



PIAFS Wireless Data Protocol for MICA Modems

This feature module describes the support of Personal Handyphone Internet Access Forum Standard (PIAFS) on MICA modems for the Cisco AS5300 universal access server. It includes information on the benefits of the new feature, supported platforms, related documents, and more. PIAFS is used in Personal Handyphone Systems cellular networks.

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Feature Overview

The MICA Personal Handyphone (PHS) Internet Access Forum Standard (PIAFS) specifications specifies a transmission system that uses the PHS' 64000 bps/32000 bps unrestricted digital bearer.

The PIAFS TA (terminal adapter) module is like a modem or a V.110 module in the following ways:

- Ports will be a pool of resources.
- Calls will use the same call setup Q.931 message.
- Module supports a subset of common AT commands.
- Call setup and teardown are similar.

However, the rate negotiation information will be part of the bearer cap and not the lower-layer compatibility. PIAFS calls will have the user rate as 32000 and 64000; this will be used to distinguish a PIAFS call from a V.110 call. Also, PIAHandyphoneFS will use only up to octets 5a in a call setup message. The data format will default to 8N1 for PIAFS calls.

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Benefits

PIAFS Support

The Personal Handyphone's (PHS') 64,000 bps / 32,000 bps unrestricted digital bearer is supported on MICA modems for the Cisco AS5300 universal access server platform.

Restrictions

None.

Supported Platforms

- Cisco AS5300 universal access server

Supported Standards, MIBs, and RFCs

Standards

No new or modified standards are supported by this feature.

MIBs

CISCO-MODEM-MGMT-MIB

For descriptions of supported MIBs and how to use MIBs, see the Cisco MIB web site on CCO at <http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml>.

RFCs

No new or modified RFCs are supported by this feature.

Prerequisites

You must have portware version 8.2.0.6 installed.

Configuration Tasks

See the following sections for configuration tasks for the PIAFS feature.

Configuring PIAFS

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Configuring PIAFS

	Command	Purpose
Step 1	Router(config)# interface serial controller:channel	Enters interface configuration mode for a D-channel serial interface.
Step 2	Router(config-if)# isdn piafs-enabled	Enables the PRI to take PIAFS calls on MICA modems.
Step 3	Router(config-if)# exit	Exits interface configuration mode.

Verifying PIAFS

- Step 1** Enter the **show modem operational-status slot/port** command to view PIAFS call information.

```
Router# show modem op 1/32
Mdm Typ Status Tx/Rx G Duration RTS CTS DCD DTR
1/32 ISDN Conn 64000/64000 0 1d01h x x x x

Modem 1/32, Mica Hex Modem (Managed), Async33, TTY33
Firmware Rev: 8.2.0.c
Modem config: Incoming and Outgoing
→ Protocol: PIAFS, Compression: V.42bis both

Management config: Status polling
RX signals: 0 dBm

Last clearing of "show modem" counters never
2 incoming completes, 0 incoming failures
0 outgoing completes, 0 outgoing failures
0 failed dial attempts, 0 ring no answers, 0 busied outs
0 no dial tones, 0 dial timeouts, 0 watchdog timeouts
0 no carriers, 0 link failures, 0 resets, 0 recover oob
0 recover modem, 0 current fail count
0 protocol timeouts, 0 protocol errors, 0 lost events
0 ready poll timeouts
```

Command Reference

This section documents modified commands. All other commands used with this feature are documented in the Cisco IOS Release 12.1 command reference publications.

FINAL DRAFT - CISCO CONFIDENTIAL**isdn piasf-enabled**

To enable the PRI to take PIAFS (Personal Handyphone Internet Access Forum Standard) calls on MICA modems, use the **isdn piasf-enabled** command. To disable, use the **no** form of this command.

isdn piasf-enabled

no isdn piasf-enabled

Syntax Description This command has no arguments or keywords.

Defaults No default behavior or values.

Command Modes Interface configuration

Command History	Release	Modification
	12.1(2)XH	This command was introduced.

Examples The following example enables the PRI to take PIAFS calls:

```
Router(config)# interface serial 0:23
Router(config-if)# isdn piasf-enabled
```

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Debug Commands

There are no new or modified debug commands for this feature.

Glossary

CSM—Call Switching Module.

DMM—DuoDecimal Modem Module. A MICA hardware packaging with 12 modems on a daughter board unit.

E1—European equivalent of T1. Thirty two channels of 64000 Hz—one for framing, one for signaling.

HMM—Hex Modem Module. A MICA hardware packaging with 6 modems on a daughter board unit.

IOS—Internet Operating System.

ISDN—Integrated Services Digital Network.

LLC—Logical Link Control.

MICA—Modem ISDN channel aggregation.

MSM—Modem State Machine.

PHS—Personal Handyphone System.

PIAFS—PHS Internet Access Forum Standard. ITU-T standard for support by ISDN of data terminal equipment with V-series type interfaces.

Portware—Software that runs on the PMICA digital modem module.

PRI—Primary Rate Interface.

Q.931—ISDN User-Network Interface Layer 3 specification for basic call control.

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