Acceleport and DataFire RAS
SCO UnixWare Driver

Installation and Configuration Guide

92000287A

Product Descriptions

DataFire RAS PTE Product Profile

Introduction

The DataFire RAS PTE family of PCI-compliant adapters offers both ISDN and analog support for up to 60 ports per PCI card. Models include one- and two-port T1 and one- and two-port E1 models. Each port can be configured for either analog or ISDN communication.

Ports and Channels

The following table lists the number of DS0 and B-channels available per adapter.

Model	DS0 Channels	B-Channels
One-port T1	24	23
Two-port T1	48	46
One-port E1	30	30
Two-port E1	60	60

Adapters Per Server

Up to 4 DataFire RAS PTE adapters can be installed on the same server, providing up to 240 B or DS0 channels.

Operating System Support

Drivers are available for Windows NT 4, SCO UnixWare 7, and Novell NetWare 4.1 and 4.11.

Key Features

Here are some key product features:

- 56 Kbps support (both K56flex and X2)
- B-channel concatenation, both within and across multiple adapters
- Direct Inward Dialing (DID) support

DataFire RAS 4 Series Product Profile

Introduction

The four-port, PCI-compliant DataFire RAS 4 Series adapters provide remote access servers (RAS) with ISDN basic rate interface (BRI) connectivity. Each port provides a BRI connection that supports the following types of calls:

- Two ISDN B and one ISDN D-channel
- 56 Kbps analog modem (both K56flex and X2)
- Fax

ISDN Interfaces

The DataFire RAS 4 Series comes with either

- An S/T interface, which requires an external NT-1 or
- A U interface, which provides an integrated NT-1

Adapters Per Server

Up to 4 DataFire RAS 4 Series adapters can be installed on the same server, providing up to 32 ISDN B-channels.

Operating System Support

Drivers are available for Windows NT 4, SCO UnixWare 7, and Novell Netware 4.1 and 4.11.

Acceleport RAS Product Profile

Introduction

The four-and eight-port, PCI-compliant Acceleport RAS Series adapters provide remote access servers (RAS) with 56Flex modem connectivity.

Operating System Support

Drivers are available for Windows NT 4, SCO UnixWare 7, and Novell Netware 4.1 and 4.11.

DataFire/Acceleport RAS Product Setup

Introduction

This section describes the steps required to setup the Acceleport RAS 4/8, DataFire RAS 4, and DataFire RAS 24/48/30/60 products on a SCO UnixWare system.

Setup Overview in SCO UnixWare

Here are the steps required for set up on SCO UnixWare:

1. Ensured that your SCO UnixWare system is running UnixWare 7.0.1 with patch ptf7053b. You can get this patch from the SCO web site.
2. Gather configuration information. See the table.

Product	See...
Acceleport RAS	No configuration information needs to be gathered.
DataFire RAS PTE	RAS 24/48/30/60 Information to Gather
DataFire RAS 4	RAS 4 Information to Gather

3. Install the adapter. See the appropriate hardware installation card for more information.
4. Install SCO engineering patch erg710756. You can get this patch from Digi at the following URL: **ftp:dgii.com/drivers/unix_svr4/released/async/erg710756**.
5. Install the SCO UnixWare driver. See one of the following: Installing a SCO UnixWare Driver from CD or Installing a Driver after a Download.
6. Read the release notes located in /etc/inst/nd/mdi/dgisdn/rnotes.
7. Add the Digi adapter to the WAN device list. See Adding a WAN Device.
8. Set up modems for auto answer. This step is only required if you want to support dial-in modem connections. See Setting Ports to Auto-Answer.
9. Enable Dial-in connections. See Enabling Devices for Dial-In.
10. For ISDN connections on RAS 4 and RAS 24/48/30/60, configure PPP connections. See the SCO online documentation for information on PPP configuration.

RAS 4 Information to Gather

Before starting configuration, gather the applicable information listed in the table.

Information	Source
The type of switch to which your adapter will be connected	Service provider
The telephone number of each Logical Terminal (if required by your service provider)	Service provider
The SPID (Service Profile Identifier) number for each Logical Terminal (if required by your service provider)	Service provider
Address Type	Service provider
Numbering Plan	Service provider
Subaddress Type	Service provider

RAS 24/48/30/60 Information to Gather

Before starting configuration, gather the information listed in the table.

