Release Notes for VDSL CPE PHY Release A2pv6C039t

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Release: Cisco IOS Release 15.5(3)M

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Introduction

These release notes describe new enhancements and fixed caveats for the VDSL CPE PHY using firmware release A2pv6C039t. This firmware is used for Cisco CPEs and recommended for Australia's National Broadband Network (NBN).

These release notes are updated as needed.

System Requirements

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Memory and IOS Software Requirements

Table 1 lists the supported Cisco 880 Series Routers and Cisco 890 Series Routers with their respective memory and IOS requirements while using firmware release A2pv6C039t.

Note: This firmware version is compiled with the SDK version 4.02L.03 and supports IOS release 15.6(2)T and earlier releases up to the supported version mentioned in the firmware release note. This firmware is not supported with Cisco IOS 15.6(3)M and later releases.

Table 1 Supported Cisco 880 Routers and Cisco 890 Routers with Memory Requirements

Platform	Flash (MB)	DRAM (MB)	IOS version
Cisco 880 VA Series Routers	256	512	15.5(3) M or later
Cisco 890 VA Series Routers	256	512	15.5(3) M or later

The following EHWICs are supported with A2pv6C039t:

- Cisco EHWIC-VA-DSL-A
- Cisco EHWIC-VA-DSL-M

Determining the Firmware Version

To determine the version of firmware currently running on your Cisco 880VA Series Router, issue the following IOS command and look for the output entries shown in bold in this example:

```
C887VA# show controller vdsl 0

Controller VDSL 0 is UP

Daemon Status:           Up

                        XTU-R (DS)              XTU-C (US)
Chip Vendor ID:         'BDCM'                   'IKNS'
Chip Vendor Specific:   0x0000                   0x0001
Chip Vendor Country:    0xB500                   0xB500
Modem Vendor ID:        'CSCO'                   '    '
Modem Vendor Specific:  0x4602                   0x0000
Modem Vendor Country:   0xB500                   0x0000
Serial Number Near:    FCZ191691SQ C897VAG- 15.5(3)M
Serial Number Far:     ^A
Modem Version Near:    15.5(3)M
Modem Version Far:     0x0001

Modem Status:            TC Sync (Showtime!)

DSL Config Mode:         VDSL2
Trained Mode:   G.993.2 (VDSL2) Profile 17a
TC Mode:                 PTM
Selftest Result:         0x00
DELT configuration:      disabled
DELT state:              not running

Full inits:              2
Failed full inits:       2
Short inits:             0
Failed short inits:      0

Firmware        Source          File Name
--------        ------          ----------
VDSL            user config     flash: VA_A_39t_B_35j_24m

Modem FW  Version:      160421_2218-4.02L.03.A2pv6C039t.24m
Modem PHY Version:      A2pv6C039t.24m
Trellis:                 ON                      ON
SRA:                     disabled                disabled
 SRA count:              0                       0
Bit swap:                enabled                 enabled
 Bit swap count:         6                       0
Line Attenuation:         0.1 dB                  0.0 dB
```

```
Signal Attenuation:       0.0 dB                  0.0 dB
Noise Margin:            28.3 dB                 30.7 dB
Attainable Rate:       131264 kbits/s           66616 kbits/s
Actual Power:            9.9 dBm                 7.1 dBm
Per Band Status:        D1      D2      D3      U0      U1      U2      U3
Line Attenuation(dB):   0.6     0.8     0.0     31.4    0.8     1.7     N/A
Signal Attenuation(dB): 0.6     0.8     0.0     N/A     N/A     1.6     N/A
Noise Margin(dB):       28.3    28.4    28.1    0.0     0.0     30.7    N/A
Total FECC:             0                       0
Total ES:               0                       1
Total SES:              0                       0
Total LOSS:             0                       0
Total UAS:              153                     153
Total LPRS:             0                       0
Total LOFS:             0                       0
Total LOLS:             0                       0


                  DS Channel1     DS Channel0   US Channel1       US Channel0
Speed (kbps):               0           69992             0             29979
SRA Previous Speed:         0               0             0                 0
Previous Speed:             0           69992             0             29979
Reed-Solomon EC:            0               0             0                 0
CRC Errors:                 0               0             0                 1
Header Errors:              0               0             0                 0
Interleave (ms):       0.00             7.00          0.00              8.00
Actual INP:            0.00             0.01          0.00              0.10

Training Log :  Stopped
Training Log Filename : flash:vdsllog.bin

C897VAG-LTE-GA-K9#
```

