

Understanding NextPort SPE Versions

Document ID: 24446

Contents

Introduction

Prerequisites

- Requirements

- Components Used

- Conventions

NextPort Hardware Components

i960 Version Numbers

Upgrade i960 Code

CSMV/6 Version Numbers

Upgrade the CSMV/6 (also known as SPE) Code

Related Information

Introduction

When you work with NextPort based platforms, you often need to determine the version of NextPort code that runs on the router. However, due to the way the code is formatted and named, this is often hard to do. This document provides some guidelines that help you to determine the version of code on the NextPort platform.

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

The information in this document is based on these hardware versions:

- NextPort Dial Feature Cards (DFCs)
- NextPort capable platforms such as AS5350, AS5400, AS5800, and AS5850

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Conventions

For more information on document conventions, refer to the Cisco Technical Tips Conventions.

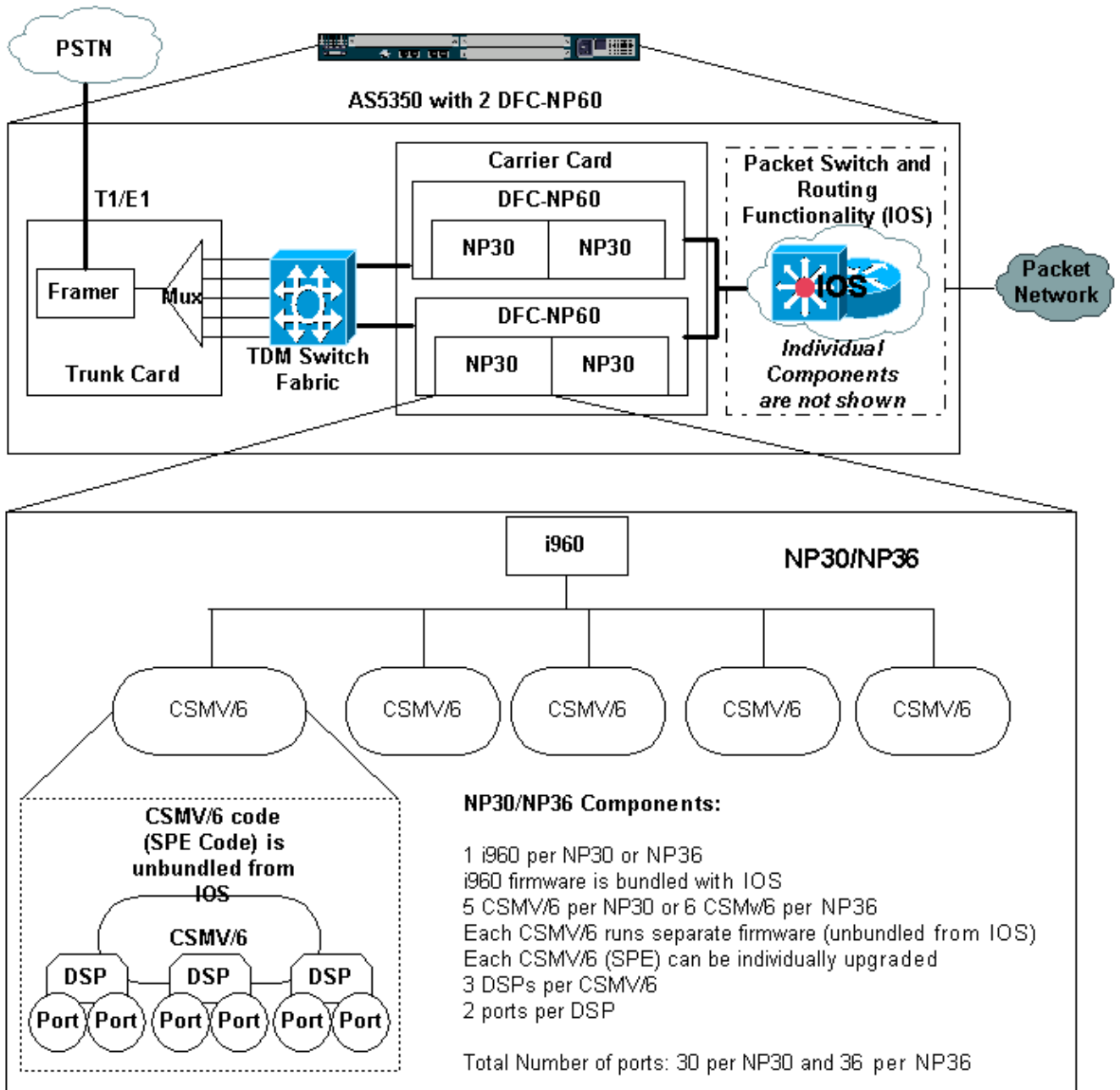
NextPort Hardware Components

NextPort modem subsystems are implemented as some number of NP30s or NP36s. For example, a DFC-NP108 has three NP36s ($3 \times 36 = 108$), while a DFC-NP60 has two NP30s ($2 \times 30 = 60$). The 324UPC has nine NP36s embedded.

Each of these modem subsystems (NP30s or NP36s) contains one i960 processor plus five or six CSMV/6 cores. The i960 handles the communications path between Cisco IOS® and the CSMV/6s.

Each CSMV/6 (6–port central site modem (csm) device) contains of one ARM control processor (which handles the AT interface and the EC/DC layer), and three DSPs, each of which handles the modem modulation or voice coding for two ports.

