Intel® Dialogic® Global Call Protocols Version 4.1 for Linux and Windows

Release Notes

December 2003

05-1941-002

Publication Date: December 2003

Document Number: 05-1941-002

Intel Converged Communications, Inc.
1515 Route 10
Parsippany, NJ 07054

For **Technical Support**, visit the Intel Telecom Support Resources website at:
http://developer.intel.com/design/telecom/support

For **Products and Services Information**, visit the Intel Telecom Products website at:
http://www.intel.com/design/network/products/telecom

For **Sales Offices** and other contact information, visit the Where to Buy Intel Telecom Products page at:
http://www.intel.com/buy/wtb/wtb1028.htm

Contents

Tables

About This Publication

The following topics provide information about this publication:

Purpose

This document describes the highlights of the Intel® Dialogic® Global Call Protocols Version 4.1 for Linux and Windows and also provides installation instructions.

Note: Information about the ICAPI protocols is not included in this document. Although still supported, the development of ICAPI protocols has been capped.

Intended Audience

This information is intended for users who use the Global Call Application Programming Interface (API) to develop applications for DM3 and Springware boards using analog, E1 CAS, or T1 robbed bit technologies.

Note: *DM3 boards* is a collective name used in this publication to refer to products that are based on the Intel® Dialogic® DM3 mediastream architecture. For example, the Intel® NetStructure™ DM/V and DMT160TEC products are DM3 boards. *Springware boards* is a collective name for boards based on earlier-generation architecture.

How to Use This Publication

The information is organized as follows:

- Chapter 1, "Release Overview" provides a high-level overview of the Global Call Protocols package.
- Chapter 2, "System Requirements" describes what you need to install and use the Global Call Protocols package.
- Chapter 3, "New Features" describes the features that are new in this release.
- Chapter 4, "Summary of PDK Protocols Supported in This Release" lists all of the PDK protocols that are supported in this release.
- Chapter 5, "Installing the Software" gives step by step procedures for installing the software on a Linux or Windows system.

- Chapter 6, "Configuration" lists the major configuration steps needed when using the Global Call Protocols package. Detailed information about these configuration steps is given in the *Global Call Country Dependent Parameters (CDP) Configuration Guide*.
- Chapter 7, "Fixed Problems" lists the problems that have been resolved in this release.
- Chapter 8, "Known Problems" documents issues with the software that could not be fixed prior to release.
- Chapter 9, "Restrictions and Limitations" discusses restrictions and/or limitations of the product provided in this release.
- Chapter 10, "Release Documentation" lists the documents that accompany this release.

Related Information

See the following for more information:

- *Global Call Country Dependent Parameters (CDP) Configuration Guide* – provides information about configuring the country dependent parameter files included in the Global Call Protocols package. Configuration procedures are given, as well as descriptions of configuration files and configuration parameters.

  Note: For information about the CDP files used with ICAPI protocols, see the *Global Call Country Dependent Parameters (CDP) Reference*, document number 05-0870-006, which was provided with the Global Call Protocols Version 3.0 release. Documentation for the Version 3.0 release is available on the Intel Telecom Support Resources web site.

- Online Bookshelf for your Intel® Dialogic® system release – contains programming guides and reference information for developing Global Call applications. In particular, see the *Global Call API Programming Guide*, *Global Call API Library Reference*, *Global Call Analog Technology User's Guide,* and *Global Call E1/T1 CAS/R2 Technology User's Guide*.
- Release Guide for your Intel® Dialogic® system release – provides information about the system release, system requirements, software and hardware features, supported hardware, and release documentation.
- Release Update for your Intel® Dialogic® system release (available on the Technical Support Web site only) – describes compatibility issues, restrictions and limitations, known problems, and late-breaking updates or corrections to the release documentation.
- *http://developer.intel.com/design/telecom/support* – Technical Support Web site, which contains developer support information, downloads, release documentation, technical notes, application notes, a user discussion forum, and more.

Release Overview 1

This chapter provides a high-level overview of the Intel® Dialogic® Global Call Protocols Version 4.1 for Linux and Windows.

The Global Call Protocols package provides analog and E1/T1 CAS/R2 protocols for a variety of countries and switches. A list of the supported protocols is given in Chapter 4, "Summary of PDK Protocols Supported in This Release".

In Global Call Protocols Version 4.1, the protocols have been built with the capability to do protocol logging on DM3 boards. Use of this feature requires Intel® Dialogic® System Release 6.0 for PCI (or later). For further information about this feature, see the Diagnostics Guide for DM3 products provided on the Online Bookshelf for the Intel® Dialogic® system release.

