1 Initiating Point-to-Point Protocol (PPP) Connections With the Point-to-Point Protocol Utility (PPPD)

This file contains general guidelines that you can use to initiate a Point-to-Point Protocol (PPP) serial network connection over various computer systems (such as, an Apple Macintosh or a PC running Microsoft Windows 95) using the OpenVMS Alpha Point-to-Point Protocol utility (PPPD).

The following sections briefly describe how to configure and start a connection over each system, as well as provide any necessary prequisites and related documentation.

Note

Many of the commands that appear in the following procedures are case-sensitive. To ensure that the commands are interpreted correctly, enter them exactly as they appear in this documentation.

1.1 Connecting an Apple Macintosh Client to an OpenVMS Alpha Server

Prerequisites

The MacTCP transport and a Macintosh-compatible PPP software package must be installed in order to initiate a PPP connection from an Apple Macintosh client. You can download this software by accessing the following web sites:

```
http://www.apple.com
http://www.Rockstar.com
```

Related Documentation

In addition to the documentation you received with your Apple Macintosh system, refer to the information and resources available from the web sites listed above.

Configuring Your System

To configure your system for PPP connections, follow these steps:

1. From the Apple menu, choose **Control Panels...MacTCP**. The MacTCP window is displayed.
2. Click on the PPP icon.
3. If IP is not configured, click on the More button to set the appropriate IP address, domain, and gateway, and then click on the OK button.
4. Choose **Control Panels...Configure PPP**. The Configure PPP dialog box is displayed.
5. Choose **Port Name** and select the appropriate serial port.
6. Activate the following options following by clicking their check boxes:

   Terminal window
   Hang up on close
   Quiet mode

Initiating the Connection

To start the PPP connection, follow these steps:

1. From the Apple menu, choose **Control Panels...Config PPP**, and click on the Open button. A status icon appears and indicates that the connection is started.
2. From the terminal emulator window, log into your OpenVMS Alpha account.
3. At the DCL prompt ($), type PPPD CONNECT.
4. Click on the StartPPP button. OpenVMS displays a connection message and preliminary PPP negotiation codes in the terminal emulator window upon communication with the client system.

1.2 Connecting a Linux Client to an OpenVMS Alpha Server

Prerequisites

The Linux software must be installed on the client system, built into the kernel, and installed in the users path. The Point-to-Point Protocol utility (PPPD) must also be installed in the /usr/sbin directory.

Related Documentation

In addition to the documentation you received with your Linux system, refer to the following web site for specific information on using and configuring Linux for PPP:

`http://sunsite.unc.edu/linux/HOWTO/PPP-HOWTO.html`

Configuring Your System

To configure your system for PPP connections, follow these steps:

1. On the Alpha system, enter the following DCL command to display the current PPP settings:

   `$ PPPD SHOW` *`device-name`*

   where *device-name* is the name of the device that will support the PPP connection.
2. On the Linux system, modify the default options file (etc/ppp/options) as necessary so that these PPP options (such as flow control, baud rate, and line speed) are compatible with the current PPP settings on the OpenVMS Alpha server.

Initiating the Connection

To start the PPP connection, follow these steps:

1. On the Linux system, invoke the appropriate terminal emulation program (such as, Kermit) to log in to the Alpha system.
2. Log into your OpenVMS account on the Alpha system, and at the DCL prompt ($), type PPPD CONNECT.
3. Open a second terminal emulator window on the Linux system and at the system prompt, type pppd.

1.3 Connecting an OpenVMS Alpha Client to a Linux Server

Prerequisites

The Linux software must be installed on the server system, built into the kernel, and installed in the users path. A getty must also be running in order for you to access a Linux login window. The Point-to-Point Protocol utility (PPPD) must also be installed in the /usr/sbin directory.

