



PRODUCT BULLETIN NO. 2507

## NEW CISCO IOS SOFTWARE RELEASE 12.1(20)EA2 FOR CISCO CATALYST 3550, 2955, 2950, 2950-LRE, AND 2940 SERIES SWITCHES

### OVERVIEW

Cisco Systems® announces Cisco IOS® Software updates for the Cisco® Catalyst® 3550, 2955, 2950, 2950 LRE, and 2940 series Intelligent Ethernet switches. This new release furthers Cisco leadership in providing secure, reliable, and easily managed LAN switching solutions.

This product bulletin describes the content and delivery information about Cisco IOS Software Release 12.1(20)EA2. For more information about the Cisco IOS Software release process, see Product Bulletin 537.

**Auto Quality of Service (QoS) 1.5** extends the current Auto QoS function to give preference to softphone traffic. At a high level, Auto QoS 1.5 functions by trusting differentiated services code point markings on VoIP traffic from an ingress port that has been configured to indicate that a softphone is attached. This feature will not be supported on 2950 switches running Standard Image (SI) or the 2940 switches.

With the widespread adoption of IEEE 802.1x and Identity Based Networking Services, customers have been anticipating support for **802.1x MIB and 802.1x Accounting** feature sets. This further extends the Cisco Catalyst switch platform security and manageability functions. With 802.1x Accounting, the switch provides accounting and security audit tracking and reports it to the secure access control server (ACS). After the user is authenticated, the username, IP address, and port information are logged. This information is passed to the ACS server using RADIUS audiovisual pair. If the user is rejected, the attempted trial information is logged along with the cause of rejection. After the session is terminated, the cause of termination also is logged.

With enhancements being added by way of **Smartports** to further simplify the configuration of Cisco Catalyst switches, a global macro has been embedded in Cisco IOS Software for each of the switching platforms to optimize default switch settings. This macro can be applied using a command-line interface or using Cisco Cluster Management Suite (CMS) to apply global macros across multiple switches simultaneously. For implementation specific details, go to <http://www.cisco.com/go/smartports>. In addition, implementers can benefit from newly added dynamic help functions on parameters specified during the creation of Smartports macros via CLI.

**100BASE-FX Small Form-Factor Pluggables (SFPs)** are now supported on the Cisco Catalyst 2950 Long-Reach Ethernet (LRE) switches with SFP slots, allowing these switches to support 100BASE-FX in various deployment scenarios. 100Base-FX SFPs will not be supported on the Catalyst 2940 and 2955 platforms.

**Dense Wavelength-Division Multiplexing (DWDM) GBIC Support** offers DWDM transport with lower power in a standard pluggable GBIC package. The GBICs allow service providers or enterprise customers to multiply their bandwidth 32-fold with only one fiber pair. The support of these GBICs on Cisco Catalyst 3550 and 2950 platforms enables the use of these switches in DWDM networks.

The **IEEE 802.1w Rapid Spanning-Tree Protocol (RSTP)** provides rapid convergence of the spanning tree—less than one second, compared with 50 seconds with the default settings in the IEEE 802.1D spanning tree. This is critical for networks with delay-sensitive traffic such as voice and video. **IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)** enables multiple VLANs to be mapped to the same spanning-tree instance, thereby reducing the number of spanning tree instances needed to support several VLANs. This feature set currently is available on all Cisco Catalyst switches except the Cisco Catalyst 2950 Series -Standard Image (SI). With this Cisco IOS Software release, the Cisco Catalyst 2950-SI and 2940 platforms support the feature set.

## NEW FEATURES IN CISCO IOS SOFTWARE RELEASE 12.1(20)EA2

The features shown in Table 1 will be delivered in Cisco IOS Software Release 12.1(20)EA2.

**Table 1.** Cisco IOS Software Release 12.1(20)EA2 New Features


Feature	Cisco Catalyst 3550-EMI	Cisco Catalyst 3550-SMI	Cisco Catalyst 2955	Cisco Catalyst 2950-LRE	Cisco Catalyst 2950-EI	Cisco Catalyst 2050-SI	Cisco Catalyst 2940
Auto QoS 1.5	X	X	X	X	X	X	X
802.1x MIB	X	X	X	X	X	X	X
802.1x Accounting	X	X	X	X	X	X	X
Smartports III	X	X	X	X	X	X	X
100BASE-FX SFP Support				X			X
802.1s/w on SI						X	X

SMI—Standard Multi-layer Image

EMI—Enhanced Multi-layer Image

Feature enhancements made to Cisco Cluster Management Suite (CMS) Software with this new software release are highlighted in Table 2 below.

**Table 2.** New Features in Cisco CMS Software

Feature	Description
<b>Smartports III</b>	This feature provides the ability to apply Smartports global macro on multiple switches simultaneously. The menu path for device macros is Device->Smartports Device Macros.
<b>Online Help Dialog Enhancements</b>	This enhancement provides an optimized organization of the help content common to all the switches. With this feature, the help content scrolls automatically to the selected item if the help dialog is launched with a preselected node in the table of the content.
<b>Support Unknown Devices in Views</b>	Both the topology view and front panel view will display unknown devices in a cluster with the following icon: 
<b>Additional Feature Support</b>	Rapid Per VLAN Spanning Tree Plus (PVRST+) and Port Security added to CMS. IEEE 802.1s MSTP currently is not supported in CMS. Port Security is enhanced to support Port Security aging, and trunk and dot1q tunnel ports.

The Layer 3 capable fixed configuration Catalyst switches supported with this software release are listed in Table 3 below.

