

# **Third Party Hardware TDM Bus Administration for Windows**

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05-1509-004



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Publication Date: March 2003

Part Number: 05-1509-004

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# 1. Overview

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This guide provides installation and configuration instructions for Intel® Dialogic Third Party Support software. Third Party Support software, an optional part of the Intel® Dialogic system software for Windows\*, allows the Intel® Dialogic Configuration Manager (DCM) to reserve TDM bus resources for third party use.

**NOTE:** Third Party Support software can only reserve TDM bus resources in an Intel® Dialogic system; actual configuration of your third party board(s) must be done according to the vendor's documentation.

If a third party board is added to the system, the Intel® Dialogic system software needs to identify which TDM bus time slots the third party board will be using so that Intel® NetStructure™ boards will not attempt to use the same time slots. Third Party Support software resolves this problem by letting you do the following:

- Reserve a range of time slots for third party boards.
- Set the TDM bus capability (SCbus master, SCbus slave, H.100 master, H.100 slave, H.110 master, H.110 slave) for each third party board.

## 1.1. Organization of this Guide

The information in this guide is organized as follows:

- *Chapter 2. Installing Third Party Support Software* provides information about installing the Third Party Support software as part of the Intel® Dialogic system software installation.
- *Chapter 3. Using Third Party Support Software* includes information about how to use the Third Party Technology Configuration (Third Party Support) Graphical User Interface (GUI) to reserve TDM bus resources for third party hardware in an Intel® Dialogic system.
- *Chapter 4. Third Party Support Software and the DCM* includes information about how the Third Party Support configuration data interacts with the Intel® Dialogic Configuration Manager (DCM).

## **1.2. Summary of the Installation and Configuration Procedure**

*Table 1* provides an overview of the Third Party Support software installation and configuration procedure and refers to the section of this guide where detailed information about each step may be found.

**Table 1. Summary of the Installation and Configuration Procedure**

| <b>Step</b>                                                              | <b>Reference</b>                                                |
|--------------------------------------------------------------------------|-----------------------------------------------------------------|
| Install the Java™ 2 Runtime Environment (JRE)                            | <i>Section 1.3. Third Party Support Software Requirements</i>   |
| Install the Intel® Dialogic system software                              | <i>Chapter 2. Installing Third Party Support Software</i>       |
| Invoke the Third Party Support GUI                                       | <i>Section 3.1. Starting Third Party Support Software</i>       |
| Enter Third Party Technology Configuration information                   | <i>Section 3.2. Third Party Technology Configuration Window</i> |
| Save changes and exit the Third Party Support GUI                        | <i>Section 3.3. Exiting the Third Party Support GUI</i>         |
| Allow the DCM to detect Third Party Technology Configuration information | <i>Section 3.3. Exiting the Third Party Support GUI</i>         |

## 1. Overview

### 1.3. Third Party Support Software Requirements

Third Party Support software requires that the Java 2 Runtime Environment (JRE)\* be installed prior to starting the Third Party Support GUI. The JRE can be installed before or after the Intel® Dialogic system software is installed. The following versions of the JRE are compatible with the Third Party Support software:

- Sun\* “Java 2 Runtime Environment, Standard Edition, v 1.2.2 or v 1.3”, available at <http://java.sun.com/j2se/>.
- IBM® JRE v 1.3, available at <http://www7b.boulder.ibm.com/wsdd/wspvtjre-info.html>

**NOTES:** 1. All URLs are current as of the date of this publication.

2. Third Party support software only supports JRE version 1.3.x or version 1.2.2.



## 2. Installing Third Party Support Software

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Third Party Support software is installed as part of the Intel® Dialogic system software installation whenever any of the Intel® NetStructure options is selected. See the *System Release Software Installation Guide* for complete documentation about installing the Intel® Dialogic system software.



## 3. Using Third Party Support Software

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This chapter includes instructions on using the Third Party Support software to reserve TDM bus resources for third party hardware. Use the Third Party Support software for the following:

- Reserving TDM bus time slots for third party technologies
- Adding a third party board
- Updating a third party board
- Deleting a third party board
- Assigning TDM bus capabilities to a third party board (SCbus slave/master, H.100 slave/master, H.110 slave/master)

### 3.1. Starting Third Party Support Software

After the Intel® Dialogic system software installation is complete, you can invoke the Third Party Support GUI by clicking the **Third Party Client** option from the **Intel Dialogic Release 6.0 cPCI** program group in the Windows\* Start menu.

