Text Part Number: OL-0051-01

Release Notes for Cisco MICA Portware Version 2.6.2.0 on Cisco AS5X00s and Cisco 3600

March 30, 1999

These release notes describe Cisco MICA Portware Version 2.6.2.0. This release includes Resource Pool Management (RPM) and maintenance fixes.

This document contains the following sections:

- "Compatibility Overview"—Cisco IOS boot image and V.90 and Data DialOut compatibility matrixes for Cisco AS5200, Cisco AS5300, and Cisco 3600.
- "Portware Features"—Identifies supported features with specific versions of the portware.
- "Bugs"–Lists unresolved bugs with the current version of Cisco MICA portware.
- "Notices"— Provides general information and advisories about Cisco MICA Portware.
- "Differences Between Cisco MICA Portware Versions 2.6.2.0 and 2.6.1.0"—Describes changes to default settings or behavior and new features introduced in 2.6.2.0.
- "Differences Between Cisco MICA Portware Version 2.6.1.0 and 2.5.1.0"—Describes changes to default settings or behavior and new features introduced in 2.6.1.0.
- "Differences Between Cisco MICA Portware Version 2.5.1.0 and 2.3.1.0"—Describes changes to default settings or behavior, and new features introduced in 2.5.1.0.
- "Revision History"–Provides information about outstanding bugs and bug fixes in the most recent Cisco MICA portware releases
- "Bug Tool Kit"–Describes how to obtain current status of outstanding bugs.
- "Portware Download and Fax DialOut Instructions"—How to download portware to Cisco AS5200, AS5300, AS5800, and 3600 access servers.
- "Related Documentation"—Lists related portware documents.
- "Cisco Connection Online"—Describes how to obtain more information about Cisco products and services.
- "Documentation CD-ROM"–Describes Cisco documentation and additional literature available in the CD-ROM package that ships with your product

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Compatibility Overview

Cisco MICA Portware Version 2.6.2.0 software is designed for MICA modules. Version 2.6.2.0 is a maintenance release that adds new features to the existing Cisco MICA Portware Version 2.6.1.0 functionality. Cisco MICA Portware Version 2.6.2.0 has the same compatibility matrix as the version 2.6.1.0 release.

MICA modules require the following compatibility matrixes and images:

- Cisco IOS boot image (for Cisco AS5200 only): c5200-boot-l.112-11.P2.
- Find the complete compatibility matrixes at the following URL:
  - Cisco AS5x00 platforms:

    http://www.cisco.com/univercd/cc/td/doc/product/access/acs_serv/5300/sw_conf/sw_ports/compmat/mca12prt.htm
  - Cisco 3600:

    http://www.cisco.com/univercd/cc/td/doc/product/access/acs_mod/cis3600/3600_pw/56k36mtx.htm

Note See your account representative for a list of modems tested with MICA portware.

Portware Features

Table 1 lists feature content by modem portware version.

Table 1 Feature Content by Modem Version

Portware Version	Feature Content
2.6.2.0	Maintenance release: new features added to existing version 2.6.1.0 features **Signaling** • Resource Pool Management (RPM): — Ring-back tone generation **Port Management** • Improved port management interfacing for acquiring modem/port data for AAA records
2.6.1.0	SS7 support added to version 2.5.1.0 features **Signaling** • Continuity Testing (COT) of DSO channels in SS7 networks
2.5.1.0	V.90 and Cisco FAX/Data DialOut Utility Support **Modulation** • V.90 standard supporting rates of 56000 to 28000 in 1.3333-bps increments • 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
2.3.1.0	R1 support plus K56Flex maintenance **Signaling** • R1 noncompelled and semicompelled
2.2.3.0	K56Flex support **Modulation** • Rockwell K56flex at 56000 to 32000 in 2000 bps increments

Portware Version	Feature Content (Continued)
2.0.1.7	Initial V.34+ release **Modulation** • ITU-T V.34 Annex 12 at 33600 and 31200 bps • ITU-T V.34 at 28800, 26400, 24000, 21600, 19200, 16800, 14400, 12000, 9600, 7200, 4800, or 2400 bps • V.32bis = 14400, 12000, 9600, 7200, 4800; V.32 = 9600, 4800; V.22bis = 2400, 1200; V.21 = 300; Bell212A = 1200, Bell103 = 300; V.22 = 1200; V.23 =1200/75. **Signaling** • MF • DTMF • R2 compelled, noncompelled, and semicompelled **Protocols** • ITU-T V.42 (including MNP 2-4 and LAPM) Error Correction • ITU-T V.42bis (1K nodes) and MNP 5 Data Compression **Modem Standard** • ITU-T V. 25—Automatic calling or answering equipment on dialup lines. This standard includes the procedures for disabling echo control devices for calls that are established manually and automatically.