Global Call Protocols Version 4.1 includes new protocols for Belgium, Chile, and Saudi Arabia. It also includes enhancements to existing protocols and fixes for problems from previous releases.

System Requirements 2

This chapter gives the system requirements for Intel® Dialogic® Global Call Protocols Version 4.1 for Linux and Windows.

Intel® Dialogic® system release software must be installed in order to use the Global Call Protocols package. The Protocols package can be used with the following system releases:

- On **Linux**, Intel® Dialogic® System Release 5.1 for Linux with Service Pack 1 (or later) is required.
- On **Windows**, Intel® Dialogic® System Release 5.1.1 for Windows with Service Pack 1 (or later) is required.

Refer to the Release Guide for your Intel® Dialogic® system release for specific hardware and software requirements.

New Features 3

The new features of this release are described in the following sections:

In addition, a number of PTRs have been fixed. See Chapter 7, “Fixed Problems”.

3.1 New Protocols in This Release

The following protocols are new in this release. These protocols are supported on DM3 and Springware boards.

- Belgium Lineside
- Belgium Network
- Chile R2
- Saudi Arabia R2

3.2 Protocol Enhancements

Global Call Protocols Version 4.1 provides the following enhancements to existing protocols.

PDK Logging Capability

The protocols in this release have been built with the capability to do protocol logging on DM3 boards. The PDK Trace tool can be used to log information related to the operation of the protocol. It can trace the runtime states, input signals, output signals, and decision branches. It can be used to trace a single channel on one trunk, a single channel on multiple trunks, a range of channels on one trunk, or a range of channels on multiple trunks.

The PDK Trace tool is provided with Intel® Dialogic® System Release 6.0 for PCI (or later). For further information about the PDK Trace tool, see the Diagnostics Guide for DM3 products provided on the Online Bookshelf for the Intel® Dialogic® system release.

Enhancements to Generic R2 Protocol

Parameters providing new capabilities have been added to the CDP files for all countries/protocols that use the pdk_r2_io protocol module. The new capabilities include:

- The ability to send a GCEV_ALERTING event to the application after R2MF sequences are completed, without waiting for ringback from the remote site. This is done with the **CDP_SEND_ALERTING_ON_R2MF_COMPLETION** parameter.

- An enhancement to the overlap sending feature. When the remote end asks for the next DNIS digit and the protocol does not have any more DNIS available to be sent, the **CDP_FLAG_APPEND_F** parameter specifies whether to send 'f' (I-15) or to remain silent, indicating to the remote end that no more DNIS digits are available.

Enhancements to E1 CAS and United States T1 Protocols

The CDP files for the E1 CAS and United States T1 protocols contain a new parameter, **CDP_BlockOnLOOS**, that provides the ability to block the line when a channel is out of service.

Enhancements to United States T1 FXS/LS Protocol

The CDP file for the United States T1 FXS/LS protocol contains a new parameter, **CDP_DisconnectToneSup**, that provides the ability to enable or disable disconnect tone supervision.

Summary of PDK Protocols Supported in This Release

4

Table 1 lists all of the PDK protocols in Global Call Protocols Version 4.1 and indicates whether they are supported on DM3 and Springware boards.

Table 1. PDK Protocols Supported on DM3 and Springware Boards

Protocol	Supported on DM3	Supported on Springware
Alcatel 4400 Lineside E1	Yes	Yes
Alcatel VPS 4x00 Lineside	Yes	Yes
Argentina R2	Yes	Yes
Belgium Lineside	Yes	Yes
Belgium Network	Yes	Yes
Brazil R2	Yes	Yes
CCITT R2	Yes	Yes
Chile R2	Yes	Yes
China R2	Yes	Yes
Colombia R2	Yes	Yes
Direct Signaling	Yes†	No
E1 CAS	Yes	Yes
Ericsson MD110 PBX Lineside E1	Yes	Yes
Finland R2	Yes	Yes
Hong Kong DTMF	Yes	Yes
India R2	Yes	Yes
Indonesia E&M	Yes	Yes
Israel R2	Yes	Yes
Italy E1	Yes†	Yes
Korea GDS Lineside E1	Yes	Yes
Korea GDS Network E1	Yes	Yes
Korea R2	Yes	Yes
Lucent Lineside E1	Yes	Yes
Malaysia R2	Yes	Yes

†Support on DM3 requires Intel® Dialogic® System Release 6.0 for PCI (or later).
‡On DM3 boards, the analog protocol is embedded in the firmware.

