

Intel Dialogic Global Call Protocols Version 3.00 for Linux and Windows

Release Notes

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About This Publication

Information about this document is contained in the following sections:

- *Purpose*
- *Intended Audience*
- *How to Use this Publication*
- *Related Information*

Purpose

This document describes the highlights of the Intel Dialogic Global Call Protocols Version 3.00 for Linux and Windows and also provides installation instructions.

Intended Audience

These release notes are intended for users of the Global Call Application Programming Interface (API) to develop applications for DM3 and SpringWare boards using Analog, E-1 CAS, or T-1 robbed bit technologies.

How to Use this Publication

These release notes are organized so that information can be found quickly. Major sections include:

- *Release Overview*
- *System Requirements*
- *New Features*
- *Installation*
- *Configuration*
- *Resolved Problems*
- *Known Problems*
- *Restrictions and Limitations*
- *Release Documentation*

Related Information

See the following for additional information:

- The *Global Call Country Dependent Parameters (CDP) Reference*, which is also provided with this release, describes each modifiable CDP parameter for each protocol.
- The Online Bookshelf for your Intel Dialogic System Release contains programming guides and reference information for developing Global Call applications.
- The Intel Telecom Support Resources web site at <http://developer.intel.com/design/telecom/support/> provides wide-ranging information in the form of technical notes, problem tracking reports, application notes, and other helpful documentation.

Release Overview

The Intel Dialogic Global Call Protocols Version 3.00 for Linux and Windows introduces support for PDK protocols on DM3 boards. Almost all of the PDK protocols supported on SpringWare boards are now supported on DM3 boards as well. This release also includes enhancements to the PDK protocols to support additional countries and switches. See the *New Features* section for details about the new DM3 and SpringWare protocols.

All of the SpringWare PDK and ICAPI protocols from the Global Call Protocols Version 2.00 continue to be supported in this release.

NOTE: *The development of the ANAPI and ICAPI protocols supported by Global Call is capped in this release. 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.*

System Requirements

System requirements for using the Global Call Protocols Version 3.00 are given in the following sections:

- *Linux System Requirements*
- *Windows System Requirements*

Linux System Requirements

Using the Global Call Protocols Version 3.00 on a Linux system requires one of the following Intel Dialogic System Releases:

- System Release 5.1 for Linux **with Service Pack 1** (or later) must be used for protocol support on DM3 boards.

NOTE: *This service pack is scheduled for release after the Global Call Protocols Version 3.00 release. Check the Intel Telecom Support Resources web site at*

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<http://developer.intel.com/design/telecom/support/> for the availability of this service pack.

- System Release 5.1 for Linux can be used for protocol support on SpringWare boards only.

Refer to the Release Guide for your Intel Dialogic System Release for specific hardware and software requirements.

Windows System Requirements

Using the Global Call Protocols Version 3.00 on a Windows system requires one of the following Intel Dialogic System Releases:

- System Release 5.1.1 for Windows **with Service Pack 1** (or later) must be used for protocol support on DM3 and SpringWare boards.
- System Release 5.1 for Windows can be used for protocol support on SpringWare boards only.

Refer to the Release Guide for your Intel Dialogic System Release for specific hardware and software requirements.

New Features

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

- *New Protocols in this Release*
- *Modified Protocols*
- *Protocols Supported on DM3 Boards*
- *Advantages of PDK Protocols*

In addition, a number of PTRs have been fixed. See the *Resolved Problems* section.

New Protocols in this Release

The following PDK protocols are new in this release. These protocols are for **both DM3 and SpringWare boards**, except for Alcatel VPS 4x00 which is for SpringWare only. For the complete list of protocols that are now supported on DM3 boards, refer to the *Protocols Supported on DM3 Boards* section below.

- Alcatel VPS for 4x00 Switch (SpringWare only) (*pdk_sw_vps_4x00_io*)
- CCITT R2 (*pdk_ccitt_r2_io*)

Modified Protocols

- Hong Kong DTMF (*pdk_hk_dtmf_io*)
- Indonesia E&M (*pdk_id_em_io*)
- Korea R2 (*pdk_kr_r2_io*)
- Lucent Lineside E-1 (*pdk_sw_e1_luls_io* for DM3, *pdk_sw_e1_fxs_io* for SpringWare)
- Malaysia R2 (*pdk_my_r2_io*)
- Nortel Meridian Lineside E-1 (*pdk_sw_e1_ntmd_io* for DM3, *pdk_sw_e1_fxs_io* for SpringWare)
- Pakistan R2 (*pdk_pk_r2_io*)
- Philippines R2 (*pdk_ph_r2_io*)
- Singapore R2 (*pdk_sg_r2_io*)
- Taiwan Modified R1 (*pdk_tw_mr1_io*)
- Thailand R2 (*pdk_th_r2_io*)
- Vietnam R2 (*pdk_vn_r2_io*)