As an example, the 60–port DFC–NP60 card contains two NP30s, each of which has five CSMV/6s, each of which handles six ports. Each NP30 has one instance of i960 code and five instances of CSMV/6 code running in it.



i960 Version Numbers

The i960 code (sometimes referred to as NextPort image) is contained in a file of a format that Cisco calls "np.ios". This code is NOT available unbundled, but only bundled into the Cisco IOS image.

The np.ios contains the i960 code, plus the CSMV/6 code. An np.ios version looks like "2.3.5.108"; the np.ios version number w.x.y.z contains these members:

	Phase (major feature version)	Branch (minor feature version)	i960 version (not meaningful if w.x is less than 2.2)	CSMV/6 minor version number
	w	x	y	z
Example	2	3	5	108

You can see your np.ios version with **show nextport mm**. For example:

```

esc-5400#show nextport mm

IOS bundled NextPort image version: 2.3.5.108

!--- The i960 code version is 2.3.5.108.

NP Module(0 ): state = MODULE NOT INSERTED
NP Module(1 ): state = MODULE NOT INSERTED
NP Module(2 ): state = MODULE NOT INSERTED
NP Module(3 ): slot=1, dfc=0, module=0
                 state = MODULE RUNNING
                 crash=0, bad=0, restarts=0, num SPEs=6
                 SecondaryQ hits=0, current held=0
NP Module(4 ): slot=1, dfc=0, module=1
                 state = MODULE RUNNING
                 crash=0, bad=0, restarts=0, num SPEs=6
                 SecondaryQ hits=0, current held=0
NP Module(5 ): slot=1, dfc=0, module=2
                 state = MODULE RUNNING
                 crash=0, bad=0, restarts=0, num SPEs=6
                 SecondaryQ hits=0, current held=0
...
...
!--- Output omitted.

...
NP Module(21): state = MODULE NOT INSERTED
NP Module(22): state = MODULE NOT INSERTED
NP Module(23): state = MODULE NOT INSERTED

```

Upgrade i960 Code

If you need to upgrade your i960 code (for example, due to a Bug), you must upgrade the Cisco IOS on the platform. Reloading the i960 code without a reload of the router is NOT supported.

CSMV/6 Version Numbers

The CSMV/6 code, also known as the "SPE code", is available bundled into the np.ios file (hence bundled into the Cisco IOS image). But unlike the i960 code/np.ios, it is also available unbundled, and can be separately loaded on a per SPE (CSMV/6) basis. A CSMV/6 version number looks like "7.11" or "6.103.11". The CSMV/6 version number a.b[.c]'s "b" member is mapped into the i960 np.ios w.x.y.z's "z" member. For example, np.ios 2.3.5.108 contains SPE version 6.108.

You can see your SPE version with **show spe version**; the actual CSMV/6 version number a.b.[c] is mapped into the **show spe version** output as 0.a.b.c.

This table shows some examples of the mapping between the CSMV/6 version and show spe version output:

CSMV/6 version	show spe version output
7.15	0.7.15.0
6.103.11	0.6.103.11
6.108	0.6.108.0

The following **show spe version** output shows an AS5400 with SPE version 6.108 and 7.15.

```

esc-5400#show spe version
IOS-Bundled Default Firmware-Filename      Version      Firmware-Type
=====
system:/ucode/np_spe_firmware1            0.6.108.0    SPE firmware

!--- The SPE version bundled with IOS is 6.108.
!--- Remember that this matches with the i960 value 2.3.5.108.

On-Flash Firmware-Filename                 Version      Firmware-Type
=====
bootflash:np.7.15.spe                     0.7.15.0     SPE firmware

!--- Another spe file (version 7.15) has been loaded in bootflash:

SPE-#   Type   Port-Range      Version      UPG Firmware-Filename
-----
1/00    CSMV6   0000-0005      0.7.15.0    N/A bootflash:np.7.15.spe

!--- SPE 1/00 uses the SPE code in bootflash (Version 7.15).
!--- Use the firmware location command to accomplish this.

1/01    CSMV6   0006-0011      0.6.108.0   N/A ios-bundled default

!--- All the other SPEs use the SPE code (6.108) bundled with IOS.

1/02    CSMV6   0012-0017      0.6.108.0   N/A ios-bundled default
1/03    CSMV6   0018-0023      0.6.108.0   N/A ios-bundled default
1/04    CSMV6   0024-0029      0.6.108.0   N/A ios-bundled default
1/05    CSMV6   0030-0035      0.6.108.0   N/A ios-bundled default
1/06    CSMV6   0036-0041      0.6.108.0   N/A ios-bundled default
1/07    CSMV6   0042-0047      0.6.108.0   N/A ios-bundled default
...
...
!--- Output omitted.

...
6/15    CSMV6   0090-0095      0.6.108.0   N/A ios-bundled default
6/16    CSMV6   0096-0101      0.6.108.0   N/A ios-bundled default
6/17    CSMV6   0102-0107      0.6.108.0   N/A ios-bundled default

```

Upgrade the CSMV/6 (also known as SPE) Code

CSMV/6 code (SPE Code) can be freely loaded on a per-SPE basis, independently of the Cisco IOS-bundled SPE version. In other words the SPE code can be upgraded without a reload of the router. For the upgrade procedure, see the Upgrading the Modem Firmware/Portware in Cisco Routers with Internal Digital Modems document.

Related Information

- **Upgrading the Modem Firmware/Portware in Cisco Routers with Internal Digital Modems**
 - **Recommended Modemcaps for Internal Digital and Analog Modems on Cisco Access Servers**
 - **Managing and Troubleshooting the Universal Port Card**
 - **NextPort SPE Release Notes**
 - **NextPort Firmware**
 - **Cisco Technology Support – Dial**
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Updated: Feb 04, 2010

Document ID: 24446