Information	PRI	T1	E1	Source/Notes
Switch type	Yes	No	No	Telephone company.
Telephone numbers	Yes	Yes	Yes	Telephone company. RAS PTE PRI supports one number only.
Framing method	Yes	Yes	Yes	Telephone company.
Line encoding	Yes	Yes	Yes	Telephone company.
Span type (long or short haul)	Yes	Yes	No	Telephone company.
Line build out	Yes	Yes	No	Telephone company.
Short haul length	Yes	Yes	Yes	Measure the distance from the DataFire to the nearest digital repeating device.
Off-hook signaling	No	Yes		Either the telephone company or the PBX administrator, depending on whether the interface is to the telephone company switch or a PBX.

Installing a SCO UnixWare Driver from CD

This procedure describes how to install a Digi SCO UnixWare driver.

Note

There are two Menu Programs for installing UNIX drivers on the CD. One runs under X Windows and the other is a curses-based program.

Prerequisite

This procedure assumes that you have done the following:

- Created a **/usr/digi** directory. (This name MUST be used.)
- Determined the device name of the CD driver on your system
- Installed the Digi adapter

Procedure

1. Place the CD in the system CD drive.
2. Mount the CD drive using the following command:
   mount -r -f cdfs -o fperm=777 *[devicename]* **/usr/digi**

   devicename is the name of the CD on your system. A common CD device name is: /dev/cd0
3. Change to the **/usr/digi** directory:

   cd /usr/digi
4. If you want to use the X Windows version of the Menu Program, ensure that it is running.
5. Type one of the following at the command prompt:

   unix_xwin (X Windows version)
   unix_char (Curses version)
6. Choose the **Install Software** option. (Look under **File** in the curses version)
7. Select a driver from the list.

   The driver files will be copied to the system.

Installing a Driver after a Download

This topic describes how to install a Digi driver after you have downloaded it from the Digi web site.

Procedure

1. Type **pkgadd -d /4001891_x** and then press **<Enter>**. (note: This command assumes the downloaded driver is in the root directory. **x** is a version number.)
2. Follow the prompts.

Adding a WAN Device

Procedure

1. Select **Network Configuration Manager** in the window environment or type **netcfg** at a root prompt.
2. From Network Configuration Manager select **View > Wan**.
3. Select **Hardware > Add new WAN device > Add new WAN device**.
4. Select the first line of your adapter type.
5. Click **Continue**.
6. Configure parameters and advanced options as required and then press **OK**. For information on configuration fields, see the table below:

Product	For More Information...
Acceleport RAS	Acceleport RAS 4/8 Configuration Fields
DataFire RAS PTE	DataFire RAS 24/48/30/60 Configuration Fields
DataFire RAS 4	DataFire RAS 4 Configuration Fields

Setting Ports to Auto-Answer

This topic describes how to set up a port for auto-answering. This procedure is required only if you want dial-in access.

Procedure

1. Create an entry in the Devices file: (a) Navigate to the correct directory: **cd /etc/uucp**. (b) Display the directory contents: **ls**. (c) Open the Devices file with VI: **vi Devices**. (d) Navigate to the bottom of the file: **<Shift> + g**. (e) Open a new line: Type 0. (f) Add an entry to the Devices list: Type **Direct term/dg0async1s -9600 direct <Esc>**. (g) Repeat for every port that you want to be able to auto-answer. (h) Exit the vi editor: **<Shift> + zz**.
2. Type **cu -l term/dg0async1s** and then press **<Enter>**.
3. To set a port to auto-answer, type **ats0=1&w** and then press **<Enter>**.

   The system responds **OK**.
4. To view settings, type **A+&v** and then press **<Enter>**.
5. Repeat these steps for each device that will be used for dial-in.
6. To exit, hold down the **<Shift>** key and then press **~** (tilde).

Enabling Devices for Dial-In

This topic describes how to enable ports for dial-in access.

Procedure

1. Type **scoadmin modem** and then press **<Enter>**.
2. Select **Modem** > **Add** > **Manual Configuration**.
3. Select **Digi** from the left-hand column and **Digi RAS modem 56000** from the right-hand column.
4. Select a port from the **Modem port** field and then press **Configure port...**.
5. Specify the type of call the modem will handle (inbound, outbound, or both) and specify a speed of 9600.
6. Select **OK** > **OK**.

   The Digi RAS modem 56000 appears in the list.
7. Exit the Modem Manager by selecting **Host** > **Exit**.
8. If you want to use this port for PPP traffic, this procedure is complete.
9. If you want to enable the port for non-PPP traffic, do the following: (a) Type the following and then press **<Enter>**: **/usr/local/bin/fixmon** (b) View the Flags field for a capital **P**, which indicates the port is expecting PPP traffic. (c) If the port is set for PPP traffic, type the port number at the prompt and then press **<Enter>**.