Modified Protocols

The following PDK protocols have been modified in this release:

- Alcatel 4400 Switch E-1 FXS: New CDP file, *pdk_sw_e1_ac4400_io.cdp*
- North American Analog (SpringWare only): New parameter added, *CDP_Timeout_Wait_For_RingOff_When_Drop_In_Offered*
- US MF T-1: New call transfer parameters added

Protocols Supported on DM3 Boards

In addition to the new protocols listed above, almost all of the PDK protocols that were formerly available only on SpringWare boards are now supported on DM3 boards. *Table 1* lists the supported protocols.

Table 1. PDK Protocols Supported on SpringWare and DM3 Boards

Protocol	Supported on SpringWare	Supported on DM3
Alcatel VPS 4x00	Yes	No
Alcatel 4400 E-1 FXS	Yes	Yes
Argentina R2	Yes	Yes
Brazil R2	Yes	Yes

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Protocol	Supported on SpringWare	Supported on DM3
CCITT R2	Yes	Yes
China R2	Yes	Yes
Colombia R2	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 E-1 Pulse	Yes	No
Korea R2	Yes	Yes
Lucent Lineside E-1	Yes	Yes
Malaysia R2	Yes	Yes
Mexico R2	Yes	Yes
Nortel Meridian Lineside E-1	Yes	Yes
North American Analog	Yes	No
Pakistan R2	Yes	Yes
Philippines R2	Yes	Yes
Singapore R2	Yes	Yes
Sweden P7	Yes	No
Sweden P7 PBX	Yes	No
Taiwan E&M	Yes	No
Taiwan Modified R1	Yes	Yes
Thailand R2	Yes	Yes
US LS FXS	Yes	Yes
US MF T-1	Yes	Yes
Vietnam R2	Yes	Yes

Advantages of PDK Protocols

Global Call PDK protocols (and the PDK Run-Time Call Control Library (PDKRT) that supports them via the Global Call API) represent the next generation of protocol implementation. We recommend that you plan to incorporate PDK-based

Advantages of PDK Protocols

protocols in your future release plans so that you can take advantage of the planned features and protocol updates as they are delivered. Where possible, PDK protocols should be used instead of ANAPI and ICAPAPI protocols for the following reasons:

- **Site-specific parameters.**
As compared to ANAPI and ICAPAPI protocols, the PDK protocols enable a wider range of changes to be implemented in the field by allowing more protocol parameters to be configured via the Country Dependent Parameter (. *cdp*) file. In addition, the PDK protocols may use a Site Dependent Parameter (. *sdp*) file, which contains site-specific parameter definitions that override any of the corresponding parameter definitions in the . *cdp* file. See the *Global Call E-1/T-1 Technology User's Guide* for more information about . *sdp* files.
- **Compatibility between SpringWare-based and DM3-based products.**
For users who plan to enhance their existing applications to include DM3-based platforms, the PDK protocols have feature compatibility between SpringWare-based and DM3-based products.
- **Future protocols and features based on PDK.**
Because it is easier to configure and implement PDK protocols, future protocols and protocol feature requests will be implemented using PDK-based protocols only.
- **Support for future Global Call API features.**
Unlike current ANAPI or ICAPAPI protocols, PDK protocols may be written or modified to take advantage of future Global Call API features such as Run-Time Configuration Management (RTCM), Global Call Alarm Management System (GCAMS), Global Call Enhanced Call Model (GCCME), and Feature Transparency Extension (FTE).
- **PDK Protocols Support Call Routing.**
The PDK protocols support call routing via the GCST_CALLROUTING state in the inbound direction. Refer to the Global Call programming information on the Online Bookshelf for your Intel Dialogic System Release for more information about the GCST_CALLROUTING state.

Installation

Installation procedures for the Global Call Protocols Version 3.00 are given in the following sections:

- *Installing the Global Call Protocols on a Linux System*
- *Installing the Global Call Protocols on a Windows System*

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 the *System Requirements* section 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 3.00 as follows:

1. Log in to the Linux system as root.
2. Insert the Global Call protocols CD in the CD-ROM drive. Then, if your system is not set up to automount the CD-ROM drive when a CD is inserted, enter the following command to mount the CD to */mnt/cdrom*:

```
mount /dev/cdrom /mnt/cdrom
```

For further information about mounting a directory in Linux, refer to the instructions provided with your operating system.

3. Assuming that the CD-ROM has been mounted on the */mnt/cdrom* directory, enter the following commands to change directory and list directory contents:

```
cd /mnt/cdrom/linux/i386
ls -al
```

The directory listing should show the Global Call Protocols package *DLGCgcpr-3.00-x.i386.rpm* and the *install.sh* script.

