



Cisco NextPort SPE Firmware and Cisco IOS Software Compatibility Matrix

February 12, 2004

This document describes the technical compatibility of Cisco NextPort service processing element (SPE) firmware and Cisco IOS software on the Cisco AS5350, Cisco AS5400, Cisco AS5800, and Cisco AS5850.

Cisco NextPort SPE Firmware Feature Descriptions

[Table 1](#) contains descriptions of released firmware versions. Each new release has fixes on top of the code base of the previous release in addition to the new features listed in [Table 1](#)

Table 1 *Cisco NextPort SPE Firmware Feature Descriptions*

Portware Version	New Feature Description
8.8.1	This version of version 8.x NextPort SPE firmware introduces the NextPort Voice Tuning feature. Refer to the Combined Release Notes for Cisco NextPort SPE Firmware Version 8.x for additional information.
8.5.1	Maintenance 8.x release. There are no new features. Refer to the Combined Release Notes for Cisco NextPort SPE Firmware Version 8.x for additional information.
8.5	Maintenance 8.x release. There are no new features. Refer to the Combined Release Notes for Cisco NextPort SPE Firmware Version 8.x for additional information.



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Table 1 Cisco NextPort SPE Firmware Feature Descriptions (continued)

Portware Version	New Feature Description
8.3	<p>Initial 8.x release. This version contains fixes from Cisco NextPort Firmware Release 7.18.3. Refer to the Combined Release Notes for Cisco NextPort SPE Firmware Version 7.xy for additional information.</p> <p>Voice Codecs</p> <ul style="list-style-type: none"> G.711, G.723.1 (5.3K and 6.3K), G.729a, G.729ab, G.726 (16K,24K,32K,40K¹), GSMFR, G.Clear, G.728 <p>DSP Voice Features</p> <ul style="list-style-type: none"> G.168 echo cancellation—Up to 128 ms tail length Transparent transcoding between A-law and mu-law encoding Voice activity detection, silence suppression, comfort noise generation, fixed and adaptive jitter buffering Modem passthrough Call progress tone detection and generation—Dial tone, busy, ring-back, congestion, and re-order tones, with local country variants DTMF, MF, DTMF relay using NTE, DTMF relay RFC-2833 <p>Voice and Fax Signaling Protocols</p> <ul style="list-style-type: none"> H.323v2, T.37, T.38 real-time fax relay at modulations V.17, V.29 and V.27ter Fax out (transmission) Group 3, standards EIA 2388 Class 2 and EIA 592 Class 2.0, at modulations V.33, V.17, V.29, V.27ter, and V.21 No Circuit Tone Generation and Detection Large packet support for IVR SR2275-Type 105 test tone² <p>ISDN Protocols</p> <ul style="list-style-type: none"> Sync mode PPP and V.110 at rates up to 38400 bps Async V.120 at speeds of 64K and 56K for T1 and E1 <p>Modem Modulations</p> <ul style="list-style-type: none"> V.92 Modem on Hold and Quick Connect V.90 standard supporting rates of 56000 to 28000 in 1333 bps increments K56Flex at 56,000 to 32,000 in 2000 bps increments ITU-T V.34 Annex 12 at 33,600 and 31,200 bps V.32bis at 14400, 12000, 9600, 7200, 4800; V.32 at 9600, 4800; V.22bis at 2400, 1200; V.21 at 300; Bell 103 at 300; V.22 at 1200; V.23 at 1200/75 <p>Modem Protocols</p> <ul style="list-style-type: none"> ITU-T V.44 ITU-T V.42 (including MNP 2-4 and LAPM) error correction ITU-T V.42bis (1000 nodes) and Microcom Networking Protocol (MNP) 5 data compression Async-mode PPP <p>Wireless Protocols</p> <p>Cisco NextPort SPE Firmware and Cisco IOS Software Compatibility Matrix</p> <p>V.110</p>

Table 1 Cisco NextPort SPE Firmware Feature Descriptions (continued)