Upgrading to a New Firmware Release

Perform the following steps to upgrade to a new firmware release:

1. Download the new firmware from Cisco.com Software Center at:
   http://www.cisco.com/cisco/software/navigator.html

   Choose **Products -> Routers -> Branch Routers -> Cisco 800 Series Routers -> Cisco 880VA Integrated Services Router (or Cisco 890 VA Integrated Services Router) -> Very High Bitrate DSL (VDSL) Firmware > A2pv6C039t**

2. Copy the A2pv6C039t firmware to a designated location; for example, router flash or a TFTP server.

3. Configure the router to load the new firmware from a designated location.

```
Router# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.

Router(config)# controller vdsl 0
Router(config-controller)# firmware filename ?
  archive:  Download fw file name
  cns:      Download fw file name
  flash:    Download fw file name
  ftp:      Download fw file name
  http:     Download fw file name
  https:    Download fw file name
  null:     Download fw file name
  nvram:    Download fw file name
```

```
  rcp:      Download fw file name
  scp:      Download fw file name
  system:   Download fw file name
  tar:      Download fw file name
  tftp:     Download fw file name
  tmpsys:   Download fw file name
  xmodem:   Download fw file name
  ymodem:   Download fw file name

Router(config-controller)# firmware filename flash:
```

Note: Controller VDSL 0 should *not* be turned off.

4. Enter the **copy running-config startup-config** command to save your configuration.
5. Enter the **reload** command to restart the router.

New and Changed Information

- Features, page 4
- Improvements since last release (A2pv6C039s), page 5
- Known Issues and Limitations, page 5

Features

- G.993.2 (VDSL2) protocol
- PTM and ATM mode
- Annex A and Annex B band plans
- Profiles supported: 8a/b/c/d, 12a/b, 17a and 30a (BCM6306 required)
- US0
- Diagnostics mode/DELT
- Bitswaps, SRA and SOS/ROC
- FEXT Equalized UPBO
- Dying Gasp
- INM
- PhyR and G.INP (Framing Type 1)
- SRA/SoS+G.INP
- G.vector and G.vector friendly mode (G.993.2 Annex Y)
- Virtual Noise
- Alternate Electrical Length Measurement
- ADSL protocols
- G.992.5 (ADSL2+), G.992.3 (ADSL2), G.992.2 (G.LITE), G.992.1 (G.DMT), ANSI T1.413

- ATM/PTM mode
- Annex A/L/M
- L2 power management
- Diagnostics mode/DELT
- Bitswaps and SRA
- INM
- PhyR and G.INP (Framing Type 1)
- SRA+G.INP
- Virtual Noise

Improvements since last release (A2pv6C039s)

- Note: FWxxxx in the following notes can be used as reference to Broadcom internal bug tracking system
- Improve G.992.1 Showtime Stability against ALU 7350 [FW-8502]
- Provide driver bit control to use AELEM of 0 in G.993.2 [FW-8509]
- Remove the CPE side work around for US PSD against NVLT-D to avoid no-connects in G.993.2 [FW-8471]

Known Issues and Limitations

- G.INP supports DTU framing type 1 only
- G.993.2 ATM mode testing is limited due to lack of DSLAM support

Related Documentation

- Release-Specific Documents, page 5
- Platform-Specific Documents, page 5
- Other Firmware Code, page 6

Release-Specific Documents

For detailed information about the release-specific platforms, see the following documentations:

- Cisco Multimode VDSL2 and ADSL2/ADSL2+ High-Speed WAN Interface Card
- Cisco 800 Series Integrated Services Router Hardware Installation Guide
- Cisco 800 Series Integrated Services Routers Software Configuration Guide

Platform-Specific Documents

For more information about the supported platforms, see the following documentations:

- Cisco 800 Series Integrated Services Router Hardware Installation Guide
- Cisco 800 Series Integrated Services Routers Software Configuration Guide

Other Firmware Code

For information on the firmware used prior to this release, see Release Notes for Cisco 860VA Series Multimode VDSL2/ADSL2/2+ DSL Router with Firmware Release A2pv6F039d.

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, using the Cisco Bug Search Tool (BST), submitting a service request, and gathering additional information, see *What's New in Cisco Product Documentation*.

To receive new and revised Cisco technical content directly to your desktop, you can subscribe to the What's New in Cisco Product Documentation RSS feed. The RSS feeds are a free service.

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