Release Notes for Firmware Release A2pv6C038k1

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Content

Introduction

These release notes describe enhancements and requirements for firmware release A2pv6C038k1, A2pv6C038h, and B2pvC038h. This firmware release is not pre-installed in any IOS routers or modules. For detailed information on supported hardware and platforms, see the "Hardware Supported" section on page 2. These release notes are updated as needed.

Note The A2pv6C038k1, A2pv6C038h, and B2pvC038h firmware supports only G.vector features on VDSL2 and can be used only for G.vector type of deployments.

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System Requirements

Hardware Supported

The following are the hardware supported:

- Cisco 886VA Series VDSL2 Router platforms
- Cisco 886VA-J Series Multimode VDSL2/ADSL2/2+ DSL platforms
- Cisco 887VA Series VDSL2 platforms
- Cisco 897VA Series Routers

Memory Requirements and IOS Software Requirements

The following tables list all platforms that support A2pv6C038h, B2pvC038h and A2pv6C038k1firmware.

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 version and later releases.

Table 1 lists the supported Cisco 887VA Series Multimode VDSL2/ADSL2/2+ DSL platforms and memory requirements.

Table 1   Supported Cisco 886VA/887VA Series Multimode VDSL2/ADSL2/2+ DSL and Memory Requirements

Platform	Flash (MB)	DRAM (MB)
CISCO886VA-K9 CISCO886VA-SEC-K9 CISCO886VA-J-K9 CISCO887VA-K9 CISCO887VA-SEC-K9 CISCO887VA-M-K9	128	256

Table 2 lists the supported Cisco 887 Series Multimode VDSL2/ADSL2/2+ with WLAN platforms and memory requirements.

Table 2 *Supported Cisco 886VA/887VA Series Multimode VDSL2/ADSL2/2+ with WLAN Platforms and Memory Requirements*

Platform	Flash (MB)	DRAM (MB)
CISCO886VA-W-E-K9 CISCO887VAM-W-E-K9 CISCO887VA-W-A-K9 CISCO887VA-W-E-K9	256	512

Table 3 lists the supported Cisco 880 Series Multimode VDSL2/ADSL2/2+ with analog and ISDN voice platforms and memory requirements using firmware release A2pv6C038h, B2pvC038h and A2pv6C038k1.

Table 3 *Supported Cisco 886VA/887VA Series Multimode VDSL/ADSL2/2+ with Analog ISDN Voice Platforms and Memory Requirements*

Platform	Flash (MB)	DRAM (MB)
CISCO887VA-K9 CISCO887VA-W-E-K9 CISCO887VA-V-K9 CISCO887VA-V-W-E-K9	256	512

Table 4 lists the supported Cisco 880 Series Data ISR platforms and memory requirements using firmware release A2pv6C038h, B2pvC038h and A2pv6C038k1.

Table 4 *Supported Cisco 886VA/887VA Series Data ISR Platforms and Memory Requirements*

Platform	Flash (MB)	DRAM (MB)
CISCO886VAG+7-K9 CISCO887VAG+7-K9 CISCO887VAMG+7-K9 CISCO887VAGW+7-A-K9 CISCO887VAGW+7-E-K9 CISCO887VA-WD-A-K9 CISCO887VA-WD-E-K9	256	512

Table 5 lists the supported Cisco 887 Series VDSL Routers and memory requirements using firmware release A2pv6C038h, B2pvC038h and A2pv6C038k1.

Table 5   *Supported Cisco 887V Series Platforms and Memory Requirements*

Platform	Flash (MB)	DRAM (MB)
CISCO887V-K9 CISCO887V-SEC-K9 CISCO887VW-GNA-K9 CISCO887VW-GNE-K9	128	256

Determining the Firmware Version

To determine the version of firmware currently running on your router, issue the following IOS command and look for the output as shown below:

```
Router# show controllers vdsl 0


FirmwareSourceFile Name (version)
-------------------------------
VDSL    user configflash:VA_A_38k1_B_38h_24g1.bin
Modem FW  Version:120224_1722-4.02L.03.A2pv6C038k1.d23j
Modem PHY Version:A2pv6C038k1.d23j
```

Note For a Cisco EHWIC Multimode VDSL2/ADSL+ Mutlicard, use the *slot/subslot/port number* argument for the **show controllers vdsl** command.