Portware Version	New Feature Description
7.18.3	Maintenance 7.x.y release. There are no new features. Refer to the Combined Release Notes for Cisco NextPort SPE Firmware Version 7.xx for additional information.
7.17	Maintenance 7.x.y release. There are no new features. Refer to the Combined Release Notes for Cisco NextPort SPE Firmware Version 7.xx for additional information.
7.16.2	Maintenance 7.x.y release. There are no new features. Refer to the Combined Release Notes for Cisco NextPort SPE Firmware Version 7.xx for additional information.
7.16	Maintenance 7.x.y release. There are no new features. Refer to the Combined Release Notes for Cisco NextPort SPE Firmware Version 7.xx for additional information.

Table 1 Cisco NextPort SPE Firmware Feature Descriptions (continued)

Portware Version	New Feature Description
7.15.3	<p>Initial 7.x.y release. Refer to the Combined Release Notes for Cisco NextPort SPE Firmware Version 7.x.y for additional information.</p> <p>Voice Codecs</p> <ul style="list-style-type: none"> G.711, G.723.1 (5.3K and 6.3K), G.729a, G.729ab, G.726 (16K,24K,32K,40K²), GSMFR, G.Clear, G.728 <p>DSP Voice Features</p> <ul style="list-style-type: none"> G.168 echo cancellation—Up to 128 ms tail length Transparent transcoding between A-law and mu-law encoding Voice activity detection, silence suppression, comfort noise generation, fixed and adaptive jitter buffering Modem passthrough Call progress tone detection and generation—Dial tone, busy, ring-back, congestion, and re-order tones, with local country variants DTMF, MF, DTMF relay using NTE, DTMF relay RFC-2833 <p>Voice and Fax Signaling Protocols</p> <ul style="list-style-type: none"> H.323v2, T.37, T.38 real-time fax relay at modulations V.17, V.29 and V.27ter Fax out (transmission) Group 3, standards EIA 2388 Class 2 and EIA 592 Class 2.0, at modulations V.33, V.17, V.29, V.27ter, and V.21 No Circuit Tone Generation and Detection Large packet support for IVR SR2275-Type 105 test tone² <p>ISDN Protocols</p> <ul style="list-style-type: none"> Sync mode PPP and V.110 at rates up to 38400 bps Async V.120 at speeds of 64K and 56K for T1 and E1 <p>Modem Modulations</p> <ul style="list-style-type: none"> V.92 Modem on Hold and Quick Connect V.90 standard supporting rates of 56000 to 28000 in 1333 bps increments K56Flex at 56,000 to 32,000 in 2000 bps increments ITU-T V.34 Annex 12 at 33,600 and 31,200 bps V.32bis at 14400, 12000, 9600, 7200, 4800; V.32 at 9600, 4800; V.22bis at 2400, 1200; V.21 at 300; Bell 103 at 300; V.22 at 1200; V.23 at 1200/75 <p>Modem Protocols</p> <ul style="list-style-type: none"> ITU-T V.44 ITU-T V.42 (including MNP 2-4 and LAPM) error correction ITU-T V.42bis (1000 nodes) and Microcom Networking Protocol (MNP) 5 data compression Async-mode PPP <p>Wireless Protocols</p> <ul style="list-style-type: none"> V.110

Table 1 Cisco NextPort SPE Firmware Feature Descriptions (continued)

Portware Version	New Feature Description
7.11	Maintenance 7.xx release. There are no new features. Refer to the Combined Release Notes for Cisco NextPort SPE Firmware Version 7.xx for additional information.
7.9	Maintenance 7.xx release. There are no new features. Refer to the Combined Release Notes for Cisco NextPort SPE Firmware Version 7.xx for additional information.