DataFire RAS 24/48/30/60 Configuration Fields

The following is information on RAS PTE configuration fields:

Parameter	Description
Equ gain	The default works for most sites. Change this value only if you encounter excessive CRC or line errors. Then change the value to see if this reduces the number of these errors.
Framing Format	Specify the framing format used by your network. Contact your telephone service provider for this information.
Line Encoding	Specify the line encoding scheme used by your network. Contact your telephone service provider for this information.
Modem Nationality	Specify the modem nationality used in this country.
Channelized T1 or PRI Signaling	Specify the type of switch used by your telephone service provider.
Jitter Attenuator	The jitter attenuator is designed to correct synchronization problems. Usually you can use the default. Change this parameter only if you experience excessive CRC or line errors. **Auto** means this adapter determines the most appropriate way to correct synchronization problems. **Rx** means that the receiver is responsible for correcting synchronization problems **Tx** means that the transmitter is responsible for correcting synchronization problems **None** means that the jitter attenuation is disabled.
Clock Source	Typically, use **Loop**, which means derive the clock from the network. Use **Local** only in test environments when two RAS PTE adapters are connected via cable. In this case, one adapter must specify Local and the other **Loop**. Never use **MVIP**; it is not supported.
Short Haul-Long Haul	Use one of the short haul values in the following instances: (1) A PBX terminates the ISDN line into the building. (2) The telephone company has installed a smart jack at your site that implements a short-haul interface. Choose the specific short haul value by determining the distance (in feet) to the nearest device that regenerates the electrical signal. For example, if the nearest regenerating device is 100 feet away, specify SH_0_133. If the device is 400 feet away, specify SH_399_533. Use one of the long haul values in either of the following instances: (1) The adapter terminates the line into the building. (2) The telephone company has installed a smart jack at your site with a long haul interface. Get the specific long haul value from your telephone company.

DataFire RAS 4 Configuration Fields

The following is information on DataFire RAS 4 configuration parameters:

Field	Description
Modem Nationality	Identifies the country in which the RAS 4 adapter will be used.
BRI Switch Type	Specify the type used by your ISDN service provider.
ISDN Address B-Channel **x**	Specify the telephone number for this B-channel. Both B-channels on a line can use the same telephone number.
ISDN Subaddress B-Channel **x**	Specify the subaddress issued by your telephone company. Use this field for European ISDN connections only.
ISDN SPID B-Channel **x**	Specify the SPID issued by your telephone company. Use this field for North American ISDN connections only.

Acceleport RAS 4/8 Configuration Fields

Modem Nationality is the only configuration field for Acceleport RAS 4/8. Use the modem nationality for the country in which the Acceleport RAS will be used.

DataFire/Acceleport RAS Driver Removal

Driver Removal Overview

This topic describes the steps required to remove a DataFire/Accceleport RAS driver from SCO UnixWare.

Procedure

1. Remove the driver from the WAN Devices list. See Removing the Driver from the WAN Devices List.
2. Uninstall the driver. See Uninstalling SCO UnixWare Drivers.

Removing the Driver from the WAN Devices List

This topic describes how to remove the Digi driver from the WAN Devices list using **netcfg**.

Procedure

1. Access the Network Configuration Manager: Select **Network Configuration Manager** in the Window environment or type **netcfg** at the root prompt and then press **<Enter>**.
2. Select **View** > **WAN**.
3. Select the driver from the list.
4. Select **Hardware** > **Remove network device**.
5. Click **Yes** at the prompt.
6. Click **OK** at the confirmation message.
7. Exit the Network Configuration Manager.

Uninstalling SCO UnixWare Drivers

Procedure: Using SCO Admin

1. Select **SCO Admin** in the window environment or type **scoadmin** at a root prompt.
2. Double-click the **Software Management** folder in the System Administration window.
3. Double-click **Application Installer**.
4. Select **sco_driver** from the **All Applications Currently Installed** window. Sco_driver is the name of the Digi driver to be removed.
5. Select **Remove**.

Procedure: Using pkgrm

1. Remove the driver with this command:
   pkgrm sco_driver

   Sco_driver is the name of the Digi driver to be removed. For a list of software/drivers installed on the system, use this command: **pkginfo.**
2. Follow prompts to remove the driver.