ShivaRemote Help Contents

Welcome to the ShivaRemote Online Help. This online help provides instructions on how to use the ShivaRemote software to open and close connections to remote networks.

For help using ShivaRemote, click any of the following topics:

For help using the help system, press F1 or choose How to Use Help from the Help menu. Double-click the Control menu or choose Exit from the File menu to return to ShivaRemote help.

Click any button or field in a window or dialog box displayed in a ShivaRemote Online Help window to see its description.

Click the Glossary button (in the Help button bar at the top of this window) at any time for a list of Shiva-related terms and their definitions.

About ShivaRemote

When you want to explore the Internet or send and receive email, you first need to establish a connection with your Internet account over your phone line and modem. ShivaRemote is the tool you use to control your connections to your Internet account.

ShivaRemote connects your computer to a remote network through a modem, ISDN terminal adapter, ISDN card, or other supported communication device. For example, you might use ShivaRemote to call up your Internet service provider (ISP) to send and receive e-mail, browse the World Wide Web, or use other Internet services.

As another example, while on a business trip you might use ShivaRemote on your laptop computer to dial in to your office network to read e-mail or copy files to and from file servers.

When you dial in, the remote access server answers the call and prompts you for a password or other security information (if required). After you are connected, you can use any services available through the remote network.

When you ask ShivaRemote to connect you to your account, it:

- Dials your modem
- Establishes data communication with your Internet service provider's computer over the phone line
- Passes your login name and password to your Internet service provider

Related Information

For more information about ShivaRemote, see any of the following topics:

System Requirements

About the Performance Monitor

All About Virtual Connections

All About MLP

System Requirements

To use ShivaRemote, you must be using a communications device capable of communication speeds of 14.4K bps or higher (a V.34 or higher class device recommended), such as an AT-command set compatible modem, an external ISDN terminal adapter, or an ISDN card with a WinISDN VxD or CAPI interface

Install your modem or ISDN device as instructed in its documentation, including installing any software needed for Windows programs to use the device.

All About Virtual Connections

A **virtual connection** is a standard dial-in connection that has been enhanced to temporarily bring down (or **suspend**) the link when no 'meaningful' network traffic is transmitted for a specified period of time. Meaningful data includes specific requests to access or transmit information via the connection. Data that is not considered meaningful includes routine network transmissions of the kind that, for example, simply verify that the network is available, or that your computer has access to the network. While the virtual connection is down, ShivaRemote and the remote access server pretend to pass along the data that isn't meaningful in a process called **spoofing**. The virtual connection is reestablished (or **resumes**) when either end of the connection receives meaningful data to be forwarded across the dial-in connection.

Note: Not all remote access servers support virtual connections. Check with your remote network administrator or ISP to see whether this feature is provided.

A virtual connection can be in one of three states: **Up**, **Down**, and **Suspended**. The virtual connection is **Up** when the physical connection is made and data is being passed across the connection. A virtual connection is **Down** when the physical connection is down and there is no spoofing by the remote access servers or client on either end of the connection. The virtual connection is **Suspended** when the physical connection is down but the remote access servers on either end of the connection are actively spoofing network protocols.

Because ISDN has quick connection setup times, resumption of ISDN virtual connections is nearly transparent. However, standard modem connections may take up to 30 seconds to resume. This delay may be longer than the maximum wait time (called a time-out period) for some applications. If you enable virtual connections over an analog modem and experience application time-outs, you should increase the application time-out value. See the documentation included with each application for more information.

Note: To avoid virtual connection problems, disable any automatic update features in all applications that send or receive network data through a dial-in connection., such as Lotus Notes (by disabling the option to check for mail automatically) or other e-mail programs.

Virtual connections minimize connect-time costs by physically disconnecting the telephone circuit when there is no meaningful traffic. In addition, virtual connections are easy to use because connections only need to be made once. Thereafter, virtual connections resume when required and are suspended during periods of inactivity.

Related Information

Using Virtual Dial-In Connections

Cost Savings Tab in the Performance Monitor

All About MLP

ShivaRemote provides support for high performance channel aggregation using the industry-standard Multilink PPP Protocol (MLP). MLP allows dial-in connections to use multiple ISDN lines in a single connection session, providing increased bandwidth and performance.

Using ShivaRemote and your computer's ISDN connection, you can connect to a remote access server using up to two B channels on an ISDN line. You can use MLP over any direct, fixed dial-back, or roaming dial-back sessions.

To use MLP over a dial-in connection, you must be using a supported ISDN card, and the remote access server must be configured to allow MLP connections. If these conditions are met, and you load the appropriate drivers as described in Using Multiple ISDN Channels (MLP), ShivaRemote will attempt to establish an MLP connection automatically when you dial in.

Related Information

Using Multiple ISDN Channels (MLP)

Port Tab in the Performance Monitor

Using ShivaRemote

This section describes the steps involved in making a dial-in connection from your computer to a remote network.

To dial in to a remote network or ISP, you must follow the steps in the following sections:

Setting Up the Modem

Dialing In to the Remote Network

Saving Connection Settings

Retrieving Saved Connection Settings

The following topics provide additional control over the ShivaRemote program that you may find useful. However, these steps are not required, and you may want to ask your network administrator or ISP before following any of these steps.

Automating ShivaRemote Connections

Changing Your Dial-In Password

Configuring ShivaRemote

Logging in Manually or With a Login Script

Using Multiple ISDN Channels (MLP)

Changing the Advanced Modem Settings

Changing the Advanced ISDN Settings

Viewing the Performance Monitor

Dialing In to the Remote Network

After you install ShivaRemote and you set up the modem (using the modem wizard that ran when you installed the software), youll need to enter the following information to connect to the remote network:

- User name, login name, or account ID on the remote network (TJones, for example).
- Password assigned to the account. This may be a password you selected, or one assigned to your account by your remote network administrator.
- Telephone number of the remote network.

Your remote network administrator or Internet service provider should be able to give you this information if you do not have it.

Prerequisites

You must install ShivaRemote and configure a modem to use before dialing in to the remote network. If you need to configure a modem, see Setting Up the Modem.

Steps

To connect to a remote network:

1. Enter a description of this connection file (up to 64 characters) in the Description field.

   The value you enter here is displayed whenever you make a connection using this file. Also, this description appears as the suggested icon name in the Make Icon dialog box when you choose Make Icon command from the File menu.

   Use a description that is meaningful to you. For example, you might enter "Main Internet Connection" or "Chicago Office."

2. Enter your user name (login name) for the remote access server you are calling in the User Name field.

   If you don't know your user name, check with your remote network administrator.

3. If required, enter the password for your dial-in name in the Password field. Otherwise, leave the Password field blank.

   If you do not enter a password here but your dial-in name requires one, ShivaRemote will prompt you for a password when you are connecting to the remote network.

   Your password appears as a row of asterisks (***) when you enter it.

4. Click the Properties button to open the Properties dialog box, then click the Phone # tab if it is not already selected.

5. Enter the telephone number of the remote network in the Specify Exact Number field, or click the Build Number to Dial button and configure the telephone number as described in Entering Advanced Telephone Number Information.

   Click OK to close the Properties dialog box when you have finished entering the phone number.

6. Click the Connect button to connect to the remote network.

Related Information

- Closing the Dial-In Connection
- Entering Advanced Telephone Number Information
- See Configuring the Dialer to change other ShivaRemote settings.

Closing the Dial-In Connection

When you are finished using your dial-in connection, follow the steps in this topic to disconnect your computer from the remote access server.

Steps

1. Close all network connections, including:

- Disconnect from all file servers.
- Close any network and Internet applications, such as your World Wide Web browser, e-mail programs, terminal connections, FTP programs, and so on.
- Close any documents you may be using over the network connection.

  If you don't close all documents that are open over the network, you may lose your work when the network connection is closed.

2. In the ShivaRemote Connection Status dialog box, click the Disconnect button.

   ShivaRemote closes the network connection and hangs up the modem.

Related Information

Dialing In to the Remote Network

Connection Status Dialog Box

Configuring ShivaRemote

ShivaRemote is configured for the best performance over a typical dial-in connection; however, you may need to modify some settings to meet your specific needs, including how and when to dial in to the network, as well as options to make the dial in connection more cost-effective.

See the following topics for instructions on configuring ShivaRemote:

Setting Up the Modem

Entering Advanced Telephone Number Information

Disabling Call Waiting

Using a Calling Card to Dial

Automating ShivaRemote Connections (including using Dial On Demand, automatically redialing busy numbers, and reopening a lost connection)

Entering TCP/IP Information for the Remote Network

Changing the Advanced Modem Settings

Changing the ISDN Connection Speed

Changing Your Dial-In Password

Although your remote network administrator sets up your dial-in user name (login name) and password initially, ShivaRemote provides you with an easy way to change your dial-in password yourself while you're connected to the remote access server.

Prerequisites

- The remote access server you are calling must support the Change Password feature. For example, all Shiva remote access servers allow you to change your password while you are connected.
- You must be connected to the remote network to follow these instructions. See Dialing In to the Remote Network for more information.
- Your remote network must set up your dial-in account to allow you to change your password.

Check with your network administrator for more information on your dial-in account and the remote access server you are calling.

Steps

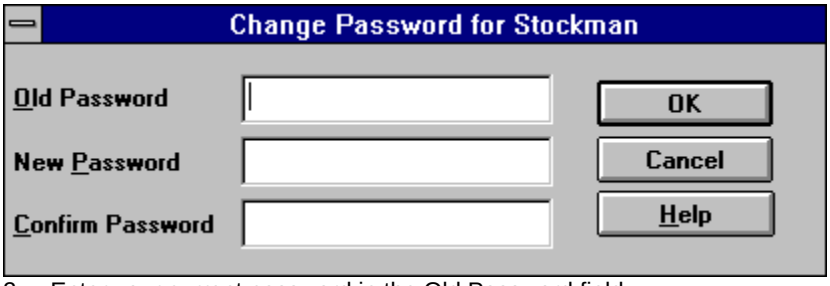
To change the password for your current dial-in connection:

1. In the Connection Status dialog box, click the Control menu and choose the Change Password command.

   The Control menu is on the upper-left corner of the Connection Status dialog box.

   If you choose the Change Password command and the remote access server does not support this feature, a message to that effect appears and you must contact the remote network administrator to change your dial-in password.

   When you choose the Change Password command when connected to a Shiva remote access server that supports changing your password, the Change Password dialog box appears:



2. Enter your current password in the Old Password field.
3. Enter the password you want to use in the New Password field using up to 16 characters.
4. Enter the new password again exactly as it appears in the New Password field in the Confirm New Password field.

   The Confirm New Password field is a way of making sure you end up with the exact password you want. If the new password isn't exactly the same in the two fields, ShivaRemote will display an error message, and you will have to begin again.

5. When you have entered the old and new password information, click OK to change your password.

   If an error message appears when you try to change the password, the Shiva remote access server may not have this feature enabled for your dial-in account.

   If the message "Password changed successfully" appears, the new password will be in effect the next time you connect to this remote access server.

Related Information

- Dialing In to the Remote Network
- Connection Status Dialog Box

Entering Advanced Telephone Number Information

If dialing your modem is a complicated process involving calling cards, access codes, and outside lines, you may find it easier to enter all of that information separately and let ShivaRemote build the final telephone number to dial for you.

This can save time if you use your computer from different locations. For example, you may need to dial 9 for an outside line from the office, but not from home. Rather than editing the telephone number each time, you can simply turn an option on or off and let ShivaRemote handle the rest.

Note: If you do not want ShivaRemote to build a telephone number for you, you can simply open the Properties dialog box, select Specify Exact Number, and enter the exact number to dial in the Number to Dial field.

Steps

To enter advanced telephone number information:

1. In the ShivaRemote window for your connection, click the Properties button.
2. In the Properties dialog box that appears, click the Build Number to Dial button and enter the following information (if desired) in the fields provided:

Phone Number Part	Description	Common Values
Access Outside Line With	From an office or hotel telephone system (PBX, for example), tells the phone system to make a call using an outside line	9, or 8, (where the comma provides a pause for the dial tone to return)
Disable Call Waiting With	Tells the telephone system not to click or beep when another call is coming in, which can interfere with modem calls	*70, on tone systems or 1170, on rotary dial systems (where the comma provides a pause for the dial tone to return). You can choose other options from a drop-down list on this field.
Access Long Distance With	Indicates which long-distance carrier or service to use	10288 (AT&T) 10333 (MCI) 10222 (Sprint), and so on
Use Calling Card	Lets you bill the telephone call to a telephone company calling card instead of billing it to the telephone line you are using	See Using a Calling Card to Dial for some common values for this field.
Dial Area/City Code	Tells ShivaRemote to use the area code when dialing the number.	This option is on in most cases, but you can turn it off if you travel into the same calling area as the remote network

   Note that all of these fields are optional.

3. Enter the area code or city code in the Area/City Code field.
4. Enter the main telephone number in the Phone Number field.
5. If you selected the Use Calling Card option, click the Calling Card button and enter the required information as

described in Using a Calling Card to Dial.

6. Click OK to close the Properties dialog box and return to the main connection window.

Related Information

Using a Calling Card to Dial

Dialing In to the Remote Network

Calling Card Information Dialog Box

Phone # Tab in Properties Dialog Box

Using a Calling Card to Dial

If you're on the road dialing long distance to an Internet provider or office network, you might want to bill the long-distance charges to a calling card. ShivaRemote lets you include calling card information in the Properties dialog box.

Prerequisites

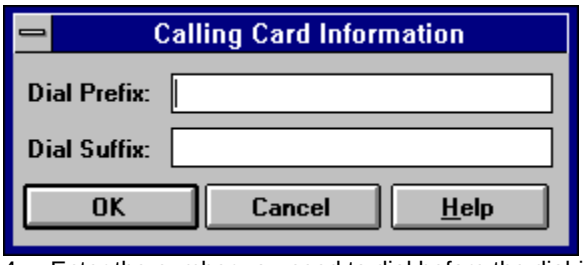
Before you can enter calling card information, you must select the Build Number to Dial option in the Phone # tab of the Properties dialog box. See Entering Advanced Telephone Number Information for more information.

Steps

To use a calling card in your dial-in connection:

1. In the ShivaRemote window, click the Properties button to open the Properties dialog box.
2. Click the Phone # tab if it is not already selected.
3. Select the Use Calling Card checkbox, then click the Calling Card button.

   The Calling Card Information dialog box appears:



4. Enter the number you need to dial before the dial-in phone number in the Dial Prefix field, if any.

   For example, you might need to dial a toll-free number to connect to the long distance service, such as 1-800-877-8000 or 1-800-225-5288. You might also need to dial a five-digit prefix, such as 10288 or 10333.

5. Enter the number you need to enter after your dial-in phone number in the Dial Suffix field, if any.

   For example, you might need to enter your home telephone number plus a secret code, or you might need to enter an account number.

6. Click OK to close the Calling Card Information dialog box and save your changes.

   When you click OK, the number ShivaRemote will dial, including the prefix, telephone number, and suffix, appears in the Properties dialog box next to the Build Number to Dial button.

Disabling Call Waiting

If your modem is connected to a telephone line that is set up for call waiting, you may experience lost dial-in connections or interruptions in file transfers if a call comes in while you are connected to the remote network. For this reason, ShivaRemote provides a way to turn off call waiting each time you dial in. (Call waiting is turned back on after you disconnect from the dial-in connection.)

Note: Many newer modems have features that prevent call waiting interruptions from causing problems with your dial-in connection. Even with these modems, however, it is best to disable call waiting to be sure your call will not be interrupted.

Prerequisites

Before you can tell ShivaRemote to disable call waiting, you must select the Build Number to Dial option in the Phone # tab of the Properties dialog box. See Entering Advanced Telephone Number Information for more information.

Steps

1. In the ShivaRemote window, click the Properties button to open the Properties dialog box.
2. Click the Phone # tab if it is not already selected.
3. Select the Disable Call Waiting With checkbox.
4. Enter the numbers to dial to disable call waiting for your telephone line in the Disable Call Waiting With field, or select one of the predefined options in the drop-down list.

   For example, many systems in the United States use *70 to disable call waiting (or 1170 on a rotary or pulse-dialing phone).
5. Click OK to close the Properties dialog box and save your changes.

Setting Up the Modem

Before ShivaRemote can use a modem connected to your computer, it needs to know what kind of modem it is. There are several ways to add a modem to your ShivaRemote configuration:

- Using the Modem Wizard to automatically detect and configure the modem.
- Setting Up the Modem Manually, selecting it from a list and changing its configuration yourself

We recommend that you let the Modem Wizard do the work for you; set up the modem manually only if the Modem Wizard does not recognize your modem or configuration.

Using the Modem Wizard

The Modem Wizard is a quick way to let ShivaRemote use your modem or ISDN device for dialing in to a remote network or Internet provider. The Modem Wizard checks each COM port for modems and ISDN terminal adapters and looks for ISDN cards. If the Modem Wizard finds one, it then identifies the type of modem or ISDN device found, and sets up ShivaRemote to use that modem or device for dialing in.

Once a modem or ISDN device is set up using the Modem Wizard, you can then select it from the Modem drop-down list on the Modem tab in ShivaRemote.

Steps

To set up your modem in ShivaRemote manually:

1. From the ShivaRemote main window, click the Properties button.
2. In the Properties dialog box that appears, click the Modem tab.
3. On the Modem tab, click the New button in the Device Type section.
4. When the Modem Setup dialog box appears, click Next to begin automatically detecting your modem or ISDN device.

   The Modem Wizard checks each COM port on your computer, as well as checking for ISDN cards, and reports the modem or modems it found.
5. If a single correct device was found, click the Next button to continue setting it up.
6. If the device found produced several options, select the one that most closely matches the modem or ISDN device you are using, then click Next.
7. If no modem or ISDN device was found, select the modem manually as described in Setting Up the Modem Manually.
8. When the dialog box appears confirming your choices and modem configuration, click Finish to complete the modem setup.

Related Information

Setting Up the Modem Manually

Setting Up the Modem Manually

Before you can use ShivaRemote, you need to indicate which modem or ISDN device you are using on your computer. If you do not want to use the Modem Wizard to automatically detect your modem or ISDN device, you can select it manually from a list by following the instructions in this topic.

You might want to follow these instructions instead of using the Modem Wizard if, for example, your modem is not currently connected to your computer, or if it is not currently turned on. Also, using the Modem Wizard takes some time to check each of the COM ports on your computer, and selecting the modem manually takes only a few seconds.

However, we recommend that you use the Modem Wizard if at all possible, and follow the instructions here only if necessary.

Steps

To set up your modem in ShivaRemote manually:

1. From the ShivaRemote main window, click the Properties button.
2. In the Properties dialog box that appears, click the Modem tab.
3. On the Modem tab, click the New button in the Device Type section.
4. When the Modem Setup dialog box appears, select the "Don't Detect My Modem; Let Me Specify It" option, then click Next.
5. When the next screen appears, use the Manufacturer list to select the name of the company who makes your modem or ISDN device.

   For example, if your modem is a SupraFaxModem™, you would select Supra in the Manufacturer list. You can scroll quickly to the manufacturer you want by clicking any item in the list and then typing the first letter of the manufacturer's name.

   If you cannot find the manufacturer of your modem, select the [Standard Modem Types] item in the list.
6. Use the Model list, select the model name of the modem or ISDN device you are using, then click Next.

   If you selected [Standard Modem Types] as the manufacturer, use the Model list to select the model description that most closely matches your modem.
7. When the next screen appears, use the drop-down list to select the COM port on which your modem is connected, then click Next.

   If you are using a PC card modem, select the COM port your PC card modem is configured to use.

   If you are using an internal ISDN card or an ISDN PC card, skip this step.
8. When the next screen appears, click the Finish button to complete the modem setup.

You are now ready to use your modem with ShivaRemote by selecting its name from the Device drop-down list in the Modem tab.

Related Information

- Using the Modem Wizard
- Changing the Advanced Modem Settings
- Using Multiple ISDN Channels (MLP)

Changing the Advanced Modem Settings

In some cases, you may need to modify the default settings ShivaRemote uses to control your modem during dial-in connections, including the dialing and answering initialization strings. This topic describes where to find the initialization strings used by ShivaRemote and how to modify them.

This section does not cover what the settings mean or how you might want to change them. ShivaRemote is shipped with the best configuration for each modem, and no changes from these settings should be necessary. However, if you need to change the initialization strings for your modem, you can find information in your modem's documentation, or you should contact your network administrator for help.

Note: Don't change any of the settings in the Advanced Modem Settings dialog box unless you know what the effects will be or you are instructed to do so by your network administrator. Entering incorrect settings in this dialog box can render ShivaRemote unable to use the modem or to dial in to the remote network.

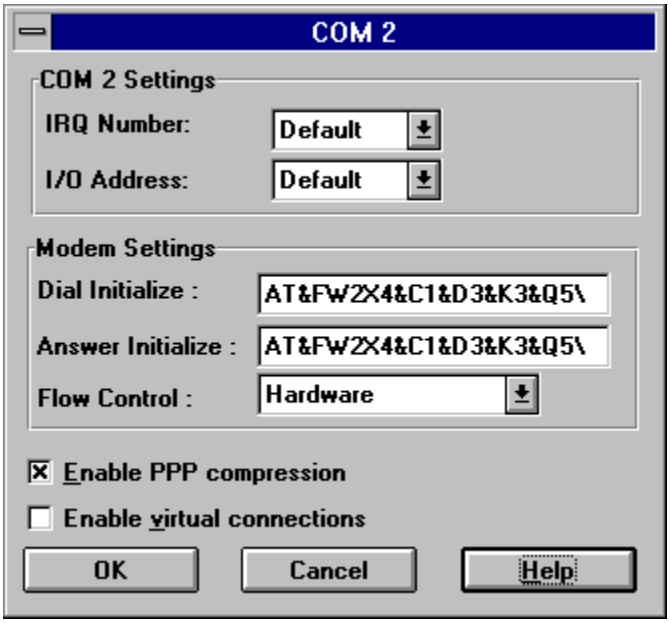
Steps

To change the advanced settings for your modem:

1. In the main ShivaRemote window, click the Properties button, then click the Modem tab.
2. If the modem you want to modify is not already selected in the Modem Type area, select it from the Modem drop-down list before proceeding.
3. Click the Advanced button to open the Advanced Modem Settings dialog box.

   The title of the dialog box indicates the COM port on your computer where the modem is currently connected. If the title of the dialog box is Advanced ISDN Settings, see Changing the ISDN Connection Speed.

   The settings that appear in this dialog box by default are ShivaRemote's preset values for the selected modem.



4. To change the string ShivaRemote uses to initialize your modem for outgoing calls, change the values in the Dial Initialize field.
5. To change the string ShivaRemote uses to initialize your modem for incoming calls (for example, when you are using dial-back), change the values in the Answer Initialize field.
6. To change the method ShivaRemote uses for flow control, select a setting from the Flow Control drop-down list.

   Most high-speed modems use Hardware flow control.
7. Click OK when you are finished to close the Advanced Modem Settings dialog box.

Related Information

- Advanced Modem Settings Dialog Box
- Using Virtual Dial-In Connections
- Setting the Advanced Hardware Settings for your Modem
- Using PPP Data Compression Over the Dial-In Connection

Setting the Advanced Hardware Settings for your Modem

In some cases, you may need to modify the default hardware settings ShivaRemote uses to dial in with your modem. This topic describes where to find the hardware settings used by ShivaRemote and how to modify them.