Table 1 Cisco NextPort SPE Firmware Feature Descriptions (continued)

Portware Version	New Feature Description
7.5	<p>Initial 7.xx release. Refer to the Combined Release Notes for Cisco NextPort SPE Firmware Version 7.xx for additional information.</p> <p>Voice Codecs</p> <ul style="list-style-type: none"> G.711, G.723.1 (5.3K and 6.3K), G.729a, G.729ab <p>DSP Voice Features</p> <ul style="list-style-type: none"> G.168 echo cancellation—Up to 128 ms tail length Transparent transcoding between A-law and mu-law encoding Voice activity detection, silence suppression, comfort noise generation, fixed and adaptive jitter buffering Call progress tone detection and generation—Dial tone, busy, ring-back, congestion, and re-order tones, with local country variants DTMF, MF, DTMF relay using NTE <p>Voice and Fax Signaling Protocols</p> <ul style="list-style-type: none"> H.323v2, T.37, T.38 real-time fax relay at modulations V.17, V.29 and V.27ter Fax out (transmission) Group 3, standards EIA 2388 Class 2 and EIA 592 Class 2.0, at modulations V.33, V.17, V.29, V.27ter, and V.21 Large packet support for IVR <p>ISDN Protocols</p> <ul style="list-style-type: none"> Sync mode PPP and V.110 at rates up to 38400 bps Async V.120 at speeds of 64K and 56K for T1 and E1 <p>Modem Modulations</p> <ul style="list-style-type: none"> V.92 Modem on Hold and Quick Connect V.90 standard supporting rates of 56000 to 28000 in 1333 bps increments K56Flex at 56,000 to 32,000 in 2000 bps increments ITU-T V.34 Annex 12 at 33,600 and 31,200 bps V.32bis at 14400, 12000, 9600, 7200, 4800; V.32 at 9600, 4800; V.22bis at 2400, 1200; V.21 at 300; Bell 103 at 300; V.22 at 1200; V.23 at 1200/75 <p>Modem Protocols</p> <ul style="list-style-type: none"> ITU-T V.44 ITU-T V.42 (including MNP 2-4 and LAPM) error correction ITU-T V.42bis (1000 nodes) and Microcom Networking Protocol (MNP) 5 data compression Async-mode PPP <p>Wireless Protocols</p> <ul style="list-style-type: none"> V.110

Table 1 Cisco NextPort SPE Firmware Feature Descriptions (continued)

Portware Version	New Feature Description
6.108	<p>Adds new features to existing 6.106 features. Refer to the Combined Release Notes for Cisco NextPort SPE Firmware Version 6.xx for additional information.</p> <p>New NextPort SPE S Registers</p> <p>S Registers:</p> <ul style="list-style-type: none"> • S54 bit mapped register • S59 V.90 Transmit Level Setting • S75 Answer Tone Length
6.106	<p>Adds new features to existing 6.93 features. Refer to the Combined Release Notes for Cisco NextPort SPE Firmware Version 6.xx for additional information.</p> <p>New NextPort SPE S Registers</p> <p>S Registers:</p> <ul style="list-style-type: none"> • S64 Link Standard • S78 K56Plus
6.93	<p>Adds features to existing Version 6.81 features. Refer to the Combined Release Notes for Cisco NextPort SPE Firmware Version 6.xx for additional information.</p> <p>Voice Codecs</p> <ul style="list-style-type: none"> • G.711, G.723.1 (5.3K and 6.3K), G.729a, G.729ab <p>DSP Voice Features</p> <ul style="list-style-type: none"> • G.168 echo cancellation, up to 128 ms tail length • Transparent transcoding between A-law and mu-law encoding • Voice activity detection, silence suppression, comfort noise generation, fixed and adaptive jitter buffering • Call progress tone detection and generation—Dial tone, busy, ring-back, congestion, and re-order tones with local country variants • DTMF and MF <p>Voice and Fax Signaling Protocols</p> <ul style="list-style-type: none"> • H.323v2 • T.38 real-time fax relay at modulations V.17, V.29 and V.27ter. • DTMF Relay (out-of-band only)
6.87	<p>Adds features to existing Version 6.85 features. Refer to the Combined Release Notes for Cisco NextPort SPE Firmware Version 6.xx for additional information.</p>

Table 1 Cisco NextPort SPE Firmware Feature Descriptions (continued)

