Software Manual

Digi PortServer and PortServer II

RealPort Device Driver for Novell NetWare AIO

92000172B

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Table of Contents

Introduction

Overview

The RealPort™ AIO device driver for the Digi PortServer™ and PortServer II"
provides support for asynchronous applications running in Novell NetWare 3.x
and 4.x environments.

The device driver provides access to a maximum of sixteen PortServers.

Once you have completed the hardware installation as described in the
PortServer *User's Guide and Reference Manual, you* may proceed with the
device driver installation instructions starting on the following page.

Note: The procedures for PortServer and PortServer II are
identical. If you have a PortServer II with a PORTS/16em
attached, the device driver treats it as a single unit with 32
ports.

Important! Be sure to read the *Release Notes* that may be included with
this software device driver. The *Release Notes* contain
information not available at this manual's press time.

Software Installation

Note: Software changes more rapidly than printed documentation can keep up. For this reason, some of the screens or prompts may not appear exactly as shown.

Copying the Files

To install the Digi AIO driver for PortServer, simply copy the relevant files to your file server. The Digi AIO files (AIOPSDRU . NLM, AIOPSCFG . NLM, A IOPSBOT . NLM and A IOPSMON . NLM) should be copied to the system directory of the file server, typically called F :\SYSTEM. Copy the files from a workstation to the file server with the commands:

```
COPY A:\AIOPSDRU.NLMF:\SYSTEM
COPY A:\AIOPSCFG.NLMF:\SYSTEM
COPY A:\AIOPSBOT.NLMF:\SYSTEM
COPY A:\AIOPSMON.NLMF:\SYSTEM
```

Configuring the PortServer AIO Driver

Before the AIO driver can be loaded for the first time, it must be configured to match the PortServer hardware you have installed on your network. The configuration program, A IOPSCFG . NLM, writes the configuration file, A IOPSDRU . CFG, with the new configuration data.

To configure the AIO driver, make sure the driver (A IOPSDRU . NLM) is not loaded, then enter the following command from the server:

    load aiopscfg

The first time you run the configuration utility, no configuration file will be present, and you see the following:

```
           DigiPortServerAIO Setup  Utility        u 1.01


                          Digi PortServer

      Name    Brd#     Huntgroup TCP Port
                       AIOPSDRU.NLM configured for 0 Port Servers


      ┌──────────────────────────┐
      │     Available Options     │
      ├──────────────────────────┤
      │ >  Add PortServer         │
      │    Delete PortServer      │
      │    Set Huntgroup Option   │
      │    Set TCP Port           │
      │    Exit                   │
      └──────────────────────────┘
```

Adding PortServers

To add a PortServer to the configuration, use the arrow keys to position the pointer next to Add **PortServer**, and press <Enter>. When prompted for the name of the PortServer, enter the name assigned during installation of the PortServer module (see the PortServer ***User's Guide and Reference Manual).*** ***The driver*** supports up to sixteen PortServers. If the name was DigiPS1, your screen will now look like this:

```
┌─────────────────────────────────────────────────────────────────┐
│ ┌─────────────────────────────────────────────────────────┐      │
│ │         Digi PortSeruer AIO Setup  Utility        u 1.01 │      │
│ └─────────────────────────────────────────────────────────┘      │
│ ┌───────────────────────────────────────────────────────────┐    │
│ │                    Digi PortSeruer                         │    │
│ ├───────────────────────────────────────────────────────────┤    │
│ │    Name       Brd#   Huntgroup   TCP Port                  │    │
│ │    DigiPS1      0        NO       default                  │    │
│ └───────────────────────────────────────────────────────────┘    │
│   ┌──────────────────────────┐                                    │
│   │   Available Options       │                                   │
│   ├──────────────────────────┤                                    │
│   │ > │ Add PortSeruer        │                                   │
│   │   │ Delete  PortSeruer    │                                   │
│   │   │ Set Huntgroup Option  │                                   │
│   │   │ set TCP Port          │                                   │
│   │   │ Exit                  │                                   │
│   └──────────────────────────┘                                    │
└─────────────────────────────────────────────────────────────────┘
```

Removing PortServers

To remove a PortServer from the configuration, use the arrow keys to position the pointer next to Delete **PortServer** and press <Enter>. A new pointer will appear next to the first PortServer in the configuration box. Use the arrow keys to position the pointer next to the PortServer you wish to delete, and press <Enter>. The PortServer will be removed from the configuration box.