This section does not cover what the settings mean or how you might want to change them. ShivaRemote is shipped with the best configuration for each modem, and no changes from these settings should be necessary. However, if you need to change these settings for your modem, you can find information in your modem's documentation, or you should contact your network administrator for help.

Note: Don't change any of the settings in the Advanced Modem Settings dialog box unless you know what the effects will be or you are instructed to do so by your network administrator. Entering incorrect settings in this dialog box can render ShivaRemote unable to use the modem or to dial in to the remote network.

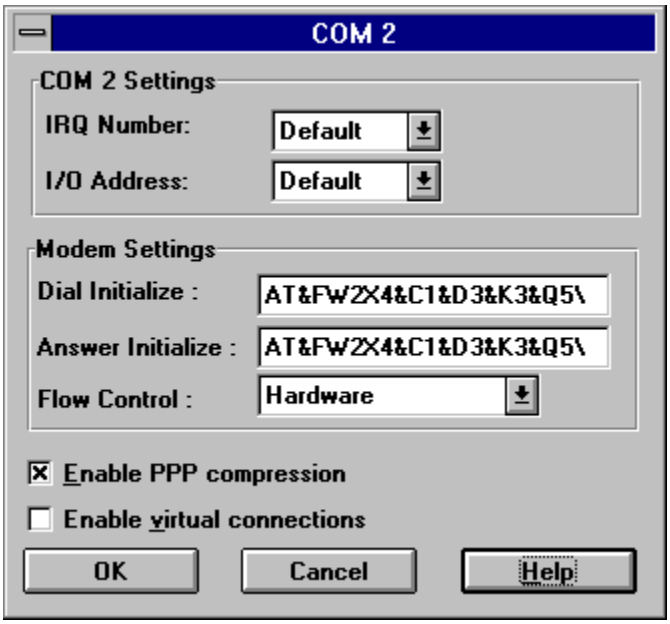
Steps

To change the hardware settings for your modem:

1. In the main ShivaRemote window, click the Properties button, then click the Modem tab.
2. If the modem you want to modify is not already selected in the Modem Type area, select it from the Modem drop-down list before proceeding.
3. Click the Advanced button to open the Advanced Modem Settings dialog box.

   The title of the dialog box indicates the COM port on your computer where the modem is currently connected. If the title of the dialog box is Advanced ISDN Settings, see Advanced ISDN Settings Dialog Box.

   The settings that appear in this dialog box by default are ShivaRemote's preset values for the selected modem.



4. To change the IRQ setting for your modem, select a value between 2 and 15 from the IRQ drop-down list.

   You should first try using ShivaRemote with this value set to "Default," and change it here only if ShivaRemote cannot use the modem or if your modem's documentation indicates that you should use another setting.
5. To change the I/O memory address used for your modem, select a value from the I/O drop-down list.

   You should first try using ShivaRemote with this value set to "Default," and change it here only if ShivaRemote cannot use the modem or if your modem's documentation indicates that you should use another setting.
6. Click OK when you are finished to close the Advanced Modem Settings dialog box.

Related Information

- Advanced Modem Settings Dialog Box
- Using Virtual Dial-In Connections
- Changing the Advanced Modem Settings
- Using PPP Data Compression Over the Dial-In Connection

Using PPP Data Compression Over the Dial-In Connection

ShivaRemote includes a feature called PPP data compression, or simply PPP compression, that works with most remote access servers to speed up your connection by compressing your data as it is sent over the telephone lines. Data compression can reduce the actual amount of data sent (sometimes by 2:1 or more) so the overall time needed to send information is smaller.

ShivaRemote uses PPP data compression by default, but you may want to turn it off or back on in some circumstances. However, you should leave this feature on unless instructed to turn it off by your remote network administrator or technical support representative.

Steps

To change the status of PPP compression for your dial-in connection:

1. In the main ShivaRemote window, click the Properties button, then click the Modem tab.
2. If the modem you want to modify is not already selected in the Modem Type area, select it from the Modem drop-down list before proceeding.
3. Click the Advanced button to open the Advanced Modem Settings or Advanced ISDN Settings dialog box.

   If you are using a standard modem, the title of the dialog box indicates the COM port on your computer where the modem is currently connected. If you are using an ISDN device, the title of the dialog box reads Advanced ISDN Settings.
4. Click the checkbox next to PPP Compression to turn the feature on or off.

   The checkbox contains an "X" when PPP compression is enabled.
5. Click OK to close the Advanced Modem or ISDN Settings dialog box when you are done.

Related Information

- Advanced Modem Settings Dialog Box
- Using Virtual Dial-In Connections
- Changing the Advanced Modem Settings
- Setting the Advanced Hardware Settings for your Modem

Setting Up the ISDN Device

Before ShivaRemote can use an ISDN device (internal card or external terminal adapter) connected to your computer, it needs to know what kind of device it is. There are several ways to add an ISDN device to your ShivaRemote configuration:

- Using the Modem Wizard to automatically detect and configure the device.
- Setting Up the ISDN Device Manually, selecting it from a list and changing its configuration yourself

Changing the ISDN Connection Speed

The speed at which ShivaRemote connects to your remote network depends on how your ISDN line is configured with your telephone company. Most ISDN lines in the United States, for example, are configured for speeds of 64K bps, although some are configured for 56K bps.

Note that either connection speed can support an MLP connection, which uses two ISDN channels to double your connect speed to 112K bps or 128K bps, depending on the speed you select in this section.

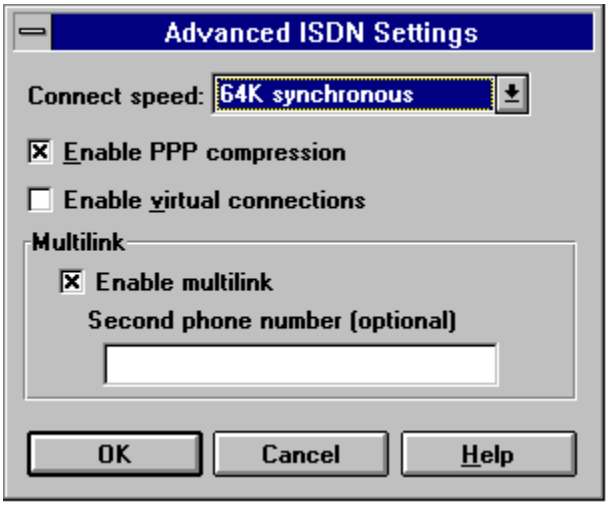
Prerequisites

You must have information from your ISDN provider on what speeds your ISDN line is configured to use

Steps

To select the ISDN connection speed for ShivaRemote:

1. In the main ShivaRemote window, click the Properties button, then click the Modem tab.
2. If the ISDN device you want to modify is not already selected in the Modem Type area, select it from the Modem drop-down list before proceeding.
3. Click the Advanced button to open the Advanced ISDN Settings dialog box.



4. In the Advanced ISDN Settings dialog box, select your ISDN line's speed from the Connect Speed drop-down list.
5. Click OK when you are finished.

Related Information

- Using PPP Data Compression Over the Dial-In Connection
- Using Virtual Dial-In Connections
- Using Multiple ISDN Channels (MLP)

Using Multiple ISDN Channels (Multilink)

If you have an ISDN card or terminal adapter on your computer, ShivaRemote can connect with a remote access server over more than one ISDN channel in a process called multilink protocol (MLP) (also called "channel aggregation").

Prerequisites

- You must set up your ISDN device with the Modem Wizard (as described in Using the Modem Wizard) or manually (as described in Setting Up the Modem Manually).
- An internal ISDN card must use a CAPI or WinISDN driver. Check with your ISDN card's manufacturer for information. If you are using an external ISDN terminal adapter, it must support pass-through PPP. See your terminal adapter's documentation for details.
- You may need a second telephone number for the remote access server (for the first and second B channels of the ISDN line). Your remote network administrator can provide both telephone numbers for the remote access server if you need them.
- If you plan to use roaming dial-back, you must have two telephone numbers for your own computer (for the two B channels to your own ISDN line).

Steps

To configure ShivaRemote to establish an MLP connection to a remote access server:

1. From the main connection window, click the Properties button and click the Modem tab.
2. Click the Advanced Button.
3. Select the Use Both B Channels (Multilink) checkbox in the dialog box that appears.
4. If your network administrator has provided a telephone number for the remote access server's second B channel, enter it in the Second Phone Number (Optional) field.
5. Click OK to close the Advanced ISDN Settings dialog box, then click OK to close the Properties dialog box.
6. Dial in as described in Dialing In to the Remote Network.

When you connect to the remote access server, ShivaRemote uses two B channels to communicate with the remote network if possible.

Related Information

- All About MLP
- Setting Up the ISDN Device
- Using Roaming Dial-Back

Using Virtual Dial-In Connections

A virtual connection is where ShivaRemote establishes a dial-in connection to a remote network, then suspends that connection during long idle periods (when your computer doesn't need to communicate with the network).

Prerequisites

To use virtual connections, you must be dialing in to a remote access server that supports virtual connections. Check with your remote network administrator for more information.

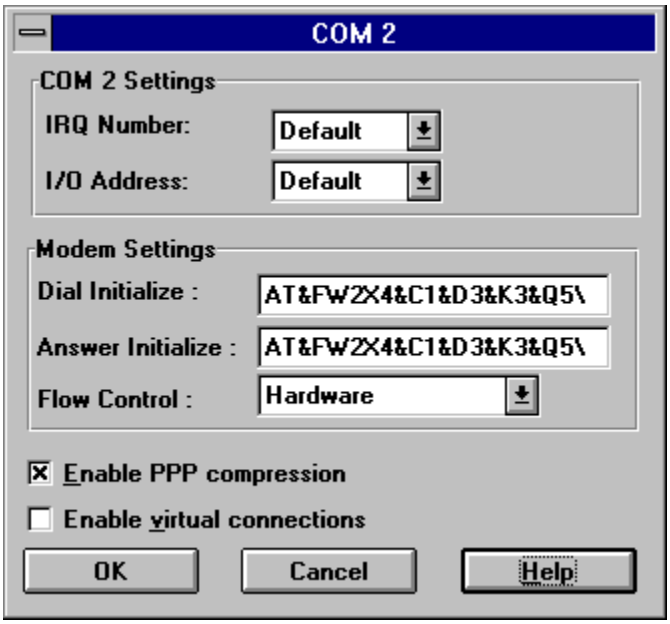
Note: If you try to use virtual connections when they are not supported, your connection will be established without any problems, but it will not suspend during idle time.

Steps

To use virtual connections when you dial in to a remote access server:

1. From the main connection window, click the Properties button and click the Modem tab.
2. Click the Advanced Button.

   The Advanced Settings (or Advanced ISDN Settings) dialog box appears.



There are two versions of this dialog box, depending on whether you are using a regular modem or ISDN terminal adapter or an internal ISDN card.

3. Select the Enable Virtual Connections checkbox, then click OK.

   Note that when you select this option, you are enabling virtual connections for all dial-in connections you make, not simply for the connection file that is currently open.

4. Follow the instructions in Dialing In to the Remote Network to dial in.

If you dial in to a remote access server that supports virtual connections, ShivaRemote will suspend the dial-in connection automatically during idle times. Over an ISDN connection, ShivaRemote will reestablish the connection quickly enough that in most cases, you won't notice more than a slight delay in network services.

Note: If you disconnect your dial-in connection while it is suspended, ShivaRemote must first resume the connection before disconnecting. ShivaRemote must connect one last time before disconnecting to let the remote access server know that the connection is closing, not merely suspending, thus freeing the dial-in port for other users.

Over a dial-in connection through a standard modem, you may notice a considerable delay while the connection is reestablished, since standard modems take much longer (30 seconds or more) to negotiate a connection than ISDN devices.

Related Information

- All About Virtual Connections
- Cost Savings Tab in the Performance Monitor

Entering TCP/IP Information for the Remote Network

If you are dialing in to the remote network to use Internet or Intranet services (which all use the TCP/IP networking protocol), you may need to enter some additional information into ShivaRemote.

The TCP/IP information consists of the following:

- The Domain Name Service (DNS) server to use. The DNS servers allow your computer to locate other computers by name (as in www.companyname.com) instead of by number (as in 127.255.255.0).
- The Domain Name of the service provider you are using. The domain name specifies the group name of the computers on the remote network, such as Shiva.com or Netscape.com. This name makes up part of your computer's Internet address while you are connected to the remote network.

Note: In many cases, the remote access server you are calling will automatically provide the information discussed here, in which case you should leave this information set to 0.0.0.0 in ShivaRemote. You should enter this information into ShivaRemote only if your remote network administrator provides it.

Steps

To enter TCP/IP information for the remote network:

1. From the main connection window, click the Properties button and click the Service Provider tab.
2. Enter the primary domain name service (DNS) address given to you by your remote network administrator in the Primary DNS field (as in 127.255.255.0).
3. Enter the secondary DNS address, if any, in the Secondary DNS field.
4. Enter the domain name of the remote network (for example, shiva.com) in the Domain Name field.
5. Click OK to close the Properties dialog box and return to the main connection window.

Automating ShivaRemote Connections

ShivaRemote can automate a number of connection tasks for you. For example, you can set up your system to open your favorite program as soon as you're connected to the remote network, or to redial whenever the line is busy.

See the following topics for more information on automating your connection:

- Logging in Manually or With a Login Script if the remote network has complex logon requirements, where automatically logging on doesn't work.
- Redialing Busy Numbers
- Using Dial On Demand to open the connection whenever you use a program that needs the remote network connection.
- Automatically Running Other Applications once you have opened the remote network connection.

Using Dial On Demand

ShivaRemote's dial on demand feature opens the dial-in connection whenever you use a program that requires the remote network. For example, you can configure the connection so that ShivaRemote calls your Internet service provider whenever you open a World Wide Web page in Netscape Navigator, or whenever you open your office or Internet e-mail program.

Prerequisites

- You must have a working connection file set up as described in Dialing In to the Remote Network
- You must have saved your name and correct password with the connection file, as described in Dialing In to the Remote Network.

Steps

To use the dial on demand feature:

1. From the main connection window, click the Properties button.
2. Click the Dialing tab in the Properties dialog box that appears.
3. In the Dial On Demand section, select the Enable button (so that it contains an "X").
4. In the Connection File field, enter the exact path to the connection file you want to use, or click the Browse button to locate the file.

   The connection file is the ShivaRemote settings file (with an .SR extension) that contains the connection settings for the network you want to use, such as your office or Internet provider. This is the connection ShivaRemote will open whenever any program on your computer tries to use the remote network.
5. Click the OK button to close the Properties dialog box, then save and close the main connection window.

From now on, whenever you try to use the remote network, ShivaRemote will open the connection file and dial in automatically (if it is not connected already) If another connection file is open when Dial On Demand is used, ShivaRemote will prompt you to save any changes before continuing.

Note: You must close the connection manually when you are done using the remote network. ShivaRemote cannot know when you are finished using the network, and will keep the connection open until the first of the following occurs:

- You exceed the timeout specified by your remote network administrator
- You exceed the timeout you specified in the Connection tab of the Properties dialog box (as described in Closing Idle Dial-In Connections)
- You close the connection manually (by clicking the Disconnect button in the main connection window)

Redialing Busy Numbers

If your Internet provider is very popular or your office has a lot of remote employees, you may encounter a busy signal when you try to dial in. ShivaRemote can automatically redial a number, letting you do other work until the dial-in connection is free.

Steps

To set up ShivaRemote to redial your remote network when the line is busy:

1. From the main connection window, click the Properties button.
2. Click the Dialing tab in the Properties dialog box that appears.
3. Click the Redial if Phone is Busy checkbox, so it contains an "X".
4. In the Wait XX Seconds Between Redials field, enter the amount of time between 1 and 255 seconds you want ShivaRemote to wait after a busy signal before redialing.
5. In the Give Up After XX Attempts field, enter the number of times between 1 and 255 you want ShivaRemote to try dialing the number before giving up.

Note that once ShivaRemote stops redialing, you can start the process again by clicking Connect in the main connection window.

Automatically Running Other Applications

You may find that you tend to run the same programs each time you connect to your office or Internet provider. For example, you may run your e-mail program whenever you dial in to the office, or you may run Netscape Navigator each time you connect to the Internet.

For this reason, ShivaRemote has a feature that will automatically launch your favorite application immediately after dialing in to the remote network.

Steps

To set up a connection to launch a program after dialing in:

1. From the main connection window, click the Properties button.
2. Click the Connection tab in the Properties dialog box that appears.
3. In the When Connected section, select the Automatically Start checkbox.
4. Click the Browse button to locate and select the name of the program you want to run (usually an .EXE file) after the dial-in connection is made.

   If you already know the path and name of the program you want to run, you can enter it in this field directly instead of using the Browse button.
5. Click OK when you are done to close the Properties dialog box and return to the connection window.

IDH_Reopening_a_Lost_Connection$ Reopening a Lost ConnectionK connections, reopening;opening a lost connection;disconnections, and reopening the connection;+ USING1:02400

Closing Idle Dial-In Connections

If you are concerned about building up high long-distance charges or connect-time charges on your dial-in connection, you may want ShivaRemote to close your connection after it has been idle for several minutes.

Be aware that if you have enabled virtual connections, the virtual connection settings will override the idle time settings you enter in this topic.

Note: Your remote network administrator may already have your account configured to close after a certain amount of idle time. If so, the lowest setting for idle time takes precedence. For example, if your account is configured to disconnect after 5 minutes of idle time, and you configure ShivaRemote to disconnect after 10 minutes of idle time, your connection will be closed after 5 minutes of idle time, because that is the lowest setting for the dial-in connection.

Steps

To configure the amount of idle time after which ShivaRemote should close the connection:

1. In the main ShivaRemote window, click the Properties button, then click the Connection tab.
2. In the Connection tab, select the checkbox next to Disconnect After XX Minutes of Inactivity.
3. Use the drop-down list next to this option to select the amount of idle time you want ShivaRemote to wait before closing the connection.
4. Click OK to close the Properties dialog box.

Related Information

- Using Dial On Demand
- Using Virtual Dial-In Connections

Using Roaming Dial-Back

If you're dialing in to the remote network while traveling, or on occasions when you want to reverse the charges on the dial-in telephone call, you can configure ShivaRemote so that the remote access server will hang up and call you back at your current location. This feature is called roaming dial-back.

Note: Not all remote access servers support roaming dial-back. Also, your account may not have the roaming dial-back feature enabled. Check with your network administrator to see whether this feature is available and is active for your account.

Prerequisites

- You must know the telephone number of the line to which your modem or ISDN device is currently connected.
- You must know any dialing requirements on the remote access server's telephone network. For example, if there are special codes to dial for an outside line (such as 9,) or for long-distance access, you must find out from your remote network administrator.

Steps

To enable roaming dial-back in ShivaRemote:

1. In the main ShivaRemote window, click the Properties button, and click the Dialing tab in the dialog box that appears.
2. Select the Request Roaming Dial-Back checkbox in the Dialback section.
3. Enter your modem's or ISDN device's current telephone number in the Dial-back Phone # field.

   Be sure this is a valid telephone number for the remote access server's telephone system to use. For example, if the remote access server must dial a "9" for an outside line, be sure to include that here.

   You can enter up to 56 characters in the Dial-back Phone # field, including numbers, commas (,), and hyphens (-). Do not include any modem dialing commands, such as ATDT.

   Note: Although hyphens (**-**) in the dial-back number are optional for modems, some ISDN cards and terminal adapters may require that you enter the number **without** hyphens. If you enter a number and your computer doesn't receive a dial-back call, try removing the hyphens in this field, then dial in again.
4. Click the OK button to close the Properties dialog box when you are done.

Whenever you dial in to the remote network, ShivaRemote will log in using your name and password, then hang up and wait for the return telephone call. After answering the telephone, ShivaRemote will enter your name and password again, then set up the dial-in connection.

Note: If you have enabled ISDN Multilink Protocol (MLP) for the dial-in connection, you may be asked for a second roaming dial-back number when you connect to the remote network. The number you provide should be the telephone number of the second B channel of your ISDN line as provided by your telephone company. Be sure to enter the number following the same format described here.

Related Information

- Dialing In to the Remote Network
- Using Multiple ISDN Channels (MLP)

Opening Saved Connection Settings

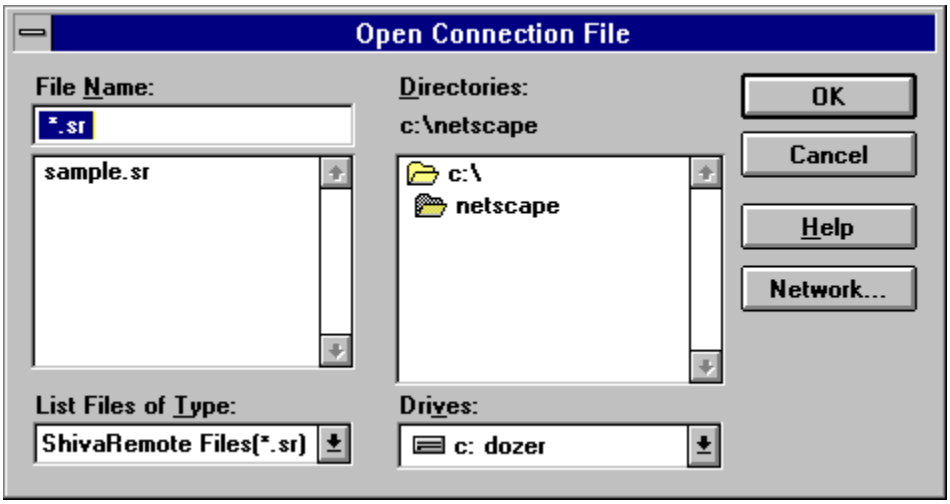
If you have previously set up and saved connection settings for a remote network, you can retrieve them in ShivaRemote using the Open command on the File menu.

Steps

To retrieve a saved connection file:

1. From the main connection window, choose Open from the File menu.

   The Open Connection File dialog box appears.



2. Use the Directories list and the Drives drop-down list to locate the disk and directory where the desired connection file is saved.
3. Enter the name of the connection file in the File Name field, or use the list below the File Name field to locate and select the desired connection file.
4. When you have selected the connection file you want to open, click OK.