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 886VA/887VA Integrated Services Router** -> **Very High Bitrate DSL (VDSL) Firmware**

2. Copy the 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:vdsl.bin.38hd23jdslfw
```

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

The following list contains improvements since the last release (B2pvC038g and A2pv6C038j):

- Support G.vector friendly mode (G.993.2 Annex Y, enabled by bit CfgFlagsEnableG993p2AnnexY)

- Support Ripolicy according to G.993.2 amendment 7

- Support G.998.4 amendment 2

- Support new INM format in G.993.2 (need CO FW 10.8.20 and later if used with BRCM CO)

- Optimize US0 PSD in G.993.2

- Fix G.993.2 training issues for certain US over head rate configurations

- Fix invalid DS OLR requests in certain conditions of high DS rates in G.993.2

- Fix over head channel corruption under certain framing parameter change in G.993.2 SRA

- Fix SRA stall under certain corner conditions in G.993.2 and G.992.5[3]

- Optimize memory usage of PhyR in G.993.2

- Improve ROC robustness in G.993.2

- Improve DS rate in G.998.4

- Improve RDI detection in low DS rate in all modes

- Improve SoS convergence speed in G.993.2

- Fix G.HS IOP issue against certain versions of IKNS and Lantiq CO

- Supports V.43 tone level change (through driver bit control in phyExtraCfg0, kPhyCfg1V43PSDlevel1 for 10dB below standard level,kPhyCfg1V43PSDlevel2 for 15dB below, kPhyCfg1V43PSDlevel3 for 20dB below) - (FW7061).

- Fixes no-connect when large RFI band is defined in DS1 in G.993.2 – (FW7064).

- Workaround a CO issues causing higher US BER in US margin test against NVLT-D line card – (FW7054).

- Optimizes PSD level around US RFI notch ¡V (FW6683).

- Fixes no-connect against BRCM CO using FW VE_8_9_5 and earlier in G.993.2 ¡V (FW7056).

- Fixes kl0 calculation when DS1 is in RFI band ¡V (FW6282).

- Improves show time stability with BCM6303 LD in adsl modes ¡V (FW7063).

- Improves US rates against Calix C7 with CNXT CO in adsl modes ¡V(FW7074/7100).

- Fixes occasional redundant SRA operation when average margin is between downshift margin and upshift margin in all modes ¡V (FW 7082/7084).

- Improves US bitswap stability against some old TI based DSLAMs ¡V (FW7086).

- Fixes US crc error in long term testing under certain corner conditions ¡V(FW7044).

- Improves margin adaptation by reducing redundant bitswap activities ¡V(FW7034).

- Fixes US crc error when monitored tone reloads in certain conditions ¡V(FW7093).

- Fixes SES counting with short micro-interrupt ¡V (FW7071).

- Improves PLL stability in presence of impulse noise ¡V (FW6990).

- Improves G.992.1 training time against LU STGR AD72 ¡V (FW7090).

- Fixes potential line drop with SRA+GINP when BRCM proprietary block interleaver is disabled ¡V (FW7106).

- Improves US rate against LU DSLAMs ¡V (FW7110).

- Fixes pilot SNR reporting in ADSL showtime ¡V (FW7108).

- Fixes G.994 message parsing against certain CNXT based DSLAMs ¡V (FW7117).

- Improves DS rate against A2P-HBI at TPSA ¡V (FW7119).

- Supports ATTNDR computation with framing constraints in ADSL ¡V (FW7112).

- Reduces training time against Anymedia DSLAMs at TPSA ¡V (FW7122).

- Fixes showtime signal attenuation reporting ¡V (FW7143).

Known Issues and Limitations

The following list contains known issues and limitations with firmware release B2pvC038h:

- G.INP supports DTU framing type 1 only.

Modem Settings

New and existing modem commands are integrated to the release of the A2pv6C038k1, A2pv6C038h, and B2pvC038h firmware and IOS release 15.1(4)M to allow custom configurations of DSL modem settings and to ensure DSL interoperability in different environments.

Modem settings are optional, depending on the DSLAM used. Please consult your Service Provider on required modem settings (if any) for the particular SP network configuration.

Before you enable the modem settings, execute the **service internal** command in configuration mode. For example:

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

Router(config)# service internal
```

The following list contains the modem settings:

Setting UK Annex M Flag

- Default—disabled

- Command—**modem customUKAnnexM** under **controller vdsl 0**

- Purpose—enabling UK specific Annex M mask
- Firmware/Driver dependency—starting from d23j driver and A2pv6C038k1

Note   Reload the router after setting or unsetting this command.