Hunt Groups

The PortServer features grouping of ports connected to like devices such as modems and printers (see Set Ports Group, in the PortServer User's *Guide and Reference Manual).* When the Huntgroup option is set in the AIO device driver configuration, calls to a port belonging to a group will be routed to the next available port in that group if the called port is busy.

To toggle the Huntgroup option, use the arrow keys to position the pointer next to Set Huntgroup Option and press <Enter>.

TCP Port Number

This parameter is reserved for future PortServer implementations. Currently, only the default value of 771 is supported by the PortServer. To set the TCP port number to the default value, use the arrow keys to position the pointer next to Set TCP Port, and press <Enter>. When prompted for the new TCP port number, enter 0.

Saving the Configuration

When you have completed the PortServer driver configuration, either use the arrow keys to position the pointer next to Exit, and press <Enter>, or simply press <Esc>. When asked if you wish to quit, press <Y> (yes). If you have modified the configuration you will now be asked if you wish to save the configuration. Press <Y> again.

Loading the PortServer AIO Driver

The PortServer uses TCP/IP, so you'll need the TCP/IP protocol stack to run the AIO PortServer driver. The following is an example from an AUTOEXEC . NCF file used to set up TCP/IP and IPX. Note that TCPIP .NLM will load CL IB . NLM, STREAMS. NLM and SNMP . NLM before it loads.

```
LOAD C:SMC8000 PORT=340 FRAME=ETHERNET_802.3 NAME=IPX_FRAME
LOAD C:SMC8000 PORT=340 FRAME=ETHERNET_II NAME=ETHERNET
LOAD TCPIP
BIND IPX TO IPX_FRAME NET=IPXADDRESS
BIND IP TO ETHERNET ADDR=IPADDRESS MASK=255.255.255.0
```

NOTE: The IP address mask should be set to appropriate values as determined by your network class.

The AIO driver uses the F : \ETC\HOSTS tile to find network PortServers. Edit F:\ETC\HOSTS, adding the name and IP address of each PortServer on the network (see the PortServer *User's Guide and Reference Manual,* under Set Config, for information on how to set the PortServer's name and IP address).

To load the configured AIO driver, enter the following command on the server's console:

```
load aiopsdru
```

Upon successfully loading the driver, the following banner message (or similar) will appear:

```
NetWare AIO Digi PortServer
Copyright 1995, Digi International, Inc. All rights reserved.

Digi AIO driver initialized successfully.
```

The driver is now ready for use.

AIO Monitor Utilitv

The PortServer AIO monitor utility A IOPSMON . NLM, provides dynamic status information about the state of the AIO driver and PortServer modules, and allows the user to change the configuration "on the fly", without having to shut down the system. The same configuration options that are available in the configuration utility (see page 6), are available in the monitoring utility, with the exception of Delete PortServer (you must unload the driver and run the configuration utility to remove PortServers). Additionally, individual PortServers may be stopped and started with the monitoring utility without affecting other PortServers on the network.