Related Information

- Saving Connection Settings

Saving Connection Settings

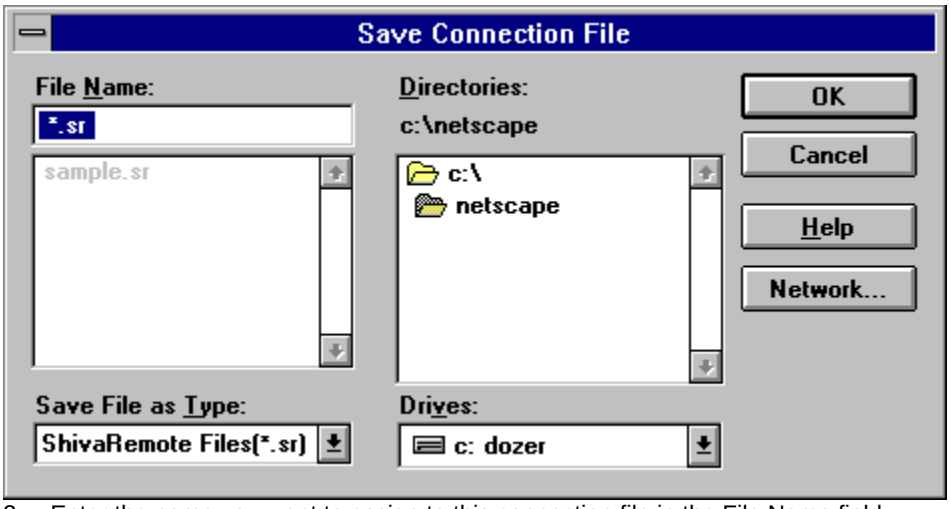
Once you have set up a connection using ShivaRemote, you will usually want to save the connection settings for future use. Using the Save command on the File menu, you can save your connection settings as a file on any disk. If you do not save your settings before closing ShivaRemote, the settings will be lost and you will have to recreate them the next time you want to connect to the remote network.

Steps

To save a connection file:

1. From the ShivaRemote main window, choose Save from the File menu.

   If you have not yet saved the current connection settings, the Save Connection File dialog box appears. This dialog box also appears if you have a connection file open and you choose Save As from the File menu.



2. Enter the name you want to assign to this connection file in the File Name field.

   You do not need to specify a connection file extension. The default extension for connection files (.SR) is added automatically when you save.

3. Use the Directories list and the Drives drop-down list to locate the directory in which you want to save the connection file.

   By default, ShivaRemote saves the connection file in the same directory as the ShivaRemote program. We recommend that you accept this default location.

4. When the file name and directory location are correct, click OK to save the connection file.

Related Information

- Opening Saved Connection Settings

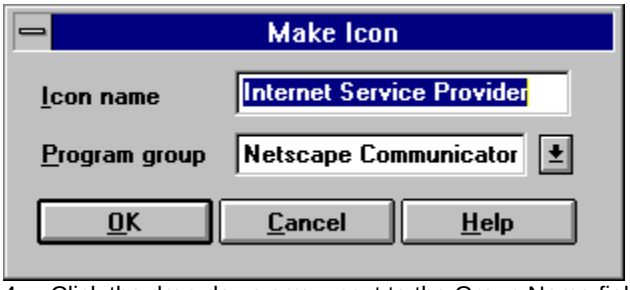
Creating a Connection File Icon in the Program Manager

Once you have created and saved a connection file for dialing in, you can create an icon for that connection in any Program Manager group. You can then double-click the Program Manager icon you create to open the connection file quickly and easily.

To create a Program Manager icon for a connection file:

1. Open ShivaRemote if it is not already open.
2. Choose Open from the File menu and use the Open dialog box that appears to locate and open the connection file you want.
3. Choose Make Icon from the File menu.

   The Create Program Manager Icon dialog box appears.



4. Click the drop-down arrow next to the Group Name field and select the group name you want from the list, or type the desired group name to create a new one.
5. Enter a name for the connection file icon in the Icon Name field, or accept the default name as shown.

   The default name is the name you entered in the Description field in the main ShivaRemote window.
6. Click OK when you are done to create the Program Manager icon.

   You can now double-click that icon in the Program Manager whenever you want to open that dial-in connection.

ShivaRemote Windows and Menus

Most of the major ShivaRemote windows, dialog boxes, and menus are explained in the following topics. Click a topic to see a description of that window or menu name.

Windows and Dialog Boxes

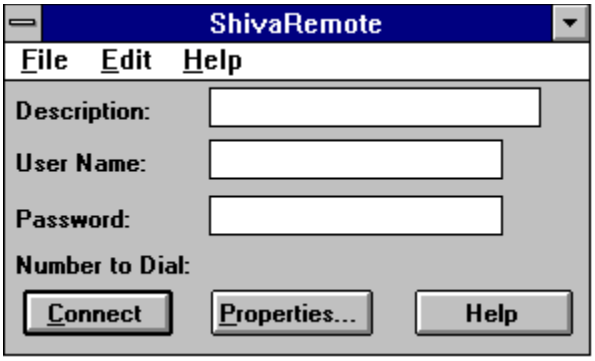
Menus

ShivaRemote Window

Use the main ShivaRemote window to enter the basic information needed to connect to a remote network or Internet provider. You can also use this window to open and close the connection, and to open the Properties dialog box where you can set up other options.

To open the ShivaRemote window, double-click the ShivaRemote icon in the ShivaRemote program group, or run CONNECTW.EXE in the directory where you installed ShivaRemote.

Click a field or button in this example for a description.



Related Information

Dialing In to the Remote Network

Properties dialog box

Use the Properties dialog box to enter the phone number of the network or Internet provider you are calling, as well as for changing other settings for your connection file, such as the modem you are using, networking protocols to use, and login options.

To open the Properties dialog box, click the Properties button in the main ShivaRemote window.

The Properties dialog box displays the Phone # tab by default. To see an example of any tab, click its name in the following list:

Phone #	Modem
Service Provider	Protocols
Dialing	Login
Connection	

Phone # Tab in Properties Dialog Box

Use the Phone # tab of the Properties dialog box to enter the telephone number of the remote network you are calling. If you do not have this information, your network administrator or Internet provider can get it for you.

To open the Phone # tab, click the Properties button in the ShivaRemote main window, and click the Phone # tab at the top of the dialog box.

Click a field or button in this example for a description.

Related Information

- Using a Calling Card to Dial
- Disabling Call Waiting
- Entering Advanced Telephone Number Information

Modem Tab in Properties Dialog Box

Use the Modem tab of the Properties dialog box to select the modem you want to use for dialing in and to set numerous options for the selected modem.

To open the Modem tab, click the Properties button in the ShivaRemote main window, and click the Modem tab at the top of the dialog box.

Click a field or button in this example for a description.

Related Information

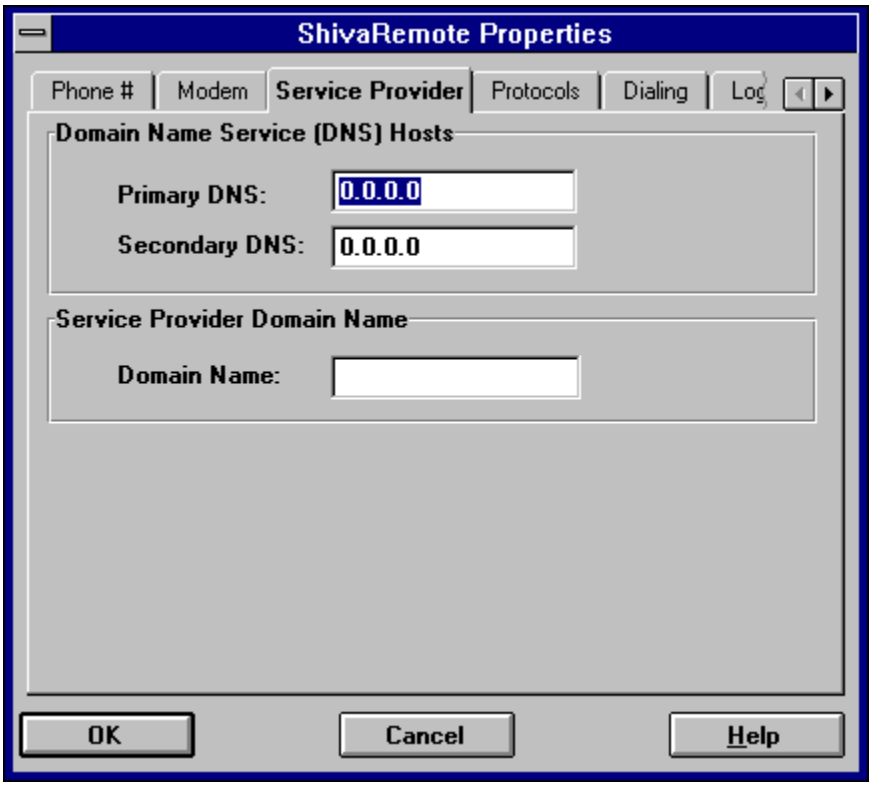
- Setting Up the ISDN Device
- Setting Up the Modem
- Changing the Advanced Modem Settings

Service Provider Tab in Properties Dialog Box

Use the Service Provider tab of the Properties dialog box to enter any Internet names and addresses necessary for a useable connection to your Internet service provider or remote network. In most cases, these values can be left blank or set to their default values (0.0.0.0, for example). Change these settings only if instructed to by your remote network administrator or Internet provider.

To open the Service Provider tab, click the Properties button in the ShivaRemote main window, and click the Service Provider tab at the top of the dialog box.

Click a field or button in this example for a description.



Related Information

Entering TCP/IP Information for the Remote Network

Protocols Tab in Properties Dialog Box

Use the Protocols tab in the Properties dialog box to control the networking protocols that are used in your dial-in connection to the remote network.

To open the Protocols tab, click the Properties button in the ShivaRemote main window, and click the Protocols tab at the top of the dialog box.

Click a field or button in this example for a description.

Dialing Tab in Properties Dialog Box

Use the Dialing tab in the Properties dialog box to control how and when ShivaRemote dials the remote network for you. For example, you can configure dial on demand, so that ShivaRemote will connect to a particular network whenever IP networking is used. You can also control redialing options as well as whether the remote access server should hang up and call your modem back (called roaming dial-back).

To open the Dialing tab, click the Properties button in the ShivaRemote main window, and click the Dialing tab at the top of the dialog box.

Click a field or button in this example for a description.

Related Information

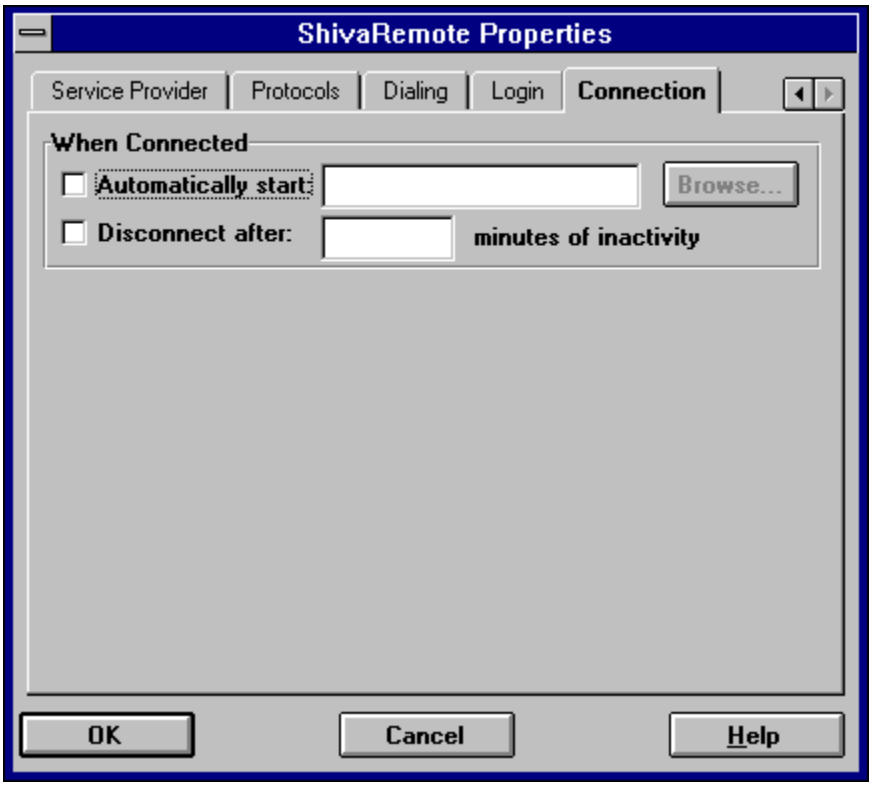
Automating ShivaRemote Connections

Connection Tab in Properties Dialog Box

Use the Connection tab of the Properties dialog box to control how ShivaRemote automatically opens and closes connections, as well as any actions ShivaRemote should take once the dial-in connection is opened.

To open the Connection tab, click the Properties button in the ShivaRemote main window, and click the Connection tab at the top of the dialog box.

Click a field or button in this example for a description.



Related Information

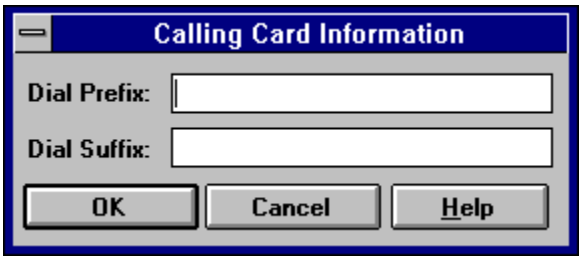
Automating ShivaRemote Connections

Calling Card Information Dialog Box

Use the Calling Card Information dialog box to enter calling card access information for use in charging your long-distance dial-in call to a telephone calling card.

To open the Calling Card Information dialog box, click the Properties button in the ShivaRemote window, click the Phone # tab if it is not already selected, then click the Calling Card button.

Click a field or button in this example for a description.



Related Information

Using a Calling Card to Dial

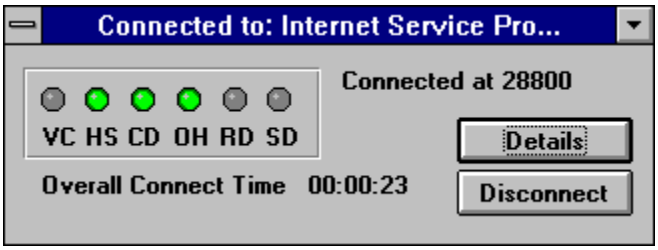
Connection Status Dialog Box

Use the Connection Status dialog box to determine how long you have been connected to the remote network, what speed your connection is using, how much time remains on the connection, and so on. You can also use the Connection Status dialog box to view statistical information about the connection and to close the connection when you are finished using the remote network.

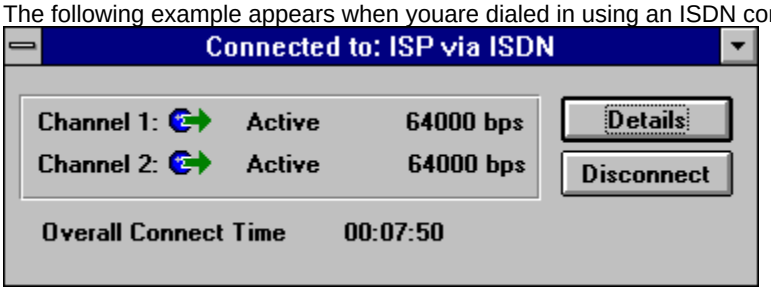
The Connection Status dialog box appears automatically whenever you establish a dial-in connection.

Click a field or button in this example for a description.

The following example appears when you are dialed in using a standard modem:



The following example appears when youare dialed in using an ISDN communication device.



Related Information

- Viewing the Performance Monitor
- Closing the Dial-In Connection

Advanced Modem Settings Dialog Box

Use the Advanced Modem Settings dialog box to control some of the more technical modem settings in ShivaRemote, such as the following:

- Hardware settings (I/O and IRQ) for your modem
- Dialing and answering initialization strings
- Flow control method used
- Whether to use PPP compression and virtual connections

To open the Advanced Modem Settings dialog box, click the Properties button in the ShivaRemote window, click the Modem tab if it is not already selected, then click the Advanced button.

Note: The Advanced Modem Settings dialog box appears only if you have a modem selected in the Modem drop-down list on this tab. If you have an ISDN device selected, the Advanced ISDN Settings dialog box appears instead.

Click a field or button in this example for a description.

-

Related Information

- Changing the Advanced Modem Settings
- Using PPP Data Compression Over the Dial-In Connection
- Setting the Advanced Hardware Settings for your Modem
- Using Virtual Dial-In Connections

Advanced ISDN Settings Dialog Box

Use the Advanced ISDN Settings dialog box to control some of the more technical ISDN settings in ShivaRemote. For example, you can use this dialog box to control the speed of your connection, as well as the number of B channels used.

To open the Advanced ISDN Settings dialog box, click the Properties button in the ShivaRemote window, click the Modem tab if it is not already selected, then click the Advanced button.

Note: The Advanced ISDN Settings dialog box appears only if you have an ISDN device selected in the Modem drop-down list on this tab. If you have a modem selected, the Advanced Modem Settings dialog box appears instead.

Click a field or button in this example for a description.

-

Related Information

- Changing the ISDN Connection Speed
- Using Multiple ISDN Channels (MLP)
- Using Virtual Dial-In Connections

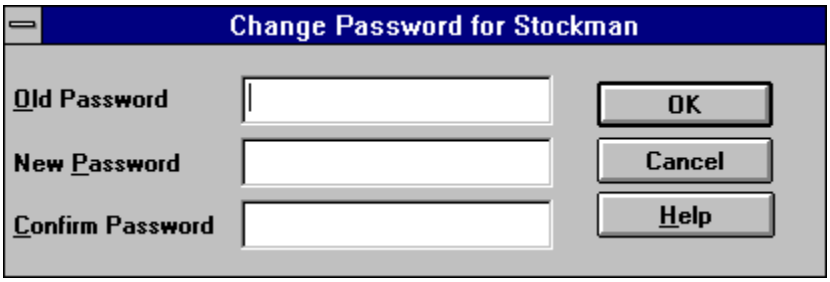
Change Password Dialog Box

Use the Change Password dialog box to change your dial-in password while you are connected to a remote network. The new password will be in effect as soon as you disconnect from the remote network.

Note that the Change Password dialog box can be used only with remote access servers that support this feature, such as a Shiva remote access server. Check with your network administrator for more information.

To open the Change Password dialog box, connect to a remote access server and choose Change Password from the Control menu in the upper-left corner of the Connection Status dialog box.

Click a field or button in this example for a description.



Related Information

Changing Your Dial-In Password

Make Icon Dialog Box

Use the Make Icon dialog box to specify the name and group into which ShivaRemote Connect should create an icon for the current connection file in the Windows Program Manager. Once you create an icon for a connection file, you can double-click that icon to both launch ShivaRemote Connect and open the connection file at the same time.

To open the Make Icon dialog box, open or create a connection file in ShivaRemote Connect, then choose Make Icon command on File Menu.

Click a field or button in this example for a description.

Related Information

Creating a Connection File Icon in the Program Manager

Open/Browse Dialog Box

Use the Open File dialog box to open connection files (.SR), script files (.SCP), and other files needed for dialing in with ShivaRemote. The Open File dialog box (sometimes called the Browse dialog box) lets you specify the name, disk, and directory location of the file you want ShivaRemote to open or use.

The Open File dialog box appears in numerous circumstances for you to specify a file name and location, such as when you choose the Open command from the File menu in ShivaRemote, or when you click the Browse button in a dialog box.

The Open File dialog box looks similar to the following example:

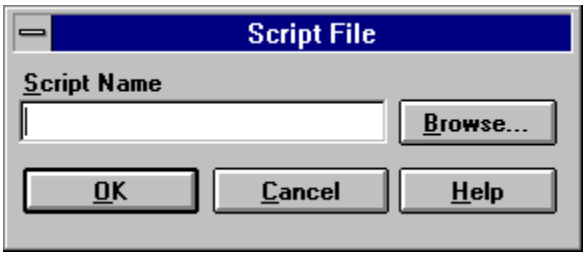
◆
Follow the instructions included with Microsoft Windows or use the Microsoft Windows online help for instructions on using this dialog box to locate and open a file.

Open Script Dialog Box

Use the Open Script dialog box to specify the name and location of the login script you want to use or to specify the name and location in which you want to save a script you are recording.

The Open Script dialog box appears automatically if you click Record in the Login tab or if you tell ShivaRemote to use a login script without specifying one.

Click a field or button in this example for a description.



Related Information

Logging in Manually or With a Login Script

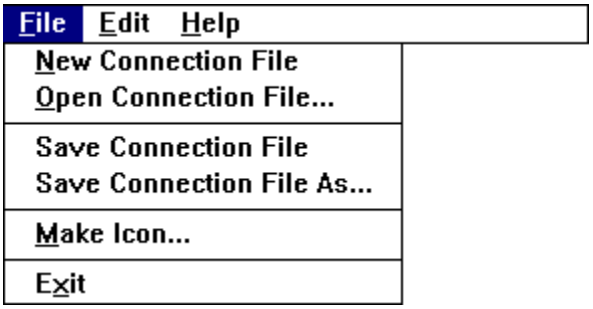
ShivaRemote Menus

Click any menu in the menu bar below for more information on its commands. For each menu displayed, you can click any command to see an explanation of that command.

File Edit Help

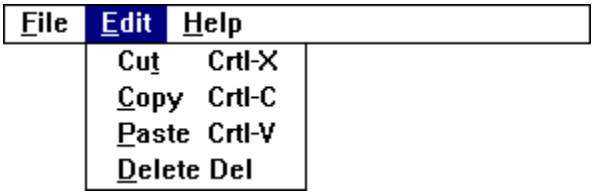
File Menu

Click any menu in the menu bar below for more information on its commands. For each menu displayed, you can click any command to see an explanation of that command.



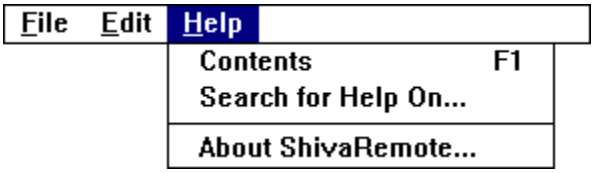
Edit Menu

Click any menu in the menu bar below for more information on its commands. For each menu displayed, you can click any command to see an explanation of that command.



Help Menu

Click any menu in the menu bar below for more information on its commands. For each menu displayed, you can click any command to see an explanation of that command.



Jump to Contents and Find

Glossary

Click this button to close the Glossary window:

Close

A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
U
V
W
X
Y
Z

This section contains a list of words and phrases commonly used in describing Shiva products. Click any term to see its definition. Click a letter button to see a list of words beginning with that letter.

A

activity log

B

C

D

M

N

O

P

Q, R

S

T

U

V

W

X

Y, Z

AT command

A command sent directly to a communication device (as opposed to commands that pass through the device to a remote connection). For Hayes-compatible modems and other devices, any line containing such a command begins "AT" (short for ATtention). For example, the command "AT S0=0" would turn off automatic answering. While there are some universal AT commands, each communication device has its own unique collection of commands it accepts.

activity log

A log that allows the network administrator to view the use of a Shiva remote access server on the network. The activity log records each connection to the remote access server with the time, user name, and type of activity.

address

A number or string that specifies the destination for data sent across a network.

AEP

See AppleTalk Echo Protocol.

aggregation

A software method of increasing the effective data capacity of an ISDN connection by combining the capacities of multiple channels of the same type. For example, two 64K bps B channels can be aggregated to act as a single 128K bps channel. (See also bonding.)

aging

The process by which a router on an internetwork "forgets" about networks or devices that are no longer connected. Also called **network aging.**

ALAP

See AppleTalk Link Access Protocol.

alert box

A type of dialog box to which a user can respond only by clicking a button (such as OK or Cancel) or by pressing the Enter or Return key.

American Standard Code for Information Interchange (ASCII)

See ASCII.

analog signal

A signal that varies continuously over time, rather than being sent and received in discrete intervals (as is a digital signal). Conventional telephone lines can carry only analog signals, while computers communicate through digital signals.