Table 1. PDK Protocols Supported on DM3 and Springware Boards (Continued)

Protocol	Supported on DM3	Supported on Springware
MELCAS Lineside	Yes	Yes
MELCAS Network	Yes	Yes
Mexico R2	Yes	Yes
Morocco R2	Yes	Yes
Nortel Meridian Lineside E1	Yes	Yes
North American Analog	No‡	Yes
Pakistan R2	Yes	Yes
Philippines R2	Yes	Yes
Saudi Arabia R2	Yes	Yes
Singapore R2	Yes	Yes
Sweden P7	Yes†	Yes
Sweden P7 PBX	Yes†	Yes
Taiwan Modified R1	Yes	Yes
Taiwan T1 E&M	Yes	Yes
Thailand R2	Yes	Yes
United States T1	Yes	Yes
United States T1 FXS/LS	Yes	Yes
Venezuela R2	Yes	Yes
Vietnam R2	Yes	Yes

†Support on DM3 requires Intel® Dialogic® System Release 6.0 for PCI (or later).
‡On DM3 boards, the analog protocol is embedded in the firmware.

In addition to the PDK protocols listed in Table 1, the Springware ICAPI protocols from the Global Call Protocols Version 3.00 continue to be supported in this release.

Note: The development of the ICAPI protocols supported by Global Call has been capped. Customers should migrate to equivalent protocols developed using the Protocol Development Kit (PDK). New protocol development as well as existing protocol support will be on the PDK. For ICAPI protocols not currently supported on the PDK, a customer should open a Feature Request for the desired protocol.

Installing the Software 5

Installation procedures for the Global Call Protocols Version 4.1 are given in the following sections:

5.1 Installing the Global Call Protocols on a Linux System

Before installing the Global Call Protocols, ensure that the required Intel® Dialogic® system release for Linux has been installed. Refer to Chapter 2, "System Requirements" for further information.

If you have a previous version of the Global Call Protocols installed, you should uninstall it before installing the new version. Enter the command: `rpm -e DLGCgcpr`

Install the Global Call Protocols Version 4.1 as follows:

1. Log in to the Linux system as root.
2. Go to the directory where you placed the Global Call Protocols package after downloading it, and unzip it.
3. In the *cd_image/linux/i386* directory, enter the command:

   ```
   ./install.sh
   ```

   The following message is displayed:

   ```
   Intel Dialogic Global Call Protocols Package 4.1 for Linux
                       INSTALLATION
   ```

   No further user entries are required. The Global Call Protocols package *DLGCgcpr-4.1-x.i386.rpm* is installed in the $INTEL_DIALOGIC_DIR directory.

After installing the Global Call Protocols, some configuration procedures are needed. See Chapter 6, "Configuration".

Note: If you want to uninstall or change your Intel® Dialogic® system release software, uninstall the Global Call Protocols package first.

5.2 Installing the Global Call Protocols on a Windows System

Before installing the Global Call Protocols, ensure that the required Intel® Dialogic® system release for Windows has been installed. Refer to Chapter 2, "System Requirements" for further information.

If you have a previous version of the Global Call Protocols installed, you should uninstall it before installing the new version.

Install the Global Call Protocols Version 4.1 as follows:

1. Exit all other programs you may have running.
2. Go to the directory where you placed the Global Call Protocols package after downloading it, and unzip it.
3. In the *cd_image\windows\i386* directory, double-click *setup.exe* to start the installation.

   The installation process displays a Welcome screen and then displays a series of windows including the Destination Location screen where you select the directory where the protocols should be installed.
4. Follow the directions on the screens to complete the installation.
5. When the installation is complete, click **Finish**.

After installing the Global Call Protocols, some configuration procedures are needed. See Chapter 6, "Configuration".

Note: If you want to uninstall or change your Intel® Dialogic® system release software, uninstall the Global Call Protocols package first.

Configuration 6

The major configuration steps when using the Global Call Protocols package are:

1. Configuring the country dependent parameters in the CDP file
2. Downloading the protocol and CDP file

Detailed information about these configuration steps is given in the *Global Call Country Dependent Parameters (CDP) Configuration Guide*. Note that the procedures for downloading on DM3 and Springware boards are not the same.

Fixed Problems 7

Problems from previous Global Call Protocol releases that have been resolved in this release, identified by Problem Tracking Reports (PTRs), are documented in Table 2.