Bugs

The following section describes known problems with Portware Version 2.6.2.0. If a workaround is not provided, the problem requires further investigation or a solution is being developed.

Severe

- CSCdk46505—Modems failing in pairs (DSP crashes). These crashes are improved, although not resolved. A reset mechanism has been implemented, which greatly reduces the rate at which this occurs. Engineering is actively investigating this issue.
- CSCdk77298—MICA BREAK handling is broken. MICA does not correctly detect destructive BREAK signals sent from the client modem. In the case of a received V.14 framed BREAK signal, MICA will transmit a sequence of NULL characters to the host server. In the case of a received destructive BREAK signal, failure mode depends on the protocol being used. If failure is LAP-M, then MICA will disconnect the link with “too many consecutive transmissions” as the disconnect reason. If using MNP, then the client will receive garbage characters after transmitting the BREAK. The workaround is to configure the client modem to only transmit non-destructive BREAKs.

Moderate

- CSCdk12918—Fax calls to USR voice/fax modems fail at 2400 baud. MICA is unable to complete a FAX connection dialing out to a USR 56K (X2) voice/fax modems when the receiver rate is capped at 2400 bps.
- CSCdk14741—Fax calls to Zoom 56K modem fail at 4800 baud. MICA is unable to complete a FAX connection dialing out to a zoom 56KFlex winFAX modem when the receiver rate is capped at 4800 bps. Fax calls are successful at 9600 and 14400 bps.

- CSCdk19428—Fax calls to Panasonic kx-fm220 fax machine fail at 2400 baud. MICA is unable to complete a FAX connection when dialing out to a Panasonic kx-fm220 FAX machine when the receiver rate is set for a maximum of 2400 bps.
- CSCdk46504—Fax calls to Xircom PCMCIA modems at 4800 baud. MICA is unable to maintain a FAX connection at 4800 bps when dialing out to a Lucent chip-set based Xircom PCMCIA with the receiver rate capped at 4800 bps. MICA will, however, speedshift down to 2400 bps and successfully complete the call.
- CSCdj80580—Call drops occur due to illegal tokens when testing with USR Total Control Hubs. When using a USR Total Control Hub (TCH) to perform high-volume throughput testing, MICA may prematurely disconnect a call originated from the TCH. Disconnects are due to receiving an illegal V.42bis token from the TCH. The frequency of this has greatly diminished since upgrading to the latest TCH firmware.
- CSCdk69507—V.22 calls without EC and DC only connect with S register settings. MICA will not connect to certain older non-configurable Rockwell chipset-based V.22 modems unless Error Correction and Data Compression are disabled via modem cap.
- CSCdm12286—USR Win modems have difficulty connecting to MICA. Some of the newer USR Win-modems (versions tested include 2.60.003 and 1.00.005) have difficulty connecting to MICA in V.90 over particular test-condition lines.
- CSCdk33782—Xircom PCMCIA does not connect in K56 Flex on an E1 line. Some Xircom PCMCIA modems have difficulty connecting to MICA with K56Flex over E1 lines. The modem will usually fall back and connect in V.34 with no error correction or data compression. This modem will connect in K56Flex with both error correction and data compression over T1 lines.
- CSCdm00076—Xircom modems unable to connect in V.90. Xircom client modems using the latest Lucent firmware have difficulty connecting to MICA in V.90. This modem will usually fallback and connect in V.34 at 28,800 bps. This modem also exhibits the same problem when attempting to connect to a Cisco AS5300 equipped with Microcom modems.
- CSCdk91889—Lucent LT-Win modems will not connect in V.90. Lucent LT-Win modems version 5.28 internal to Toshiba Tecra 8000 lap-top computers will not connect to MICA in V.90. This modem will always fallback and connect in V.34 at 28,800 to 31,200 bps.
- CSCdm48511—Volume of event logs generated by modem call difficult to monitor. Workaround by using the **modem call-record** command to create a Modem Call Record log. This will summarize a modem call upon it's termination.

Note For modems using Cisco IOS software 11.3(6)AA1 and 12.0(3)T.

Step 1 Access each terminal configuration by entering the following command:

```
modem call-record terse
```

Step 2 De-activate the call-record using the following command:

```
no modem call-record terse
```

The configuration of the modem call-record allows for future Modem Call Record types to be introduced.

