

Versatile Interface Processor 4 Software Guidelines

Introduction

The Versatile Interface Processor 4 (VIP4) for Cisco 7500 Series routers is supported in several Cisco IOS® software releases. This document provides a guide to the various releases, and specifically discusses migration paths for current Cisco 7500 installations adopting the VIP4.

General Discussion

At First Customer Shipment (FCS), the VIP4 is supported in the Release 12.1, 12.1E, 12.1T, and 12.0S. It is helpful to understand how the releases were derived to understand the maturity and feature sets offered by each release.

Cisco IOS Software Releases 12.0T and 12.1

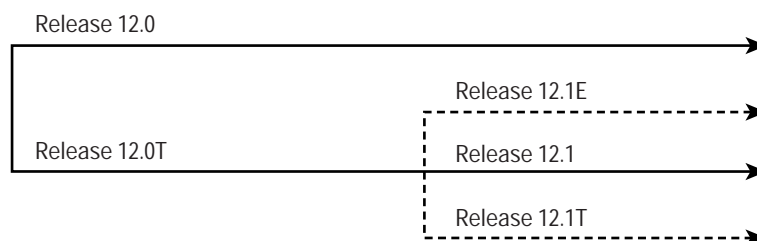
Cisco IOS Release 12.1 is the direct descendant of Release 12.0T—as such, it offers all the advanced features of Release 12.0T, with additional fixes, code maturity, and stability.

The last 12.0T release was 12.0(7)T, after which the release numbering was incremented—the next maintenance release of this code is called 12.1(1). Release 12.1(1) and subsequent 12.1 releases are focused on code maturity and stability, and they are intended to achieve general -deployment (GD) certification. To reach this goal, the feature set of Release 12.1 was frozen with Release 12.1(1); new features and hardware support are now directed into the 12.1E and 12.1T releases.

When Release 12.0T became Release 12.1, two new branches, called 12.1E and 12.1T, were created for new feature integration. Release 12.1T integrates features and hardware support for platforms across the Cisco product line, whereas Release 12.1E is focused exclusively on feature and hardware support for the Cisco 7500, 7200, and 7100, and Catalyst® 6000 families. Both the 12.1E and 12.1T branches are “synchronized” to 12.1, receiving the same bug fixes committed into the 12.1 branch.

The relationship between Release 12.0, 12.0T, 12.1, and 12.1T is shown in Figure 1.

Figure 1 Cisco IOS Release Relationships



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Cisco IOS Software Releases 12.1T and 12.2

The last 12.1T release was 12.1(5)T, after which the release numbering was again incremented—the next maintenance release of this code is called 12.2(1). Similar to that of Release 12.1, Release 12.2(1) and subsequent 12.2 releases are also focused on code maturity and stability because they are intended to achieve general -deployment (GD) certification. To reach this goal, the feature set of Release 12.2 was frozen with Release 12.2(1).

When Release 12.1T became Release 12.2, three new branches, called 12.2S, 12.2B, and 12.2T, were created for new feature integration. Release 12.2T integrates features and hardware support for platforms across the Cisco product line. Release 12.2S is focused exclusively on feature and hardware support for the Cisco 7600, 7500, 7400, 7200, and 7100, and Catalyst® 6000 product families, and Release 12.2B is primarily focused on Broadband solutions, supporting the Cisco 7400, 7200, and 6400 product families.

Recommendations

For most VIP4 customers, Release 12.1 is the suggested release. It offers all the features of the extensively deployed 12.0T release, and is the GD-certified release on the Cisco 7500 platform. Release 12.1 also offers a rich variety of software feature sets, including IP, multiprotocol, and special feature sets such as IP Security (IPSec) encryption and the Cisco IOS Firewall Feature Set. Where additional features are required, Releases 12.1E or 12.2 should be considered. Note that IPSec and Firewall features are supported on the RSP and VIP4 can coexist with these features.

Release 12.0S supports all 12.0 features as well as additional service-provider features; it is suitable for service-provider applications as well as large enterprises. However, Release 12.0S does not offer the extensive feature sets of Release 12.1, and is strictly for IP deployments.

Table 1 summarizes the various releases supporting VIP4.