- NOTES:**
1. Third Party Support Software requires that Java Runtime Environment (JRE) be installed prior to starting the Third Party Support GUI. For more information about installing the JRE, see *Section 1.3. Third Party Support Software Requirements*.
  2. In order to view the Third Party Support GUI, your computer's monitor display must be set to 256 colors or greater.

### 3.2. Third Party Technology Configuration Window

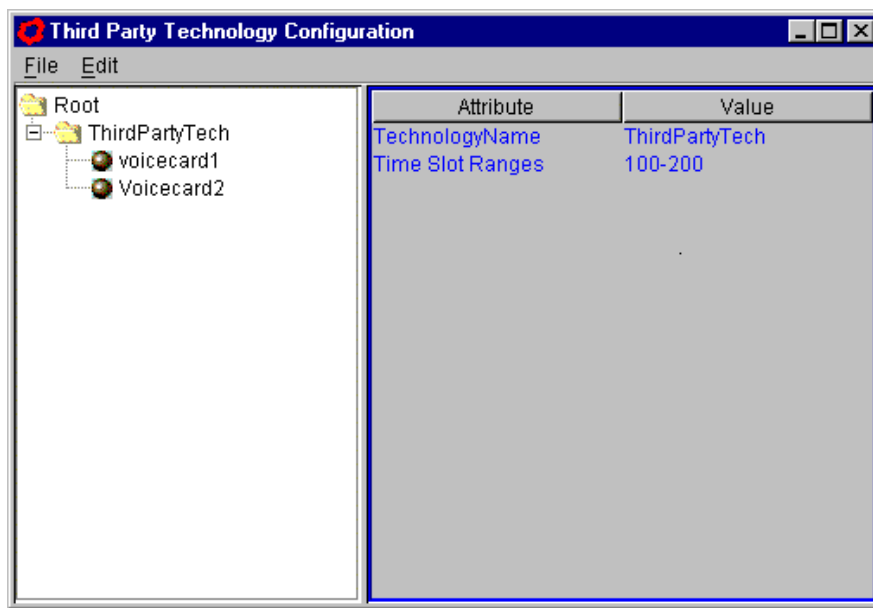
When the Third Party Support GUI starts, the **Third Party Technology Configuration** window displays the configured third party boards in a tree structure.

### **Third Party Hardware TDM Bus Administration for Windows**

If you are running the Third Party Support GUI for the first time, the tree structure will be empty except for the **Root** and the **ThirdPartyTech** technology folder.

**NOTE:** The Third Party Support GUI may be used to reserve TDM bus resources before third party boards are installed in the system.

The first two levels of the Third Party Technology tree structure, **Root** and **ThirdPartyTech**, are the headings for the Third Party Support software package; they cannot be modified or deleted. The final level of the tree structure displays the names of the individual third party boards installed in your system. If the individual board names are not displayed, click the **ThirdPartyTech** folder node to expand the tree structure:



**Figure 1. Third Party Support GUI**

### 3. Using Third Party Support Software

#### 3.2.1. ThirdPartyTech Folder

The **ThirdPartyTech** folder reserves time slots for all third party boards and contains individual third party board names. Time slots reserved through the Third Party Support GUI are available for use **only** by the third party boards within the **ThirdPartyTech** folder; they cannot be used by Intel® NetStructure boards.

Intel® NetStructure boards will use the first available TDM bus time slots. For example, if you use the Third Party Support GUI to reserve time slots 0-200, then the Intel® NetStructure base time slot will be 201.

#### Reserving Time Slots for Third Party Boards

To reserve a range of time slots for third party boards, follow these steps:

1. Highlight the **ThirdPartyTech** folder in the **Third Party Technology Configuration** window.
2. From the **Third Party Technology Configuration** window tool bar, choose **Edit...Update**.
3. The **ThirdPartyTech: Update Dialog** box will appear. Enter a range of TDM bus time slots to reserve for third party board use.

**NOTES:** 1. The reserved time slots must be whole integers between 0-4096.

2. If you are reserving multiple TDM bus time slot ranges, you cannot place a space after the comma which separates any two time slot ranges. For example:

- 100-200, 300-400 results in an **Invalid Range Syntax** error message
- 100-200,300-400 is acceptable input

4. Click **OK**.

#### 3.2.2. Third Party Boards

After you have allocated a range of TDM bus time slots for all third party boards, you can then add individual third party boards. Each third party board in your

### ***Third Party Hardware TDM Bus Administration for Windows***

system must be assigned a device name and a TDM bus clocking capability. A third party board can be assigned any of the following TDM bus clocking capabilities:

- SCbus slave
- SCbus master
- H.100 slave
- H.100 master
- H.110 slave
- H.110 master

**NOTE:** Intel® Dialogic Third Party Support software can only assign TDM bus clocking capabilities to third party boards; actual TDM bus status for third party boards must be set through the DCM. Refer to the DCM online help for detailed information about the DCM clocking parameters.