Notices

This section provides general information and advisories about Cisco MICA Portware Version 2.6.2.0.

- TDK-DF2814 Client Modem Work Around—Certain firmware versions of this modem may causes MICA's receiver to lose V.34 framing synchronization at rates greater than 31,200 bps. When this happens, MICA will instigate a speedshift and/or retrain. If the speedshift or retrain happens during initial startup (before an error correction protocol has been established), the client may drop the call. The work around is to turn off V.34 V0 synchronization detection during initial training. This will allow the TDK modem to maintain the link. A minor side effect of this fix is that there is a slight increase in the possibility of a call drop with older USR V.34 modems.
- S-Register Change Summary—Both S53 and S54 now have new default values:

```
S53 [Default = 3]  V.8bis capability (bit mapped - register)
              0 = All V.8bis Options Disabled - (disables K56flex)
             *1 = Enable/Disable V.8bis negotiation
             *2 = Enable/Disable V.90 negotiation in V.8bis
S54 [Default = 8]  General capability (bit mapped - register)
              0  = All general options disabled
              1  = Reserved for future release
              2  = Enable Aggressive Client Capping
              4  = Force 4 point training
             *8  = Enable Power Control
              16 = Enable EC Quality Checking
```

  * Indicates that the bit value is now set “on” by default.

- Use of The S53 V.8bis Configuration Register—V.8bis tones are the first signals sent to the line when an access server answers the call. MICA uses V.8bis to indicate both K56Flex and V.90 capabilities to the calling modem. Because K56Flex is a non-standard (and proprietary) protocol, V.8bis is required to establish a Flex connection. However, V.8bis is optional for V.90. This is because the ITU-T standard allows V.90 to be identified through V.8bis and/or V.8 signaling

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Note If enabled, V.8bis occurs *before* V.8 in the startup sequence

---

The following S53 register values are used to control indication of V.90 and K56Flex capabilities within V.8bis:

— S53 = 0—DisableV.8bis entirely. K56Flex connections are NOT allowed. V.90 connections are allowed using V.8 signaling only. This setting is used to disable K56Flex connections. Because V.90 technology supplants K56Flex, this setting may increase Call Success Rate (CSR) a few percentage points. The drawback is that users with older, non-V.90-capable K56Flex modems will no longer be able to connect at PCM rates.

— S53=1—Enable both V.8bis signaling and notification of K56Flex capabilities. K56Flex connections are allowed. V.90 connections are allowed using V.8 signaling only. This setting was the default for previous versions of Portware. With this setting, certain Lucent client modems may not be able to connect in V.90. This was because older Lucent firmware did not have the ability to switch to V.90 (in V.8) once the decision to use K56Flex is made during V.8bis. This setting may slightly increase CSR if the user base consists of a large number of older Lucent modems (see S53=3 below).

— S53=2—Invalid setting. Do not use.

— S53=3 (Default)—Enable V.8bis signaling and notification of both K56Flex and V.90 capabilities. K56Flex connections are allowed. V.90 connections are allowed using both V.8bis and V.8 signaling. Because V.90 is favored over K56Flex, this setting will allow older Lucent client modems to connect in V.90. However, this setting my decrease CSR if the user base consists of a large number of older Lucent V.90-capable K56Flex modems. This is because early V.90 firmware releases were not as robust as K56Flex when operating over impaired lines (see S53=1 above).

- Increase Frequency of Non-error Controlled Connections—Internal device testing of 2.6.2.0 has shown a 2% to 5% increase in ASYNC (Normal - non-Error Controlled) connections over 2.5.1.0 when using some Lucent client modems. This has also been seen with a few older K56Flex client modems.
- DSP Crash Enhancements—A watchdog timer and flag has been added to the DSP that is updated every 10^{th} of a second. The control processor checks this flag every second and if it isn't set (true), it will busy the line and attempt to recover (reset) the DSP. If the operation is successful, then the flag is reset (set to false) and modem performs normally.
- Retransmission Counters Line Parameter Changes—The values for parameter #3 and # 38 in the "show modem operational status" command have been modified. In previous versions of the portware, these two parameters were reported as identical. Parameter #3 now reports a general retransmission count reflecting both client and server side retransmitted and/or aborted packet-transmission-cycles. Parameter #38 now reports the total number of packets re-transmitted to the line for both the client and server modems. The following is an example of the output:

```
...
Parameter #3  EC Retransmission Count:
...
Parameter #38 EC packets (Received BAD/ABORTED):
...
```