Loading the Monitoring Utility

To load the PortServer AIO monitoring utility, enter the following line on the server's console (note-the AIO driver must be running before the monitor can be loaded):

    load   aiopsmon

You will see the following screen:

```
                Digi PortServer AIO Monitor Utility          U 1.01

                             Digi PortServer                          ⫶

      Name    Brdt Huntgroup   TCP  Port   Status   Type  #Ports HREU  SREU
     DigiPS1  0         No        default  Active   PS       16   1.2   0.9


          Available Options

     >   Add PortServer
         Start PortServer
         Stop PortServer
         Set Huntgroup Option
         Set TCP Port
         Exit
```

Any PortServers you have configured with AIOPSCFG will appear in the center box, along with their current configuration and status information, and the revision levels of the PortServer hardware (HREU) and software (SREU). Note: Status information is not dynamically updated-press <Tab> to update the status.

Starting PortServers

To start a PortServer, use the arrow keys to position the pointer next to **Start PortServer**, and press <Enter>. A new pointer will appear next to the first PortServer in the configuration box. Use the arrow keys to position the pointer next to the PortServer you wish to start, and press <Enter>. The PortServer Status (see the example above) will be changed to "Act iue". Starting a PortServer will automatically save any configuration changes to the configuration file.

Stopping PortServers

To stop a PortServer, use the arrow keys to position the pointer next to **Stop PortServer**, and press <Enter>. A new pointer will appear next to the first PortServer in the configuration box. Use the arrow keys to position the pointer next to the PortServer you wish to stop, and press <Enter>. The PortServer Status (see the example above) will be changed to "Stopped".

| **Important!** | Before powering down a PortServer, it should be stopped by following the procedure above. |

Adding PortServers

PortServers may be added with the monitoring utility without shutting down the driver.

To add a PortServer to the configuration, use the arrow keys to position the pointer next to **Add PortServer**, and press <Enter>. When prompted for the name of the PortServer, enter the name assigned during installation of the PortServer module (see the PortServer *User's Guide and Reference Manual).*

Follow the procedure above to start the new PortServer.

Remote Booting PortServers

The PortServer's internal operating software can be upgraded without ROM or other hardware changes. Refer to the Command Reference section of the PortServer *User's Guide and Reference Manual* for information on setting up the PortServer for remote booting.

To upgrade the PortServer's software from a Novell server, create a directory F:\DIGI, copy the new boot file to that directory and load the boot program:

```
MKDIR F:\DIGI
COPY A:\Boot_File F:\D IG I
LOAD  AIOPSBOT
```

Turn the PortServer power switch off, then back on. The PortServer will download the new boot file from the server. Once the PortServer has booted up, A IOPSBOT may be unloaded. The upgraded software will remain in effect until the PortServer is turned off again.

Important!
The boot filename and the IP address of the boot host must be registered in the PortServer's internal configuration to enable remote booting. This is done with the set conf ig command (see the Command Reference section of the PortServer *User's Guide and Reference Manual).*

Example:
```
set conf ig boothost=ip_address
set conf ig bootf i le=Boot_File
```

Error Messages

The following error messages are generated by the driver:

ERROR- PortSeruer not responding
ERROR- Did not establish connection to PortSeruer

Check to be sure that the PortServer booted properly and is configured correctly. Verify that the PortServer name and IP address are configured properly and entered in F : \ETC\HOSTS. Ping the PortServer to verify that it is operational (use PING . NLM).

ERROR- Probably lost connection: Terminating Seruer
ERROR- Receiued illegal packet: Terminating Seruer
ERROR- Receiued reset from seruer: Terminating Seruer

Fatal error-reboot PortServer, then use A IOPSMON to restart PortServer.

Digi Support Services

The Digi Bulletin Board System

Digi provides an electronic bulletin board service (BBS) for our customers. This bulletin board provides general and technical information about Digi's products.

The Digi BBS allows users to download software drivers as soon as they become available. There is also a feature to allow users with problems or questions about Digi products to leave messages to Digi Technical Support.

Using the Digi BBS is easy. Simply dial (612) **943-0550.** In Europe, dial **+49** 221 9205211; in Asia, dial **+65** 735 2460. The bulletin board accepts calls at 1200, 2400, 9600 and 14.4K baud. V.32, HST 14.4, V.42 and V.42*bis* standards are supported, with full MNP class l-5 error correction and data compression.