### **Adding a Board**

To add a third party board, perform the following steps:

1. Highlight the **ThirdPartyTech** folder in the **Third Party Technology Configuration** window.
2. From the **Third Party Technology Configuration** window tool bar, choose **Edit...Add**.
3. The **ThirdPartyTech: Add dialog** box will appear. Enter a unique device name. Use the checkboxes to assign TDM bus clocking capabilities for the board.

**NOTE:** You must assign at least one TDM bus clocking capability for each third party board.

4. Click **OK**.

### **Updating a Board's Configuration**

Follow the steps below to update a board's configuration:

1. Highlight the board you would like to update.

### 3. Using Third Party Support Software

2. From the **Third Party Technology Configuration** window tool bar, choose **Edit...Update**.
3. The **ThirdPartyTech: Update dialog** box will appear. Update the appropriate fields.
4. Click **OK**.

#### Deleting a Board

Follow the steps below to delete a board:

1. Highlight the board you would like to delete.
2. From the **Third Party Technology Configuration** window tool bar, choose **Edit...Delete**.

#### 3.2.3. Viewing Attributes and Values

The left side of the Third Party Support GUI displays a tree structure of all third party boards. When you highlight the **ThirdPartyTech** folder or an individual board within the tree structure, its corresponding configuration settings are displayed on the right side of the GUI.

When the **ThirdPartyTech** folder is highlighted, the following information is displayed in the **Value** column:

- Technology Name
- Time Slot Ranges (TDM bus)

When an individual board is highlighted, the board's TDM bus clocking capabilities are displayed in the **Value** column.

### 3.3. Exiting the Third Party Support GUI

When all third party hardware configuration is complete, you **must** perform the following steps so that the Intel® Dialogic system software can detect the changes and allocate the required resources:

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1. Save the changes made through the Third Party Support GUI. Choose **File....Save** from the **Third Party Technology Configuration** window tool bar.
2. Exit the Third Party Support GUI. Select **File...Exit** from the **Third Party Technology Configuration** window tool bar.
3. Allow the Intel® Dialogic system software to detect the new third party hardware settings; you can do this in either of the following two ways:
  - If the DCM is not running, then start the DCM. You can access the DCM by clicking the **Configuration Manager (DCM)** option from the **Intel Dialogic System Software** program group in the Windows Start menu.
  - If the DCM is running, then select the **Auto Detect Devices** option from the DCM **Action** menu.

## 4. Third Party Support Software and the DCM

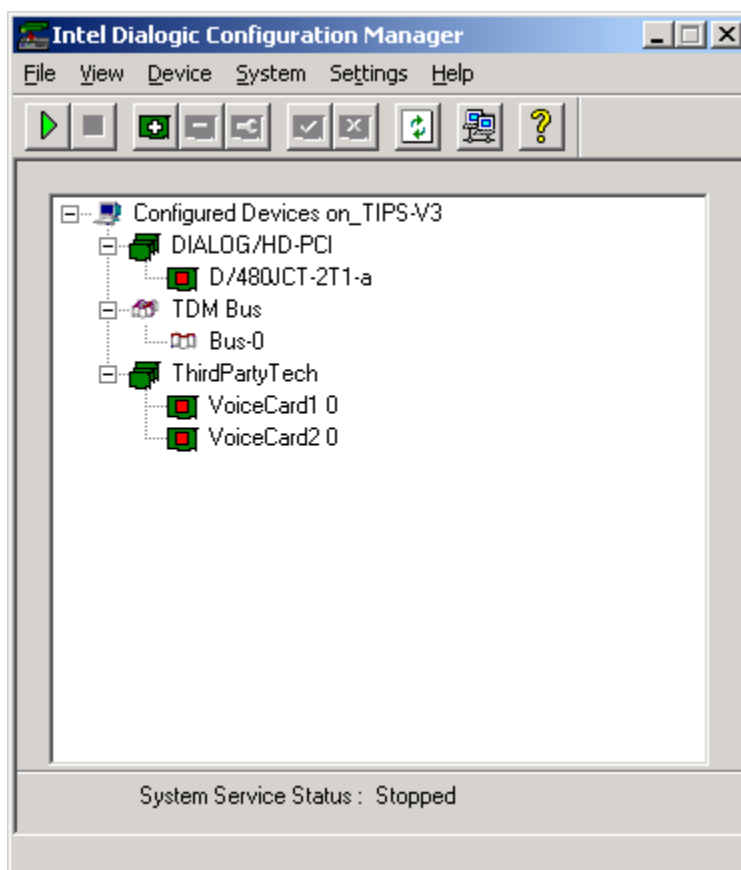
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This chapter discusses how the Third Party Support configuration data interacts with the Intel® Dialogic Configuration Manager (DCM). The DCM provides a graphical user interface for viewing and modifying Intel® NetStructure board configuration data.