Portware Version	New Feature Description
6.85	Adds features to existing Version 6.81 features. Refer to the Combined Release Notes for Cisco NextPort SPE Firmware Version 6.xx for additional information.
6.81	<p>Initial 6.xx release. Refer to the Combined Release Notes for Cisco NextPort SPE Firmware Version 6.xx for additional information.</p> <p>Fax Signaling Protocols</p> <ul style="list-style-type: none"> Fax out (transmission) Group 3, standards EIA 2388 Class 2 and EIA 592 Class 2.0 at modulations of V.33, V.17, V.29, V.27ter, and V.21 <p>ISDN Protocols</p> <ul style="list-style-type: none"> Sync mode PPP V.110 at rates up to 38400 bps Async V.120 at speeds of 64K and 56K for T1 and E1 <p>Modem Modulations</p> <ul style="list-style-type: none"> V.90 standard supporting rates of 56,000 to 28,000 in 1333 bps increments K56Flex at 56,000 to 32,000 in 2000 bps increments ITU-T V.34 Annex 12 at 33,600 and 31,200 bps ITU-T V.34 at 28,800, 26,400, 24,000, 21,600, 19,200, 16,800, 14,400, 12,000, 9600, 7200, 4800, or 2400 bps V.32bis at 14,400, 12,000, 9600, 7200, 4800; V.32 at 9600 and 4800; V.22bis and 2400 or 1200; V.21 at 300; Bell at 103 and 300; V.22 at 1200; V.23 at 1200/75 <p>Modem Protocols</p> <ul style="list-style-type: none"> ITU-T V.42 (including MNP 2-4 and LAPM) error correction ITU-T V.42bis (1000 nodes) and Microcom Networking Protocol (MNP) 5 data compression Async-mode PPP <p>Wireless Protocols</p> <ul style="list-style-type: none"> V.110

1. This feature is supported by NextPort firmware but not by Cisco IOS Software.

2. This feature is supported by NextPort firmware but not by Cisco IOS Software.

Cisco NextPort SPE Firmware and Cisco IOS Software Compatibility Information

The following table contains feature and compatibility information for Cisco NextPort firmware and Cisco IOS software listed by Cisco NextPort SPE firmware version. For more information about the SPE code software that drives the modem portion of the Cisco NextPort dial feature cards (DFCs), refer to the NextPort SPE Release Notes index for the NextPort version that you are using.

**Note**

The compatibility matrix below indicates the earliest version of a given Cisco IOS software branch that is compatible with the listed portware. If the indicated version of Cisco IOS software is not available on Cisco.com for any reason, any subsequent Cisco IOS software version of the same branch will also work.

Table 2 Cisco NextPort SPE Firmware Feature-to-Cisco IOS Software Matrix

Feature Supported	Portware Version	Compatible Cisco IOS Software
V.92 <ul style="list-style-type: none"> Modem on Hold Quick Connect 	<ul style="list-style-type: none"> 8.x (all versions) 7.xy (all versions) 7.xx (all versions) 	12.2(2)XB1, 12.2(2)XB6, 12.2(11)T, 12.3(3), and higher
V.44	<ul style="list-style-type: none"> 8.x (all versions) 7.xy (all versions) 7.xx (all versions) 	12.2(2)XB1, 12.2(2)XB6, 12.2(11)T, 12.3(3), and higher
V.90	<ul style="list-style-type: none"> 8.x (all versions) 7.xy (all versions) 7.xx (all versions) 6.xx (all versions) 	11.3(6)AA1, 12.0(5)T1, 12.0(4)XJ, 12.1(1),12.1(1)T, 12.1(5)T, 12.3(3), and higher
V.34	<ul style="list-style-type: none"> 8.x (all versions) 7.xy (all versions) 7.xx (all versions) 6.xx (all versions) 	11.3(6)AA1, 12.0(5)T1, 12.0(4)XJ, 12.1(1),12.1(1)T, 12.1(5)T, 12.3(3), and higher
K56flex	<ul style="list-style-type: none"> 8.x (all versions) 7.xy (all versions) 7.xx (all versions) 6.xx (all versions) 	11.3(6)AA1, 12.0(5)T1, 12.0(4)XJ, 12.1(1),12.1(1)T, 12.1(5)T, 12.3(3), and higher
V.110 terminal adapter	<ul style="list-style-type: none"> 8.x (all versions) 7.xy (all versions) 7.xx (all versions) 6.xx (all versions) 	12.0(5)T1 ¹ , 12.1(1),12.1(1)T, 12.1(5)T, 12.3(3) and higher
Voice Codexs G.711, G.723.1 (5.3K and 6.3K), G.729a, G.729ab	<ul style="list-style-type: none"> 8.x (all versions) 7.xy (all versions) 7.xx (all versions) 6.108 6.106 6.93 	11.3(7)AA2, 12.0(5)T1, 12.0(4)XJ, 12.1(1),12.1(1)T, 12.1(5)T, 12.3(3), and higher
G.711, G.723.1 (5.3K and 6.3K), G.729a, G.729ab, G.726 (16K,24K,32K,40K ²), GSMFR, G.Clear, G.728	<ul style="list-style-type: none"> 8.x (all versions) 7.xy (all versions) 	12.2(11)T5, 12.2(11)T8, 12.2(13)T1, 12.2(13)T3 (bundled), 12.2(13)T5, 12.2(15)T4, 12.3(3) mainline, and higher