Related Documentation

In addition to the documentation you received with your Linux system, refer to the following web site for specific information on using and configuring Linux for PPP:

`http://sunsite.unc.edu/linux/HOWTO/PPP-HOWTO.html`

Configuring Your System

To configure your system for PPP connections, follow these steps:

1. On the Alpha system, enter the following DCL command to display the current PPP settings:

   `$ PPPD SHOW` *`device-name`*

   where *device-name* is the name of the device that will support the PPP connection.

2. On the Linux system, modify the default options file (etc/ppp/options) as necessary so that these PPP options (such as flow control, baud rate, and line speed) are compatible with the current PPP settings on the OpenVMS Alpha server.

Initiating the Connection

To start the PPP connection, follow these steps:

1. On the Alpha system, type the following DCL command to start the connection:

   `$ PPPD DIAL_OUT` *`device-name`*

   where *device-name* is the name of the device that will support the PPP connection.

2. Log in to the Linux system and type pppd passive.

3. From the Alpha system, complete the connection by pressing CTRL-@. This switches the serial connection from terminal mode to PPP mode.

1.4 Connecting a Linux Client to an OpenVMS Alpha Server via a LAT

Prerequisites

The Linux software must be installed on the client system, built into the kernel, and installed in the users path. The Point-to-Point Protocol utility (PPPD) must also be installed in the /usr/sbin directory.

Related Documentation

In addition to the documentation you received with your Linux system, refer to the following web site for specific information on using and configuring Linux for PPP:

`http://sunsite.unc.edu/linux/HOWTO/PPP-HOWTO.html`

Configuring Your System

To configure your system for PPP connections, follow these steps:

1. On the Alpha system, enter the following DCL command to display the current PPP settings:

   ```
   $  PPPD SHOW device-name
   ```

   where *device-name* is the name of the device that will support the PPP connection.

2. On the Linux system, modify the default options file (etc/ppp/options) as necessary so that these PPP options (such as flow control, baud rate, and line speed) are compatible with the current PPP settings on the OpenVMS Alpha server.

Initiating the Connection

To start the PPP connection, follow these steps:

1. Connect to the LAT from the Linux system using the appropriate terminal emulation program. This may include using a modem to connect to the computer.
2. After accessing the LAT, connect to a service which can access the Alpha system. For instructions on how to set up a LAT service, see Section 1.10.1.
3. Log in to your OpenVMS account on the Alpha system, and at the DCL prompt ($), type PPPD CONNECT.
4. Open a second terminal window on the Linux system and type pppd.

1.5 Connecting an OpenVMS Alpha Client to a Linux Server via a LAT

Prerequisites

Linux must be installed on the server system, built into the kernel, and installed in the users path. A getty must also be running in order for you to access a Linux login screen. The Point-to-Point Protocol utility (PPPD) must also be installed in the /usr/sbin directory.

Related Documentation

In addition to the documentation you received with your Linux system, refer to the following web site for specific information on using and configuring Linux for PPP:

```
http://sunsite.unc.edu/linux/HOWTO/PPP-HOWTO.html
```

Configuring Your System

To configure your system for PPP connections, follow these steps:

1. On the Alpha system, enter the following DCL command to display the current PPP settings:

   ```
   $  PPPD SHOW device-name
   ```

   where *device-name* is the name of the device that will support the PPP connection.

2. On the Linux system, modify the default options file (etc/ppp/options) as necessary so that these PPP options (such as flow control, baud rate, and line speed) are compatible with the current PPP settings on the OpenVMS Alpha server.

Initiating the Connection

To start the PPP connection, follow these steps:

1. On the Alpha system, type the following DCL command:

   ```
   $  PPPD DIAL_OUT LAT-device-name
   ```

   where *LAT-device-name* is the name of the LAT device that will support the PPP connection.

2. Log in to the Linux system and type pppd passive.

3. From the Alpha system, complete the connection by pressing CTRL-@. This switches the serial connection from terminal mode to PPP mode.

1.6 Connecting a Microsoft Windows 95 Client to an OpenVMS Alpha Server

Prerequisites

The appropriate dial-up adapter and network protocol that you want to use over the PPP connection must be installed on the PC.