- Expanded AT \S Functionality—The AT \S output for the modem has been enhanced to include additional information. The following is an example output:

```
at\s

Cisco MICA Hex Modem Link Statistics

Host interface protocol (IP)       RAW
Data compression protocol          V.42bis
Line interface protocol (EC)       V.42 (LAP-M)
Line modulation standard           V.34+
Line transfer rates                33600 bps TX and 33600 bps RX
The modem has been connected       0 days, 0:00:27
Last disconnect reason             0x0000
Current line quality               4
Strike a key when ready (Q to QUIT)

Bytes sent to host                   502 Bytes received from host              9
Bytes received from line               3 Bytes sent to line                    3
Bytes estimated lost                   0 Bytes resent to line                  0

IP packets received from line          0 IP packets sent to line               0
IP packets received errored            0 IP packets aborted                    0

EC frames received from line           3 EC frames sent to line                3
EC average RX frame length             1 EC current TX frame length          256
EC NAKs received from line             0 EC NAKs sent to line                  0
EC frames retransmitted                0 EC frames known lost                  0
EC timer recovery's                    0 EC retransmission cycles              0

EC negotiated RX frame length        256 EC negotiated TX frame length       256
EC negotiated RX window               30 EC negotiated TX window              30
EC negotiated compression dict      4096 EC negotiated compression smax      250
Strike a key when ready (Q to QUIT)

                         .Tx. / .Rx.
Carrier Frequency (Hz)   1959 / 1959
Symbol rate (baud/sec)   3429 / 3429
Trellis code               16 /   16
Non-linear encoding       Off /  Off
Precoding                 Off /  Off
Constellation shaping     Off /  Off
Preemphasis index           0 /    0
RX level (dBm)            -13 /  -12
TX level reduction (dBm)    0 /    0

SNR (dB)                41
Far-end echo (dBm)      -104
Round-trip delay (ms)   0
Frequency offset (Hz)   0.0
Phase roll freq (Hz)    0.0
Phase jitter freq (Hz)  0.0
Phase jitter level (deg) 0
RBS Pattern             0x00
Digital Pad (dB)        0.0
Digital Pad Compensation Off
Strike a key when ready (Q to QUIT)

Line Probe Results:
.............................*
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Strike a key when ready (Q to QUIT)

Line Rate Histogram:
50432 : 3049
49152 : 3747872 : 58
```

Differences Between Cisco MICA Portware Versions 2.6.2.0 and 2.6.1.0

Cisco MICA Portware Version 2.6.2.0 supports the following changes over version 2.6.1.0 on Cisco AS5200, Cisco AS5300, and Cisco AS5800 platforms:

- Unsolicited link event messages.
- Ring-back signaling tone generation

Differences Between Cisco MICA Portware Version 2.6.1.0 and 2.5.1.0

Cisco MICA Portware Version 2.6.1.0 supports the following changes over version 2.5.1.0:

- Cisco MICA Portware Version 2.6.1.0 introduces support for SS7 (Signaling System 7) Continuity Testing (COT). This portware functionality is used in the SS7 networks to provide status on DSO channels and to detect failures on the channels by generating and detecting the COT tones.
- *AT Command Set and Register Summary for V.34, 56K, and V.90 12-Port Modules*

  This document describes AT commands and S and :T registers for the universal access server modules and contains the following version 2.6.2.0 updates:

  — Option to S45, S46 (SS7/COT signaling)

  — Two new S registers: S54 Host Debug Message, and S55 SS7/COT Control

  — Tables for S30 and S50, the maximum connect registers, explaining which registers control connect rates under the different modulation standards

Differences Between Cisco MICA Portware Version 2.5.1.0 and 2.3.1.0

Cisco MICA Portware Version 2.5.1.0 supports the following changes over version 2.3.1.0.

- Cisco MICA Portware Version 2.5.1.0 is the V.90 feature release.
- Cisco MICA Portware Preview Program customer option is discontinued.
- Portware version 2.5.1.0 supports the following Cisco IOS images:
  - Cisco IOS 11.3(6)T1 for Cisco AS5200.
  - Cisco IOS 11.3(6)T, 11.2(16)P, and 11.3(5)T.
  - Cisco IOS 11.3(6)AA1 for Cisco AS5800
  - Cisco IOS 11.3(6)T, 12.0(1)T, or 12.0 Mainline for Data DialOut and Fax out (transmission).
- Portware version 2.5.1.0 supports these additional modems for V.90 connection:
  - MagicExpress MX56V (T1 only)
  - Multitech 5634ZBA (Lucent)
  - Multitech 56000ZDX (Rockwell)
  - Psion V.90 PCMCIA
  - Viking FM56K V.90 PCMCIA

Workaround is provided for V.90 client modems using Lucent chipset to enable connection to an access server in V.90 mode.