Apple Remote Access Protocol (ARAP)

The software that allows a Macintosh computer to communicate with another Macintosh computer or with an AppleTalk network over standard telephone lines.

AppleShare

The software that turns a Macintosh computer into a dedicated file server.

AppleTalk

A network system (built into every Macintosh computer) whose components have a common set of protocols (the AppleTalk protocols). An AppleTalk network system consists of devices that support these protocols and that work together to deliver network services to users. The AppleTalk protocols are defined in "Inside AppleTalk, Second Edition."

AppleTalk Echo Protocol (AEP)

A protocol in the AppleTalk protocol suite that lets any node send a test packet to any other node on the internetwork and receive an echoed copy of that packet.

AppleTalk Link Access Protocol (ALAP)

An AppleTalk protocol for controlling the hardware interface to different network devices.

AppleTalk Transaction Protocol (ATP)

A protocol in the AppleTalk protocol suite that provides guaranteed transaction services between sockets.

asynchronous

A method of data communication in which the transmission of data is not synchronized by a clocking signal and instead uses start and stop bits to indicate where characters begin and end in transmitted data packets. See also synchronous.

asynchronous transfer mode (ATM)

An alternative (and more recently developed) networking service to ISDN.

ASCII (American Standard Code for Information Interchange)

A system used to represent alphanumeric data; a 7-bit-plus-parity character set established by ANSI and used for data communications and data processing. (Pronounced "ASK-ee".)

Attachment Unit Interface (AUI)

The type of connector used with 10Base5 (thick) Ethernet cable, defined in the IEEE 802.3 Ethernet standard. See also transceiver cable.

augmentation

A networking method of temporarily increasing the data capacity of a channel by combining the capacities of other channels (usually of different types) as needed. For example, an ISDN B channel can augment the capacity of a leased line to improve performance during peak loads.

auto-disconnect

A feature of Shiva products which automatically releases the connection between a client and a remote access server when a set number of minutes has elapsed and the unit has not been used. Auto-disconnect can be controlled through the client or management software, depending on the products involved.

BBS

See bulletin board system.

backbone network

A central network that connects a number of networks, usually of lower capacity. Those lower capacity networks can pass data to each other over the backbone network.

bandwidth

The range of frequencies, from lowest to highest, that a transmission circuit can carry, usually expressed in cycles per second (Hz). Bandwidth indicates the maximum transfer rate of a channel.

Basic Rate Interface (BRI)

An ISDN service format for individual users that consists of two bidirectional 64K bps "bearer" channels (or B channels) that can carry voice or data and one 16K bps data channel (D channel). This combination is often referred to as "2B + D". The data channel can carry low speed data packets but is generally used to convey call setup and call processing information between the user and the ISDN switch.

baud rate

The rate of the signaling speed of a transmission medium. Once used to indicate the number of bits transmitted each second, bits per second (bps) is now considered to be the more accurate term because each signal can represent more or less than one bit.

bearer channel (B channel)

The basic unit of channel capacity in a digital telephone network.

bearer rate

The maximum data rate that a switched network connection can support, usually 64K bps. Some older network equipment in the U.S. might limit the bearer rate to 56K bps.

Bindery

A database that stores a server configuration that includes users, passwords, and groups on a NetWare server.

bit

A binary digit; the smallest unit of data in the binary counting system. A bit has a value of either 0 or 1.

bits per second (bps)

The basic unit of measure for serial data transmission capacity, which measures how fast data is sent.

bonding

A hardware method of increasing the effective data capacity of a channel by merging the capacities of multiple channels. The network treats a bonded channel as a single connection.

BOOTstrap Protocol (BOOTP)

A protocol by which a device obtains information from a server. This is a more efficient protocol than RARP because a single BOOTP message specifies many items needed when the device starts up, including the diskless machine's IP address, the address of a gateway, and the address of a server.

BOOTP server

A BOOTstrap Protocol server, which is any UNIX host running the BOOTP server and Trivial File Transfer Protocol (TFTP) server on an IP network. You can use the server to download a package file and configure a Shiva remote access server.

BRI

See Basic Rate Interface (BRI).

bridge

A network device that connects two networks so that devices on one network can communicate with devices on the other network.

broadcast

A network transaction that sends data to all hosts connected to the network.

bulletin board system (BBS)

An online service that maintains information that is available over telephone lines. You can read or download information from a BBS.

byte

A group of bits, normally eight, which represent one data character.

call back

A security feature where a user attempting to connect to a remote networking server is disconnected and then called at a number that has been predefined for that user (in the user document). Also called dial back.

CCITT (Consultative Committee on International Telegraphy and Telephony)

Old name for the ITU-T.

channel capacity

The maximum information rate that a channel can support. For example, each ISDN bearer (B) channel has a capacity of 64K bps.

character

A standard, 8-bit unit representing a symbol, letter, number, or punctuation mark.

Chooser

A program that lets you choose devices on the network, such as file servers and printers.

circuit switching

A networking method that establishes a dedicated channel between parties for the duration of a call.

clear channel

A channel that places no restrictions on the type of data or data patterns that it can carry. (An example of such restrictions would be some digital voice channels that cannot carry long strings of zeros.)

client

An intelligent workstation that makes requests to servers. See also server.

client-based application

An application that runs on the client workstation (client) rather than on the server.

client-server architecture

An architecture used on local area networks whereby the server and the individual workstations are treated as intelligent, programmable devices, thus exploiting the full computing power of each.

command shell

See shell.

communities

Information encoded in SNMP request packets to provide a security mechanism for SNMP. Each SNMP request packet includes a community name. When a request packet is received, the remote access server looks for the name in its community table. If the name is not found, the request is denied and an error is returned. If the name is found, the associated access level is checked and the request is accepted if the access level is high enough for the request.

COM port

A port on a communications device (such as a router) to which another device (such as a modem) connects. Also, a name commonly used for the RS-232 serial I/O connectors on an IBM PC or other MS-DOS compatible computer.

compression

The use of special coding to reduce the amount of information being transmitted by eliminating redundancies. With most forms of compression, the information is restored to its original state after transmisison.

CompuServe

A commercial online communications service that is available over telephone lines. You can read or download messages or files left on this service.

configuration file

The file that contains configuration information for a remote access server. See also package.

configuration page

A page for configuring a Shiva remote access server with Shiva Net Manager. This configuration page specifies device parameters for configuring the device.

conforming router

A router that obtains its configuration information from other routers on the network. For example, an Apple Remote Access (ARA) server acts as a conforming router between two networks: the local internetwork on which the server resides, and the network onto which remote clients are assigned.

Connection Control Language (CCL)

The scripts that enable a client modem to communicate with an Apple Remote Access (ARA) server.

connection document

On a Macintosh computer, a document that stores information that the Apple Remote Access client software needs to make the connection to a remote access server.

constrained network

A network in which routers are present.

Control Panel

A program that lets users configure some aspect of the operating system environment. Control panels let users change the speaker volume, mouse tracking, color display, network connection software, and so on. These programs are found on a Macintosh running System 7 or later in the Control Panels folder. On a Macintosh running System 6.0.x, these programs appear in the Control Panel desk accessory. In Microsoft Windows, these programs appear in the Control Panel program (CONTROL.EXE).

Data Channel (D-channel)

An ISDN channel used by a terminal and an ISDN switch to exchange control messages used to set up and tear down calls on associated bearer channels. It is also used to invoke supplementary services. The D channel can also be used to communicate low speed (9600 bps) packet data.

data circuit-terminating equipment (DCE)

The signal-conversion device (such as a modem) that translates a digital signal from data terminal equipment (DTE) into a form acceptable to the particular communications medium. Also called data communications equipment.

Datagram Delivery Protocol (DDP)

A protocol in the AppleTalk protocol suite that provides delivery of AppleTalk packets across an internetwork.

data terminal equipment (DTE)

Equipment that includes a terminal and computer ports that use the RS-232 interface standard to communicate with data communications equipment, such as a computer or a remote access server.

data transfer speed

The speed in bits per second (bps) that data is transmitted across the network.

datagram

A packet of data passed across an internet. See also data circuit-terminating equipment.

DCE

See data circuit-terminating equipment.

DDP-IP gateway

A gateway that connects AppleTalk networks to TCP/IP networks. A DDP-IP gateway takes a TCP/IP packet that is encapsulated in AppleTalk's Datagram Delivery Protocol (DDP) and converts it to Ethernet format for transmission on an Ethernet/IP network. Similarly, a gateway takes a TCP/IP packet on Ethernet and encapsulates it in DDP for transmission on LocalTalk.

DN

See directory number.

device

A hardware unit (such as a PC, Macintosh, remote access server, and modem).

device command shell

See shell.

device filtering

The filtering of Name Binding Protocol (NBP) reply packets passing through a remote access server port from various devices.

device-independent file

A file that can be used by multiple devices.

device list

A listing of devices on the network displayed through Shiva Net Manager or (in Microsoft Windows) in the Shiva Chooser.

device pool

A group of devices that can be used by a particular application. If you start an application and all of the ports on the first device are in use, the Shiva software selects the next device in the pool, until an available port is found or until all devices in the pool are tried.

dial back

A security feature where a user attempting to connect to a remote networking server is disconnected and then called at a number that has been predefined for that user (in the user document). Also called call back.

dial in

The process of initiating a call from a Macintosh or PC using dial-in client software to attach to a remote network.

Dial-In Network Access (DINA)

Shiva software that lets you establish a dial-in connection from your Macintosh computer to a remote network.

dial out

The process of initiating a call from a networked Macintosh or PC using dial-out client software to attach to a remote service.

digital signal

A signal sent and received in discrete intervals rather than varying continuously over time (as does an analog signal). Conventional telephone lines can carry only analog signals, while computers communicate through digital signals.

Directory Number (DN)

When using ISDN, the name for a telephone number or subscriber number.

Disk Operating System (DOS)

A generic term for an operating system whose primary purpose is to manage files and communication with one or more disk drives. This term is commonly used to refer to the operating systems developed by IBM (PC DOS) and Microsoft (MS-DOS) for running IBM-compatible personal computers. The two versions are essentially identical.

download

The process of transferring a file from a server to a client. For Shiva remote access servers, the process of copying a package file from a disk to the server.

driver

The system software (such as a dial-in driver) under control of the processor that lets applications "talk" to hardware devices.

drop-down list

In Microsoft Windows, a menu that appears in a location other than the menu bar and drops down when you click it. This is similar in function to a Macintosh pop-up menu.

DTE

See data terminal equipment.

electronic mail

A system that allows users to send messages between computers that are linked together on a network or online service.

end network

The last network number in a network range of numbers.

end node

A Shiva remote access server's default configuration for EtherTalk. An end node responds to incoming packets and as many nodes as are connected to the internetwork.

Ethernet

A high-speed (10 Mbps) local area network (LAN) that consists of a cable technology and one or more sets of communication protocols. Developed by the Xerox Corporation, Ethernet is based on the IEEE 802.3 standard and uses the carrier sense multiple access with collision detection (CSMA/CD) method to control access to the transmission medium.

Ethernet address

A 48-bit hardware address associated with an individual Ethernet interface card.

EtherTalk

Apple's low-level protocol for transmitting AppleTalk protocols over standard Ethernet cabling.

extension

On Macintosh computers, a program that adds some functionality to the operating system. For example, Shiva Dial-Out for Macintosh installs a NetModem/E Chooser extension so you can select a NetModem/E remote access server in the Macintosh Chooser.

file server

A workstation that runs file server software to provide users of a local area network with access to shared disks. Also refers to the software that manages the hard disk and other shared resources.

filtering

See device filtering and zone filtering.

file sharing

A system that allows users to share files among computers that are linked together on a network. For example, on the Macintosh, System 7.0 and later allows file sharing between Macintosh computers. On MS-DOS compatible computers, Windows for Workgroups also allows file sharing with other Windows for Workgroups computers.

firmware

Programs stored in read-only memory (ROM) in a computer or other device. Firmware is usually installed in the device by its manufacturer and cannot be changed or deleted from the device. For some remote access servers, such as a Shiva LanRover, firmware can be updated with special files called package files.

flow control

A method of managing the flow of data between a DTE and a modem or other DCE. RTS/CTS (also called "hardware flow control") and XON/XOFF (also called "software flow control) are types of flow control.

frame mode

Used with V.120 asynchronous rate adaptation to specify either acknowledged or unacknowledged frames.

full duplex

The simultaneous, independent, 2-way transmission of data between communicating devices.

gateway

An intelligent device used to connect two or more networks at the upper protocol layers of the Open Systems Interconnection (OSI) reference model. The networks can use different protocols and different physical media. A gateway has its own processor and memory.

hardware flow control

Another name for RTS/CTS flow control.

High Level Data Link Control (HDLC)

A bit-oriented protocol for communicating synchronous data over wide area networks.

hop

A measure of distance between networks within an internet. One hop consists of a passage through one router.

host

A device connected to a network. See also node.

image

The object code loaded in a hardware device (such as a remote access server). This is called an "image" because it contains a binary copy, or "snapshot," of the code as it appears when loaded into the device's memory.

initialization

The process of bringing a hardware device or a software system to a known state.

integrated services digital network (ISDN)

A type of network that bypasses the digital-to-analog-to-digital process in digital data transmission with the potential for much greater speeds than standard modem transmission. Similar to asynchronous transfer mode (ATM).

International Standards Organization (ISO)

An international organization that specifies network standards. The ISO developed the Open Systems Interconnection (OSI) model. See Open Systems Interconnection (OSI) model.

International Telecommunications Union, Telecommunication Standards Sector (ITU-T)

The telecommunication branch of the International Telecommunications Union (ITU), within within which governments and the private sector coordinate global telecom networks and services, set standards, and make recommendations for international communications, such as telecommunications. Formerly known as CCITT.

internet

Any interconnected group of networks; an accepted substitute for the word internetwork. When the term "Internet" is capitalized, it specifically refers to the worldwide, interconnected group of networks and gateways that use the TCP/IP suite of protocols to communicate.

internet address

The Internet Protocol (IP) address by which a specific network service can be found. An internet address consists of a network number, a node ID, and a socket number.

Internet Manager

On the Macintosh, a program for managing the features of some Shiva devices such as the NetModem and NetSerial.

Internet Protocol (IP)

A protocol in the TCP/IP protocol suite that manages the routing of data packets between stations on the same or different networks.

internetwork

A collection of individual networks linked by bridges, routers, and gateways. This word is often shortened to internet.

INT 14 (interrupt 14)

A networking communications protocol that limits port speeds to 9600 bps.

IP address

A 32-bit address assigned to every host that wants to use TCP/IP to communicate across an internet. The address consists of a network and host field. See internet address.

IP broadcast address

The IP address used for transmitting packets to all hosts on a given network.

IP forwarding

A remote access server feature that enables it to provide IP address assignment for Apple Remote Access (ARA) dial-in clients.

IP gateway

A remote access server feature that enables it to function as a KIP-compatible Datagram Delivery Protocol (DDP)-IP gateway and to assign IP addresses to dial-in clients running TCP/IP software.

IP network mask

A number that describes which portion of the device's IP address represents the network address and which portion of the IP address represents the host address.

IPX/SPX

The acronyms for internet packet exchange (IPX) and sequenced packet exchange (SPX), which are NetWare transport protocols from Novell, Inc.

ITU-T

See International Telecommunications Union, Telecommunication Standards Sector.

KIP

The Kinetics Internet Protocol (KIP) gateway software that was developed at Stanford University.

LAN-to-LAN

A remote access server function that enables a connection between two or more local area networks (LANs).

LATA

See Local Access and Transport Area.

launch

Running a computer program or application. See also run.

light-emitting diode (LED)

A unit that accepts electrical impulses and converts them into a light signal. The LEDs on the front of most modems or on a modem palette displayed on a screen are as follows:

VC	(ShivaRemote modem display only.) Indicates that virtual connections are active.
HS	High speed (generally greater than 4800 bps)
AA	Automatic answer
CD	Carrier detect (the local system has established a carrier with the remote system)
OH	Off hook (the modem is using the telephone line)
RD	Receive data (the local modem is receiving data)
SD	Send data (the local modem is sending data)
TR	Terminal ready
MR	Modem ready

load

To place a program in memory where it stays resident after it finishes its task, until it is explicitly removed or until the computer is turned off or reset. For example, on the Macintosh, the operating system loads System Extensions when the computer first starts up. On MS-DOS compatible computers, a TSR is an example of a program that loads into memory.

local

A device capable of a network connection using wires only, as opposed to remote, where a communications device is required for a network connection. For example, local devices are those on your immediate network, while remote devices are those on a network to which you must connect through a remote access server.

local area network (LAN)

A network system confined to a small, geographical area that does not use long-distance carriers such as telephone connections. The area is usually limited by the cable length restrictions of the transportation media being used.

Local Access and Transport Area (LATA)

One of 161 greater-metropolitan telephone service areas in the United States. Regulations require the use of a long distance carrier for calls between LATAs.

local loop

A twisted pair of wires that connects the telco network to a customer site. A copper wire local loop must not exceed 18,000 feet when used for an ISDN-BRI line.

LocalTalk

A brand of AppleTalk hardware that uses shielded, twisted-pair cable to interconnect Macintosh computers and other AppleTalk devices. LocalTalk kits are manufactured by Apple Computer. (When this guide refers to a LocalTalk connection, you can use any system of cable and connectors that supports AppleTalk protocols at 230.4 Kbps to interconnect Macintosh computers and other AppleTalk devices.)

LocalTalk Link Access Protocol (LLAP)

The underlying protocol for packet transmission between nodes on a single LocalTalk network. LLAP describes the Data Link layer details of AppleTalk on LocalTalk.

LocalTalk port

A serial port on a Macintosh or LocalTalk-compatible device used for network communications. On a Macintosh, this is generally the printer port.

Logical Link Control (LLC)

The IEEE 802.2 standard that corresponds to the ISO model's Data Link layer. LLC covers station-to-station connections, generation of message frames, and error control.

lookup

A request that all network services of a given type respond with their name and internetwork address; for example, a lookup may find all networked printers in the local zone.

loopback

A diagnostic technique of crossing-over a transmit circuit to its associated receive circuit at selected points in order to locate continuity problems.

MLP

See multilink protocol.

MacTCP

A software driver for the Macintosh System that implements the Transmission Control Protocol/Internet Protocol (TCP/IP) protocols.

Management Information Base (MIB)

A set of defined variables that are accessed through the Simple Network Management Protocol (SNMP).

medium attachment unit (MAU)

See transceiver.

memory-resident program

See terminate-and-stay-resident (TSR) program.

modem

A signal conversion device used to convert digital signals from a computer into analog signals that can be transmitted across the telephone network. Modem is a contraction of "modulator-demodulator." At the transmitting end, a modem working as a modulator converts the computer's digital signals into modulated signals that can be transmitted over a telephone line. At the receiving end, another modem working as a demodulator converts analog signals back into digital signals and sends them to the receiving computer.

modem pool

A group of modems that can be used by a particular application for dialing out. If you start an application and the first modem is in use, the Shiva software tries to use the next modem in the pool, and so on until an available modem is found or until all modems in the pool are tried.

modem port

On the Macintosh, the serial port that is normally used to connect a modem to a computer.

multicast

A Data Link layer address which refers to a group of nodes.

multilink protocol (MLP)

With ISDN, establishing a connection over multiple B channels (through a process called "channel aggregation") to increase the bandwidth of the connection. For example, combining two 64K bps B channels results in an effective potential throughput of 128K bps for the connection.

multiplexed channel

A point-to-point channel that shares the capacity (time or frequency) of a physical circuit with one or more channels. For example, an ISDN BRI local loop subdivides its 192K bps capacity into two 64K bps B channels, one 16K bps D channel and a 48K bps maintenance channel (which the user cannot access).

Name Binding Protocol (NBP)

A protocol in the AppleTalk protocol suite that maps user-designated names into appropriate network addresses and network services.

name server

A host on the IP network that runs an IP program to translate host names into IP addresses.

National ISDN-1 (NI-1)

A Bellcore-established ISDN standard used by all Regional Bell Operating Companies (RBOCs) to ensure uniformity among telephone company switches.

NBP lookup

A Name Binding Protocol request for services that is broadcast or multicast within an AppleTalk zone.

net

An accepted substitute for the word "network."

NetBIOS Extended User Interface (NetBEUI)

A LAN Manager protocol that runs on the Session, Transport, and Network layers of the network architecture.

NetWare

The network operating system (NOS) from Novell, Inc. which includes a protocol suite that provides network services and utilities.

NetWare Asynchronous Services Interface (NASI)

A Novell, Inc. networking communications protocol.

network

A group of computers and other devices that communicate with one another over the same wire.

network administrator

The person responsible for administering, setting up, and maintaining a network.

network connector

The interface between a network node and the network wire.

network mask

See IP network mask.

network number

The number by which an individual network is identified. The network number makes up the first part of a network service's internetwork address on an IP network.

Network Operating System (NOS)

The programs that manage the resources and services of a network and provide network security.

network range

A range of AppleTalk network numbers assigned to a single Ethernet network. A network range has a starting and an ending network number. Network ranges allow Phase 2 EtherTalk networks to go beyond the 255-node per network limit of AppleTalk.

network termination 1 (NT1)

With ISDN, an electronic device that terminates a 2-wire local loop and converts it into a 4-wire circuit that carries two B channels and 1 D channel (2B+D). An NT1 also has its own 48K bps channel that provides synchronization and framing and allows the telephone company to test the local loop.

NI-1

See National ISDN-1.

node

A point at which a device is connected to a network; often used to refer to the device itself. A node can be a computer, printer, remote access server, or any other device.

node ID

The number by which an individual node is identified. The node ID makes up the second part of a network service's internetwork address on an IP network.

NT-1

See Network Termination 1.

off-hook

Activating a telephone connection, as when a telephone's handset is taken off of its cradle. The telephone switch closes, signaling the telephone company to send a dial tone.

Open Systems Interconnection (OSI) model

A 7-layer reference model developed by the ISO that is used to define a network architecture.

PPP

See Point-to-Point Protocol.

PSDS

See Public Switched Digital Service.

package

A file containing both the code image and hardware driver (VROM) that gets loaded into a hardware device (such as a remote access server).

packet

A unit of data transmitted on a network. Also called "block."

password

A unique set of characters that protects a network or device from unauthorized access to files or services.

PBX (private branch exchange)

A central control unit for a private telephone system.

peer-to-peer

A networking system architecture in which connected workstations use and provide services such as file sharing.

permissions

Levels of security access available to a user granted by a login process (such as for a dial-in connection, file server connection, and so on).

PhoneNET

A brand of LocalTalk hardware that uses unshielded, twisted-pair cable (ordinary telephone wire) to interconnect Macintosh computers and other AppleTalk devices. PhoneNET kits are manufactured by Farallon Computing, Inc.

point-to-point configuration

An end-to-end circuit connection with no intermediate processing nodes or access points.