4. Enter the following command to start the install script:

```
./install.sh
```

The following messages are displayed:

```
Intel Dialogic Global Call Protocols 3.00 for Linux
INSTALLATION
```

You will now have the opportunity to install software packages. After the menu is displayed, enter the package number(s) of the desired packages, separated by a space. Enter A for all packages, Q to quit.

Package dependencies will be automatically resolved during installation. For example, selecting a single package will automatically install packages required for that selection.

Installing the Global Call Protocols on a Windows System

Press *ENTER* to display the menu of packages:

5. Press Enter.
The menu of packages is displayed:

```
Item  Package Description
-----
  1   Intel Dialogic Global Call Protocols 3.00

  A   Install All
  Q   Quit Installation
```

Enter the packages you wish installed, separated by a space, or [A,a,Q,q]:

6. Enter 1 or A to install the Global Call Protocols package.
7. Follow the directions on the screens to complete the installation. The software is installed in */usr/dialogic*.
When the installation is complete, the menu of packages is displayed again.
8. Enter Q to quit.
When you quit, the following messages are displayed:

```
Quitting the installation tool by request.
If you installed software, you must now configure
CDP file/files and pdk.cfg for DM3.
```

After installing the Global Call protocols, you can configure the CDP file(s); see the *Configuration* section below. In addition, to use the protocols with DM3 boards, be sure to perform the procedure given below in the *Configuring DM3 Boards to Run PDK Protocols* section.

NOTE: If you want to uninstall or change your Intel Dialogic System Release software, uninstall the Global Call protocols package first.

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 the *System Requirements* section for further information.

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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 3.00 as follows:

1. Exit all other programs you may have running.
2. Insert the Global Call protocols CD in the CD-ROM drive.
3. If the installation process does not start automatically when you insert the CD, locate the *Setup.exe* program on the CD-ROM and double-click it.

The installation process displays a Welcome screen and then displays a series of windows including the Software License Agreement and the Destination Location screen where you select the directory where the protocols should be loaded (default is *C:\Program Files\Dialogic*).

4. Follow the directions on the screens to complete the installation.
5. When the installation is complete, choose the option to restart your computer and click **Finish**.

After installing the Global Call protocols, you can configure the CDP file(s); see the *Configuration* section below. In addition, to use the protocols with DM3 boards, be sure to perform the procedure given below in the *Configuring DM3 Boards to Run PDK Protocols* section.

NOTE: *If you want to uninstall or change your Intel Dialogic System Release software, uninstall the Global Call protocols package first.*

Configuration

The following sections provide information about:

- *Configuring Country Dependent Parameters*
- *Configuring DM3 Boards to Run PDK Protocols*

Configuring Country Dependent Parameters

Each protocol is contained in a separate, modular binary file. User selectable options allow customization of the country dependent parameters to fit a particular application or configuration within a country. (For example, switches within the same country may use the same protocol but may require different parameter

Configuring DM3 Boards to Run PDK Protocols

values for local use.) For information about the country dependent parameters, see the *Global Call Country Dependent Parameters (CDP) Reference*.

Configuring DM3 Boards to Run PDK Protocols

After the Global Call Protocols Version 3.00 has been installed, configure the DM3 boards to run PDK protocols as explained in the following sections:

- *Configuring DM3 Boards on a Linux System*
- *Configuring DM3 Boards on a Windows System*

Configuring DM3 Boards on a Linux System

To use PDK protocols on DM3 boards, perform the following procedure:

1. Stop the Dialogic Service if it is running.
2. Create/edit the file `/usr/dialogic/cfg/pdk.cfg` and add a line for each DM3 board in the following format:

```
board <b> fcdfile <f> pcdfile <p> variant <v>
```

where:

 is the logical board number.

<f> is the `.fcd` file assigned to that board in the `pyramid.scd` file.

<p> is the `.pcd` file assigned to that board in the `pyramid.scd` file.

<v> is the name of the CDP file for the protocol to be used, for example, `pdk_ar_r2_io.cdp`.

3. Start the boards.

Configuring DM3 Boards on a Windows System

To use PDK protocols on DM3 boards, perform the following procedure:

1. Stop the Dialogic Service if it is running.
2. Execute "pdkmanagerregsetup add"
3. Create/edit the file `\Program Files\Dialogic\cfg\pdk.cfg` and add a line for each DM3 board in the following format:

```
board <b> fcdfile <f> pcdfile <p> variant <v>
```

where:

 is the logical board number.

<f> is the `.fcd` file assigned to that board in Dialogic Configuration Manager (DCM).

