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Configuring Your RealPort tty Devices

SCO UNIX
SCO OpenServer

Introduction

This guide will provide the information you need to test and use the serial ports created by the RealPort device driver with PortServer and PortServer II network terminal servers.

Note: Except where noted, *PortServer* refers to both PortServer and PortServer II.

Digi TTY Devices

This device driver supports four different devices on each asynchronous line. Two of these devices are tty devices, for use with terminals and modems, and two are transparent print devices for printers connected to terminals. On line “**`a01`**,” where “**`a`**” refers to PortServer **a**, and “**`01`**” refers to first line (port) on that concentrator, the four devices are named: **`/dev/ttyA01, dev/ttya01, /dev/prA01`** and **`/dev/pra01`**. These devices are described below.

Terminal/Modem Devices

`/dev/ttyA01`

This is the “modem” tty device, used for terminals, modems, printers, laboratory equipment, etc. It is also sometimes referred to as a “dial-in” device.

This device is a traditional Unix port with modem control. It requires Carrier Detect to be high before it will operate. RTS/CTS handshaking is enabled by default.

When used with a modem, the port will wait for carrier before sending out the login: prompt, so the user is greeted properly upon making a connection.

When used with a terminal or other device, it is usually wise to wire the port’s DCD signal to the terminal’s DTR (Data Terminal Ready) line. When the terminal is turned on, the system outputs a **`login:`** prompt. When the terminal is turned off, any associated jobs are killed, and the user is logged out.

/dev/ttya01

Standard device. This is the same as **/dev/ttyA01** with the exceptions that the default handshake method is XON/XOFF, and that Data Carrier Detect need not be present to open the device.

Transparent Print Devices

/dev/prA01
/dev/pra01

The "Transparent Print Devices" (DigiPRINT) for use with the auxiliary printer port of a terminal. Output directed to a **pr** device goes out the auxiliary port of a terminal while the user continues to use the terminal normally.

Use **pra01** if your terminal device is **ttya01** (standard device); use **prA01** if your terminal device is **ttyA01** (modem device).

Transparent print devices allow you to use your terminal and a local printer connected to the terminal's auxiliary port at the same time. The system assumes data you send to the **pr** device is destined for the printer. Before sending data to the printer, the system sends a special control sequence to the terminal to activate the printer port, sends the data, then turns the printer port back off again before sending more data for the terminal.

For correct operation, certain parameters must be provided to the *ditty* program. It is usually best to set these up in **/etc/rc2.d**, since they must be set each time the system is rebooted. See the *RealPort Unix Utilities Guide*.

Note: Transparent print devices may not be enabled for login.

Testing the Digi Ports

Connect terminals to the ports and test the connections to each terminal by entering the following command for *each* port added:

```
date > /dev/ttya01
```

(Assuming the terminal is connected to **ttya01**.)

- If the date appears on the terminal's screen, the device is properly connected.
- If the date *does not* appear on the terminal's screen, then that terminal is not receiving data; check the power, cables, connections, etc.
- If nonsense characters are printed on the terminal's screen, check the baud rates, data bits, stop bits, and parity setting on your terminal (Unix default parameters are 9600 baud, 8 data bits, 1 stop bit, and no parity).

Another test you can perform will verify that a port can both transmit and receive data:

Connect the port's transmit and receive lines together (pins 2 and 3 of a DB-25 connector, or the middle two pins of an RJ-45 connector), and enter the following commands:

```
cat </dev/ttya01 &
cat /etc/termcap > /dev/ttya01
```

The first command runs in the background, and directs all input from **ttya01** to **stdout** (your screen). The second command transmits the **termcap** file to **ttya01**. If the port is working, the data is sent out the port, received back by the same port and displayed on your screen.

If the port fails, check another port. If more than one port fails, there is probably a driver installation problem (TCP port numbers don't agree, IP address is invalid, or some other networking problem).

Enabling the Ports for Terminal Logins

Once you can redirect output to a terminal with the test above, perform the following steps to enable that port for login.

1. (SCO Unix System V/386 only) The Terminal Control Database must be updated to include the new devices. Add the Digi device information by using the following SCO Unix **sysadmsh** command sequence:

   Accounts→Terminal:Create

   Fill in the required information on the form displayed.

2. (SCO Unix System V/386 and SCO Open Server) To activate a port for use with a terminal, enter the following command:

   ```
   enable ttya01
   ```

   The above command will cause a login prompt to be sent to the terminal connected to **ttya01**. To activate the other ports, repeat the **enable** command with the appropriate port names.

Using Serial Printers

To set up a printer for use with the print spooler, see the Unix System Administrator's Guide.

Many applications send printer data directly to the tty port without properly setting the port up first (opening the port, setting parity and framing, etc.). For such applications, it is necessary to open the port and hold it open so that any **stty** or **ditty** options remain in effect from one printing job to the next. Refer to the *RealPort Unix Utilities* manual for complete descriptions of all **ditty** parameters.

To prepare a port for connection to a printer, enter the following command:

```
sleep 999999 < /dev/ttya01 &
```

The command may be placed in **/etc/rc.d/8/userdef** so that it is automatically executed whenever the system is booted.