Point-to-Point Protocol (PPP)

A standard method for transporting multi-protocol datagrams over point-to-point links, especially for internet access.

pop-up menu

On a Macintosh, a menu that appears in a location other than the menu bar and pops up when you click it. This is similar in function to a drop-down list in Microsoft Windows.

port

A point of access into a computer or device; the electrical interface through which physical access is gained to the computer or device.

port pool

A group of ports that can be used by a particular application. If you start an application and the first port is in use, the Shiva software selects the next port in the pool, until an available port is found or until all ports in the pool are tried.

power cycling

Turning the power to the device off and then on.

printer port

On the Macintosh, the port on the back of the computer to which a printer or network connectors are attached.

protocol

A set of rules for exchanging data between communications equipment.

protocol suite

A group of related protocols, designed to work with each other. Common protocol suites include NetWare, AppleTalk, and TCP/IP.

Public Switched Digital Service (PSDS)

Non-ISDN digital network that restricts ISDN data transmission (to 56K bps).

RBOC

See Regional Bell Operating Company.

Radius security

A form of remote access user verification from Livingston Enterprises, Inc.

Random Access Memory (RAM)

Semiconductor-based memory that can be read and written by the microprocessor or other hardware devices. (Generally referred to as "volatile memory," which can be written as well as read.)

rate adaptation

(Sometimes called "rate adaption.") A method that allows a 64K bps ISDN channel to transfer slower speed synchronous or asynchronous data. Enables non-ISDN device to operate on the ISDN network. See also V.110 and V.120.

read-only memory (ROM)

Semiconductor-based memory that contains instructions or data that can be read but not modified. (Generally, the term ROM often means any read-only device, as in CD-ROM for Compact Disk, Read Only Memory.)

Regional Bell Operating Company (RBOC)

A regional phone company formed by the U.S. Federal court-ordered breakup of AT&T.

remote access

A method that allows a user to connect to a remote network using a Macintosh or PC, a modem, and remote access software.

remote client

A client at a remote location that uses remote access software to dial in to a network.

remote network

A network at a remote location that is accessed from a local network. See also local.

Reverse Address Resolution Protocol (RARP)

A protocol that supplies a low-level address determination scheme by which a device obtains its IP address from a server.

route

The path that network traffic takes to get from a source to a destination.

router

An intelligent device that links networks together to form an internetwork. Routers know how to send data to any node in the internetwork, but also isolate each network so that data is never sent unnecessarily. See seed router.

Routing Information Protocol (RIP)

A protocol in the TCP/IP protocol suite that allows gateways and hosts to exchange information about routes to various networks.

routing table

A table of information maintained in each router that lists the next router to which data should be forwarded to reach each possible destination network on an internetwork.

Routing Table Maintenance Protocol (RTMP)

A protocol in the AppleTalk protocol suite that lets an AppleTalk router acquire and maintain information about routes to the various AppleTalk networks within an internetwork.

RTS/CTS

The acronym for Request to Send/Cleared to Send, a method of flow control through an RS-232 cable (sometimes called a "hardware handshaking cable") in which RTS is the signal sent from the computer or terminal to the modem, and CTS is the modem's response indicating that it is ready. RTS/CTS is also called "hardware flow control." See also XON/XOFF.

run

On IBM-compatible computers, a term that means to activate an executable program. Similar to launch on a Macintosh.

S/T interface

In ISDN, the standard interface for BRI connections consisting of separate transmit and receive pairs that carry two B channels and one D channel. When an NT2 device (PBX) is used, the "S" designation refers to the interface between the NT1 and the NT2; the "T" designation refers to an identical interface between the NT2 and an ISDN terminal. "S/T" suggests that no NT2 is present.

SPID

See Service Profile Identifier.

SecurID

A network access security system developed by Security Dynamics, Inc. (SDI). SecurID sits between the incoming modem and the remote access server that provides access to the network; when a dial-in client calls in to the network, the user must first enter the correct SecurID information before connecting to the remote access server.

SDI manufactures two security solutions that are compatible with remote access servers. The first is a multi-port, stand-alone remote access server that can be inserted between the remote access server and the modem. The second, Security Dynamics ACE/Server, is a system of server and client software and SecurID cards. Once enabled, SecurID authentication is used for the following protocols: IP, IPX, NetBEUI, LLC, and ARA.

seed router

A router that provides network configuration information to other routers on the network. See router.

serial device

A device that sends and receives data sequentially, one bit at a time.

serial driver

The system software that allows programs to send and receive data through a serial port.

serial port

A connector on the back of a workstation through which data flows to and from a serial device.

serial transmission

The sequential transmission of data over a data circuit.

server

A network device that provides file-sharing services to multiple computers on a network. See client-server architecture.

server-based application

An application that runs partially on the server as opposed to running entirely on the remote station and using only data stored on the server.

Service Advertising Protocol (SAP)

A protocol used by Novell NetWare devices to "advertise" themselves on the network by broadcasting their names, addresses, and current state.

Service Profile Identifier (SPID)

In ISDN, a number used to identify a set of services or feature parameters subscribed to by a terminal. A SPID is used to distinguish between the different characteristics of multiple terminals that share the same ISDN line. A SPID typically consists of a 10-digit directory number plus an optional suffix. It is supplied by many telephone companies when ISDN service is ordered and must be used in a terminal initialization procedure.

shell

A program that provides direct communication between the user and the operating system. Also called **command shell** and **device command shell**.

Shiva Activity Logger

A Windows application used to track the activity of any Shiva remote access server on a network.

Shiva Config

A component of Shiva's dial-out software for Macintosh computers. Shiva Config is a control panel that redirects the flow of data from your communications software to a dial-out device on the network (instead of to a modem connected directly to your computer).

Shiva Net Manager (SNM)

Shiva software that allows network administrators to configure Shiva remote access servers on a network and to monitor, manage, and troubleshoot these devices.

ShivaRemote

A Windows application that enables a dial-in connection using any Hayes-compatible serial modem.

Simple Network Management Protocol (SNMP)

A protocol for managing network devices.

SNMP Community Table

A feature of a remote access server that provides additional SNMP security. An SNMP Community Table defines SNMP communities, which are groupings of the servers (or gateways) that are managed by a particular network administrator.

software flow control

Another name for XON/XOFF flow control.

source routing

A means of data transmission by which the node that is generating the transmission determines the route that the data follows.

socket

An endpoint for network communication.

socket number

A number by which an individual service within a node is identified. The socket number is part of a network service's internetwork address. There can be several sockets and, therefore, several network services within the same node.

spoofing

A technique that allows a Shiva remote access server to assume the "housekeeping" responsibilities of a remote terminal. This prevents unnecessary network traffic from being sent across a dial-in or LAN-to-LAN connection, and allows a virtual connection to remain suspended whenever actual network access is not required.

start network

The first network number in a network range of numbers.

startup disk

A disk containing the system files that the computer uses to boot.

subnet mask

The IP network mask. The subnet mask tells which portion of the device's IP address constitutes the network address and which portion constitutes the host address.

Sub-Network Access Protocol (SNAP)

An Ethernet framing type supported by Shiva Net Manager.

System file

A file containing various resources a Macintosh uses to boot and run.

System Folder

The folder that contains the Macintosh system's System file.

synchronous

A method of data communication in which the transmission of data blocks is timed precisely by a clocking signal. Mainframes and minicomputers generally use clock-driven synchronous transmission; smaller computers generally use asynchronous transmission.

T-interface

In ISDN, a standard interface used by BRI devices that connect to a PBX. See also S/T-interface.

TACACS

TACACS (Terminal Access Controller Access Control System) is an industry-standard security protocol. When a user attempts to gain access (such as a remote user logging in to a network), a TACACS system forwards the user name and password information to a centralized server. This server performs the necessary verification and sends a response back to the TACACS system to either allow or deny the access to the network.

tandem switch

A network switch used to interconnect ISDN (central office) switches.

TCP/IP

A protocol suite developed by the U.S. Department of Defense (DoD) to connect different types of computers on various types of media while providing data correction, security, and reliability. See also Transmission Control Protocol and Internet Protocol.

telecommunications

The process of sending and receiving data over telephone lines.

telnet

A TCP/IP protocol that provides virtual terminal services and allows users to access remote nodes.

terminal

In ISDN, user equipment that terminates a data link (L2) signaling connection on the D channel.

terminal adapter

A device that connects non-ISDN terminals to an ISDN network.

Terminal Endpoint Identifier (TEI)

In ISDN, a number that identifies a specific connection endpoint within a service access point.

terminate-and-stay-resident (TSR) program

On IBM-compatible computers, a program that is loaded into memory, where it remains after it finishes its task, until it is explicitly removed or until the computer is turned off or reset. The program can be invoked again and again by the users (with the aid of a hot key) or by an application. A TSR program is often referred to as a memory-resident program.

time out

The process by which a network device is unable to make a connection and terminates the session.

time server

A host on the IP network that runs the UDP File Server time protocol (request for comments [RFC] 868) to obtain the time.

Token-Ring

A LAN that conforms to the IEEE 802.5 Token-Ring Access Method standard.

transceiver

A small box, attached to network cable and connected to a computer or other device, that provides the drive, reception, and collision detection between physical network media, especially on Ethernet networks. A transceiver is sometimes called a Medium Attachment Unit (MAU).

transceiver cable

A cable connecting an Ethernet device to a transceiver, which in turn is attached to the Ethernet cable. A transceiver cable is sometimes called an Attachment Unit Interface (AUI).

Transmission Control Protocol (TCP)

A protocol in the TCP/IP protocol suite that organizes packets, manages their transmission, and ensures their accurate delivery to the receiving station.

transparent

Computer operations that take place automatically, performed either by the operating system or the application, without user intervention or awareness.

In ISDN, a 64K bps data transmission that does not experience any encoding or decoding within the channel.

trap host

An IP or IPX station to which the remote access server sends SNMP trap messages.

Trivial File Transfer Protocol (TFTP)

A simpler version of File Transfer Protocol (FTP). TFTP runs on top of TCP to transfer a file from one IP machine to another IP machine.

trusted host

An IP host on the network that is allowed to perform SNMP Set commands.

U-interface

The physical, electrical, and informational format of the 2-wire local loop connection that provides Basic Rate Access. It is the standard connection interface for North American ISDN networks. The U-interface is not accessible to users in other countries.

UNIX

A time-sharing operating system.

User Datagram Protocol (UDP)

A protocol in the TCP/IP protocol suite that determines the final routing for messages reaching application programs. UDP has less overhead than TCP but is not as reliable.

unconstrained network

A network in which a remote access server is the only router or there are no routers present.

user list

A list that contains the profiles (names, passwords, and permissions) of all users who can access a Shiva remote access server.

V.110

A form of ISDN rate adaptation. V.110 is a fixed-frame based rate adaptation standard that subdivides the ISDN channel capacity so it can carry one lower speed (sub-rate) data channel. This standard is rarely used in North America.

V.120

An ISDN rate adaptation standard that is popular in North America. V.120 allows one B channel to carry multiple subrate channels in a succession of statistically multiplexed (variable-length) frames. These frames support error detection and correction procedures.

V.17

A communication specification developed by ITU-T for fax transmission.

V.22

A communication specification developed by ITU-T for data transfer speeds of up to 1200 bps, full duplex.

V.22bis

A communication specification developed by ITU-T for data transfer speeds of up to 2400 bps, full duplex.

V.32

A communication specification developed by ITU-T for data transfer speeds of up to 9600 bps, full duplex.

V.32bis

A communication specification developed by ITU-T for data transfer speeds of up to 14,400 bps, full duplex.

V.34

A communication specification developed by ITU-T for data transfer speeds of up to 28,800 bps, full duplex.

V.42

An error-correcting technique that incorporates the Link Access Protocol (LAP)-M.

V.42bis

A compression technique for use with V.42 (4-to-1 data compression).

V.FAST

A communication specification based on the proposed V.34 standard. V.FAST was superseded by the late 1994 release of the official V.34 standard by ITU-T.

verbose

A response format that is directly intelligible to the user, where words and phrases are displayed instead of codes and numbers.

Wide Area Network (WAN)

A communications network that connects geographically separated areas.

wideband

A channel whose bandwidth is wide enough to accommodate multiple channels of lesser bandwidth.

wildcard character

A keyboard character that is used to represent one or many characters. This character is often used as a means of specifying more than one file by name.

Windows

A graphics-based operating system developed by Microsoft Corporation.

XON/XOFF

A software-based type of flow control in which the communications software signals that it is ready or not ready to receive data. XON/XOFF is also called "software flow control." See also RTS/CTS.

zone

A related group of nodes in an AppleTalk network. Zones are used to organize networks in an internetwork. A zone can contain a single network or an entire internetwork.

zone access privileges

In an AppleTalk network, a feature of a remote access server that lets a network administrator restrict access to one zone, a group of zones, or no zones.

zone filtering

In an AppleTalk network, a security and zone management facility that controls access to AppleTalk zones and services in those zones.

zone name

In an AppleTalk network, a named group of networks. A zone can consist of networks that are not directly connected to each other. Zones are used to organize networks in an internetwork.

Shiva Product Support

For information about how to get technical support for ShivaRemote, please refer to the Read Me file located in the program group.

Related Topics

Troubleshooting

Trademarks and Copyright Notice

Shiva Corporation

28 Crosby Drive

Bedford, MA 01730

Troubleshooting

Click the appropriate topic to address your ShivaRemote problem:

Troubleshooting Step-by-Step

Common Problems and Solutions

For the latest information on using ShivaRemote, including supported ISDN cards and terminal adapters as well as common problems and solutions, see the Shiva Knowledgebase on the World Wide Web at:

```
http://www.shiva.com/prod/issak/index.html
```

If you cannot find help for your problem in this online help or in the Shiva Knowledgebase, contact your remote network administrator for assistance. Before contacting your network administrator, you should collect the following information:

- **The remote access server with which you were trying to establish a dial-in connection.** Include the device type if you know it (Shiva LanRover/E, Shiva LanRover Access Switch, and so on) and the device's telephone number(s).
- **The version of ShivaRemote installed on your computer.** For more information, see Viewing ShivaRemote Version Information.
- **The version of Windows you are running.** For the version of Windows, switch to the Program Manager and choose About Program Manager from the Help menu.
- **The name and model of the communication device you are using to dial in.** For example, you might be using a US Robotics Courier modem, a SupraFaxModem 288, an ISDN*tek ISDN card, and so on.

Viewing ShivaRemote Version Information

If you encounter problems using ShivaRemote to dial in to your remote network or Internet provider, you may need to contact a network administrator or technical support representative for help. When you do, it will often be necessary for you to know the version of ShivaRemote you are using.

Steps

To check the version of ShivaRemote you are using:

1. From the main ShivaRemote window, choose About ShivaRemote from the Help menu.

   An alert box appears showing the Shiva logo and the following information:

- The first version (for example, 4.0) indicates which version of ShivaRemote Connect you are using.
- The second version number shown indicates which version of the ShivaRemote dial-in driver was loaded when you first started Microsoft Windows. If the driver was not loaded, you may need to reinstall ShivaRemote.

2. Click OK to close the alert box.

Troubleshooting Step-by-Step

See also:

Common Problems and Solutions

The most thorough way to track down a problem with your ShivaRemote software is to follow each of the steps in this section. After each step, try using ShivaRemote again to see if your changes have had any affect.

1. Check your modem cables and connections to make sure they are properly installed and functioning.

- Check the cables connecting your computer to the communication device you are using (modem, ISDN terminal adapter, and so on).

  If you are using an internal modem or ISDN card, make sure the card is seated securely in its internal slot.

  If you are using an external NT-1 adapter for your ISDN connection, make sure it is on and that there are no error indicators (warning lights, for example).
- Use another software package that uses the modem, such as a terminal program. If this program doesn't perform as you expected, there may be a problem with the modem or with the modem's connection.

  The best way to make sure that ShivaRemote can communicate with your modem is to launch the Windows Terminal program (TERMINAL.EXE, found in your Windows directory). Set Windows Terminal to use the same COM port you plan to use for ShivaRemote, then see if you can use Terminal to communicate with your modem. Type `AT`, press Enter, and if it appears on the screen followed by `OK`, you can use that COM port to dial in with ShivaRemote. If no response appears, you may need to use a different COM port or check the connection to your modem.

  To make sure your ISDN card or terminal adapter is working correctly, there may be a utility included with your ISDN device's software that will test the device. See the documentation included with your ISDN device for more information.

2. Make sure your computer's COM port is using a 16550A UART chip or better. If your computer is not using this chip, you may experience problems with the flow of data from the modem or communication errors.

   You can use the Performance Monitor find out which UART chip your computer has. On the Port tab, the **Serial Chip** heading indicates the UART chip used by the dial-in COM port.

   You can also check the UART chip by exiting Windows and typing `MSD` at the prompt. On the screen that appears, click the COM Ports button (or type `C`). The very last piece of information listed about each COM port describes the UART chip each port is using.

   If you dont have a 16550A (or AF) UART chip for the COM port ShivaRemote is using, you should upgrade your UART chip.
3. Verify your user name, password, access telephone number, and network configuration with your system administrator to make sure that they are valid.

4. Confirm that you are running DOS Version 3.3 or higher, Windows Version 3.1 or 3.11 or Windows for Workgroups 3.11.

5. Reexamine all of your configuration settings and try connecting to the remote access server again.

6. Disable all of your non-essential device drivers and TSRs and then restart your computer.

7. Reinstall ShivaRemote from the original disks.

IDH_ShivaRemote_Error_and_Status_Messages$ Error and Status MessagesK Error and Status Messages;error messages, explained;messages, error:explained;status messages, from ShivaRemote, explained;
+ TROUBLE1:0050

Common Problems and Solutions

This section lists answers to frequently-asked questions about ShivaRemote. These questions are a compilation of the questions received by Shiva customer support engineers on a daily basis.

Your modem won't dial or your modem and the remote modem don't connect.

- Make sure you have specified the correct COM port and modem you are using by clicking the Properties button in the ShivaRemote window and clicking the Modem tab.
- Make sure ShivaRemote knows exactly which kind of modem you are using by letting the Modem Wizard automatically detect your modem for you as described in Using the Modem Wizard. If the Modem Wizard cannot find your modem, you can select your modem's manufacturer and model name manually as described in Setting Up the Modem Manually.
- Make sure the phone number you entered is correct, and that it includes any access codes needed to place a call from your location (for example, many office telephone systems require you to dial a 9 before you dial an outside number).
- Contact your remote network administrator to make sure that the modem on the remote access server is installed and configured properly.

You hear a series of tones from your computer's speaker while you are connected to the remote network.

Those tones indicate that your computer is experiencing overrun errors while communicating with the remote access server. An overrun error occurs when the data is coming into the computer from the remote connection faster than the computer can handle it, so data is lost.

The most common reason for this problem is that you are using a fast modem (9600 bps or greater) with an 8250 or 16540 UART chip. The UART is a chip on your serial board that handles the flow of data through the serial port to your computer. Newer computers should have serial boards that contain a 16550A UART chip. The 16550A chip can usually handle communications from high-speed modems. If you hear these tones often, you may need to upgrade or replace your serial board (usually an inexpensive procedure) to the 16550A UART chip.

You can find out which UART chip your computer has by choosing Statistics from the Tools menu in the ShivaRemote Connect window. On the Ports screen in the Statistics dialog box, the **Serial Chip** heading indicates the UART chip used by the dial-in COM port.

The remote access server doesn't accept your dial-in name and password.

- Check the phone number to make sure you are calling the correct remote access server, and check with your remote network administrator to make sure you are using a valid user ID and password.
- Be sure you are entering the name and password with the correct capitalization. Some remote access servers use case-sensitive account names and passwords.

Help Button

Opens this online help to a topic appropriate for the current window or dialog box.

OK Button

Closes the dialog box and saves any changes you have made.

Cancel Button

Closes the dialog box, discarding any changes you have made since it appeared.

Menu Bar in ShivaRemote Window

Contains menus and commands for controlling every aspect of your ShivaRemote connection. For information on each menu and its commands, see ShivaRemote Menus.

Description Field in ShivaRemote Window

Lets you provide a short description of the connection file (for example, "My Internet Account"). This field is optional. If you use the Make Icon command on the File menu, the Description is used as the default icon name unless you change it.

User Name Field in ShivaRemote Window

Contains your account ID for the remote network you are calling. Your remote system administrator can provide you with your dial-in user name.

Password Field in ShivaRemote Window

Contains the password your remote system administrator has assigned to your dial-in account, if any. Note that for security reasons, the password is displayed as a row of asterisks (****).

Number to Dial in ShivaRemote Window

Displays the telephone number of the remote network you are calling as you set it up in the Phone # tab of the Properties dialog box.

For information on using the Properties dialog box to set up a telephone number, see Entering Advanced Telephone Number Information.

Connect Button in ShivaRemote Window

Initiates a dial-in connection to the remote network using the information displayed in the ShivaRemote window and any settings in the Properties dialog box.

Properties Button in ShivaRemote Window

Displays the Properties dialog box. Use this button to specify the telephone number of the network you are dialing, as well as other information for the connection, such as the networking protocols and dial-back options you want to use.

Tabs in Properties Dialog Box

The Properties dialog box has several tabs, each of which configures a different aspect of your ShivaRemote connection. Click any tab's name in the following list to see that tab:

Phone #	Modem
Service Provider	Protocols
Dialing	Login
Connection	

Note that in many cases, you can simply enter information on the Phone # tab and accept the default settings already entered on the other tabs.

Specify Exact Number Option on Phone # Tab

Lets you enter the exact number ShivaRemote must dial to connect to the remote network, including any long-distance codes, area or city code, and access codes for outside lines (such as 9,).

Note: Some ISDN devices cannot accept hyphens in the telephone number. If you cannot connect using ISDN, remove the hyphens from this field and try again.

Number to Dial Field on Phone # Tab

If you selected the Specify Exact Number option, lets you enter the exact telephone number ShivaRemote must dial to connect to the remote network.

This number must include any additional codes you need to use to complete the call, including a number for an outside line (9, or 8, for example), a long-distance access code (such as 1, 10288, and so on), the area or city code, and so on.

Note: Some ISDN devices cannot accept hyphens in the telephone number. If you cannot connect using ISDN, remove the hyphens from this field and try again.

Build Number to Dial Option on Phone # Tab

Lets you specify all of the separate elements of the telephone number of the remote network, including long-distance access codes, area or city code, and so on, for ShivaRemote to use in building a complete telephone number to use for dialing in.

This option is useful if there are many complex options to set up in the telephone number, or if the elements of the number change often (for example, if you have to dial "9," for an outside line in some locations, but not in others).

Access Outside Line Checkbox in Phone # Tab

Lets you specify whether ShivaRemote must dial a special code to connect to a number outside of the office or hotel telephone system (such as a PBX) you are using. Some common numbers to dial for an outside line are 9, or 8, where the comma provides a pause to wait for the dial tone to return.

You must select this checkbox to enter a value in the Access Outside Line field.

If you do not need to dial a number to use an outside line, do not select this checkbox.

Access Outside Line Field in Phone # Tab

If you selected the Access Outside Line checkbox, lets you specify what special code ShivaRemote must dial to connect to a number outside of the office or hotel telephone system (such as a PBX) you are using.

Some common numbers to dial for an outside line are 9, or 8, where the comma provides a pause to wait for the dial tone to return.

Disable Call Waiting With Checkbox in Phone # Tab

Lets you specify whether ShivaRemote should dial a special code to disable the Call Waiting feature on your telephone line.

Select this checkbox if your telephone line has a Call Waiting feature and if the beep or click made by incoming calls interferes with your modem connections.

Do not select this checkbox if your telephone line does not have Call Waiting, or if incoming calls do not interfere with your modem connections.