- Verification:
    - When the command is configured:

        test vdsl 0 modem exec adsl info—cfg

        Bit 20 in adslAnnexAParam—ON

        Bit 9 in adslDemodCap2Mask—ON

        Bit 9 in adslDemodCap2Value—ON

        adslAnnexAParam—00107985

        adslDemodCap2Mask—00540200

        adslDemodCap2Value—00540200

        show controller vdsl 0 console—custom UK Annex M Mask SET
    - When the command is not configured:

        test vdsl 0 modem exec adsl info—cfg

        Bit 20 in adslAnnexAParam—OFF

        Bit 9 in adslDemodCap2Mask—OFF

        Bit 9 in adslDemodCap2Value—OFF

        adslAnnexAParam—00007985

        adslDemodCap2Mask—00540000

        adslDemodCap2Value—00540000

        show controller vdsl 0 console—custom UK Annex M Mask NOT SET

Setting CO5 Flag

- Default—disabled
- Command—**modem co5** under **controller vdsl 0**
- Purpose—resolving performance related interoperability issues with Ikanos CO5 DSLAM
- Firmware/Driver dependency—starting from d23j driver and A2pv6C038k1

Note   Reload the router after setting or unsetting this command.

- Verification:
    - When the command is configured:

        test vdsl 0 modem exec adsl info—cfg

        Bit 4 vdslCfgFlagsMask—ON

        Bit 4 vdslCfgFlagsValue—ON

        Bit 5 vdslCfgFlagsMask—ON

Bit 5 vdslCfgFlagsValue—ON

vdslCfgFlagsMask—00000434

vdslCfgFlagsValue—00000434

show controller vdsl 0 console—CO5 Flag SET

– When the command is not configured:

test vdsl 0 modem exec adsl info—cfg

Bit 4 vdslCfgFlagsMask—OFF

Bit 4 vdslCfgFlagsValue—OFF

Bit 5 vdslCfgFlagsMask—OFF

Bit 5 vdslCfgFlagsValue—OFF

vdslCfgFlagsMask—00000404

vdslCfgFlagsValue—00000404

show controller vdsl 0 console—CO5 Flag NOT SET

Disabling V.43 Carrier Set

- Default—enabled
- Command—**modem disableV43** under **controller vdsl 0**
- Purpose—disabling V43 carrier set
- Firmware/Driver dependency—starting from d23b driver and A2pv6C038k1

> **Note** Reload the router after setting or unsetting this command.

- Verification:
    - When the command is configured:

    test vdsl 0 modem exec adsl info—cfg

    Bit 16 vdslCfgFlagsMask—ON

    Bit 16 vdslCfgFlagsValue—ON

    vdslCfgFlagsMask—00010404

    vdslCfgFlagsValue—00010404

    show controller vdsl 0 console—disable V43 SET

    – When the command is not configured:

    test vdsl 0 modem exec adsl info—cfg

    Bit 16 vdslCfgFlagsMask—OFF

    Bit 16 vdslCfgFlagsValue—OFF

    vdslCfgFlagsMask—00000404

    vdslCfgFlagsValue—00000404

    show controller vdsl 0 console—disable V43 CLEAR

Disabling GinpDs Support Carrier Set

- Default—enabled
- Command—**modem disableGinpDsSupport** under **controller vdsl 0**
- Purpose—disabling G.INP feature bit
- Firmware/Driver dependency—starting from d23j driver and A2pv6C038k1

Note Reload the router after setting or unsetting this command.

