

General Deployment Release Status for Catalyst 5000 Family Software Version 4.5(4)

Cisco Systems is proud to announce the availability of generally deployable (GD) software for the Catalyst® 5000 family of switches in the 4.x code train. This product bulletin is intended to announce the GD code status for the 4.x train while detailing the hardware and software support provided in the release. A discussion of the software release strategy and release trains for the Cisco Catalyst 4000, 5000, and 6000 family local-area network (LAN) switch Supervisor software has also been included in this product bulletin for reference.

Cisco recently solicited feedback to a survey posted on the Cisco Connection Online (CCO) web site from the Catalyst 5000 customer base in order to gauge relative quality of the 4.x code train. Over 1,000 customers responded to the survey with extremely positive responses and comments. Given the maturity of the software platform, the wide and successful deployment of the software into the Catalyst 5000 customer base, and the overwhelmingly positive responses to the survey, Cisco has decided to elevate the 4.x code train to GD status.

Catalyst 5000 family software versions 4.5(4) and later are to be considered GD. 4.5(4) offers the following aggregate hardware and software support, portions of which were delivered previously in switch software versions 4.1 through 4.5:

Hardware Support

- Catalyst 5509 Chassis (WS-C5509)
- Catalyst 2926GS Switch (WS-C2926GS)
- Catalyst 2926GL Switch (WS-C2926GL)
- Supervisor Engine III with NFFC (WS-X5530-E2)
- Supervisor Engine III with NFFC II (WS-X5530-E3)
- Supervisor Engine III-FSX (WS-X5534-E1-GESX)
- Supervisor Engine III-FLX (WS-X5536-E1-GELX)
- NetFlow Feature Card (NFFC) (WS-F5521)
- NetFlow Feature Card II (NFFC II) (WS-F5531=)
- 1000BaseZX Gigabit Ethernet Extended Reach GBIC (WS-G5487=)
- 2-port 1000BaseSX Gigabit Ethernet Uplink Module (WS-U5534)
- 4-port 10/100BaseTX Fast EtherChannel Uplink Module (WS-U5537-FETX)
- 4-port 100BaseFX Fast EtherChannel Uplink Module (WS-U5538-FEFX-MMF)
- 2-slot, 48-port 10BaseT RJ-45 Ethernet Switching Module (WS-X5014)
- 48-port 10BaseT Telco Ethernet Switching Module (WS-X5012A)
- 24-port 10/100BaseTX Fast Ethernet Switching Module (WS-X5225R)
- 24-port 10/100BaseTX Fast Ethernet Switching Module with Enhanced Quality of Service (QoS) (WS-X5234-RJ45)
- 12-port 100BaseFX Fast Ethernet Switching Module (WS-X5201R)
- 24-port 100BaseFX Fast Ethernet Switching Module with Enhanced QoS (WS-X5236-FX-MT)
- 3-port Gigabit Ethernet Switching Module (WS-X5403)
- 9-port Gigabit EtherChannel Switching Module (WS-X5410)
- ATM Fabric Integration Module (WS-X5165)
- Catalyst 8500 Layer 3 Fabric Integration Module (WS-X5305)
- Network Analysis Module (WS-X5380)

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Software Support

Network Scalability

- Multilayer Switching (MLS)
- IEEE 802.1Q VLAN Trunking
- Dynamic Trunking Protocol (DTP)
- Standby Supervisor Port Usage
- Asynchronous Transfer Mode (ATM) and Token Ring Module Fast Switchover Support
- Internet Group Management Protocol (IGMP) Snooping
- Protocol Filtering
- Spanning Tree Protocol Backbone Fast Convergence
- Token Ring Virtual LAN (VLAN) Support on the Route Switch Module (RSM)

Switch Management and Configuration

- Show Port Capabilities CLI Command
- Configuration File Management
- Command-line Editing
- CLI Command to Enable or Disable Standby Supervisor Uplink Ports
- EPLD Update Support on Token Ring Modules (WS-X5030 and WS-X5031)

Network Management

- NetFlow Data Export
- Multiple Default IP Gateways
- Simple Network Management Protocol (SNMP) Trap Message Enhancements
 - Spanning Tree Protocol Change Message Enhancement
 - Configuration Change Syslog Message and SNMP Message Enhancement
- RMON2 Configuration Group
- Domain Name Server (DNS) Device Name Usage
- Ability to Disable Receive Traffic on Switched Port Analyzer (SPAN) Port
- Switch TopN remote monitoring (RMON) Statistics
- IP Trace-route Support

Catalyst Software Release Numbering Scheme

Release X.Y(n)zzz, where:

X—defines a train, for example, the “4 train”

X.Y—defines a feature set, for example, “Release 4.1”

(n)—defines the maintenance/bug fix level, for example, “4.1(1)”

zzz—identifies a special release, for example, 5.1(1)CSX

Software Train Life Cycle

Each Catalyst 4000, 5000, and 6000 family software release is a member of a release train. Each release train evolves throughout its life cycle, which typically consists of two major phases: early life stages, designated as Early Deployment (ED) releases, where new functionality is added; and later life stages, designated as General Deployment (GD) releases, where only bug fixes are applied.