Revision History

This section describes bug fixes to the last four Cisco MICA portware releases.

Bugs Fixed in Version 2.6.2.0

The following is a list of problems that have been corrected with Cisco MICA Portware Version 2.6.2.0 since version 2.6.1.0:

- CSCdk49167 --- Dynalink internal modem now connects in V.90 over an E1 line. The Dynalink internal V.90 modem using a Rockwell chip-set version 2.076 will connect in V.90 over E1-PRI lines. This modem will always retrain down to V.34+ to establish a connection.

  Note Engineering verified that this problem was caused by a faulty client modem.

- CSCdk41358 --- MICA transmit levels are no longer occasionally inconsistent. When placing calls over an E1 line with MICA configured for the E1-default the country code, measured transmit levels used to vary between -17 dBm0 and -13 dBm0.

  Note Engineering verified that this problem was due to testing with a defective client modem.

- CSCdm02354—Zoom/Lucent Clients now connect in V.90. Certain Zoom Lucent firmware versions would not connect in V.90. Connections no longer fall back to V.34 or K56-Flex.

- CSCdk91735—Bug fix. Default for poor throughput fix should be OFF until it is qualified. Change S54 default from 24 to 8. See also CSCdj13463.
- CSCdj13463—MICA's Rx throughput is no longer poor with excessive block errors. The V.42 control processor will calculate the number of errored packets in an attempt to judge the overall line quality of the link. If the quality is deemed to be low, the control processor will instigate a speedshift down by one rate. This computation is based on the estimation that a rate drop will improve the signal quality by about 40% (thus increasing overall throughput). This feature is enabled via S54 bit 4 (for example, S54+ = 16).
- CSCdk86863—Rockwell V.90 clients get V.34 to MICA, V.90 to Microcom fixed. Certain Rockwell chipset-based V.90 modems only connected to MICA at V.34+ rates. Using the same configuration, these modems will also connect to Microcom with V.90 rates.
- CSCdk91728—Default for S53 (V.8bis) should include the V.90 V.8bis for Lucent modems. S53 default was changed to 3. The S53 register will now enable V.90 negotiation within V.8bis. This will allow some Lucent client modems to connect in V.90 instead of falling back to K56Flex or V.34+. See also CSCdk66697.
- CSCdk66697—Added V.90 capability identifier during the V.8bis exchange.
- CSCdk29738—Re-transmitting of the CRE signal now works with MICA. MICA failed to re-transmit the V.8bis CRE signal when it collided with the Call Indicator (CI) tone which resulted in failure to connect in K56Flex.
- CSCdk89902—R2 digits are now detected. In Portware 2.3.1.0 R2 digits were being transmitted at -11dBm0. In Portware 2.5.1.0 the transmit power was increased to -9dBm0 in order to homologate in some Eastern Bloc countries. This was causing some digits to be falsely detected when testing in a back-to-back configuration.
- CSCdk18063—TDK Modem V.34 PCMCIA no longer has poor connectivity. The TDK DF2814C modem had problems connecting to MICA at rates greater than 31,200 bps.
- CSCdk11008—MICA now handles power control well. MICA power control algorithms have been completely revamped to take full advantage of both the mandatory and optional fields exchanged between the client and server modems during V.34+ startup negotiations.
- CSCdk81243—Added S register bit to disable new power control. Added bit 3 (value of 8) in S54 to enable/disable power control. The default is to enable power control on (for example, S54 = 8). See also CSCdk11008.
- CSCdk61211—Power level capping concern from Beta customers (E1) workaround: Change the power level to allow a maximum of -6dBm0 using S39 for European (E1) countries. The previous cap was set at -10 dBm0.
- CSCdk41364—T-1 default country code with S39 set to 11 to 15, TX level -5 dBm0. MICA was sending a bogus value for maximum digital-transmit power to the client in V.90 when S39 was configured for a value below –16 dBm0. The result was a transmit level of -4 to -5 dBm0.
- CSCdk11019—Show modem operational status data is now reliable. Values for power level, echo, SNR, round trip, and other signal related statistics were sometimes reporting incorrect values.
- CSCdk57890—Digital Padding reporting is now correct in V.90. The values for digital padding responding with the “show modem operational status” command were incorrect.
- CSCdk78996—PC Tel clients are now able to connect in K56Flex. The PC Tel client (firmware version 7.55M) was unable to connect to MICA when forcing K56Flex.

