Cisco NX-OS Software Release Strategy

What You Will Learn

A comprehensive Cisco NX-OS Software release methodology has been developed that both preserves the integrity and stability of mission-critical networks and has the flexibility to respond to market needs for timely delivery of advanced networking features with multilayer intelligence.

This document is a guide to understanding the Cisco NX-OS Software release methodology. It describes the types of releases, their functions, and their lifecycles with various scenarios. It also describes the Cisco NX-OS Software release and image naming conventions.

Types of Cisco NX-OS Software Releases

Table 1 lists the Cisco NX-OS Software release variants: major releases or trains, minor releases, and maintenance releases.

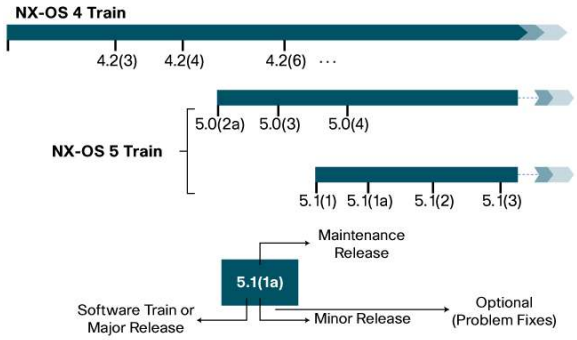
Table 1. Cisco NX-OS Software Release Types

Cisco NX-OS Software Release Type	Description
Major release or software train	A major release or software train introduces significant new features, functions or hardware platforms. Examples: Releases 4 and 5.
Minor release	Each major release consists of multiple minor releases. Each minor release enhances a major release with new features. Examples: Releases 4.2 and 5.1
Maintenance release	A maintenance release primarily resolves product defects in a minor release. Helping ensure that each maintenance release addresses product defects preserves the integrity and stability of the minor release. No new features are added in a maintenance release, except on an exception basis. Examples: Releases 4.2(6) and 5.1(3)

Each Cisco NX-OS Software release is uniquely numbered as X.Y(z), where X is the major release or train, Y is a minor feature release that enhances major release X, and z is a maintenance release that addresses product defects in minor release Y.

Figure 1 is a graphical representation of the Cisco NX-OS Software releases, based on the example of the Cisco Nexus® 7000 Series Switches.

Figure 1. Cisco NX-OS Software Releases on Cisco Nexus 7000 Series Switches



Long-Lived and Short-Lived Releases

Each Cisco NX-OS major release or train has at least one long-lived release and one or more short-lived releases.

- Long-lived releases: Software releases that have been undergoing frequent maintenance to help ensure quality and stability are called long-lived releases. Each major release generally has at least one long-lived release, which will be maintained for a longer time span than other releases. Long-lived releases are recommended for the deployment of widely adopted functions or for networks that will not be upgraded frequently.
- Short-lived releases: Software releases that introduce new hardware or software innovations are typically short-lived releases. Each major release generally has one or more short-lived releases, which are characterized by occasional maintenance releases, as needed. Short-lived releases are recommended for deployment if the adoption of new hardware or of software innovations is of interest. As a best practice, short-lived software releases should be upgraded to the next available long-lived release for stability and longer maintenance benefits.

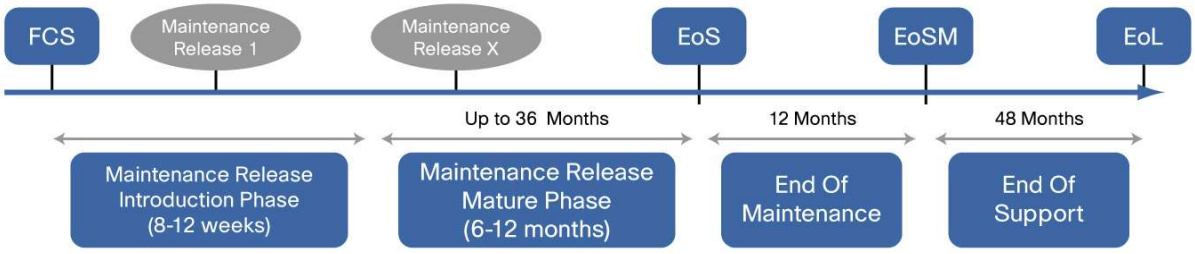
In reference to the Cisco Nexus 7000 Series software releases listed in Figure 1, the following characterization holds:

- Cisco NX-OS 4.2 is the long-lived release in the Release 4 train
- Cisco NX-OS 5.0 and NX-OS 5.1 are short-lived releases in the Release 5.0

Lifecycle of a Cisco NX-OS Software Release

The lifecycle of a major release spans several minor and maintenance releases. Figure 2 illustrates the lifecycle of a long-lived release.