Disable Call Waiting Field in Phone # Tab

If you selected the Disable Call Waiting With checkbox, this field lets you enter the values your modem should dial before every call to disable Call Waiting for that call. You can also click the down arrow to select the most common values for disabling call waiting (such as *70, or 1170,) from a drop-down list.

Use this feature if your dial-in connections are being interrupted by incoming calls while you are connected.

Access Long Distance Checkbox in Phone # Tab

Lets you specify whether ShivaRemote must dial an access code to use a specific long-distance carrier for the remote network connection.

If you want to use the default long-distance carrier for the telephone line you are using, do not select this checkbox. If you want to use a calling card to pay for the dial-in connection, do not select this checkbox; instead, select the Use Calling Card checkbox.

Access Long Distance Field in Phone # Tab

If you selected the Access Long Distance checkbox, lets you specify the access code ShivaRemote must dial to use the long-distance carrier you want to pay for this dial-in call.

For example, you might enter 10288 to use AT&T, 10333 to use MCI, or 10222 to use Sprint long-distance services.

Use Calling Card Checkbox in Phone # Tab

Lets you specify whether you want to bill the dial-in call to a long-distance calling card. If you select this option, you must click the Calling Card button to enter the prefix and suffix to dial to use your calling card.

Calling Card Button in Phone # Tab

If you selected the Use Calling Card checkbox, lets you specify the calling card prefix (such as a 1-800 access number, or five-digit access number) and suffix (such as a secret verification code) to dial to bill the dial-in call to a calling card.

Clicking this button opens the Calling Card Information Dialog Box.

Dial Area/City Code Checkbox in Phone # Tab

If you selected the Build Number to Dial Option on the Phone # Tab, lets you specify whether you will enter the area code or city code of the remote network you want ShivaRemote to call.

You might not want to select this option if the remote network you are calling is a local call, although in many areas, even local telephone numbers can be dialed successfully using the area or city code.

You must select this option if the remote network you are calling is a long-distance call.

Area/City Code Field in Phone # Tab

If you selected the Dial Area/City Code checkbox, this field lets you specify the area or city code of the remote network ShivaRemote is calling, such as 212, 800, and so on.

Phone Number Field in Phone # Tab

Lets you enter the main telephone number (in the form 555-1234, 5551234, and so on) ShivaRemote should use to connect to the remote network.

This number is combined with the other information you enter, including area or city code, long-distance access codes, and so on, to build a complete telephone number for ShivaRemote to use.

Dial Prefix Field in Calling Card Information

Lets you specify the prefix to dial, if any, for ShivaRemote to dial to use your calling card to pay for the long-distance dial-in call.

For example, if you need to dial a toll-free number or a special code to reach your long-distance carrier, enter that number here.

Dial Suffix Field in Calling Card Information

Lets you specify the suffix, if any, for ShivaRemote to dial to use your calling card to pay for the long-distance dial-in call.

For example, if you need to enter an authorization code after dialing the number of the remote network, enter that number here.

Modem Drop-Down List in Modem Tab

Lets you select which of the configured modems on your computer you want to use for this dial-in connection. If you only have one modem configured, it is selected for you automatically.

If the modem you want to use does not appear on this list, you'll need to configure it by clicking the New button. For more information, see Setting Up the Modem.

New Button on Modem Tab

Lets you configure a modem for use in ShivaRemote. After you configure the modem, it appears on the Modem drop-down list for use in any dial-in connection.

For more information, see Setting Up the Modem.

Port Drop-Down List on Modem Tab

Lets you specify the communications port (also called a COM port) to which the modem you want to use is connected.

Advanced Button on Modem Tab

Opens the Advanced Modem Settings or Advanced ISDN Settings Dialog Box dialog box so you can specify some additional settings for your communication device.

Incorrect settings in these dialog boxes can prevent you from dialing in successfully to the remote network. Do not change the settings in the advanced dialog boxes unless you are sure of the results.

Speaker Volume Slider on Modem Tab

Lets you adjust the volume of the modem speaker.

Drag the slider left for lower volume, and right for higher volume.

Drag the slider all the way to the left to turn the volume off.

Maximum Speed Drop-Down List on Modem Tab

Specifies the fastest speed at which your computer will communicate with the modem in bits per second (bps). For most V.32bis modems, this will be either 38400 bps or 57600 bps; for V.34 modems, this will be either 57600 or 115200 bps; for ISDN terminal adapters, this should be 115200 bps.

Type of Dialing Options on Modem Tab

Specifies the type of dialing the modem should use on your telephone line. Most phone lines can handle tone dialing (DTMF or Touch Tone®), but if that fails, pulse dialing will work on most telephone lines.

If you do not know what kind of dialing your line requires, try each setting, or contact your telephone company for more information.

IRQ Number in Advanced Modem Settings

If your COM port uses the standard IRQ number, leave this set to "Default." If the COM port uses a non-standard IRQ number, use the drop-down list to select another value or enter that number here using a value between 2 and 15.

You may want to try using ShivaRemote with this value set to "Default," and change it here only if ShivaRemote cannot use the modem.

I/O Address in Advanced Modem Settings

If your COM port uses the standard I/O address, leave this entry at "Default." If the COM port uses a non-standard I/O address, use the drop-down list to select another value or enter that number here.

You may want to try using ShivaRemote with this value set to "Default," and change it here only if ShivaRemote cannot use the modem.

Dial String Field in Advanced Modem Settings

Indicates the string that ShivaRemote will send to the modem before the telephone number you are dialing. For example, for an AT-compatible modem, ShivaRemote sends ATDT for tone dialing or ATDP for pulse dialing.

If you do not know what value to specify for the dial string, you can accept the default value here (which is based on the Type of Dialing option on the Modem tab of the Properties dialog box), or you can see the modem's documentation for more information.

Dial Initialize Field in Advanced Modem Settings

Contains the modem initialization string ShivaRemote sends to your modem to prepare it for a dial-in connection. ShivaRemote completes this field for you based on the kind of modem you have, although you can change the values here if you need to, based on your modem's documentation.

Answer Initialize Field in Advanced Modem Settings

Contains the modem initialization string ShivaRemote sends to your modem to prepare it to answer the telephone during a dial-back attempt. In most cases, it is identical to the Dial Initialize command with "S0=1&W" added to the end.

ShivaRemote completes this field for you based on the kind of modem you have, although you can change the values here if you need to, based on your modem's documentation.

Flow Control Drop-Down List in Advanced Modem Settings

Specifies the type of flow control the dial-in software uses (Hardware, Software, or None). Hardware flow control is also known as RTS/CTS. Software flow control is also known as XON/XOFF. For best results at high speeds (14.4K bps or higher), use hardware flow control if your modem supports it.

Note that this value tells only ShivaRemote which type of flow control to use; it does not tell the modem. The Initialize fields in this dialog box must contain settings to determine the flow control the modem will use, and have probably been set automatically when you specified which modem you are using. ShivaRemote and the modem must be configured to use the same type of flow control.

See your modem's documentation for more information about turning flow control on or off.

Enable PPP Compression Checkbox

Indicates whether ShivaRemote and the remote access server should compress the information sent over the modem connection. This checkbox is selected by default.

If the remote access server also has data compression enabled, selecting this checkbox can improve the speed of your dial-in connection. (If the remote access server does not have data compression enabled, this setting is ignored.)

Note that this setting affects all ShivaRemote connections, not just the connection file that is currently open.

Enable Virtual Connections Checkbox

Indicates whether ShivaRemote and the remote access server should suspend your dial-in connection whenever you have not used the remote network for a certain length of time, and resume it automatically once you need to use the remote network again. This checkbox is not selected by default.

If you select this checkbox and the remote access server has been configured to allow virtual connections, ShivaRemote will suspend your dial-in connection when your computer is idle (that is, no meaningful network access is occurring) and reopen the connection automatically when network activity resumes.

Note: Virtual connections work best when you are using an ISDN communication device to connect to the remote network. While this feature works with standard modems, the time required to set up a modem call may be long enough to cause some network operations to fail.

See All About Virtual Connections for more information on what virtual connections are and how to take advantage of them.

Note that this setting affects all ShivaRemote connections, not just the connection file that is currently open.

Connect Speed in Advanced ISDN Settings

Indicates which speed ShivaRemote should attempt to connect to the remote network. Your selection here depends on how your ISDN line was provisioned by your ISDN provider. If you have difficulty connecting at one speed, select the other speed from this drop-down list, then try to dial in again.

Select from the following options:

64K Synchronous	Establishes a 64K bps data call over your ISDN lines. Use this option if your ISDN lines have been provisioned for 64K bps connections.
56K Synchronous	Establishes a 56K bps data call over your ISDN lines. Use this option if your ISDN lines have been provisioned for 56K bps connections.

Note that this setting affects all ShivaRemote connections, not just the connection file that is currently open.

Enable Multilink Checkbox in Advanced ISDN Settings

Indicates whether ShivaRemote and the remote access server should attempt to connect using MLP (multilink protocol) over your ISDN connection. This checkbox is not selected by default.

Select this checkbox if you are using a supported ISDN communication device to dial in to the remote network, and the remote access server on the remote network also contains a working direct synchronous ISDN connection, such as through a Shiva BRI Module.

See Using Multiple ISDN Channels (MLP) for more information on what MLP is and how to take advantage of it.

Note that this setting affects all ShivaRemote connections, not just the connection file that is currently open.

Second Phone Number Field in Advanced ISDN Settings

Contains the telephone number of the second ISDN B channel on the remote access server you are calling.

In many cases, this number is provided automatically by the remote access server; however, if your remote network administrator provides one, enter it here.

This option is available only if you are using ISDN to set up an MLP connection. See Using Multiple ISDN Channels (MLP) for more information on what MLP is and how to take advantage of it.

Primary DNS Field on Service Provider Tab

Lets you specify the address of the first Domain Name Services server on the remote network to use. The DNS servers allow your computer to locate other computers by name (as in www.netscape.com) instead of by number (as in 127.255.255.0).

In most cases, this number is set automatically by the remote access server you are dialing in to, and you should leave this field set to 0.0.0.0. However, if you need to set this value, your remote network administrator will provide it for you.

Secondary DNS Field on Service Provider Tab

Lets you specify the address of the second Domain Name Services server on the remote network to use. The DNS servers allow your computer to locate other computers by name (as in www.netscape.com) instead of by number (as in 127.255.255.0).

In most cases, this number is set automatically by the remote access server you are dialing in to, and you should leave this field set to 0.0.0.0. However, if you need to set this value, your remote network administrator will provide it for you.

Service Provider Domain Name Field

Lets you specify the group name of the computers on the remote network, such as "Shiva.com" or "Netscape.com." This name makes up part of your computer's Internet address while you are connected to the remote network.

In most cases, this name is set automatically by the remote access server you are dialing in to. However, if you need to set this value, your remote network administrator will provide it for you.

IP Enabled Checkbox on Protocols Tab

Enables Internet Protocol (IP) for your dial-in connection, providing access to all Internet and intranet services on the remote network, including e-mail, the World Wide Web, and other services.

Note that if your network administrator has provided you with an IP address, you'll need to enter that in the IP Address field on the Protocols tab. Otherwise, an IP address will be set for you automatically.

Obtain an IP Address Automatically Option on Protocols Tab

Indicates that your computer's IP address will be set automatically by the remote access server you are dialing in to. Your computer needs this address to communicate with the Internet and other IP services through the remote network.

Select this option if you were not given an IP address for your computer by your remote network administrator or Internet provider.

Specify IP Address Option on Protocols Tab

Indicates that you want to set your computer's IP address manually based on information given to you by your remote network administrator or Internet provider.

If you select this option, you must also enter a valid IP address in the IP Address field.

If you do not have an IP address to assign to your computer, select Obtain IP Address Automatically instead.

IP Address Field on Protocols Tab

If you enable IP networking, your computer needs an IP address to use while you are connected to the remote network. Usually, this address is assigned by the remote access server automatically, so you should leave the IP Address field set to the default 0.0.0.0.

Enter a different address here (as in 127.255.255.0) if your remote network administrator has provided one.

POP_IPX_Enabled_Checkbox_on_Protocols_Tab$ IPX Enabled Checkbox on Protocols Tab

POP_Restore_NetWare_Connections_Checkbox_on_Protocols_Tab$ Restore NetWare Connections Checkbox on Protocols Tab

POP_NetBEUI_LLC_Enabled_Checkbox_on_Protocols_Tab$ NetBEUI/LLC Enabled Checkbox on Protocols Tab

Connect Automatically Checkbox on Dialing Tab

Tells ShivaRemote to open the remote network connection automatically whenever this connection file is opened. When this checkbox is not selected, you must click the Connect button to make a connection after you open the connection file.

Enable Dial-on-Demand Checkbox on Dialing Tab

Indicates that ShivaRemote should automatically open the specified dial-in connection whenever you use a program that needs the remote network. When you select this option, ShivaRemote senses when a program (such as your World Wide Web browser, or e-mail program) tries to use the remote network, and immediately tries to open the connection specified in the Connection File field.

Connection File Field on Dialing Tab

Specifies the name and location of the dial-in connection to open when you use a program that requires a remote network. For example, you might enter a connection for your Internet provider to open automatically whenever you use an Internet program, such as your e-mail software.

Enter the path and name of the connection file in this field (as in C:\dir1\dir2\etc) or click the Browse button to locate and select the connection file you want.

Browse Button

Displays a standard Open File dialog box where you can select a file of the desired kind.

For example, if you click the Browse button next to a Connection File field, you can use the dialog box that appears to locate and select a connection file on your hard disk or any other volume.

Redial If Phone Is Busy Checkbox on Dialing Tab

Tells ShivaRemote to try to dial in to the remote network again if it encounters a busy signal.

Wait # Seconds Between Redials on Dialing Tab

Indicates how long after receiving a busy signal ShivaRemote should wait before trying the call again, between 1 and 255 seconds. For example, you might want ShivaRemote to try calling every 30 seconds until it gets through, in which case you would enter 30 in this field.

Give Up After # Attempts on Dialing Tab

Indicates the number of times ShivaRemote should try to redial a busy number, between 1 and 255 attempts. For example, if you want ShivaRemote to try to redial the busy number 5 times, enter 5 in this field.

Request Roaming Dial-Back on Dialing Tab

Enables the roaming dial-back feature of ShivaRemote, which lets you tell the remote access server to call your modem back at a telephone number that you specify so you can reverse the charges for the telephone call. Not all remote access servers support roaming dial-back, and not all users are set up to use this feature.

If your dial-in name on the remote access server is set up to use a fixed dial-back number, this checkbox and the dial-back telephone number you enter here are ignored.

Dial-Back Phone # Field on Dialing Tab

Lets you specify the telephone number (using up to 56 characters) at which the remote access server should call your modem back.

This field is used only if you selected the Request Roaming Dial-Back option on the Dialing Tab of the Properties dialog box. If you do not enter a telephone number in this field, the remote access server will not use roaming dial-back and the connection will be established without it.

Note: Be sure to add all of the information needed for the remote access server to call your modem. For example, if the remote telephone network requires a "9" to dial an outside line, your dial-back phone number would be in the form 9, 1-617-555-1234.

Automatically Start Field on Connection Tab

Indicates which program ShivaRemote should launch automatically after you are connected to the remote network. For example, if you always browse the web on connecting to your Internet provider, you might enter the name and location of Netscape or another browser in this field. As another example, you might enter your e-mail program or news reader in this field.

Enter the path and name of the program in this field (as in C:\dir1\dir2\etc) or click the Browse button to locate the program (usually an executable, with an .EXE extension).

Disconnect After # Minutes of Inactivity on Connection Tab

Tells ShivaRemote to close the dial-in connection after you have not used the remote network for a certain amount of time. This prevents connect-time or long-distance charges from mounting when you do not need to use the remote network.

To disconnect after a certain amount of idle time, select this checkbox and enter the number of minutes of idle time after which you'd like ShivaRemote to close the connection.

Note: If the remote network administrator has set up your account to log you off after a certain amount of idle time, you can only set a smaller amount of idle time here. If you enter a larger amount of idle time here than is specified for your account, the amount specified by your network administrator will be used.

Enable Reconnect When Connection is Lost Checkbox

Tells ShivaRemote to give you the option to try to restore a dial-in connection if it is interrupted. When you select this checkbox, ShivaRemote prompts you to reconnect if your connection is lost.

Note that you can tell ShivaRemote to reconnect without asking you by also selecting the Reconnect Automatically checkbox.

Note: ShivaRemote attempts to restore a lost connection only if it was lost accidentally. ShivaRemote does not try to restore the connection if you were disconnected for a valid reason (such as for inactivity, for exceeding a connection time limit, or if the remote network administrator closed your connection manually).

Reconnect Automatically Checkbox on Connection Tab

Tells ShivaRemote to try to restore a lost connection without asking you first. If you select this checkbox in addition to the Enable Reconnect When Connection is Lost checkbox, ShivaRemote tries to reconnect to the remote network in the background without requiring any action from you.

If you do not select this checkbox, ShivaRemote asks for confirmation before trying to reopen a lost network connection.

This option is not available if you have not first selected the Enable Reconnect When Connection is Lost checkbox.

New Connection File Command on File Menu

Resets all connection file information to the default values so you can start setting up another connection file.

Open Connection File Command on File Menu

Lets you read a ShivaRemote connection file that has been saved on your disk. The information in the file is read and then displayed in the ShivaRemote Connect window. See Retrieving Saved Connection Settings for more information.

Save Connection File Command on File Menu

Saves the displayed connection information to disk. If you have not yet given the connection file a name, you will be asked to provide one.

Save Connection File As Command on File Menu

Lets you save the displayed information to disk with a different name. When you choose this command, ShivaRemote opens the Save As dialog box where you can provide a new name and location for the connection file. See Saving Connection Files for more information.

Make Icon command on File Menu

Allows you to create a Program Manager icon that refers to the displayed connection file. When you double-click this icon in the Program Manager, ShivaRemote opens the connection file automatically. See Creating a Connection File Icon in the Program Manager for more information.

Exit Command on File Menu

Exits ShivaRemote. If you have not saved the displayed information in a connection file, you will be asked if you want to do so.

Edit_menu_Undo_command$ Undo Command on Edit Menu

Cut Command on Edit Menu

Deletes the selected text and stores it on the Windows clipboard.

Copy Command on Edit Menu

Copies the selected text to the Windows clipboard without removing it from the field.

Paste Command on Edit Menu

Pastes the text currently on the Windows clipboard at the insertion point.

Delete Command on Edit Menu

Deletes the selected text. The contents of the Windows clipboard are not affected.

Contents Command on Help Menu

Opens this online help file to the Contents tab.

Search for Help On Command on Help Menu

Opens this online help file and displays a dialog box in which you can search the index for the topic you want.

About ShivaRemote Command on Help Menu

Displays the Connect version number, and the version number of the dial-in driver that is loaded.

Overall Connect Time Field in Connection Status Dialog Box

Indicates how long you have been dialed in to the remote network in hours, minutes, and seconds.

Overall Remaining Field in Connection Status Dialog Box

Indicates how much time is left in the current dial-in connection in hours, minutes, and seconds. This field does not appear if your remote network administrator has not placed a time limit on your connection.

Details Button in Connection Status Dialog Box

Opens the Performance Monitor, a series of screens that indicate statistical information about your dial-in connection. For more information about the Performance Monitor, see About the Performance Monitor.

Disconnect Button in Connection Status Dialog Box

Closes the dial-in connection, after which the Connection Status dialog box also closes.

Title Bar of Connection Status Dialog Box

Indicates the remote network to which you are currently connected. The name that appears here is the same name you entered in the Description field of the main ShivaRemote window.

Connection Speed in Connection Status Dialog Box

Indicates the overall connection speed of the dial-in connection in bits per second (bps) .

If you are using an ISDN communication device, there may be two speeds listed, indicating the connection speed for each B channel of the ISDN connection. A value of N/A in this field indicates that the B channel is not currently in use.

Note: If you are using an external ISDN terminal adapter, the Status area indicates that a single connection is open, even if the terminal adapter negotiates a multilink connection.

Old Password Field in Change Password Dialog Box

Lets you enter your current password to make sure you are authorized to change the password. If you have no current password, leave this field blank.

New Password Field in Change Password Dialog Box

Lets you enter the new password you want to assign to your dial-in user name. This field must match the Confirm New Password field exactly to successfully change your password.

Confirm New Password Field in Change Password Dialog Box

Lets you confirm the new password you want to assign to your dial-in user name. This field must match the New Password field exactly to successfully change your password.

Group Name Field

Lets you select the group in the Program Manager in which you want to create the icon for the current connection file. You can either click the drop-down arrow next to the Group Name field and select the group name you want from the list, or type the desired group name if you already know it.

Icon Name Field

Lets you specify a name for the icon you are creating for the current connection file in the Program Manager. By default this field contains the name you entered in the Description field in the main ShivaRemote window for the current connection file.

About the Performance Monitor

The Performance Monitor provides statistics on the performance of your ShivaRemote dial-in connections.

You can use the Performance Monitor to:

- View general information on the dial-in connection, including information on the port and modem your computer used to communicate with the remote network.
- Track IP network traffic across your dial-in connection.
- Monitor the compression rate of data transmitted and received during dial-in connections.
- Track virtual connections and multilink sessions.
- View error statistics.

Related Information

For information on opening, using, and closing the Performance Monitor, see Viewing the Performance Monitor.

For detailed descriptions of the Performance Monitor window and tabs, see Performance Monitor Window.

Performance Monitor Window

Use the Performance Monitor to view statistics on the port, protocols, compression, cost savings, and errors for one or more ShivaRemote dial-in sessions. All information displayed in the Performance Monitor is read-only.

To open the Performance Monitor, from the ShivaRemote Connection Status dialog box, click Details.

The five Performance Monitor window tabs are explained in the following topics. Click a topic to see a description of that tab.

Tabs

Port Tab

Protocols Tab

Compression Tab

Cost Savings Tab

Errors Tab

Related Information

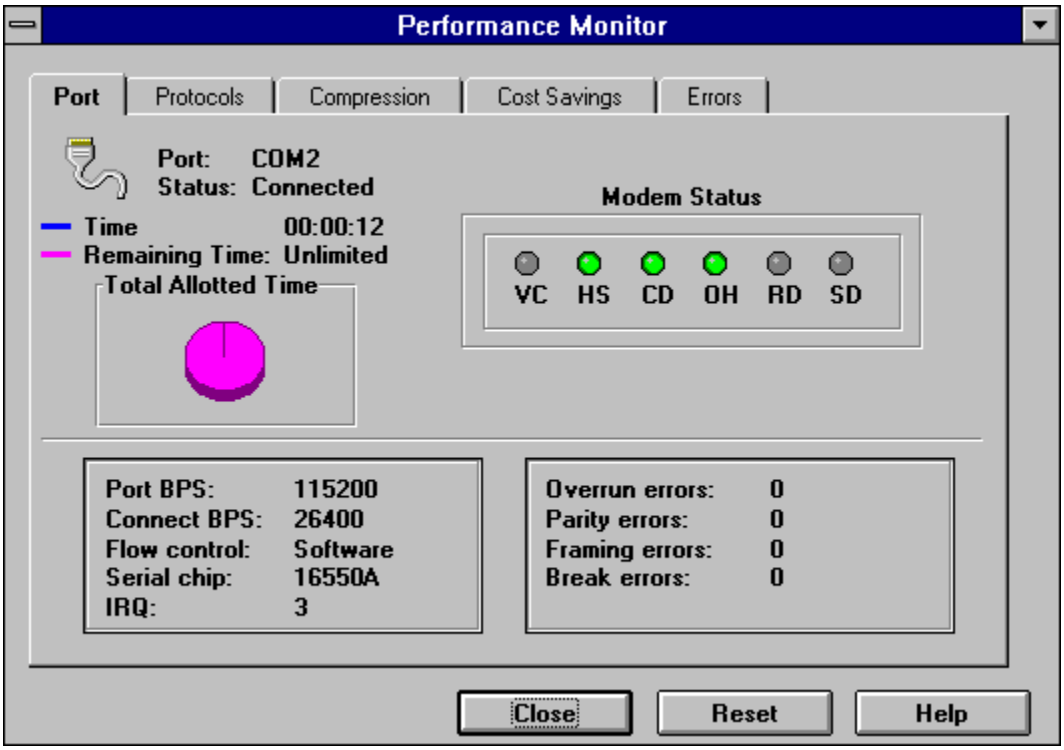
For information on opening, using, and closing the Performance Monitor, see Viewing the Performance Monitor.