- CSCdk75240—PC Tel clients are now able to connect in V.90, not just V.34. The PC Tel client (firmware version 7.55M) was unable to connect to MICA with V.90 and would always fall to V.34+.
- CSCdk57180—MICA V.23 no longer shows serious data errors for TX:1200. MICA was unable to pass data reliably in V.23 at 1200 CSCdk35988—Symbol rate and carrier frequency are now being reported correctly for V.27ter when using the “show modem operational status” command.
- CSCdk05266—S30 does now caps DCE speed on dial-out if s29=3. S30 did not properly limit the carrier rate negotiated when s29=3.
- CSCdk73100—CP date is no longer reported as wrong in mail. The Date value was reported incorrectly by the Control Processor on the CS3600 platform.
- CSCdk43199—Newcom V.90 internal modem connectivity issues fixed. The Newcom V.90 internal modem using the Cirrus Logic chip-set did not reliably connect to MICA in V.90 and would frequently fall to V.34.

Note This may still be observed when attempting to connect over poor line conditions.

- CSCdk45170—USR Courier V.Everything 33.6 no longer fails to connect at V.21/B103 when configured for no error correction.
- CSCdk38521—Fax AT command and FCLASS = value no longer return garbage. MICA now returns a valid result.
- CSCdk39336—Bug fix. Originate MICA should emit gratuitous XON after EC negation fails. When MICA is configured to negotiate Error Control (EC), and if the answering modem does not support EC, then the answer modem will interpret EC protocol negotiations characters as data. This will appear as garbage data to the answer DTE.
- CSCdk52236—Retrain call drops with overly aggressive clients are fixed. A control processor state machine was added to overcome the problem of certain PCM client modems attempting to connect at an overly aggressive down-stream rate and subsequently dropping calls. This new state machine will cap both the down-stream (TX) and the up-stream (RX) rates if a retrain occurs while trying to establish an error-correcting protocol. In this event, the RX path is capped to a rate that is 4800 bps lower than the initial rate. The TX path is capped at 34666 if connecting in V.90 and/or K56Flex. The TX path is capped at 24,000 bps if connecting in V.34+. 70 seconds after the initial rate capping, the control processor will relax these caps and instigate another retrain. At this point, the cap on the RX path will be removed and the cap on the TX path will be set to the initial rate '-1'. The '-1' change is based on the connecting standard (e.g., 2400 for V.34+).

Bugs Fixed in Version 2.6.1.0

There were no bug fixes in Cisco MICA Portware Version 2.6.1.0.

Bugs Fixed in Version 2.5.1.0

The following is a list of problems that have been corrected with Cisco MICA Portware Version 2.5.1.0 since version 2.3.1.0:

- CSCdj16840—Code A-law enforcement bit for Rockwell 56Kflex clients now sends properly.

- CSCdj84343—Problem fixed where a small percentage of calls did not negotiate error correction and remained in normal mode.
- CSCdj38981—Auto reliable mode now works properly.
- CSCdj50614—ARAP connections are now reliable.
- CSCdj58605, CSCdj56697—Fixed problem where error correction was not properly negotiated with MNP.
- CSCdj56126—Fixed problem where file transfer failures occurred when error correction was not present for V.22, V.22bis, and Bell212 modulations.
- CSCdj55455—MICA now connects consistently in V.23.
- CSCdj67485—Fixed problem where Microcom Deskports 288P modem failed in V.8bis mode when answering calls.
- CSCdj71728—Problem fixed where uplink (MICA receive) rate of K56flex calls speed shifted down to as low as 4800.
- CSCdj91689, CSCdk06573—Some older modems that only support up to 28.8k no longer fail to connect or negotiate error correction.
- CSCdj93276—S30 now caps DCE speed properly in DialOut.
- CSCdk08811, CSCdk21628—Fixed problem where MICA failed to go into automode.
- CSCdk34601—Garbage data no longer occurs on a V.32bis call with Zoom modem.
- CSCdk34570—MICA DialOut over CT1 is working.
- CSCdk09532—Problems with commands AT&T1, AT&T2, AT&T8 have been resolved.
- CSCdk18109—R2 signaling transmit level has been corrected.
- CSCdk18780—Bell212 calls are no longer reported as V.22 in Link Information status.
- CSCdk08302—V.8bis CL and MS message revisions for Lucent and Rockwell have been fixed: they no longer cause failed calls or connections at V.34 rates.
- CSCdk24901—Motorola 28.8k modem no longer connects in the Bell103 standard.
- CSCdk14646—Flex calls no longer disconnect after multiple retrains and now fall to V.34 correctly.
- CSCdk33636—Default setting for s7 has been increased from 40 seconds to 60 seconds.
- CSCdk19784—MICA no longer speed shifts down when the client requests excessive re-transmissions.
- CSCdk18629—MICA no longer generates excessive re-transmission requests on impaired lines, which resulted in call drops.
- CSCdk00806—Bell103 connections no longer fail.
- CSCdk09098—USR Megahertz 33.6 PCMCIA modem connectivity has improved.
- CSCdk33322—ARA default changed from ARA enabled to ARA disabled.
- CSCdk39166—MICA modems no longer gets stuck in the OFF HOOK state on rare occasions.