The recommended modem communications parameters are 8 bits, no parity and one stop bit (8 N 1). Other settings may also work.

Download protocols include Zmodem, Xmodem, Ymodem, Kermit and others.

Internet FTP Server

Digi has set up an Anonymous FTP server for those with access to the Internet network. The address is f tp .digibd .com. Log in as **anonymous,** and enter your E-mail address when asked for a password. Drivers and installation tips are located in the `/drivers` directory.   A text file, download `.doc,` gives information on uncompressing the files after downloading. Tip: Be sure to enter "`b` in" before downloading, to ensure binary transfer of files.

World Wide Web Server

Product information, manuals, new product announcements, programs, application stories and more can be obtained through the World Wide Web. Our address is http `://www.`d igibd . corn.

DigiFACTs FaxBack Server

Manuals and technical information can also be obtained by FAX. To use the FaxBack server, simply call (612) 943-0573 on a touch tone phone.

Information About Your System

Serial number of **your Digi product:** _____

Make, model and clock speed of your computer: _____

_____

How much RAM does your computer have? _____

Hard disk controller: Type: _____   Memory addressed at: _____

      I/O port used: _____   IRQ: _____

LAN card: Type: _____   Memory addressed at: _____

      I/O port used: _____   IRQ: _____

Other: Type: _____   Memory addressed at: _____

      I/O port used: _____   IRQ: _____

Operating **system:** _____   Version: _____

Digi device driver version: _____

Technical Support

At Digi, we are proud of our products, and support them. Our dealers and distributors are fully trained on our product line, so that they can help you on a technical level should assistance be needed.

Your first level of support is your Digi dealer, the place where you purchased your Digi product. Your dealer has the training to help you with any installation questions or difficulties you might have.

If you still experience difficulties (after contacting your first level of support), Digi has a staff of Technical Support Specialists that can assist you. They can be reached at (612) **943-0578**. In Europe, call **+49** 221920520, and in Asia, call **+65** 732 1318. FAX numbers are: (612) 943-0579 (USA), +49 221 9205210 (Europe) and +65 732 1312 (Asia).

When you call Digi Technical Support, please call from a position where you can operate your system. Also, please fill out the form on the facing page before calling, so your Technical Support representative can have a clear picture of your system and any potential conflicts between devices.

Digi Technical Support can also be reached via Internet E-mail. Please send correspondences to support@digibd.corn, and include your voice and FAX phone numbers.

Customer Service

Digi also has a staff of Customer Service representatives to help you with software and documentation update requests, as well as Returned Merchandise Authorizations (RMAs) in case you need to return your Digi product for repair (see page *18*). They can be reached at (612) 943-0577.

Digi Customer Service can also be reached via Internet E-mail. Please send correspondences to cust_serv@digibd.corn, and include your voice and FAX phone numbers.

Return Procedures

All Digi products have a five-year parts and labor warranty, and we are ultimately responsible for any defective parts, according to the limits specified in the warranty. However, many of the reported problems are due to factors other than defects in the product itself. To save you time and possibly additional cost, Digi asks that you *first* try to resolve any difficulties by contacting our Technical Support representatives at (612) 943-0578.

Important! *Be sure to have the serial number of your Digi product at hand before calling Technical Support.*

Returns should be directed to the dealer or distributor from whom you purchased the product. If you need to return your Digi product for repair, it is first necessary to obtain an RMA (Returned Merchandise Authorization) number from Digi, by speaking to a Digi Customer Service representative. Authorized returns should be shipped to Digi International, 10000 West 76th Street, Eden Prairie, MN 55344. The RMA number should appear on the shipping carton. on or near the address label.

Note: *Products received without an RMA number clearly marked on the outside of the package will be returned, unopened, to the sender*