Table 2 Cisco NextPort SPE Firmware Feature-to-Cisco IOS Software Matrix (continued)

Feature Supported	Portware Version	Compatible Cisco IOS Software
DSP Voice Features <ul style="list-style-type: none"> G.168 echo cancellation up to 128 ms. tail length Transparent transcoding between A-law and mu-law encoding Voice activity detection, silence suppression, comfort noise generation, fixed and adaptive jitter buffering 	<ul style="list-style-type: none"> 8.x (all versions) 7.xy (all versions) 7.xx (all versions) 6.108 6.106 6.93 	12.0(5)T1 ¹ , 12.0(4)XJ, 12.1(1),12.1(1)T, 12.1(5)T, 12.3(3), and higher
Voice and Fax Signaling Protocols <ul style="list-style-type: none"> H.323v2 T.38 realtime fax relay at V.17, V.29, V.27ter modulations 	<ul style="list-style-type: none"> 8.x (all versions) 7.xy (all versions) 7.xx (all versions) 6.108 6.106 6.93 	11.3(6)AA1, 12.0(5)T1, 12.0(4)XJ, 12.1(1),12.1(1)T, 12.1(5)T, 12.3(3), and higher
Fax Signaling Protocols <ul style="list-style-type: none"> Fax out (transmission) Group 3, standards EIA 2388 Class 2, and EIA 592 Class 2.0 at modulations of V.33, V.17, V.29, V.27ter, and V.21 	<ul style="list-style-type: none"> 8.x (all versions) 7.xy (all versions) 7.xx (all versions) 6.xx (all versions) 	11.3(6)AA1, 12.0(5)T1, 12.0(4)XJ, 12.1(1),12.1(1)T, 12.1(5)T, 12.3(3), and higher

- You can use the **spe** configuration command to download portware for Cisco IOS Software Releases 12.0(4)X11, 12.0(5)T, and higher.
- This feature is supported by NextPort firmware but not by Cisco IOS Software.

Related Links

For more information, refer to the following documents:

- [Cisco AS5400 Universal Access Server Read Me First](#)
- [Cisco AS5400 Universal Access Server Chassis Installation Guide](#)
- [Cisco AS5400 Universal Access Server Card Installation Guide](#)
- [Cisco AS5350 and AS5400 Universal Access Server Software Configuration Guide](#)
- [Cisco AS5400 Universal Access Server Regulatory Compliance and Safety Information](#)
- [Cisco IOS Software Configuration Index](#)
- [Cisco IOS Release 12.3 Configuration Guides and Command References](#)
- [NextPort SPE Firmware Release Notes index page](#)
- [SPE and Firmware Download Enhancements](#)
- [Managing Port Services on the Cisco AS5400 Universal Access Server.](#)

Obtaining Documentation

These sections explain how to obtain documentation from Cisco Systems.

