



# Release Notes for Firmware Release A2pv6F039d and B2pvC038h3

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## Introduction

These release notes describe enhancements and requirements for firmware releases A2pv6F039d and B2pvC038h3. These firmware releases are 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.



# System Requirements

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## Hardware Supported

The following are the hardwares supported:

- Cisco 887VA Series VDSL2 Router platforms
- Cisco 897VA Series VDSL2 Router platforms
- Cisco 886VA Series VDSL2 Router platforms
- Cisco 896VA Series VDSL2 Router platforms
- Cisco EHWIC-VA-DSL-A
- Cisco EHWIC-VA-DSL-B
- Cisco EHWIC-VA-DSL-M

## Memory Requirements and IOS Software Requirements

The following tables list all the platforms that support A2pv6F039d and B2pvC038h3 firmwares.



### 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](#) lists the supported Cisco 887VA/897VA Series VDSL2 platforms and memory requirements.

**Table 1 Supported Cisco 887VA/897VA Series VDSL2 Series Memory Requirements**

Platform	Flash (MB)	DRAM (MB)
CISCO887VA-K9	128	256
CISCO887VA-SEC-K9		
CISCO887VA-J-K9		
CISCO897VA-K9		
CISCO897VA-SEC-K9		
CISCO897VA-J-K9		

Table 2 lists the supported Cisco 886VA/896VA Series VDSL2 platforms and memory requirements.

**Table 2 Supported Cisco 886VA/896VA Series VDSL2 Memory Requirements**

Platform	Flash (MB)	DRAM (MB)
CISCO886VA-K9	128	256
CISCO886VA-SEC-K9		
CISCO886VA-J-K9		
CISCO896VA-K9		
CISCO896VA-SEC-K9		
CISCO896VA-J-K9		

Table 3 lists the supported Cisco 887VA/897VA and 886VA/896VA Series Multimode VDSL2/ADSL2/2+ with WLAN platforms and memory requirements.

**Table 3 Supported Cisco 887VA/897VA, 886VA/896VA Series Multimode VDSL2/ADSL2/2+ with WLAN Platforms and Memory Requirements**

Platform	Flash (MB)	DRAM (MB)
CISCO887VA-W-E-K9	256	512
CISCO897VA-W-E-K9		
CISCO886VA-W-E-K9		
CISCO896VA-W-E-K9		

## 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

Controller VDSL 0 is UP

Daemon Status: Up

          XTU-R (DS)XTU-C (US)
Chip Vendor ID:'BDCM' 'BDCM'
Chip Vendor Specific: 0x0000 0xA451
Chip Vendor Country: 0xB500 0xB500
Modem Vendor ID:'CSCO' ' '
Modem Vendor Specific: 0x4602 0x0000
Modem Vendor Country: 0xB500 0x0000
Serial Number Near: FGL17412466 C897VAM- 15.2(4)M6b
Serial Number Far:
Modem Version Near: 15.2(4)M6b
Modem Version Far: 0xa451

Modem Status: TC Sync (Showtime!)
DSL Config Mode: AUTO
Trained Mode: G.993.2 (VDSL2) Profile 12a
TC Mode: PTM
Selftest Result: 0x00
DELT configuration: disabled
```

```

DELT state: not running
Trellis:          ON ON
SRA:             disabled disabled
  SRA count:    0    0
Bit swap: enabled enabled
  Bit swap count: 0 0
Line Attenuation: 0.0 dB 0.0 dB
Signal Attenuation: 0.0 dB 0.0 dB
Noise Margin:    9.9 dB 9.8 dB
Attainable Rate:87988 kbits/s 66098 kbits/s
Actual Power: 13.4 dBm 8.9 dBm
Per Band Status:   D1 D2 D3 U0 U1 U2 U3
Line Attenuation(dB): 0.00.0N/AN/A3.33.2N/A
Signal Attenuation(dB): 0.00.0N/AN/A3.33.2N/A
Noise Margin(dB):   11.97.8N/AN/A9.89.8N/A
Total FECC:0       0
Total ES:0         0
Total SES:0        0
Total LOSS:0       0
Total UAS:111     111
Total LPRS:0       0
Total LOFS:0       0
Total LOLS:0       0

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

FirmwareSourceFile Name (version)
-----
VDSL  user configflash:VA_A_39d_B_38h3_24h.bin (10)

Modem FW Version:131204_1639-4.02L.03.A2pv6C039d.d24h
Modem PHY Version:A2pv6C039d.d24h
Vendor Version:Ap6v39d.24h 68