<p> is the .pcd file assigned to that board in DCM.
 <v> is the name of the CDP file for the protocol to be used, for example, *pdk_ar_r2_io.cdp*.

4. Run DCM and start the boards.

Resolved Problems

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.
- Description: A summary description of the problem.

Table 2. Problems Resolved in this Release

PTR No.	Description
23943	When using the <i>pdk_us_ls_fxs_io</i> protocol, if a program executes <code>gc_OpenEx()</code> followed by <code>gc_Close()</code> and then <code>gc_OpenEx()</code> again while the FXO side is waiting for a call, then an unsolicited GCEV_OFFERED event is seen by the FXO side.
24881	When using the <i>pdk_us_mf_io.cdp</i> file, setting the parameter <code>CDP_OUT_WinkStart = 0</code> causes the program to fail with a disconnect making a call as soon as <code>gc_MakeCall()</code> is executed.
25511	DROPCALL is not supported on ANAPI or PDK Analog protocol while in the OFFERED or ACCEPTED state.
25543	When using the <i>pdk_us_mf_io.cdp</i> file, setting the parameter <code>CDP_IN_DialTone_Needed = 1</code> does not produce a dialtone when the calling party seizes the line.
25593	When using the PDK Analog protocol, a disconnect event is not received when the called party answers and then immediately drops the call.
25822	PDK E-1 protocols may have channels hang forever while dropping a call if other side has already sent the IDLE pattern.
25878	The <i>pdk_us_mf_io</i> protocol does not work in Feature Group B and with expanded Call Analysis.
25984	When using the <i>pdk_ar_r2_io.cdp</i> file on DM3, a GCEV_ANSWERED event is not generated the first time a call is answered.

Configuring DM3 Boards to Run PDK Protocols

PTR No.	Description
26106	When using the <i>pdk_ar_r2_io</i> protocol on DM3, if channel is set to out-of-service then back to in-service again, and the remote channel state has changed between the two operations, the remote channel state is not reported correctly by the protocol after being set back to in-service.
26108	On DM3, when using Malaysia, Philippines, Singapore, Pakistan, Thailand, and CCITT R2 PDK protocols on the inbound side, <i>gc_GetANI()</i> retrieves the correct ANI information, but appended with 'f' at the end.
26145	When using the Hong Kong DTMF PDK protocol (<i>pdk_hk_dtmf_io</i>), the protocol hangs when receiving an inbound call if the <i>CDP_R2CallScenario</i> parameter is set to 2.
26790	The <i>pdk_us_mf_io</i> protocol does not transmit <i>CAS_HANGUP</i> in the time-out condition until <i>gc_DropCall()</i> is received.
27006	An immediately aborted blind transfer causes ports/channels to lock up.

Known Problems

Known problems, identified by Problem Tracking Reports (PTRs), are documented in *Table 3*. For each PTR, the following information is provided:

- PTR Number: The identification number used to track the problem.
- Description: A summary description of the problem. A workaround is included when available.

Table 3. Known Problems

PTR No.	Description
26022	On DM3, when using the <i>pdk_us_ls_fxs_io.cdp</i> file, setting the parameter <i>CDP_WaitDialToneEnabled = 1</i> causes <i>gc_BlindTransfer()</i> to fail. This is a problem with the System Release, not with the Global Call Protocols package. The problem is scheduled to be resolved in the next System Release.

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PTR No.	Description
27103	<p>The Italy E-1 Bidirectional for PDKRT protocol (<i>pdk_it_e1_io</i>) does not function properly. One pulse digit notification is being missed, resulting in time-out and loss of a call.</p> <p>This is a problem with the System Release, not with the Global Call Protocols package. The problem is scheduled to be resolved in the next System Release.</p>

Restrictions and Limitations

The restrictions and limitations for this release are as follows:

- Overlap send/receive is not supported on DM3. If a PDK protocol that supports overlap send/receive is used on DM3, that feature cannot be used.

This is a problem with the System Release, not with the Global Call Protocols package. The problem is scheduled to be resolved in the next System Release.

- With the United States T-1 Bidirectional for ICAP1 protocol (*us_mf_io*), the \$1 parameter (number of rings before no answer) does not take effect and is being documented as a permanent restriction. You can use the PDK version of this protocol (*pdk_us_mf_io*) if you require this functionality, which can be achieved through the use of `gc_SetCallProgressParm()` when using the *pdk_us_mf_io* protocol.

Release Documentation

The documentation provided with this release includes:

- *Intel Dialogic Global Call Protocols Version 3.00 for Linux and Windows Release Notes* (this document)
- *Global Call Country Dependent Parameters (CDP) Reference*

See the Online Bookshelf for your Intel Dialogic System Release for additional documentation.