Figure 2. Lifecycle of a Long-Lived Software Release



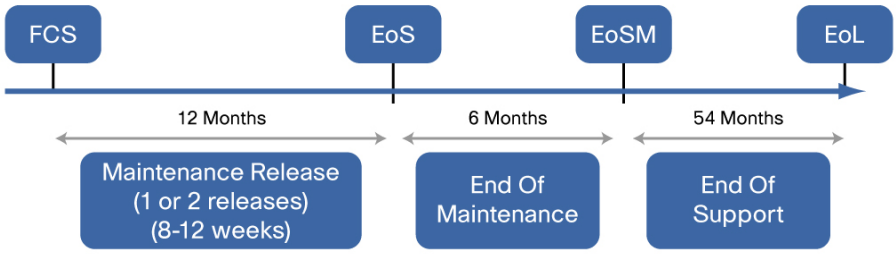
The lifecycle of a major long-lived release starts with the first customer shipment (FCS) of the first minor release. It represents the date of the first shipment of a software release to customers for revenue.

The major release then enters the maintenance release introduction phase, in which several releases are made available to address product defects.

After the code integrity and stability is established, the long-lived release achieves maturity and broad adoption. At this stage, the major release has been proven with extensive market exposure in diverse deployment scenarios and has passed rigorous metrics analyzing quality, stability, and problem trends. Afterward, the major release transitions to the mature maintenance phase. In this phase, the release receives defect repairs only for severity 1 and severity 2 defects that the customer finds. Problems found internally are addressed on a case-by-case basis.

Figure 3 illustrates the lifecycle of a short-lived release, which is characterized by the same, but shorter, phases as the long-lived release.

Figure 3. Lifecycle of a Short-Lived Software Release



After FCS of each short-lived minor release, there is an initial deployment phase in which product defects are addressed in maintenance releases.

To preserve the integrity, stability, and quality of a minor release, one or two maintenance releases will be provided primarily to address product defects. Few or no new features or functions, which can potentially be destabilizing, are added to the maintenance release. Subsequent maintenance releases will be provided on an as needed basis.

Short lived releases reach the end-of-sale (EoS) milestone about 12 months after FCS, which represents the last date that the product can be ordered through Cisco customer service or manufacturing. Cisco will generally provide a 6-month notice of a product's EoS date or the last day when the affected product can be ordered. The software release will still be available through Cisco.com and remain fully supported by Cisco.

After the EoS milestone, a release achieves end-of-software maintenance (EoSM) status, which represents the last potential date for maintenance software to be released. Engineering will no longer actively apply any defect repairs to the release. Software defects are addressed by upgrading to a subsequent release. The product will still be available through Cisco field support offices and Cisco.com.

Finally, the release reaches end-of-life (EoL) status, in which the software image is no longer supported by Cisco and is removed from Cisco.com.

Conclusion

Cisco NX-OS Software release methodology preserves the integrity, stability, and quality of customers' mission-critical networks. It has the flexibility to respond to market needs for timely delivery of innovative features. Primary attributes of release methodology include the following:

- Major releases introduce significant new features, functions, and platforms
- Minor releases enhance the features and functions of an existing major release
- Maintenance releases address product defects in a minor release

For More Information

- Cisco Nexus 7000 Series Switches release notes: http://www.cisco.com/en/US/products/ps9402/prod_release_notes_list.html.
- Cisco Nexus 7000 Series Switches minimum recommended Cisco NX-OS releases: http://www.cisco.com/en/US/docs/switches/datacenter/sw/nx-os/recommended_releases/recommended_nx-os_releases.html.
- Cisco Nexus 7000 End of Life, End of Sales Notices: http://www.cisco.com/en/US/products/ps9402/prod_eol_notices_list.html.

Americas Headquarters
Cisco Systems, Inc.
San Jose, CA

Asia Pacific Headquarters
Cisco Systems (USA) Pte. Ltd.
Singapore

Europe Headquarters
Cisco Systems International BV Amsterdam,
The Netherlands

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco Website at www.cisco.com/go/offices.

Printed in USA C07-658595-02 02/12