For a description of the Performance Monitor, see About the Performance Monitor.

Port Tab

Use the Port tab to view status information about a port or ISDN port driver used during a ShivaRemote dial-in connection. To display the Port tab, from the Performance Monitor window, click Port.

Click a field or button for a description.



Port Field

If you are using a modem or external ISDN terminal adapter, this field displays the COM (or communications) port on the back of your PC to which the modem is connected. If you are using an ISDN card, this field displays the name of the ISDN port driver. If there is no active dial-in connection, this field displays None.

Status Field

Displays the port connection status: either connected or disconnected.

Time Fields and Graph

The Time Connected field lists the amount of time the dial-in connection has been up. This value is displayed in blue on the graph as a percentage of the total time allowed for this dial-in connection.

The Remaining Time field displays the amount of time remaining in the session, or Unlimited if there is no time limit on your connection. This value is displayed in pink on the graph.

If there is no active dial-in connection, the Time Connected and Remaining Time fields display NA and the graph appears pink.

Modem Status Display

Consists of a row of simulated light-emitting diodes (LEDs) that represent the LEDs on a modem. The LEDs can be useful in troubleshooting a dial-in connection.

The table below describes the LEDs.

LED	Description
VC (virtual connections)	Lights when your current dial-in virtual connection has been suspended (the physical connection has been dropped) because there was no significant communication across the line. As soon as your computer needs to communicate with the remote network (for example, if you access a remote file server), the suspended connection is resumed automatically.
HS (high speed)	Indicates that the modem has made a high speed (greater than 9600 bps) connection.
CD (carrier detect)	Lights when the modem has successfully connected with a remote modem (that is, the modem has received a valid signal from a remote modem, and data transmission is now possible).
OH (off hook)	Indicates that the modem has taken control of the phone line to start making a connection with a remote modem.
RD (received data)	Indicates that the modem is receiving data from the remote modem. This light flickers on and off rapidly during most data connections as the modem receives data. Note that limitations in Novell NetWare prevent this LED from correctly indicating when your computer is reading data from a NetWare file server.
SD (send data)	Indicates that the modem is sending data to the remote modem. This light flickers on and off rapidly during most data connections as the modem sends data. Note that limitations in Novell NetWare prevent this LED from correctly indicating when your computer is writing data to a NetWare file server.

Port BPS Field

Displays the speed at which your computer is communicating with the modem in bits per second (bps). For most V.32bis modems, this will be either 38400 bps or 57600 bps; for V.34 modems, this will be either 57600 or 115200 bps; for ISDN terminal adapters, this should be 115200 bps.

Connect BPS Field

Displays the speed at which your modem is communicating with the modem on the remote network.

Flow Control Field

Displays the type of flow control the dial-in software uses. Options include: Hardware, Software, or None. Flow control is the method of managing the flow of data between your PC and your modem, terminal adapter, or ISDN card.

Serial Chip Field

Identifies the serial chip (or Universal Asynchronous Receiver Transmitter (UART)) that controls the serial port on your computer. Options include: 8250 or 16550A.

The 8250 serial chip has a 1-byte buffer. The 16550A serial chip has a 16-byte buffer. With the 16550A serial chip, your computers serial port can run at much higher speeds without experiencing overrun errors.

IRQ Field

Lists the Interrupt Request (IRQ) number used by your serial port. The IRQ value is a number between 2 and 15.

Overrun Errors Field

Displays the total number of frames that your computer did not receive because the serial chip on the computers serial port could not accept the data fast enough.

The serial chip stores data coming from the remote network in its buffer. Your computer then removes this data from the buffer and processes it. If your computer cannot remove the data from the serial chip buffer before additional data is received, the buffer may fill up with the result that the new data will overwrite the data already stored in the buffer. This is an overrun error.

The chances of an overrun error occurring are much higher if your computer contains an 8250 serial chip with only 1 byte of buffer space, than if your computer has a 16550A serial chip, which has 16 bytes of buffer space.

If an overrun error occurs, follow these steps to prevent future overrun errors. After each step, check for new overrun errors before proceeding to the next step:

1. Lower the modem speed.
2. Upgrade to a 16550A serial chip.

Parity Errors Field

Displays the total number of characters with a parity error. When transmitting data, the parity must be set to the same value on the sending and receiving devices. The parity value can be N (none), O (odd), E (even), M (mark), or S (space). A parity error occurs when the parity set on the transmitting and receiving devices differs.

Framing Errors Field

Indicates the total number of characters with a framing error. Framing is the physical framing method used on line to format data. The framing method must be set to the same value on the sending and receiving devices. A framing error occurs when the framing value set on the transmitting and receiving devices differs.

Break Errors Field

Displays the number of times your serial port transmits a request for the peer to break the dial-in connection. The value of this field should be 0.

Close Button

Closes the Performance Monitor window.

Reset Button

Resets the cumulative statistics on the tab displayed.

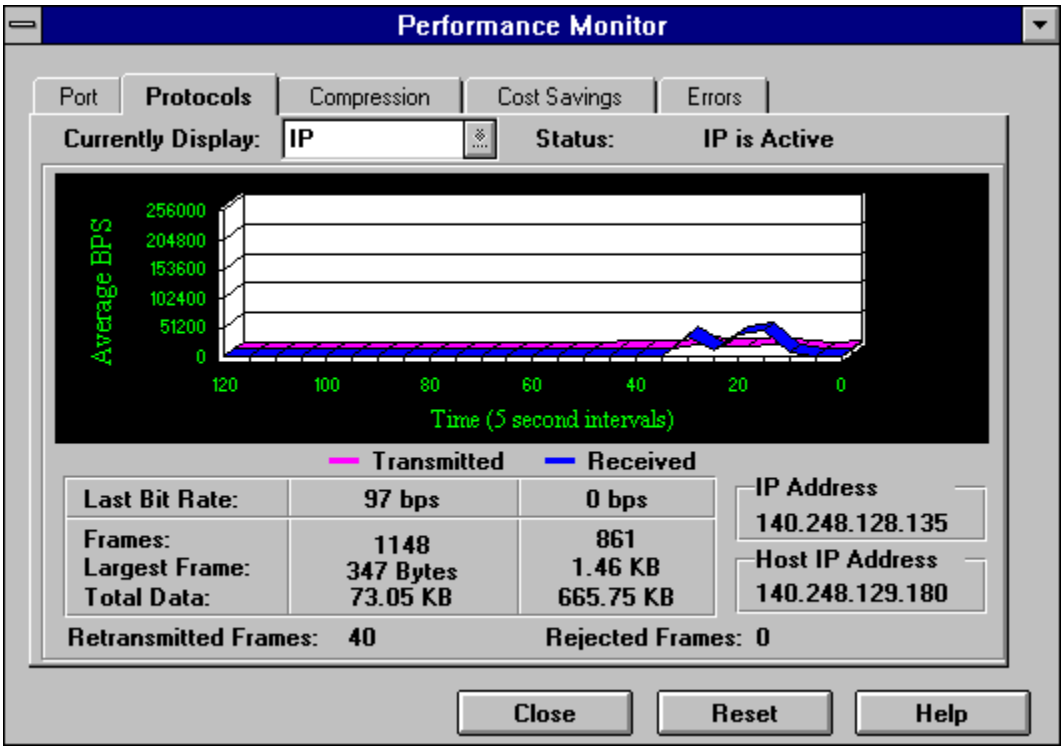
Help Button

Opens Help for the tab displayed.

Protocols Tab

Use the Protocols tab to view status information about the IP network protocol used during a ShivaRemote dial-in connection. To display the Protocols tab, from the Performance Monitor window, click Protocols.

Click a field or button for a description.



Status Field

Indicates whether the protocol is active or inactive. If active, you can communicate with the remote network using this protocol. If inactive, the protocol cannot be used to communicate with the remote network.

Average BPS Graph

Displays the average speed used to transmit and receive data across the dial-in connection using this protocol. The average transmission speed is shown in pink; the average speed of data received is shown in blue.

Speed data is gathered over five-second intervals and the average plotted on the graph. The graph displays data for the last 120 seconds of connection time with the most recent data appearing on the right-hand side of the graph.

Last Bit Rate Field

The table below describes the Last Bit Rate field for data transmitted and received.

Transmitted	Received
The average speed in bits per second (bps) at which data was transmitted using this protocol during the last five-second period. If you have not transmitted data recently, the value of this field is 0 bps.	The average speed in bits per second (bps) at which data was received using this protocol during the last five-second period. If you have not received data recently, the value of this field is 0 bps.

Frames Field

The table below describes the Frames field for data transmitted and received.

Transmitted	Received
The total number of frames of data transmitted by your computer using this protocol since you started your computer or reset this information.	The total number of frames of data received by your computer using this protocol since you started your computer or reset this information.

Largest Field

The table below describes the Largest field for data transmitted and received.

Transmitted	Received
The size in bytes of the largest data frame transmitted by your computer using this protocol since you started your computer or reset this information.	The size in bytes of the largest data frame received by your computer using this protocol since you started your computer or reset this information.

Total Size Field

The table below describes the Total Size field for data transmitted and received.

Transmitted	Received
The total number of bytes of data transmitted by your computer using this protocol since you started your computer or reset this information.	The total number of bytes of data received by your computer using this protocol since you started your computer or reset this information.

Retransmitted Frames Field

Displays the number of frames of data your computer has transmitted to the remote network a second time. This field accrues data since you started your computer or reset this information.

Typically, frames are retransmitted when the receiving device experiences a CRC error indicating that the data received is incomplete, damaged, or corrupt. The receiving device then requests that your computer resend the information.

Rejected Frames Field

Displays the number of frames of data rejected by your computer upon receipt. This field accrues data since you connected to the remote network or reset this information.

Your computer may reject a frame if it experiences an error while receiving the data. For example, corrupted data or data sent to the wrong address might be rejected.

IP Address Field

Lists the IP address assigned to your computer.

Typically, when you make a dial-in connection to a remote network, the answering device automatically assigns your computer an IP address.

Host IP Address Field

Displays the IP address of the device on the remote network to which you are connecting. This device is commonly referred to as the "host."

IPX Net Address Field

Displays the IPX address of the remote network to which you are connecting.

IPX Node Address Field

Lists the IPX address assigned to your computer.

Node Address Field

Lists the Windows for Workgroups node address assigned to your computer.

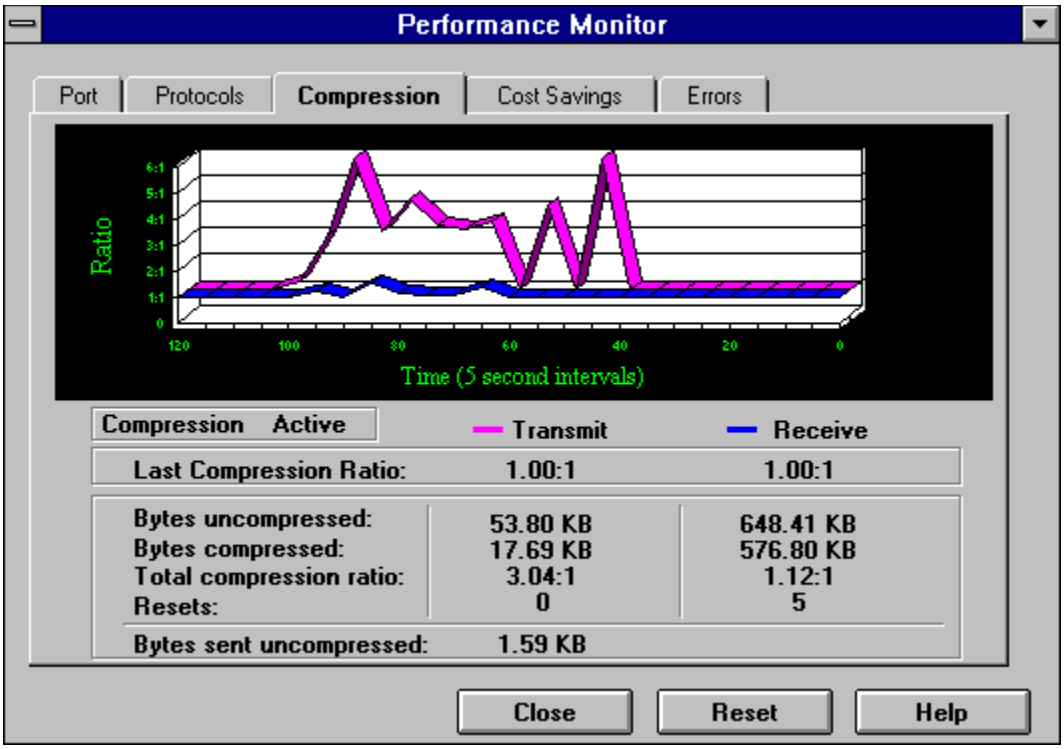
Compression Tab

Use the Compression tab to view status information on the data compression used during one or more ShivaRemote dial-in sessions. Compression is the use of special coding to reduce the amount of information being transmitted by eliminating redundancies. The information is restored to its original state after transmission. Compression can improve the speed of data transmissions.

Note that to use compression with a dial-in connection, you must be connected to a Shiva remote access server that supports compression.

To display the Compression tab, from the Performance Monitor window, click Compression.

Click a field or button for a description.


Performance Monitor
Port
Protocols
Compression
Cost Savings
Errors
Ratio
6:1
5:1
4:1
3:1
2:1
1:1
0
120
100
80
60
40
20
0
Time (5 second intervals)
Compression Active
Transmit
Receive
Last Compression Ratio: 1.00:1 1.00:1
Bytes uncompressed: 53.80 KB 648.41 KB
Bytes compressed: 17.69 KB 576.80 KB
Total compression ratio: 3.04:1 1.12:1
Resets: 0 5
Bytes sent uncompressed: 1.59 KB
Close
Reset
Help

Compression Graph

Displays the compression ratio of data transmitted and received by your computer. During a ShivaRemote dial-in session, compression data is gathered every five seconds and the average plotted on the graph. The most recent compression data appears on the right side of the graph.

The compression ratio for data you transmit (shown in pink) is equal to the size of the data before compression over the size of the data after compression. The compression ratio for data your computer receives (shown in blue) is equal to the size of data after it is decompressed over the size of the compressed data.

Compression Status Field

Displays the compression status: either active or inactive. Compression status is inactive if you are not using data compression, or if compression is disabled on the remote access server to which you are connecting.

Last Compression Ratio Field

The table below describes the Last Compression Ratio field for data transmitted and received.

Transmit	Receive
The ratio of the number of bytes of data before compression to the number of bytes of data after compression for data transmitted during the last five-second period.	The ratio of the number of bytes of data after decompression to the number of bytes of data before decompression for data received during the last five-second period.

Bytes Uncompressed Field

The table below describes the Bytes Uncompressed field for data transmitted and received.

Transmit	Receive
The total size in bytes of data before compression that you have transmitted since you reset the statistics or connected to the remote network.	The total size in bytes of data after decompression that you have received since you reset the statistics or connected to the remote network.

Bytes Compressed Field

The table below describes the Bytes Compressed field for data transmitted and received.

Transmit	Receive
The total size in bytes of data after compression that you have transmitted since you reset the statistics or connected to the remote network.	The total number of bytes of compressed data that you have received since you reset the statistics or connected to the remote network.

Total Compression Ratio Field

The table below describes the Total Compression Ratio field for data transmitted and received.

Transmit	Receive
The ratio of the number of bytes of data before compression to the number of bytes of data after compression for data transmitted since you reset the statistics or connected to the remote network.	The ratio of the number of bytes of data after decompression to the number of bytes of data before decompression for data received since you reset the statistics or connected to the remote network.

Resets Field

The table below describes the Resets field for data transmitted and received.

Transmit	Receive
The number of times the remote network requested a resend of data because frames of data transmitted by your computer were received out of order.	The number of times your computer requested that the remote network resend data because frames of data received by your computer were out of order.

Bytes Sent Uncompressed Field

Displays the total number of bytes of data sent uncompressed. This includes data that cannot be compressed, such as call commands.

Cost Savings Tab

Use the Cost Savings tab to view status information about virtual connections and PPP Multilink Protocol (MLP) usage during a ShivaRemote dial-in connection. To display the Cost Savings tab, from the Performance Monitor window, click Cost Savings.

The information displayed in the Cost Savings tab depends upon whether you are using PPP Multilink Protocol (MLP) to connect to the remote network using two lines simultaneously.

Click a topic to see a description of the cost savings statistics displayed for your dial-in connection.

Cost Savings Tab (with MLP)

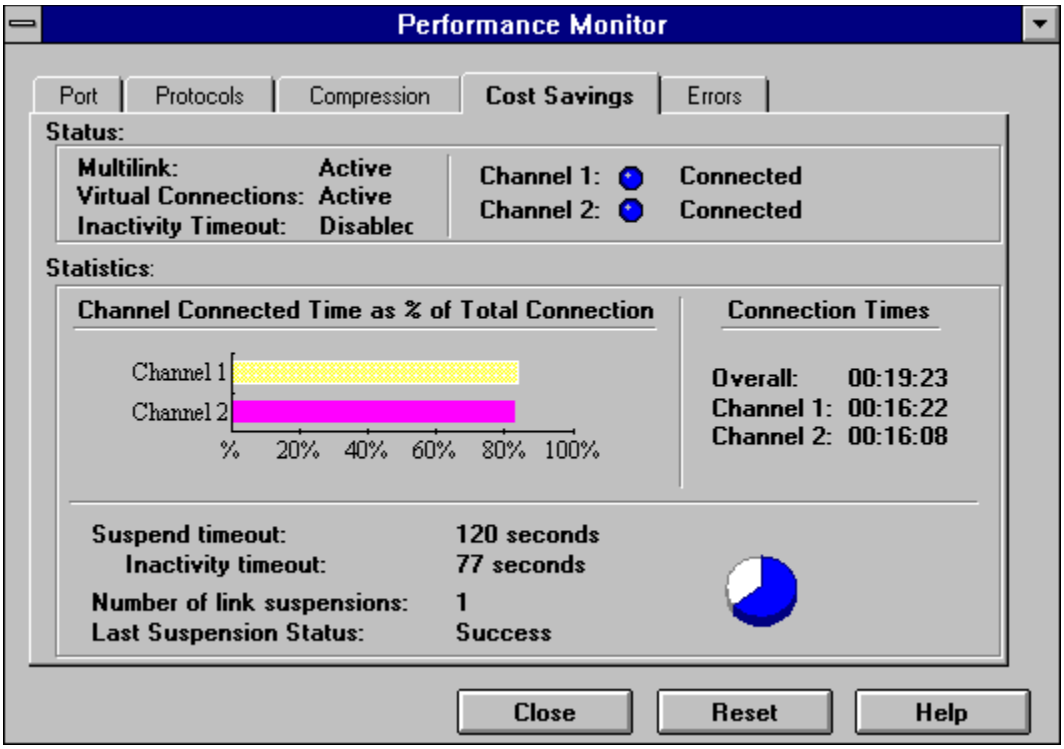
Cost Savings Tab (no MLP)

Cost Savings Tab (with MLP)

Use the Cost Savings tab to view status information about virtual connections and PPP Multilink Protocol (MLP) usage during this dial-in connection. To display the Cost Savings tab, from the Performance Monitor window, click Cost Savings.

Note: If you are using an external ISDN terminal adapter, this tab indicates that a single connection is open, even if the terminal adapter negotiates a multilink connection.

Click a field or button for a description.


Performance Monitor
Port
Protocols
Compression
Cost Savings
Errors
Status:
Multilink: Active
Virtual Connections: Active
Inactivity Timeout: Disablec
Channel 1: Connected
Channel 2: Connected
Statistics:
Channel Connected Time as % of Total Connection
Channel 1
Channel 2
% 20% 40% 60% 80% 100%
Connection Times
Overall: 00:19:23
Channel 1: 00:16:22
Channel 2: 00:16:08
Suspend timeout: 120 seconds
Inactivity timeout: 77 seconds
Number of link suspensions: 1
Last Suspension Status: Success
Close
Reset
Help

Status Area

Indicates whether PPP Multilink Protocol (MLP) and virtual connections are active or inactive for this ShivaRemote dial-in connection.

Multilink and virtual connections are active if:

- You have configured this dial-in connection for the feature.
- Your network administrator configures the answering device on the remote network for these features.
- For multilink, your network administrator must also edit your user profile to allow you to connect to more than one line on the remote access server.

Note: If you are using an external ISDN terminal adapter, the Status area indicates that a single connection is open, even if the terminal adapter negotiates a multilink connection.

Link Status Fields

Displays current link status for each line (or channel) of the multilink dial-in connection.

The table below lists the possible values for the Status fields.

Status	Description
Connecting	ShivaRemote is dialing the remote network or negotiating the dial-in connection.
Connected	The line is currently connected to the remote network.
Disconnecting	ShivaRemote is dropping the physical line to end a dial-in session.
Disconnected	There is no dial-in connection.
Suspending	The physical line is being dropped (or suspended) due to network inactivity. This status applies only to virtual connections.
Suspended	The physical line has been dropped due to network inactivity. Your computer is spoofing networking keep-alive messages locally. The connection will be brought back up automatically when you try to access services on the remote network or the remote network has meaningful data to send to you.
Resuming	ShivaRemote is trying to resume a suspended dial-in connection. This status applies only to virtual connections.
Resuming to Disconnect	ShivaRemote is resuming a suspended dial-in connection in order to end the session.

Channel Connected Time as % of Total Connection Fields

The Channel Connected Time as % of Total Connection field shows what part of your connection has been suspended and what part has been active as part of the total virtual connection.

Note: If you are using an external ISDN terminal adapter, this section indicates that a single connection is open, even if the terminal adapter negotiates a multilink connection.

The Channel 1 and Channel 2 bars on the graph display the amount of time each channel (or link) of the multilink dial-in connection is physically open as a percentage of the overall connect time.

Connection Times Area

The Connection Times area shows the number of hours, minutes, and seconds the overall dial-in connection has been open, as well as the amount of time each channel of the ISDN connnection has been in use (that is, active, not suspended).