Table 1 VIP4 Software Release Summary

Release	Summary
12.1	Continuation of Release 12.0T, focused on stability and is GD certified.
12.1E	12.1-based release focused on Cisco 7x00 and Catalyst 6000 platforms; new Cisco 7500 features typically supported here first. Includes support for all 12.0T, 12.0XE, and 12.1 features.
12.1T	12.1-based release, offers all 12.0T and 12.1 features and some 12.0XE features. Additional features for all Cisco platforms added over time.
12.2	Continuation of Release 12.1T, focused on stability and GD certification.
12.2T	12.2-based release, offers additional hardware and software feature support for all Cisco platforms over time.
12.0S	Release most suitable for service providers; based on Release 12.0, with additional features and hardware support for service providers but feature sets limited to IP protocols.
12.2S	12.2-based release, offers all 12.0S and 12.1E features. Additional features for all Cisco 7x00, 10000, 12000, and Catalyst 6000 platforms added over time.

Migration Paths

Table 2 outlines migration paths from previous Cisco IOS software releases.

Table 2 Cisco IOS Software Migration Paths

Previous Release	Suggested Migration Paths	Comments
11.1CA	12.1 12.0S (service providers, IP only)	• 12.1-based releases and 12.0S support 11.1CA features.

Previous Release	Suggested Migration Paths	Comments
11.1CC	12.1 12.0S (service providers, IP only)	<ul style="list-style-type: none"> 12.1-based releases and 12.0S support 11.1CC features.
11.2 / 11.2P	12.1 12.0S (service providers, IP only)	<ul style="list-style-type: none"> 12.1-based releases and 12.0S support 11.2 / 11.2P features.
11.3 / 11.3T	12.1 12.0S (service providers, IP only)	<ul style="list-style-type: none"> 12.1-based releases and 12.0S support 11.3 / 11.3T features.
12.0	12.1 12.0S (service providers, IP only)	<ul style="list-style-type: none"> 12.1-based releases and 12.0S support 12.0 features.
12.0T	12.1 12.1E 12.1T	<ul style="list-style-type: none"> 12.1 releases are "maintenance releases" of 12.0T 12.1E and 12.1T offer all features and fixes in 12.1, with additional features and hardware support.
12.0(4)XE and Earlier 12.0XE Releases	12.1 12.1E 12.1T	<ul style="list-style-type: none"> Features up to 12.0(4)XE were also ported into 12.0T, so they are supported in 12.1-based releases.
12.0(5)XE and Later 12.0XE Releases	12.1E	<ul style="list-style-type: none"> 12.1E supports features from all 12.0XE releases.
12.0S	12.2S	<ul style="list-style-type: none"> 12.2S supports features from all 12.0S and 12.1E releases
12.1	12.2	<ul style="list-style-type: none"> 12.2 is working towards GD certification
12.1E	12.2S 12.2T	<ul style="list-style-type: none"> 12.2S supports features from all 12.0S and 12.1E releases. 12.2T supports many 12.1E features and some that are unique to the release.

Memory Recommendations

Cisco IOS Releases 12.1, 12.1E, and 12.1T require a minimum of 64 MB of Route Switch Processor (RSP) memory and 64 MB of VIP4 program memory. Some configurations will require more. For example, in service-provider applications, 128 MB of VIP4 program memory is required, with 256 MB recommended.

For further discussion of memory requirements, please refer to:

http://www.cisco.com/warp/customer/cc/cisco/mkt/core/7500/prodlit/mmry_wp.htm

Before Deploying a Release

Before deploying a Cisco IOS software release in a production network, always consult appropriate product-specific documentation, release notes, and field notices, refer to the online defect tracking system, and perform acceptance testing in your own test environment.

Refer to Release Notes

Before deploying a Cisco IOS software release, always refer to its release notes to confirm all appropriate features, interfaces, and platforms are supported, and to understand any caveats with a particular maintenance release. Often, a particular maintenance release (or later) may be required for your application, as indicated by the release notes.

Cisco IOS software configuration information and release notes are available at:

<http://www.cisco.com/univercd/cc/td/doc/product/software/>

More Information

For general information about Cisco IOS releases for the Cisco 7500 series, consult:

http://www.cisco.com/warp/customer/cc/cisco/mkt/core/pltsf/tech/slios_wp.htm

For questions and comments about this document, contact the Cisco 7500 Customer Service alias at cs-7500@cisco.com.