### 4.1. DCM Main Window

After information has been entered/updated through the Third Party Support GUI and the DCM has detected third party board configuration data, the DCM will access the Third Party Support software information and display any third party boards in its main window along with any Intel® NetStructure boards in the system. See *Section 3.3. Exiting the Third Party Support GUI* for information about detecting third party board configuration data with the DCM. Figure 2 shows how third party boards (VoiceCard1, VoiceCard2) are displayed in the DCM Main Window:

### *Third Party Hardware TDM Bus Administration for Windows*



**Figure 2. DCM Main Window**

The DCM cannot directly communicate with third party boards, therefore only a small subset of DCM configuration parameters apply to third party boards listed in the DCM Main Window.

Refer to the DCM online help for specific DCM parameter definitions.

## 4. Third Party Support Software and the DCM

### 4.2. DCM Clocking Parameters and Third Party Support

This section describes how the DCM clocking parameters interact with the Third Party Support TDM bus clocking capabilities.

Refer to the DCM online help for more information about the parameters described in this section.

The source for clocking depends on the bus mode in which the system runs. The system automatically determines the bus mode based on the capability of the boards installed in your system: for H.110 capable boards, the bus mode is H.110 mode.

Any third party board that is given H.110 master clocking capability in the Third Party Support GUI and is displayed in the DCM Main Window can be assigned to any one of the following DCM parameters:

- Primary Master FRU (User Defined)
- Secondary Master FRU (User Defined)

Any third party board that is added through the Third Party Support GUI and is displayed in the DCM Main Window can be designated as the **NETREF One FRU (User Defined)** through the DCM GUI.

**NOTE:** If you designate a third party board as the Primary Master FRU, the Secondary Master FRU or the NETREF One FRU through the DCM GUI, the board must be downloaded/started according to the vendor's documentation before the Intel® NetStructure boards are started.

Refer to *Section 4.2.1. Setting the Clock Source for H.110 Mode Systems* for basic information about setting the clock source.

#### 4.2.1. Setting the Clock Source for H.110 Mode Systems

Perform the procedure described below to change the default clock settings for H.110 mode systems:

1. Double click **Bus 0** under **TDM Bus** in the DCM tree structure of configured devices. The TDM Bus Configuration property sheet for **Bus 0** is displayed.

### ***Third Party Hardware TDM Bus Administration for Windows***

2. In the TDM Bus Configuration property sheet, ensure that the **TDM Bus Type** is set to the proper bus mode for your system, H.110.
  3. Highlight the **Primary Master FRU (User Defined)** parameter.
  4. Select from the Value field pull-down menu the name of the board that will provide clocking to the bus.
  5. Click **Apply**.

If you are using the Primary Master board's internal oscillator as the clocking source, continue with step 11. If the Primary Master board is deriving system clocking from a digital network trunk connected to a Network Reference (NETREF) board, continue with step 6.
  6. In the TDM Bus Configuration property sheet, highlight the **NETREF One FRU (User Defined)** parameter.
  7. In the **Value** field, enter the name of the board that contains the network interface which will provide a network reference clock to the system; this should be the same name as displayed in the DCM Main Window.
  8. Click **Apply**.
  9. Specify the source of the network reference clock (specifically, the trunk on the board containing the digital network interface providing the clock) via the **Derive NETREF One From (User Defined)** parameter.
  10. Click **Apply**.
  11. Finally, configure the Primary Master board to use the correct clock reference by setting the **Derive Primary Clock From (User Defined)** parameter to either NETREF\_1 or Internal Oscillator.
- NOTE:** The NETREF\_2 drop-down list option is not supported by the current Intel® Dialogic system software release.
12. Click **OK**.

To designate a third party board or Intel® NetStructure board as the Secondary Clock Master, carry out the same procedure as above, but type the name of the third party board or Intel® NetStructure board in the **Value** field of **Secondary Master FRU (User Defined)** instead of **Primary Master FRU (User Defined)** and set the **Derive Secondary Clock From (User Defined)** parameter instead of **Derive Primary Clock From (User Defined)**.

