files are monitored for adherence to this requirement. Cisco Catalyst Blade Switch 3110 supports the new Cisco IOS Software licensing infrastructure, which authorizes and enables the usage of the three existing Cisco IOS Software feature sets. A special file contained in the switch's flash memory, called a license file, is examined by Cisco IOS Software when the switch is powered on. Based on the license's type, Cisco IOS Software enables the appropriate Cisco IOS Software feature set.

Because of export restrictions on strong cryptography software, a separate image is required for the cryptographic features (Secure Shell [SSH] Protocol, SNMPv3, and Kerberos Protocol). These software images can be downloaded from the corresponding Triple Data Encryption Standard (3DES) area of the links provided in this section. Note that the Cisco Advanced IP Services license is available only in cryptographic format.

Product Information

Additional product information is available at the following URL:

- Cisco Catalyst Blade Switches 3110 and 3012:
<http://www.cisco.com/en/US/products/hw/switches/index.html>.

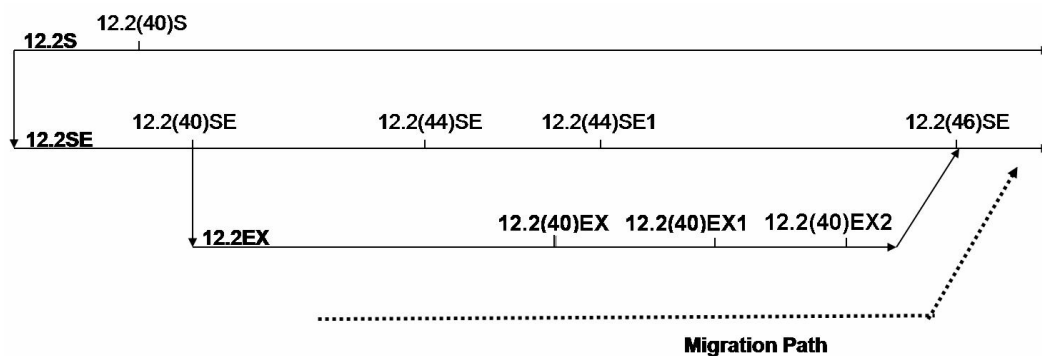
Support

Cisco IOS Software Release 12.2(40)EX2 follows the standard Cisco support policy indicated at http://www.cisco.com/en/US/products/products_end-of-life_policy.html.

Software Image Migration Guide

Figure 1 displays Cisco IOS Software Release 12.2(40)EX2 functions relative to the 12.2S and 12.2SE releases and identifies the recommended migration path.

Figure 1. Cisco IOS Software Release 12.2 Release Train



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