**Table 3.** Layer 3 Products Supported with this Release

Cisco Catalyst 3550 Series Enhanced Multilayer Software Image Models [DOUBLE CHECK PRODUCT NAMES]	Cisco Catalyst 3550 Series Standard Multilayer Software Image Models
3550-12G Switch	3550-24-SMI Switch
3550-12T Switch	3550-24PWR-SMI
3550-24-EMI Switch	3550-48-SMI Switch
3550-24 PWR SwitchEMI	3550-24-FX-SMI Switch
3550-48-EMI Switch	3550-24-DC-SMI Switch

Cisco Catalyst 3550 Series Enhanced Multilayer Software Image Models [DOUBLE CHECK PRODUCT NAMES]	Cisco Catalyst 3550 Series Standard Multilayer Software Image Models
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3550-24-FX-SMI Switch with EMI upgrade	
3550-24-DC-SMI Switch with EMI upgrade	

The Layer 2+ capable fixed configuration Catalyst switches supported with this software release are listed in Table 4 below

**Table 4.** Layer 2+ Products Supported with this Release

Cisco Catalyst 2955 Enhanced Image Models	Cisco Catalyst 2950 Series Enhanced Image Models	Cisco Catalyst 2950 Series Standard Image Models	Cisco Catalyst 2950-LRE Series Models	Cisco Catalyst 2940 Series Models
2955C-12	2950T-24	2950-12	2950LRE-24-997	2940-8TF
2955S-12	2950C-24	2950-24	2950ST-24-LRE	2940-8TT
2955T-12	2950G-12-EI	2950SX-24	2950ST-8-LRE	
	2950G-24-EI	2950SX-48		
	2950G-48-EI	2950T-48		
	2950G-24-EI-DC			

## ADDITIONAL RESOURCES

### Software Download—Software available May 2004

Cisco Catalyst 3550 Series Software Download—<http://www.cisco.com/cgi-bin/tablebuild.pl/cat3550>

Cisco Catalyst 2955 Series software download—<http://www.cisco.com/cgi-bin/tablebuild.pl/cat2955>

Cisco Catalyst 2950 Series software download—<http://www.cisco.com/cgi-bin/tablebuild.pl/cat2950>

Cisco Catalyst 2950 LRE Series software download—<http://www.cisco.com/cgi-bin/tablebuild.pl/cat2950LRE>

Cisco Catalyst 2940 Series software download—<http://www.cisco.com/cgi-bin/tablebuild.pl/cat2940>

Due to export restrictions on strong cryptography software, a separate image is required for the cryptographic features (Secure Shell Protocol, Simple Network management Protocol Version 3, and Kerberos Protocol). These software images can be downloaded from the corresponding 3DES area of the links provided above.

### Catalyst 3550 Series product information:

<http://www.cisco.com/go/catalyst3550>

### Catalyst 2955 product information:

<http://www.cisco.com/go/catalyst2955>

### Catalyst 2950 Series Product information:

<http://www.cisco.com/go/catalyst2950>

### Catalyst 2950 LRE Series product information:

<http://www.cisco.com/go/lre>

### Catalyst 2940 Series product information:

<http://www.cisco.com/go/catalyst2940>

Catalyst 3550, 2955/2950/2950-LRE, and 2940 release notes:

<http://www.cisco.com/univercd/cc/td/doc/product/lan/c3550/index.htm>

<http://www.cisco.com/univercd/cc/td/doc/product/lan/cat2950/index.htm>

<http://www.cisco.com/univercd/cc/td/doc/product/lan/cat2940/index.htm>

## Support

Cisco IOS Software Release 12.1(20)EA2 follows the standard Cisco support policy as indicated at

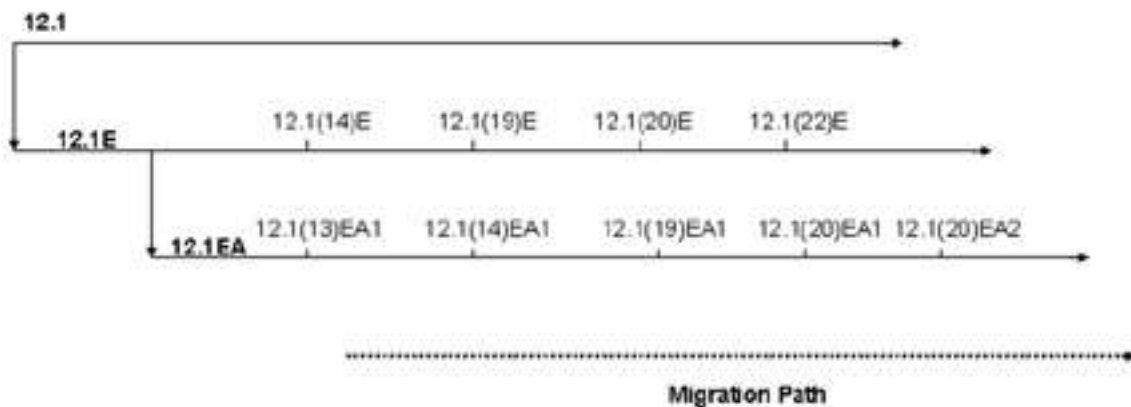
[http://www.cisco.com/en/US/products/products\\_end-of-life\\_policy.html](http://www.cisco.com/en/US/products/products_end-of-life_policy.html)

## Software Image Migration Guide

Figure 1 displays Cisco IOS Software Release 12.1(20)EA2 functions relative to the 12.1 and 12.1E releases, and identifies the recommended migration path. For more information about the Cisco IOS Software release process, see Product Bulletin 537.

**Figure 1**

Cisco IOS Software Release 12.1EA Release Train



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