For each PTR, the following information is provided:

PTR Number
the identification number used to track the problem

PTR Description
a summary description of the problem

Table 2. Problems Resolved in This Release

PTR Number	PTR Description
28709	With China R2 protocol, a time-out occurs when the switch does not send I-15 tone, and GCEV_DISCONNECT is returned.
29342	With Nortel Meridian Lineside E-1 protocol, after making a call, the **gc_MakeCall( )** function takes too long (about 8-10 seconds) to get a connected event from the switch although the switch shows (by monitoring the channel) that the connection has been established as soon as the remote party picks up the phone.
29357	The following parameters for ANI/DNIS digit time-out do not function as documented in the *pdk_us_mf_io.cdp* file: • R4 INTEGER_t PSL_TONE_RECEIVEDIGITS_FIRSTDIGIT_TO (default 60000 ms) • R4 INTEGER_t PSL_TONE_RECEIVEDIGITS_INTERDIGIT_TO (default 60000 ms) This PTR has been addressed in the *Global Call Country Dependent Parameters (CDP) Configuration Guide*.
30364	MELCAS network side protocol does not work when run in certain scenarios.
30383	When uninstalling the Global Call Protocols package, if you hit Cancel, the dialog box keeps repeating.
30431	With India R2 protocol, a time-out occurs when the switch does not send I-15 tone, and GCEV_DISCONNECT is returned.
30656	With CCITT R2 protocol, when retrieving ANI using **gc_GetANI( )**, the category digits are included in the ANI.
30660	With United States T1 FXS/LS protocol, GCEV_MEDIADETECTED is returned prior to GCEV_CONNECTED rather than the other way around, which is the expected behavior.
30697	With Brazil R2 protocol, when double answer option is enabled and the reconnect time-out is not zero, disconnect collision causes a non-recoverable protocol error.
30745	With Brazil R2 protocol, **gc_AcceptCall( )** fails if it is called after the **gc_ReqMoreInfo( )** function returns GCEV_MOREINFO with a time-out result value. Calling **gc_AnswerCall( )** instead of **gc_AcceptCall( )** also fails.
30929	The default value for the **CDP_Grp2_6_RecvErrMask** parameter is incorrectly defined in the Mexico R2 *pdk_mx_r2_io.cdp* file.

Table 2. Problems Resolved in This Release (Continued)

PTR Number	PTR Description
30933	With North American Analog protocol on a D/120JCT board, application does not receive Alerting event on call side, causing TMO. Answer side does answer and continues with call.
31151	The Dm3StdErr utility reports sigdet errors when using pdk_us_mf_io on a DM/V960A-4T1-PCI board.
31205	The Ericsson MD110 PBX Lineside E1 protocol does not support cmd_protocolreset.
31346	With North American Analog protocol, when call progress analysis is disabled, **gc_MakeCall(async)** returns GCEV_TASKFAIL event.
31560	Global Call does not provide a way to disable Disconnect Tone Supervision. The configuration manager (DCM) contains a global system-level parameter called DisconnectTone that enables or disables support of Disconnect Tone Supervision. However, Global Call does not consider this parameter value. If this value is set to NO within DCM, Global Call overrides it.
31614	With United States T1 protocol, **gc_DropCall( )** does not return a GCEV_DROPCALL event when called while a **gc_MakeCall( )** is still active.
31721	The China R2 *pdk_cn_r2_io.cdp* file has an error in the description of the **CDP_DNIS_DIGITS_BEFORE_ANI** parameter.

Known Problems 8

This chapter identifies known problems that exist for the Global Call Protocols package. Table 3 lists these known problems, identified by the associated Problem Tracking Report (PTR).

For each PTR, the following information is provided:

PTR Number
the identification number used to track the problem

PTR Description
a summary description of the problem

Table 3. Known Problems

PTR Number	PTR Description
30041	With Lucent Lineside E1 protocol, if **gc_MakeCall( )** is called as soon as GCEV_UNBLOCK is received, GCEV_DISCONNECT is received after **gc_MakeCall( )** time-out. Workaround: After GCEV_UNBLOCK is received, call **gc_MakeCall( )** after a 2-second delay. GCEV_CONNECT is received and there is no problem.

Restrictions and Limitations 9

The restrictions and limitations for this release are as follows:

- Support for the Direct Signaling, Italy E1, Sweden P7, and Sweden P7 PBX protocols on DM3 boards requires Intel® Dialogic® System Release 6.0 for PCI (or later).
- The Direct Signaling protocol is not supported on Springware boards.
- The Belgium R2 ICAPI protocol is not supported in this release.

Release Documentation 10

The documentation provided with this release includes:

- *Intel® Dialogic® Global Call Protocols Version 4.1 for Linux and Windows Release Notes* (this document)
- *Global Call Country Dependent Parameters (CDP) Configuration Guide* – provides information about configuring the country dependent parameter files included in the Global Call Protocols package. Configuration procedures are given, as well as descriptions of configuration files and configuration parameters.

See the Online Bookshelf for your Intel® Dialogic® system release for additional documentation.