- Verification:
  - When the command is configured:

    test vdsl 0 modem exec adsl info—cfg

    Bit 17 xdslAuxFeaturesMask—ON

    Bit 17 xdslAuxFeaturesValue—ON

    xdslAuxFeaturesMask—00040003

    xdslAuxFeaturesValue—00040003

    show controller vdsl 0 console—disable GinpDsSupport
  - When the command is not configured:

    test vdsl 0 modem exec adsl info—cfg

    Bit 17 xdslAuxFeaturesMask—OFF

    Bit 17 xdslAuxFeaturesValue—OFF

    xdslAuxFeaturesMask—00060003

    xdslAuxFeaturesValue—00060003

    show controller vdsl 0 console—enable GinpDsSupport

Disabling GinpUs Support Carrier Set

- Default—enabled
- Command—**modem disableGinpUsSupport** under **controller vdsl 0**
- Purpose—disabling GinpUs support
- Firmware/Driver dependency—starting from 23j driver and A2pv6C038k1

Note Reload the router after setting or unsetting this command.

- Verification:
  - When the command is configured:

    test vdsl 0 modem exec adsl info—cfg

    Bits 18 kDslGinpUsSupported—OFF

    xdslAuxFeaturesValue—00024003

    show controller vdsl 0 console—disable GinpUsSupport
  - When the command is not configured:

test vdsl 0 modem exec adsl info—cfg

Bits 18 kDslGinpUsSupported—ON

xdslAuxFeaturesValue—00064003

show controller vdsl 0 console output—enable GinpUsSupport

Enabling HBI Feature

- Default—disabled
- Command—**modem hbifeature** under **controller vdsl 0**
- Purpose—enabling HBI specific feature bit
- Firmware/Driver dependency—starting from d23b driver and A2pv6C038k1

Note Reload the router after setting or unsetting this command.

- Verification:
  - When the command is configured:

    test vdsl 0 modem exec adsl info—cfg

    Bits 12 kDslG992FTFeatureBit—ON

    xdslAuxFeaturesMask—00061003

    xdslAuxFeaturesValue—00061003

    show controller vdsl 0 console output—HBI Bit SET
  - When the command is not configured:

    test vdsl 0 modem exec adsl info—cfg

    Bits 12 kDslG992FTFeatureBit—OFF

    xdslAuxFeaturesMask—00060003

    xdslAuxFeaturesValue—00060003

    show controller vdsl 0 console output—HBI Bit CLEAR

Enabling Channel Policy 2

- Default—disabled
- Command—**modem chanpolicy2** under **controller vdsl 0**
- Purpose—enabling Channel Policy 2 specific feature bit
- Firmware/Driver dependency—starting from d23b driver and A2pv6C038k1

> **Note** Reload the router after setting or unsetting this command.

- Verification:
  - When the command is configured:

    test vdsl 0 modem exec adsl info—cfg

    Bits 23 kDslAuxFeatureChanPolicy—ON

    xdslAuxFeaturesMask—00860003

    xdslAuxFeaturesValue—00860003

    show controller vdsl 0 console—Chan Policy Bit SET
  - When the command is not configured:

    test vdsl 0 modem exec adsl info—cfg

    Bits 23 kDslAuxFeatureChanPolicy—OFF

    xdslAuxFeaturesMask—00060003

    xdslAuxFeaturesValue—00060003

    show controller vdsl 0 console—Chan Policy Bit CLEAR

Disabling FireDS Support

- Default—enabled
- Command—**modem disableFireDsSupport** under **controller vdsl 0**
- Purpose—disabling FireDS support
- Firmware/Driver dependency—starting from d23j driver and A2pv6C038k1

Note Reload the router after setting or unsetting this command.

- Verification:
  - When the command is configured:

    test vdsl 0 modem exec adsl info—cfg

    Bits 22 kDslFireDsSupported—OFF

    adslDemodCap2Value—00900000

    show controller vdsl 0 console—disable FireDsSupport
  - When the command is not configured:

    test vdsl 0 modem exec adsl info—cfg

    Bits 22 kDslFireDsSupported—ON

    adslDemodCap2Value—00d00000

    show controller vdsl 0 console—enable FireDsSupport

Disabling FireUs Support

- Default—enabled
- Command—**modem disableFireUsSupport** under **controller vdsl 0**
- Purpose—Disabling FireUS support
- Firmware/Driver dependency—Starting from d23j driver and A2pv6C038k1

Note Reload the router after setting or unsetting this command.