World Wide Web

You can access the most current Cisco documentation on the World Wide Web at this URL:

<http://www.cisco.com>

Translated documentation is available at this URL:

http://www.cisco.com/public/countries_languages.shtml

Documentation CD-ROM

Cisco documentation and additional literature are available in a Cisco Documentation CD-ROM package, which is shipped with your product. The Documentation CD-ROM is updated monthly and may be more current than printed documentation. The CD-ROM package is available as a single unit or through an annual subscription.

Ordering Documentation

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- Registered Cisco.com users (Cisco direct customers) can order Cisco product documentation from the Networking Products Marketplace:
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- Registered Cisco.com users can order the Documentation CD-ROM through the online Subscription Store:

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

- Nonregistered Cisco.com users can order documentation through a local account representative by calling Cisco Systems Corporate Headquarters (California, U.S.A.) at 408 526-7208 or, elsewhere in North America, by calling 800 553-NETS (6387).

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Cisco Systems
 Attn: Document Resource Connection
 170 West Tasman Drive
 San Jose, CA 95134-9883

We appreciate your comments.

Obtaining Technical Assistance

Cisco provides Cisco.com as a starting point for all technical assistance. Customers and partners can obtain online documentation, troubleshooting tips, and sample configurations from online tools by using the Cisco Technical Assistance Center (TAC) Web Site. Cisco.com registered users have complete access to the technical support resources on the Cisco TAC Web Site.

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<http://www.cisco.com>

Technical Assistance Center

The Cisco Technical Assistance Center (TAC) is available to all customers who need technical assistance with a Cisco product, technology, or solution. Two levels of support are available: the Cisco TAC Web Site and the Cisco TAC Escalation Center.

Cisco TAC inquiries are categorized according to the urgency of the issue:

- Priority level 4 (P4)—You need information or assistance concerning Cisco product capabilities, product installation, or basic product configuration.
- Priority level 3 (P3)—Your network performance is degraded. Network functionality is noticeably impaired, but most business operations continue.
- Priority level 2 (P2)—Your production network is severely degraded, affecting significant aspects of business operations. No workaround is available.
- Priority level 1 (P1)—Your production network is down, and a critical impact to business operations will occur if service is not restored quickly. No workaround is available.

The Cisco TAC resource that you choose is based on the priority of the problem and the conditions of service contracts, when applicable.

Cisco TAC Web Site

You can use the Cisco TAC Web Site to resolve P3 and P4 issues yourself, saving both cost and time. The site provides around-the-clock access to online tools, knowledge bases, and software. To access the Cisco TAC Web Site, go to this URL:

<http://www.cisco.com/tac>

All customers, partners, and resellers who have a valid Cisco service contract have complete access to the technical support resources on the Cisco TAC Web Site. The Cisco TAC Web Site requires a Cisco.com login ID and password. If you have a valid service contract but do not have a login ID or password, go to this URL to register:

<http://www.cisco.com/register/>

If you are a Cisco.com registered user, and you cannot resolve your technical issues by using the Cisco TAC Web Site, you can open a case online by using the TAC Case Open tool at this URL:

<http://www.cisco.com/tac/caseopen>

If you have Internet access, we recommend that you open P3 and P4 cases through the Cisco TAC Web Site.

Cisco TAC Escalation Center

The Cisco TAC Escalation Center addresses priority level 1 or priority level 2 issues. These classifications are assigned when severe network degradation significantly impacts business operations. When you contact the TAC Escalation Center with a P1 or P2 problem, a Cisco TAC engineer automatically opens a case.

To obtain a directory of toll-free Cisco TAC telephone numbers for your country, go to this URL:

<http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml>

Before calling, please check with your network operations center to determine the level of Cisco support services to which your company is entitled: for example, SMARTnet, SMARTnet Onsite, or Network Supported Accounts (NSA). When you call the center, please have available your service agreement number and your product serial number.

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