          DS Channel1  DS Channel0  US Channel1  US Channel0
Speed (kbps):          0          87912          0          60015
SRA Previous Speed:    0            0            0            0
Previous Speed:        0          88804            0          60015
Reed-Solomon EC:      0            0            0            0
CRC Errors:            0            0            0            0
Header Errors:         0            0            0            0
Interleave (ms):       0.00          0.00          0.00          0.00
Actual INP:            0.00          0.00          0.00          0.00

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

897VAW#

```

**Note**


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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 887VA/887VAS 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.A2pv6F039d
```




---

**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.

## Features

A2pv6F039d supports the following 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

B2pvC038h3 supports the following features:

- G.993.2 (VDSL2) protocol
  - PTM and ATM mode
  - Annex B over ISDN band plans
  - Profiles supported: 8a/b/c/d, 12a/b and 17a
  - 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
  - Virtual Noise
  - G.Vector (G.993.5) and G.Vector Friendly (G.993.2 Annex Y)
  - Alternate Electrical Length Measurement
- ADSL protocols
  - G.992.5 (ADSL2+), G.992.3 (ADSL2), G.992.1 (G.DMT)

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

## New and Changed Information

The following list contains the improvements with the firmware releases B2pvC038h3 and A2pv6F039d:

- Improve response time of EOC messages in G.992.1.
- Fix sub-optimal ds rate under some INP/delay configuration in G.993.2.
- Fix G.993.2 training issues for certain US overhead rate configuration.
- Fix invalid DS SoS requests when last tone in tone groups is loaded with 1bit in G.993.2.
- Fix overhead channel corruption under certain framing parameter change in G.993.2 SRA.
- Fix K10 electrical Length computation when RFI band is configured from 58 to 512 in G.993.2  
??Improve G.992.[35] US rates in Annex J EU-48 and EU-60 for 63268 B/J CPE.
- Improve G.993.2 DS rates when large RFI band is configured in DS1 band.
- Improve G.993.2 SRA stability when G.INP is enabled [??Fix G.HS failures in G.992.[35].
- Support G.Vector Friendly mode - Annex Y.
- Support G.998.4 Amendment 2.
- Improve DS rates in G.INP and PhyR.
- Implement CPE work around to fix G.993.2 training issue when CO response to R-MSG1 is early
- Fix Rx Filter configuration in the AFE for B/J 7.2.1 design.
- Improved Hlog estimation particularly at HAM band region in G.992.(35).
- Improved SATN reporting accuracy in G993.2.
- Implemented CPE workaround for IKNOS CO4 DS bitswap limitation in G993.2.
- Improved showtime stability at low SNR margin for VDSL 30a profile.
- Improved G.993.2 US rates at loop lengths 3Kft - 4Kft against EVLT-F line card.
- Fixed a potential SRA margin convergence issue in G993.2 when a long up/down shift time interval is set.
- Fixed PhyR no connect with low maximum DS rate configuration in G993.2.
- Improved G.vector interoperability with IKNS and Lantiq DSLAMs by fixing a sync symbol modulation issue.
- Improve G993.2 upstream data rate against Stinger CO4 DSLAM in mid BT loops.

- Fixed G.Vector training issue in high cross-talk condition.

#### Known Issues and Limitations

The following list contains known issues and limitations with firmware releases A2pv6F039d and B2pvC038h3:

- ANSI T1.413 is not supported with AFE A.12.40.
- G.INP supports DTU framing type 1 only.

## Modem Settings

New and existing modem commands are integrated to the release of the A2pv6F039d firmware and IOS release 15.2(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 A2pv6F039d



#### 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 A2pv6F039d



#### 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 vdsICfgFlagsMask—ON
Bit 4 vdsICfgFlagsValue—ON
Bit 5 vdsICfgFlagsMask—ON
Bit 5 vdsICfgFlagsValue—ON
vdsICfgFlagsMask—00000434
vdsICfgFlagsValue—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 vdsICfgFlagsMask—OFF
Bit 4 vdsICfgFlagsValue—OFF
Bit 5 vdsICfgFlagsMask—OFF
Bit 5 vdsICfgFlagsValue—OFF
vdsICfgFlagsMask—00000404
vdsICfgFlagsValue—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 A2pv6F039d



**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 A2pv6F039d



**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 A2pv6F039d



#### 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 A2pv6F039d



#### 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 A2pv6F039d



#### 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 A2pv6F039d

**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 A2pv6F039d

**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 A2pv6F039d

**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 A2pv6F039d

**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, page 16](#)
- [Platform-Specific Documents, page 16](#)
- [Other Firmware Code, page 16](#)

## 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 Firmware Release A2pv6C038k1](#)
- [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 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](#).

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