Related Documentation

Refer to the Microsoft documentation you received with your PC and Windows 95 operating system.

Configuring Your System

To configure your system for PPP connections, follow these steps:

1. From the Start menu, choose **Programs...Accessories...Dial Up Networking.** The Dial Up Networking dialog box is displayed.

2. Choose **Make New Connection** to invoke the Make a New Connection wizard.

3. Do the following:

   - Enter a name for the PPP session, select the modem through which you are making the connection, then click on the Configure button.
   - Verify the modem settings and make sure they they are compatible with the modem to which you are trying to connect.
   - Click on the Options tab and choose to bring up a window after dialing. Then click on the Next button.
   - Enter the phone number of the Alpha server and click on the Next button.

4. Click on the Finish button.

Initiating the Connection

To start the PPP connection, follow these steps:

1. From the Start menu, choose **Programs...Accessories...Dial Up Networking.** The Dial Up Networking dialog box is displayed.

2. Double-click on the name of the PPP session that you want to initiate, then click on the Connect button.

3. From the terminal emulator window, log into your OpenVMS account on the Alpha system.
4. At the DCL prompt ($), type PPPD CONNECT.
5. Press F7 complete the connection.

1.7 Connecting a Microsoft Windows 3.1 Client to an OpenVMS Alpha Server

Prerequisites

A PPP software package, such as Trumpet Winsock, must be installed on the client system. You can access this software from the following web site:

`http://www.trumpet.com.au`

Related Documentation

Refer to the Microsoft documentation you received with your PC and Windows Version 3.1 operating system.

Configuring Your System

To configure your system for PPP connections, follow these steps:

1. Click on the Trumpet Winsock icon.
2. From the File Menu, choose Setup. The Trumpet Winsock Setup dialog box is displayed.
3. Select the Internal PPP checkbox and enter the necessary domain suffix and name server information.
4. Click on the OK button.
5. Restart the Trumpet Winsock software.

Initiating the Connection

To start the PPP connection, follow these steps:

1. Click on the Trumpet Winsock icon.
2. From the Dialer Menu, choose Manual Dial.
3. Type the phone number of the computer to which you want to connect.
4. Press a few carriage returns and log in to the Alpha system.
5. At the DCL prompt ($), type PPPD CONNECT.
6. Press the Escape key to complete the PPP connection.

1.8 Connecting a Microsoft Windows NT 3.51 Client to an OpenVMS Alpha Server

Related Documentation

Refer to the Microsoft documentation you received with your PC and Windows NT operating system.

Configuring Your System

To configure your system for PPP connections, follow these steps:

1. Set up your modem by booting the PC with your modem installed (laptops only) and choosing the appropriate modem settings from the Control Panel.

2. Set up the network protocol and Remote Access Service (RAS) by doing the following:

   a. Choose **Programs...Settings...Control Panel**. The Control Panel window is displayed.

   b. Double-click on the Network icon. The Network dialog box is displayed.

   c. Choose the TCP/IP protocol and click on the Add Software button. This leads you through the TCP/IP installation.

   d. Once you have returned to the Network dialog box, choose the Remote Access Services Protocol and click on the Add Software button.

   e. When prompted by the RAS installation, use the modem specified in step 1.

   f. Unless a different TCP/IP package is desired, also install the Simple TCP/IP Service.

3. Close the Network dialog box and reboot the PC.

Initiating the Connection

To start the PPP connection, follow these steps:

1. Double-click on the My Computer folder and the Dial-up Network icon.
2. Enter the dial-in information for the remote site and click on the Connect button.

1.9 Connecting from an OpenVMS Alpha Client to a LAT Server

Initiating the Connection

To start the PPP connection, follow these steps:

1. Type the following command at the DCL prompt:

   ```
   $ PPPD DIAL_OUT LAT-device-name
   ```

   where *LAT-device-name* is the name of the LAT device that will support the PPP connection.