- Verification:
  - When the command is configured.

    test vdsl 0 modem exec adsl info—cfg

    Bits 23 kDslFireUsSupported—Off

    adslDemodCap2Value—00500000

    show controller vdsl 0 console—disable FireUsSupport
  - When the command is not configured.

    test vdsl 0 modem exec adsl info—cfg

    Bits 23 kDslFireUsSupported—On

    adslDemodCap2Value—00d00000

    show controller vdsl 0 console—enable FireUsSupport

Disabling MonitorTone

- Default—enabled
- Command—**modem disableMonitorTone** under **controller vdsl 0**
- Purpose—disabling MonitorTone
- Firmware/Driver dependency—starting from d23j driver and A2pv6C038k1

> **Note** Reload the router after setting or unsetting this command.

- Verification:
    - When the command is configured:

      test vdsl 0 modem exec adsl info—cfg

      Bits 14 kDslMonitorToneDisable—ON

      xdslAuxFeaturesValue—00064003

      show controller vdsl 0 console—disable MonitorTone
    - When the command is not configured:

      test vdsl 0 modem exec adsl info—cfg

      Bits 14 kDslMonitorToneDisable—OFF

      xdslAuxFeaturesValue—00060003

      show controller vdsl 0 console—enable MonitorTone

Enabling UKfeature

- Default—disabled
- Command—**modem UKfeature** under **controller vdsl 0**
- Purpose—enabling British Telecom specific feature bit
- Firmware/Driver dependency—starting from d23b driver and A2pv6C038k1

> **Note** Reload the router after setting or unsetting this command.

- Verification:
    - When the command is configured:

      test vdsl 0 modem exec adsl info—cfg

      Bit 21 kDslG992BTFeatureBit—ON

      xdslAuxFeaturesMask—00260003

      xdslAuxFeaturesValue—00260003

      show controller vdsl 0 console—UKFeatureBit SET
    - When the command is not configured:

      test vdsl 0 modem exec adsl info—cfg

      Bit 21 kDslG992BTFeatureBit—OFF

      xdslAuxFeaturesMask—00060003

xdslAuxFeaturesValue—00060003

show controller vdsl 0 console—UKFeatureBit CLEAR

Enabling dsattn Flag

- Default—disabled
- Command—**modem dsattn** under **controller vdsl 0**
- Purpose—enabling dsattn

Note Reload the router after setting or unsetting this command.

- Verification:
  - When the command is configured:

    test vdsl 0 modem exec adsl info—cfg

    Bit 13 in adslDemodCapMask—ON

    Bit 13 in adslDemodCapValue—ON

    adslDemodCapMask—0092607a

    adslDemodCapValue—0010607a

    show controller vdsl 0 console—dsattn SET
  - When the command is not configured:

    test vdsl 0 modem exec adsl info—cfg

    Bit 13 in adslDemodCapMask—OFF

    Bit 13 in adslDemodCapValue—OFF

    adslDemodCapMask—0092407a

    adslDemodCapValue—0010407a

    show controller vdsl 0 console—dsattn CLEAR

Related Documentation

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 860 Series, Cisco 880 Series, and Cisco 890 Series Integrated Services Routers Software Configuration Guide
- Cisco 860 Series, Cisco 880 Series, and Cisco 890 Series Integrated Services Routers Hardware Installation Guide

Platform-Specific Documents

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

- Cisco 880 Series Integrated Services Router Software Configuration Guide
- Cisco 860 Series, Cisco 880 Series, and Cisco 890 Series Integrated Services Routers Hardware Installation Guide
- Cisco 860 Series, Cisco 880 Series, and Cisco 890 Series Integrated Services Routers Software Configuration Guide

Other Firmware Code

See the following links for more information on firmware used prior to this release:

- Release Notes for Cisco 880VA Series Multimode VDSL2/ADSL2/2+ DSL Router with firmware release A2pv6C032b.d23b
- Release Notes for Cisco 880VA Series Multimode VDSL2/ADSL2/2+ DSL Router with firmware release A2pv6C035d.d23j
- Release Notes for Cisco 880VA Series Multimode VDSL2/ADSL2/2+ DSL Router with Firmware Release ABpv6C035j

Obtaining Documentation, Obtaining Support, and Security

For information on obtaining documentation, obtaining support, providing documentation feed-back, security guidelines, and also recommended aliases and general Cisco documents, see the monthly What's New in Cisco Product Documentation, which also lists all new and revised Cisco technical documentation at:

http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html

This document is to be used in conjunction with the documents listed in the "Related Documentation" section.

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