Bugs Fixed in 2.3.1.0

This section lists problems that have been corrected with Cisco MICA Portware Version 2.3.1.0 since version 2.2.3.0:

- CSCdk03600, CSCdk05007—MICA modems no longer become locked in a speed shift state on CAS loop-start lines.
- CSCdj94310—Fixed problem where Hayes Lucent-based modems sometimes violated the V.42 protocol specification, resulting in dropped calls.
- CSCdj87158—Improvements were made in the handling of “hot” MICA receiver levels.
- CSCdj84843—Fixed problem at 1200/2400 and no error correction where MICA would send garbage data when a call initially connected.
- CSCdj73645—Fixed problem in DialOut where MICA would disconnect before the client had a chance to answer.
- CSCdj91539—Fixed V.42bis compression call drop problem with Multitech modems.
- CSCdj91441—Fixed problem in MNP where call would disconnect if the line was idle (no data) for 1 minute.
- CSCdj73494—The combination of MNP4 and V.42bis now works properly.
- CSCdj44302—The MICA receive connect rate is no longer limited to 31.2K.
- CSCdj90110—The default setting for the S0 register is now 2 (1 second).
- CSCdj92494—To reduce call drops, improvements have been made in handling client modems whose oscillator speeds are marginal.
- CSCdj85961, CSCdj61966—MICA modem no longer reverts to default settings after calls disconnect. It now maintains its modem cap settings.
- CSCdj92429—Applications that run async with 7 data bits, even parity, 1 stop bit, and no error correction, are now supported properly.
- CSCdk01266—Improved connectivity for client modems that do not properly handle handshaking in V.34 phase 4. The problem was observed in the Jack O Diamonds client modem.
- CSCdj45522—Improvements have been made in the handling of the reception of FRMRs (LAPM frame rejects), so that the number of call drops is reduced.
- CSCdj85230, CSCdj87297—Status reporting is no longer causing data to stop passing.
- CSCdj91951, CSCdj87845—Fixed a problem that could eventually bring down a whole HMM.

CSCdj86475—Fixed problem where DTMF/MF tones were generated at excessively high levels.

Bug Tool Kit

This section describes how to obtain the current status of known problems with Cisco MICA portware. If a workaround is not provided, the problem requires further investigation or a solution is being developed. For the latest information on known problems and to establish a bug Watcher Bin, follow these steps to consult Cisco Connection Online (CCO):

Step 1 Connect to CCO as directed in the “Cisco Connection Online” section on page 15.

Step 2 On the CCO home page, click **LOGIN** (which appears in green in the menu bar at the top of the page) and log in to CCO. If you are not a registered CCO user, follow the instructions to register so that you can log in. Login is complete when the word **LOGIN** no longer appears in green text in the menu bar.

Step 3 After you log in, click **Software & Support** on the CCO home page.

Step 4 Under the **Technical Support** menu, click **Software Bug Toolkit II**. (**Software Bug Toolkit II** is not visible on the **Software & Support** page unless you are logged into CCO as directed in Step 2.)

Step 5 Click **Search for Bug by ID Number** from the main menu or click **Search by ID** under **Bug Toolkit** in the left column of the screen.

Step 6 Enter a bug ID, such as CSCdj80580, in the **Search for Bug by ID Number** window and click **SEARCH**. The bug information is displayed.

Step 7 To watch activity on the selected bug, click the **WATCH this bug** button at the top of the screen. The **Pick a Watcher Bin** entry screen is displayed.

Step 8 Create a **Watcher Bin** for the bug selected by entering a **New Bin Watcher name**, such as V.90 Bugs. A new **Watcher Bin** is created. The new **Watcher Bin** creates a link to the **Bug Watcher** screen.

Step 9 Click **Watcher** to access the **Bug Watcher** screen. The new **Watcher Bin** link is displayed in the left column of the screen.