2. Access the LAT, and the LAT prompt (Local>), type connect ppp.
3. Complete the connection by pressing CTRL-@. This switches the serial connection from terminal mode to PPP mode.

1.10 Setting Up a LAT Service

Set up a LAT service if you want to another system via a Local Area Transport (LAT). To do this, you must: create the LAT service itself, configure the LAT server, and configure the port through which you are connecting.

1.10.1 Creating the LAT Service

Note

In order to perform this procedure, you must have SETPRIV privilege on the related LAT server.

To create the LAT service, follow these steps:

1. At the Local> prompt, enter the SETPRIV command and the corresponding password.
2. Once you have successfully logged in, enter the following DCL command:

   `$ SET SERVICE` *`service-name`* `PORT` *`port-number`*

   where *service-name* is the name of the LAT service and *port-number* is the number of the port through which you are connecting.

   This modifies an existing LAT service or creates a new one.

1.10.2 Configuring the LAT Server

Ensure that the server groups connecting to the LAT have the appropriate privileges. If necessary, you can change these privileges by entering a command similar to the following:

`Local> CHANGE SERVER GROUPS` *`group-list or all`* `ENABLED`

For more detailed information see the Digital LAT documentation.

1.10.3 Configuring Connections through the LAT

With PPP LAT connections, you also have to configure the Alpha system to create a device name which connects to the service you created.

To do this you need to edit the file SYS$COMMON:[SYSMGR]LAT$SYSTARTUP.COM, and add the following lines for each service to which you want to connect:

```
lcp create port ltannn: /application
lcp set port ltannn: /application /node=node-name /service=service-name
```

where *nnn* is number associated with the LAT server, *node-name* is the name of the LAT box, and *service-name* is the name of the LAT service.

To retrieve the node name from the LAT, issue the SHOW SERVER command.

1.11 Troubleshooting Tips

The following table provides suggestions for handling problems that you may encounter while initiating a PPP connection. These problems are organized according to specific system configurations and listed alphabetically.

Problem	Suggestions
All Configurations	

PPPD error message: `%PPPD-E-PPPNOTAVAIL, point-to-point driver is not installed %PPPD-F-ABORT, fatal error encountered; operation terminated`	Make sure that the PPP drivers are installed properly. Access the SYSMAN utility and do the following:
	`$ MCR SYSMAN`
	`SYSMAN> IO CONNECT ASN0/NOADA/DRIVER=SYS$ASNDRIVER`
	`SYSMAN> IO CONNECT PPP0/NOADA/DRIVER=SYS$PPPDRIVER`
	`SYSMAN>EXIT`

LAT Configurations	
LAT error message: `LOCAL-550-SLIP or PPP not enabled on port or async interface disabled.`	Issue the following DCL command to ensure that you have enabled PPP on the port to which you are connecting: `$ SHOW PORT` *number* Check the ENABLED CHARACTERISTICS settings for PPP. If it is not there, enter the DCL command SET PORT *number* PPP ENABLE.
Can connect to a LAT service, but cannot connect to the Alpha computer	Make sure that the LAT$SYSTARTUP.COM file contains the correct server name.

Cannot connect to the LAT service; receive error: `SERVICE NOT OFFERED ON REQUESTED PORT.`	Enter the SHOW PORT *number* command and check the Default Protocol and LAT Access Dynamic parameters. If either of these parameters are not set properly, enter one of the following commands:
	`CHANGE PORT` *number* `Default Protocol LAT`
	`CHANGE PORT` *number* `Access Dynamic`

Cannot initiate or receive a PPP connection	Verify that your server group has privileges on the port. You can also change the port accessed by your server group by entering the DCL command CHANGE PORT *port-number* GROUPS.
Linux Configurations	
PPPD image not found	Verify that the PPPD image is in the user's path and is installed properly. If the image is not installed in the kernel properly, you must rebuild the kernel.
Receiving connection error messages	On the Linux system, use the debug command and review the message log (/var/log/messages). This log lists the messages passed between the client and server and can indicate where the connection failed.