This area contains the following fields:

Field	Description
Overall	The total time in hours, minutes, and seconds since you first opened the dial in connection.
Channel 1	The total time the first ISDN B channel has been in use for this dial-in connection
Channel 2	The total time the second ISDN B channel has been in use for this dial-in connection

Link Suspension Data

The Number of Link Suspensions field displays the number of times the connection has suspended during the current dial-in session.

The Last Suspension Status field displays the status of the last attempted suspension. The table below lists the possible values for this field.

Status	Description
N/A	The dial-in connection has never attempted to suspend.
Succeeded	The dial-in connection successfully suspended and resumed.
Failed	The dial-in driver couldn't resume the connection after the last suspension.

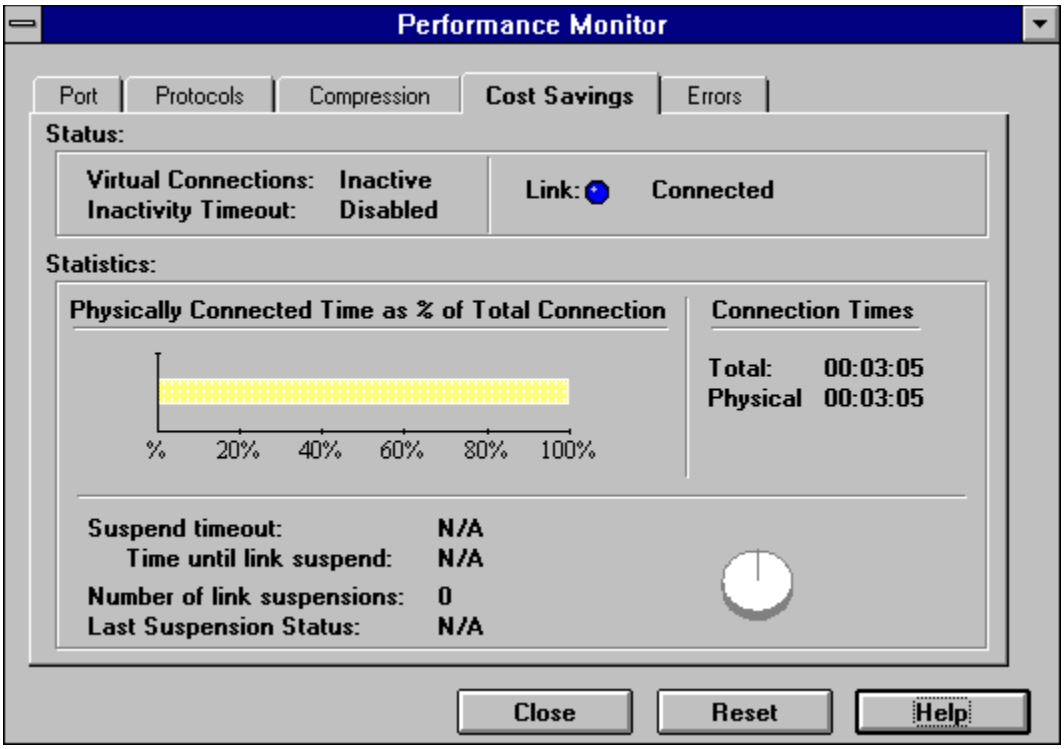
The Suspend Timeout field lists the total number of seconds the link must be inactive (not transmitting meaningful data) before the link is suspended.

The Time Until Link Suspend field displays the number of seconds remaining until the link is suspended. This value is displayed as a percentage of the total suspend timeout value in pink on the graph. The number of seconds the link has been inactive is displayed in blue as a percentage of the total suspend timeout value on the graph.

Cost Savings Tab (no MLP)

Use the Cost Savings tab to view status information about virtual connection usage during a ShivaRemote dial-in connection. To display the Cost Savings tab, from the Performance Monitor window, click Cost Savings.

Click a field or button for a description.


Performance Monitor
Port
Protocols
Compression
Cost Savings
Errors
Status:
Virtual Connections: Inactive
Inactivity Timeout: Disabled
Link: Connected
Statistics:
Physically Connected Time as % of Total Connection
% 20% 40% 60% 80% 100%
Connection Times
Total: 00:03:05
Physical 00:03:05
Suspend timeout: N/A
Time until link suspend: N/A
Number of link suspensions: 0
Last Suspension Status: N/A
Close
Reset
Help

Status Area

Indicates virtual connections are active or inactive for a ShivaRemote dial-in connection.

Virtual connections are active if:

- You have configured this dial-in connection for the feature.
- Your network administrator configures the answering device on the remote network for virtual connections.

Note: If you are using an external ISDN terminal adapter, the Status area indicates that a single connection is open, even if the terminal adapter negotiates a multilink connection.

Link Status Field

Displays current link status for the dial-in connection

The table below lists the possible values for the Status field.

Status	Description
Connecting	ShivaRemote is dialing the remote network or negotiating the dial-in connection.
Connected	The line is currently connected to the remote network.
Disconnecting	ShivaRemote is dropping the physical line to end a dial-in session.
Disconnected	There is no dial-in connection.
Suspending	The physical line is being dropped (or suspended) due to network inactivity. This status applies only to virtual connections.
Suspended	The physical line has been dropped due to network inactivity. Your computer is spoofing networking keep-alive messages locally. The connection will be brought back up automatically when you try to access services on the remote network or the remote network has meaningful data to send to you.
Resuming	ShivaRemote is trying to resume a suspended dial-in connection. This status applies only to virtual connections.
Resuming to Disconnect	ShivaRemote is resuming a suspended dial-in connection in order to end the session.

Physically Connected Time as % Total Connection

The Physically Connected Time as % of Total Connection area shows what part of your connection has been suspended and what part has been active as part of the total virtual connection.

The bar on the graph displays the amount of time the dial-in connection is physically open as a percentage of the overall connect time.

Connection Times Area

The Connection Times area shows the number of hours, minutes, and seconds the overall dial-in connection has been open, as well as the amount of time the modem or ISDN terminal adapter has been in use (that is, active, not suspended).

This area contains the following fields:

Field	Description
Total	The total time in hours, minutes, and seconds since you first opened the dial in connection.
Physical	The total time the modem or ISDN terminal adapter has been in use for this dial-in connection

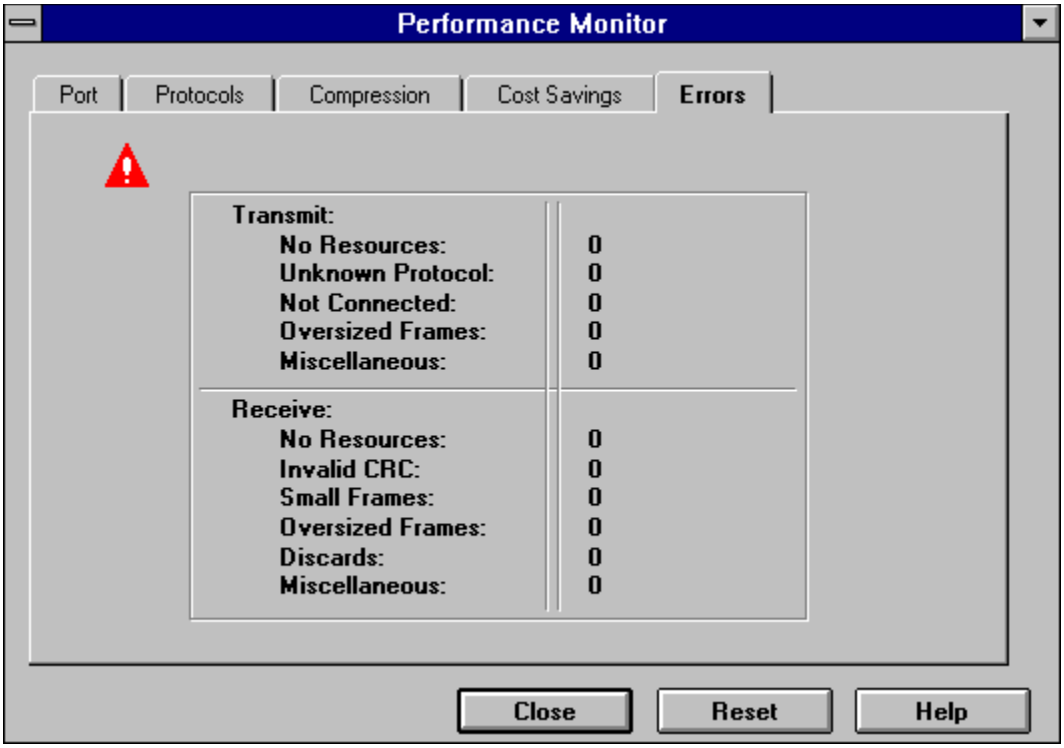
Errors Tab

Use the Errors tab to view statistics on the transmit and receive errors that have occurred during one or more ShivaRemote dial-in sessions. These error statistics are cumulative since the last time you reset the Performance Monitor or connected to the remote network.

If you are using multilink protocol (MLP) to connect to the remote network using two lines simultaneously, this tab displays error statistics for both lines (also known as channels).

To display the Errors tab, from the Performance Monitor window, click Errors.

Click a field or button for a description.



No Resources Field (Transmit Error)

Displays the number of frames of data that your computer cannot transmit because there is no space available in the ShivaRemote dial-in driver transmit queue.

The value for this field should be 0. If the value is anything other than 0, there is a serious problem with your connection.

Unknown Protocol Field (Transmit Error)

Displays the number of frames of data discarded by your computer because the data protocol is not recognized by the ShivaRemote dial-in driver.

This error occurs when your computer is asked to transmit data that uses an unsupported protocol, such as Banyon VINES.

Not Connected Field (Transmit Error)

Displays the number of frames of data that your computer could not transmit to the remote network because it did not have an active dial-in connection.

This error occurs when your computer receives a request to transmit data, but cannot do so because your computer is not currently connected to the remote network. This error does not indicate that your computer or ShivaRemote dial-in software is functioning improperly.

Oversized Frames Field (Transmit Error)

Displays the number of frames of data that your computer could not transmit because the frame was too big.

The ShivaRemote dial-in driver, which emulates Ethernet, has a maximum frame size of 1514 bytes. This error occurs if the frame size exceeds 1514 bytes. The value for this field should be 0. If the value is anything other than 0, there is a protocol problem.

Miscellaneous Field (Transmit Error)

Displays the number of frames of data dropped due to transmit errors other than those listed above.

The value for this field should be 0.

No Resources Field (Receive Error)

Displays the number of frames of data that your computer cannot receive because there is no space available in the ShivaRemote dial-in driver receive buffer.

The value for this field should be 0. If the value is anything other than 0, there is a serious problem with your connection.

Invalid CRC Field (Receive Error)

Displays the number of frames of data with a cyclic redundancy check (CRC) error your computer received.

Each data frame transmitted includes a few bytes of data that indicate the type of data being sent. A CRC error occurs when the data received by your computer does not match the type of data expected. This error can result when your computers serial port is running too fast. If this error occurs, decrease your computers serial port speed.

Small Frames Field (Receive Error)

Displays the number of frames of data with too small a frame size received by your computer.

Each frame of data includes a set number of bytes that describe the data frame. This error occurs when the size of the data frame received drops below the number of bytes required to describe the frame. This indicates that the data is damaged, incomplete, or corrupted, most likely due to an overrun error. If this error occurs, decrease your modem connection speed.

Oversized Frames Field (Receive Error)

Displays the number of frames of data dropped by your computer because the frame size exceeded the maximum size allowed.

This error occurs if the frame size exceeds 1514 bytes, the maximum size allowed by Ethernet. If this error occurs, it indicates that there is a problem with the remote access server to which you are connecting. Contact your network administrator.

Discards Field (Receive Error)

Displays the number of data fragments discarded by your computer during a multilink session.

This error only applies to multilink connections over an ISDN line. During a multilink session, your computer connects to the remote network using two lines simultaneously. Each frame of data your computer receives is split into two fragments, with one fragment sent down each line. Your computer reassembles the fragments to reconstruct the data frame.

This error occurs when your computer receives only one of the two data fragments for a frame. Your computer holds the fragment it receives for a set period of time, then deletes the fragment because it cannot reassemble the frame. This error indicates ISDN performance problems. Contact your ISDN card manufacturer for an updated driver.

Miscellaneous Field (Receive Error)

Displays the number of frames of data dropped due to receive errors other than those listed above.

The value for this field should be 0.

Tabs in the Performance Monitor

The Performance Monitor dialog box has several tabs, each of which displays different details about your ShivaRemote connection. Click any tab's name in the following list to see that tab:

Port Tab

Protocols Tab

Compression Tab

Cost Savings Tab

Errors Tab

Viewing the Performance Monitor

This procedure gives instructions on how to open and close the Performance Monitor window, display Performance Monitor tabs, and reset the Performance Monitor statistics.

1. To open the Performance Monitor, from the ShivaRemote Connection Status dialog box, click Details.
2. To display a tab, click it.

   For instance, click Compression to display the Compression tab.
3. To reset the statistics on a tab, click the tab and click Reset.
4. To close the Performance Monitor window, do one of the following:

- Click Close.
- Click the Close box (the box displaying an X in the upper right corner of the title bar)

Related Information

For a description of the Performance Monitor, see About the Performance Monitor.

For detailed descriptions of the Performance Monitor window and tabs, see Performance Monitor Window.

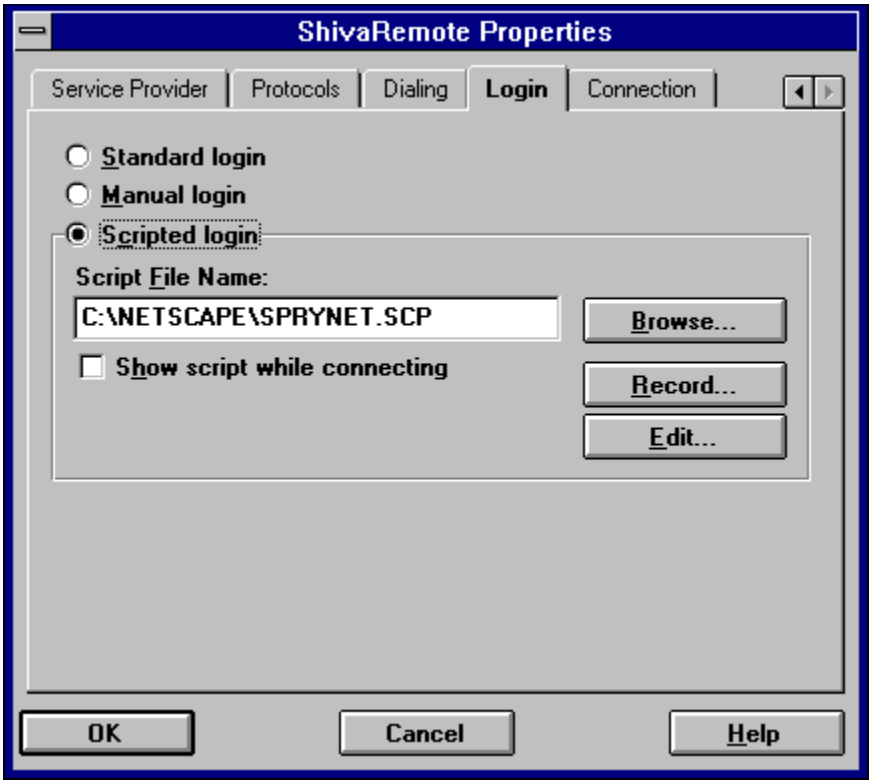
Login Tab in Dialer Options

Use the Login tab in the Dialer Options dialog box to control how ShivaRemote enters your user name and password information and establishes the connection to a remote network. You can tell ShivaRemote to log in automatically (standard login), manually, or using a script. The default is to log in automatically using the Standard Login option. You should only log in manually or using a script if you cannot log in automatically.

If you select to log in manually, ShivaRemote displays a terminal window where you type in the required login information. If you run a script to log in, ShivaRemote opens the terminal window and types in the required information for you. A script is a file that lists the keystrokes you type into the terminal window during a manual login.

To open the Login tab, click the Properties button in the ShivaRemote main window, and click the Login tab at the top of the dialog box.

Click a field or button for a description.



Related Information

Logging in Manually or With a Login Script

Standard Login Option on Login Tab

Tells ShivaRemote to automatically send the user name and password you entered on the main window to the remote network. The remote access server you dial into uses this login information to verify that you are a valid user. This is the default login option.

You should always try connecting with this option first. If you cannot log in automatically using the Standard Login option, the remote access server uses a security method that is not supported in ShivaRemote. If this happens, you can either log in manually using a terminal window, or you can create a script to specify exactly how ShivaRemote can log in for you.

Manually Login Option on Login Tab

Tells ShivaRemote to open a terminal window in which you can enter your user name, password, and any other information needed to log into the remote network.

Use this option only if you cannot log in automatically using the Standard Login option. For example, if the security method used on the remote network requires you to enter special information, you may have to log in manually.

If you routinely log in manually, you may want to record your login keystrokes in a script file. By recording a login script, you can let ShivaRemote enter your login information for you.

Related Information

Logging Into a Remote Access Server Manually

Script Login Option on Login Tab

Tells ShivaRemote to use a login script to enter your user name, password, and any other information needed to log into the remote network. Use this option if you cannot log in automatically and you do not want to use the terminal window to log in manually every time you connect to the remote network. You should also use this option if your network administrator provides you with a login script file.

If you have been logging in manually, you must record your login information in a script file before selecting this option.

Related Information

Running a Login Script

Script Filename Field on Login Tab

Indicates the name and location of the file containing the steps necessary for ShivaRemote to log into the remote network.

Enter the path and filename of the script you want to run in this field (in the form C:\Dir1\Dir2\etc) or click the Browse button to locate the file.

Show Script While Logging In Checkbox on Login Tab

Tells ShivaRemote to display the script in the terminal window when using a script to log into the remote server.

Normally, this checkbox should be inactive. Check this checkbox only if you are experiencing an error during a scripted login and want to review the login script to diagnose the problem.

Record Button on the Login Tab

Tells ShivaRemote to record your manual login keystrokes in a script file. When you click this button, ShivaRemote opens the terminal window and records your login keystrokes. The login information is stored in the script file listed in the Script Filename field.

Related Information

Recording a Login Script

Edit Button on Login Tab

Displays the script file selected in the Script Filename field in a text editing window (such as Notepad) where you can edit the script.

Logging in Manually or With a Login Script

ShivaRemote allows you to log into a remote network manually or to use a login script to log into a remote network. If possible, you should log in automatically using the Standard Login option. Automatic login is the ShivaRemote default. But, if the remote access server you are dialing into uses a security method that requires login information other than a user name and password, you will be unable to log in automatically. In this case, you can log in manually by typing your login information into a terminal window after ShivaRemote dials into the remote server. Alternately, you can use a login script that allows ShivaRemote to enter your login information into the terminal window for you.

If you must log into the remote server manually by typing keystrokes in a terminal window, you can simplify your login procedure by recording it in a script file.

Procedures

Logging Into a Remote Access Server Manually

Running a Login Script

Recording a Login Script

Logging Into a Remote Access Server Manually

Use this procedure to log into a remote server manually by typing your login information into a terminal window.

If possible, you should log into the remote network automatically by letting ShivaRemote send your user name and password upon connection. However, if the remote access switch to which your are connecting uses a security method that requires you to enter special login information (that is, other than your user name and password), you can login manually.

When you choose to log in manually, ShivaRemote provides you with a simple terminal window where you can type your login information. Once the connection is established and you give control back to ShivaRemote, your dial-in connection proceeds as if ShivaRemote had logged in automatically.

Prerequisites

- You must have a working connection file set up as described in Dialing In to the Remote Network. Please note, you do not have to enter a password in the ShivaRemote main window to log in manually.

Steps

To establish a dial-in connection manually:

1. Open the connection file you want to use.
2. From the ShivaRemote main window, click Properties.

   The Properties dialog box appears.
3. Click the Login tab. If necessary, use the arrow buttons to the right of the tabs to display the Login tab.

   The Login tab appears.
4. Click Manually Login.
5. Click OK.

   The Properties dialog box closes.
6. Click Connect.

   ShivaRemote dials the remote access server, then opens the terminal window.
7. Press Enter one or more times until the cursor appears.
8. Follow the instructions displayed in the terminal window to enter your login information.
9. When you finish logging into the remote network, click Continue.

   ShivaRemote closes the terminal window, then negotiates the protocol information with the Shiva remote access server and completes the dial-in connection.

Related Information

Running a Login Script

Recording a Login Script

Running a Login Script

Use this procedure to tell ShivaRemote to run a script file to pass your user name, password, and other required login information to the remote server during log in.

Prerequisites

- You must have a working connection file set up as described in Dialing In to the Remote Network
- You must have a pre-recorded script file. You can use a script file supplied by your network administrator or service provider, or record a script file of your manual login procedure. For detailed instructions on creating a script, see Recording a Login Script.

Steps

To run a login script when connecting:

1. Open the connection file you want to use.
2. From the ShivaRemote main window, click Properties.

   The Properties dialog box appears.
3. Click the Login tab. If necessary, use the arrow buttons to the right of the tabs to display the Login tab.

   The Login tab appears.
4. Click Script Login.
5. In the Script Filename field, enter the name of the login script file you want ShivaRemote to run or click Browse to locate and select the file.

   Please note that script files have a .scp extension.
6. If you want to view the script during login, check the Show Script While Logging In checkbox.
7. Click OK.

   The Properties dialog box closes.
8. Click Connect.

   ShivaRemote dials into the remote server, then open the terminal window and runs the script to pass login information to the remote access server.
9. Enter your login information as prompted by ShivaRemote.

   Once login is complete, ShivaRemote closes the terminal window, then negotiates the protocol information and completes the dial-in connection.

Related Information

Logging Into a Remote Access Server Manually

Recording a Login Script

Use this procedure to record in a login script file the keystrokes you type into the terminal window during a manual login. You can use a login script to automate the manual login process. Once you have a script of your manual login keystrokes, you can let ShivaRemote enter the necessary keystrokes rather than having to type the required information in the terminal window yourself.

Prerequisites

- You must have a working connection file set up as described in Dialing In to the Remote Network.
- You must have successfully manually logged onto the remote server as described in Logging Into a Remote Access Server Manually.

Steps

To record a login script:

1. Open the connection file you want to use.
2. From the ShivaRemote main window, click Properties.

   The Properties dialog box appears.
3. Click the Login tab. If necessary, use the arrow buttons to the right of the tabs to display the Login tab.

   The Login tab appears.
4. Click Script Login.
5. In the Script Filename field, type a location and name for the login script file you want to create or click Browse, enter a filename, and select a directory in which to store the script file. Alternately, if you want to overwrite an existing script file, select the file in the Open Script File dialog box.
6. Click Record

   ShivaRemote displays a message indicating that it will record your manual login in a script file.
7. Click OK to continue.

   ShivaRemote dials the remote network, then opens the terminal window and begins recording your keystrokes.
8. In the terminal window, type your login keystrokes as usual.
9. Click End Record when you complete the login process.

   ShivaRemote saves the manual login keystrokes in the selected script file.

   Once login is complete, ShivaRemote closes the terminal window, then negotiates the protocol information and completes the dial-in connection.

Related Information

Running a Login Script