GD actually includes three subclassifications: pre-GD, after the train has transitioned to maintenance mode and no new features are added; GD, after all requirements are met; and eventually GD-Mature Maintenance as the train nears its end of life.

Catalyst 4000, 5000, and 6000 Family Software Release Train Types and Definitions

Early Deployment (ED) Release

- Deliver new functionality to market quickly
- Generally delivered every three to six months
- Typically there are several ED releases in each train before it goes to pre-GD, and then GD status
- When a train is in the ED stage of its life cycle, delivery of bug fixes often requires moving to the next ED release, which includes new functionality

Pre-General Deployment (Pre-GD) Release

- The software train is now at the mature “Feature Freeze” stage in its life cycle
- Typically there are several maintenance releases in this stage
- A train is designated as “pre-GD” when no new functionality is being added and only bug fixes are applied (for example, this becomes a maintenance train)

General Deployment (GD) Release

- Goal is stability
- GD maintenance releases are generally delivered every six to 10 weeks
- Must meet rigid criteria including defect arrival rate thresholds and a customer feedback survey in order to achieve GD status. In order to achieve GD status a software release train must meet the following criteria:
 - Minimal deployment time frame of three months in the field
 - Installed and running on at least 1000 systems in the field (determined by number of systems shipped from Cisco manufacturing plus the number of downloads from CCO
 - Arrival rate for customer-found severity 1 bugs less than 10 per month



– Successfully pass a detailed Customer Satisfaction Survey with responses from at least 100 customers. To pass there must be agreement that there are no quality problem areas. Any problems must be addressed by engineering

GD-Mature Maintenance

- A train is designated as “GD-Mature Maintenance” when it is close to end of life. Only severity 1 bugs are fixed in this stage

Milestone Dates

- *End of Sales (EOS)*—the date at which product is removed from the price list and is no longer orderable through the normal, nonexception, order fulfillment process
- *End of Engineering (EOE)*—the date after which scheduled maintenance releases are not produced
- *End of Life (EOL)*—the date after which the software release is no longer supported by Cisco customer support and is removed from CCO

Release Train Status Transition Time Frames

From the start of a train there are multiple ED releases before feature freeze at which point the train becomes pre-GD.

- On average it takes 12 months before a train reaches pre-GD status
- From Pre-GD it takes six months on average to achieve GD status
- GD to GD-Mature Maintenance will generally occur in eight to 12 months
- GD-Mature Maintenance to EOE is no less than three months and generally not longer than 6 months
- The Cisco customer support group continues to provide support for a release train until it reaches its EOL, which is generally six months after EOE

Catalyst 4000, 5000, and 6000 Family Software Train Status (as of Q4 CY '99)

- The 2.1 train is now at its EOE and EOS. See the EOS, EOE, and EOL of Cisco Catalyst 5000 Family Release 2.1(x) Supervisor software Product Bulletin 857
- The 3 train, which includes the 2.2, 2.3, 2.4, 3.1, and 3.2 releases, is in GD-Mature Maintenance status through the 3.2(8) maintenance release. [Note: the 3 train includes all releases from 2.2 through 3.2. The release number for the 3 train is awkward because of the introduction of the standard version numbering scheme in the middle of its life. Future release numbering will be consistent with each new train incrementing the first digit of the release number.]
- The 4 train is now GD as of Release 4.5(4).
- Release 5.1 begins the new 5 train, which is at the ED stage of its life cycle
- The new Catalyst 6000 Family is on the 5 train but has its own releases identified by “CSX” as in “5.Y(n)CSX.” Within the next 6 months, the Catalyst 4000, 5000, and 6000 families will have synchronized releases

Catalyst 4000, 5000, and 6000 Family Software Maintenance Guidelines

To better ensure the stability of the each release train as it ages, less change is allowed in the source code base. The level of change that is allowed depends on the severity of the problem and its effect on the release’s stability. Table 1 on the following page, identifies the minimal severity level required at different milestones in the release train’s life.

Table 1 Bug Fixes for Each Release Type

Release Status	Committed Fixes
GD-Mature Maintenance	S1
GD	S1-S2
Pre-GD	S1-S3
ED	S1-S4
Development Mainline	S1-S5

Table 2 Bug Security Level Definitions

Level	Definitions
S1	Catastrophic
S2	Severe
S3	Moderate
S4	Minor
S5	Cosmetic/Enhancement Request

Please forward any questions, comments, or feedback regarding this product bulletin to: ask-c5000-pm@cisco.com.



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