For instructions on using other bug tools, go to the bottom of the Toolkit II page and click **Help—How to Use the Bug Toolkit** or click **Help** under **Common Tools** in the left column of the screen.

Portware Download and Fax DialOut Instructions

This section provides information about how to download Cisco MICA portware and the Fax DialOut Utility.

Note You can download Portware version 2.6.2.0 (mica-portware.2.6.2.0.bin) to any Cisco AS5200, Cisco AS5300, or Cisco AS5800 access server. For example, the file named mica-portware.2.6.2.0.bin can be downloaded from the Cisco AS5300 software center to a Cisco AS5800 access server.

For Fax DialOut instructions, see the following URL:

http://www.cisco.com/univercd/cc/td/doc/product/access/acs_soft/dialoutd/index.htm

Related Documentation

For further information about Cisco MICA portware, see the following documents:

- PIAFS Wireless Data Protocol for Cisco MICA Modems, Version 2.1
- Cisco IOS Release 12.2 Master Indexes
- AT Command Set and Register Summary for Cisco MICA 6-Port Modules
- SPE and Firmware Download Enhancements
- Cisco AS5300 universal access servers Cisco MICA release notes index page

- Cisco AS5x00 Cisco MICA 6-Port and 12-Port Modem Module Portware/Cisco IOS Software Compatibility Matrixes
- Cisco AS5300 access servers, Appendix A, "Managing Modems," and Appendix B, "Rom Monitor," in the *Cisco AS5300 Universal Access Server Software Configuration Guide*
- Modem Management Commands
- Cisco IOS Dial Services Command Reference for Cisco IOS Software Release 12.2
- Cisco IOS Dial Technologies Configuration Guide, Release 12.2
- *Quick Start Guide, Cisco AS5300 Universal Access Server Install and Configure*
- V.90 and RFC-2217 dialout support for fax/data

Note The Cisco DialOut Utility (CDU) is no longer supported. Refer to the *Sample NAS Configurations for Cisco DialOut Utility* document for information about RFC-2217 reverse TELNET support.

Cisco Connection Online

Cisco Connection Online (CCO) is Cisco Systems' primary real-time support channel. Maintenance customers and partners can self-register on CCO to obtain additional information and services.

Available 24 hours a day, 7 days a week, CCO provides a wealth of standard and value-added services to Cisco's customers and business partners. CCO services include product information, product documentation, software updates, release notes, technical tips, the Bug Navigator, configuration notes, brochures, descriptions of service offerings, and download access to public and authorized files.

CCO serves a wide variety of users through two interfaces that are updated and enhanced simultaneously: a character-based version and a multimedia version that resides on the World Wide Web (WWW). The character-based CCO supports Zmodem, Kermit, Xmodem, FTP, and Internet e-mail, and it is excellent for quick access to information over lower bandwidths. The WWW version of CCO provides richly formatted documents with photographs, figures, graphics, and video, as well as hyperlinks to related information.

You can access CCO in the following ways:

- WWW: http://www.cisco.com
- WWW: http://www-europe.cisco.com
- WWW: http://www-china.cisco.com
- Telnet: cco.cisco.com
- Modem: From North America, 408 526-8070; from Europe, 33 1 64 46 40 82. Use the following terminal settings: VT100 emulation; databits: 8; parity: none; stop bits: 1; and connection rates up to 28.8 kbps.

For a copy of CCO's Frequently Asked Questions (FAQ), contact cco-help@cisco.com. For additional information, contact cco-team@cisco.com.

Note If you are a network administrator and need personal technical assistance with a Cisco product that is under warranty or covered by a maintenance contract, contact Cisco's Technical Assistance Center (TAC) at 800 553-2447, 408 526-7209, or tac@cisco.com. To obtain general information about Cisco Systems, Cisco products, or upgrades, contact 800 553-6387, 408 526-7208, or cs-rep@cisco.com.

Documentation CD-ROM

Cisco documentation and additional literature are available in a CD-ROM package, which ships with your product. The Documentation CD-ROM, a member of the Cisco Connection Family, is updated monthly. Therefore, it might be more current than printed documentation. To order additional copies of the Documentation CD-ROM, contact your local sales representative or call customer service. The CD-ROM package is available as a single package or as an annual subscription. You can also access Cisco documentation on the World Wide Web at http://www.cisco.com, http://www-china.cisco.com, or http://www-europe.cisco.com.

If you are reading Cisco product documentation on the World Wide Web, you can submit comments electronically. Click **Feedback** in the toolbar and select **Documentation**. After you complete the form, click **Submit** to send it to Cisco. We appreciate your comments.

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