User's Guide

professional

LAPLINK®

THE REMOTE ACCESS CHAMPION™

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Trademarks

Patents

SpeedSync® U.S. Patent Number 5,446,888

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1 Introducing LapLink Professional

In this chapter

What is LapLink Professional?

LapLink Professional gives you complete access to another computer from any location. Whether you're using a modem, network, wireless device, or cable, you can connect to other computers that are also running LapLink. Once you are connected, you can transfer files between the computers. When you're at home or on the road, you can use files and programs on your office computer—as well as other computers on your office network. You can even "chat" (through Text Chat) with someone sitting at your office computer while you work with office files from a remote location.

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Connect as you want

Using a modem, network, wireless device, or cable, you can use LapLink to connect to other computers. In one session, you can connect to several computers, using a variety of connection methods. You are limited mainly by the number of devices and resources on the computers.

You can also take advantage of the Dial-Up Networking feature of Windows to connect by modem to other network computers running LapLink. Using this modem-to-network connection provides full access to the network; it's like being connected to the network directly.

Different situations call for different connection methods. Cables and wireless devices work well when connecting your laptop to your desktop computer from a short distance. Networks make it easier to connect to many different computers in your local company network, a wide-area network, or the Internet. Modems work well at any time when you can use a phone line to connect—whether you're at home or on the road or communicating with someone in another company.

Use the services you want

LapLink services—File Transfer, Remote Control, Print Redirection, and Text Chat—offer four ways to communicate with other computers. You can select one or more services as you connect and add other services as you need them. In the same session, you can use different services simultaneously or at different times, on one computer or several.

- With File Transfer, you can move or copy files between computers. Customizing any of the several File Transfer options simplifies complicated transfers. And using Xchange Agent automates the repetitive process of keeping two computers in sync.

  Traveling Software's patented SpeedSync technology makes updating files faster by comparing files so that only changes—not entire files—are transferred. A comprehensive security system, including encryption, protects your valuable data at all times.

- With Remote Control, you use your computer to control another computer. It's as though your keyboard, mouse, and screen were connected

to the other computer. It does not matter whether a computer is controlling or being controlled; the setup and startup procedures are identical.

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- With Print Redirection, you can work on a document at one end of a LapLink connection and print it at the other end. For example, you can use Remote Control to prepare a document on the office computer and print it on your home printer for proofing.

  You can set up Print Redirection any time after setup by starting LapLink and clicking Print Redirection on the Options menu.

- With Text Chat, you "talk" with someone at another computer by exchanging typed messages. When you have only one phone line, you can use your modem to connect to the remote computer for File Transfer or Remote Control, and then use Text Chat to talk to the person at the other end.

What you can do in LapLink Professional

LapLink gives you four services for working with other computers: File Transfer, Remote Control, Print Redirection, and Text Chat. Other features like Xchange Agent and Address Book save time and simplify your work.

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Choosing the right service for the job you need to do is simple when you're using LapLink. You have four services to choose from: File Transfer, Remote Control, Print Redirection, and Text Chat. Being familiar with their distinctions makes choosing the right service easier.

LapLink is versatile, designed specifically so you can use services when you want, as you want. Use one service at a time or all services at once. Use one service when connecting to the first remote computer; use a different service when connecting to another computer.

Work on a remote computer

✔ You can copy information on one computer and paste it on another computer.

Using the Remote Control service, you can operate a remote computer using your computer's keyboard and mouse. You can use the remote computer's programs, files, and network connections.

Since all the work you do is actually performed on the remote computer, Remote Control is especially helpful to laptop owners who can't use their office computer's programs on their laptop. Remote Control is also helpful when you're telecommuting or troubleshooting a remote computer.

Transfer files between computers

✔ To protect the confidentiality of files you send over the Internet, you can have LapLink encrypt them beforehand.

Whether you're hundreds of miles away or in the same room, use the File Transfer service to exchange files between computers.

Use Xchange Agent to automate the process of keeping files on two computers synchronized. You can even set up Xchange Agent to run automatically, when you are away from your computer.

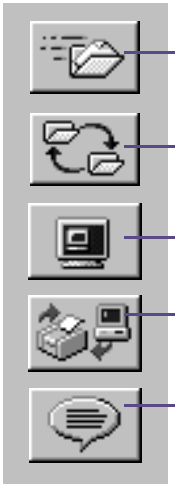
Print over a LapLink connection

Using the Print Redirection service, you can prepare a document at home, make a LapLink connection to your office computer, and then print the document on an office printer. Or you can reverse the process and print an office document at home.

Send and receive messages

Use the Text Chat service to hold a conversation with someone at another computer by exchanging written messages. You can use your modem to connect to the remote computer for File Transfer, for example, and then use Text Chat to coordinate with the person at the other end.

Choose the LapLink services for the needs at hand



Use *File Transfer* for a fast and efficient way of exchanging files.

Use *Xchange Agent* to automate file synchronizations.

Use *Remote Control* to run programs and access files on a remote computer.

Use *Print Redirection* to work on a document at one end of a LapLink connection and print it at the other end.

Use *Text Chat* to communicate with remote users, consult with coworkers, and answer users' questions.

Connect to a network

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Over a modem, you can connect to a network from home or on the road and use the same network resources you enjoy in the office. You can combine this "remote-node" connectivity with LapLink services, such as File Transfer and Remote Control.

As a remote node, for example, you can direct a document you've prepared away from the office to a network printer, read and answer your e-mail, and browse the network. In the same session, you can use LapLink to run a database program on your office computer and work on large, shared files on the network—or connect to another network computer and review a presentation in preparation on that computer.

Connect over the Internet

Connect to another computer over the Internet from anywhere in the world. You can use any LapLink services for the cost of a connection to a local Internet service provider.

✔ Use encryption to protect information you transfer over the Internet.

Save time

Simplify connections by storing telephone numbers, passwords, and other information in Address Book entries. Then select an Address Book entry, and the connection will be opened for you.

Use SpeedSync to save time when you're updating files. Instead of sending entire files, SpeedSync sends only the parts that have changed since the last update. Overall times for transferring files can be cut drastically.

✔ Set up the security system to define who has access to your computer and what services they can use.

Getting help

When you need help getting your work done, use the LapLink online Help system. For instructions on working in a dialog box, simply open the dialog box. A Quick Steps window appears automatically. (To disable Quick Steps, click to release the Quick Steps button on the LinkBar.) For detailed instructions on identifying and solving problems you may encounter, consult a troubleshooter: click Help Topics on the Help menu and open the Troubleshooting book. Through Help, you can also get explanations of items in a dialog box and buttons on a toolbar.

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Refer to Quick Steps for step-by-step instructions

✔ To get Help for a command without opening its dialog box, open the menu, point to the command, and press F1.

When you click a button to make a connection or choose a command from one of the menus, a Help window appears beside the dialog box. Refer to the window for a concise, step-by-step guide though the dialog box.

You can also use Quick Steps to:

- Find related topics, including one with detailed information about all the items in the current dialog box.
- View tips for finishing the task.
- Display the complete list of topics in the LapLink Help system. (Click Help Topics.)

You can prevent Quick Steps windows from appearing by disabling the feature.

✔ Even after disabling Quick Steps, you can get Help for a particular dialog box by clicking the Help button in the dialog box.

To disable Quick Steps:

- On the LinkBar, click to release the Quick Steps button.

To enable Quick Steps again, click to press the Quick Steps button.

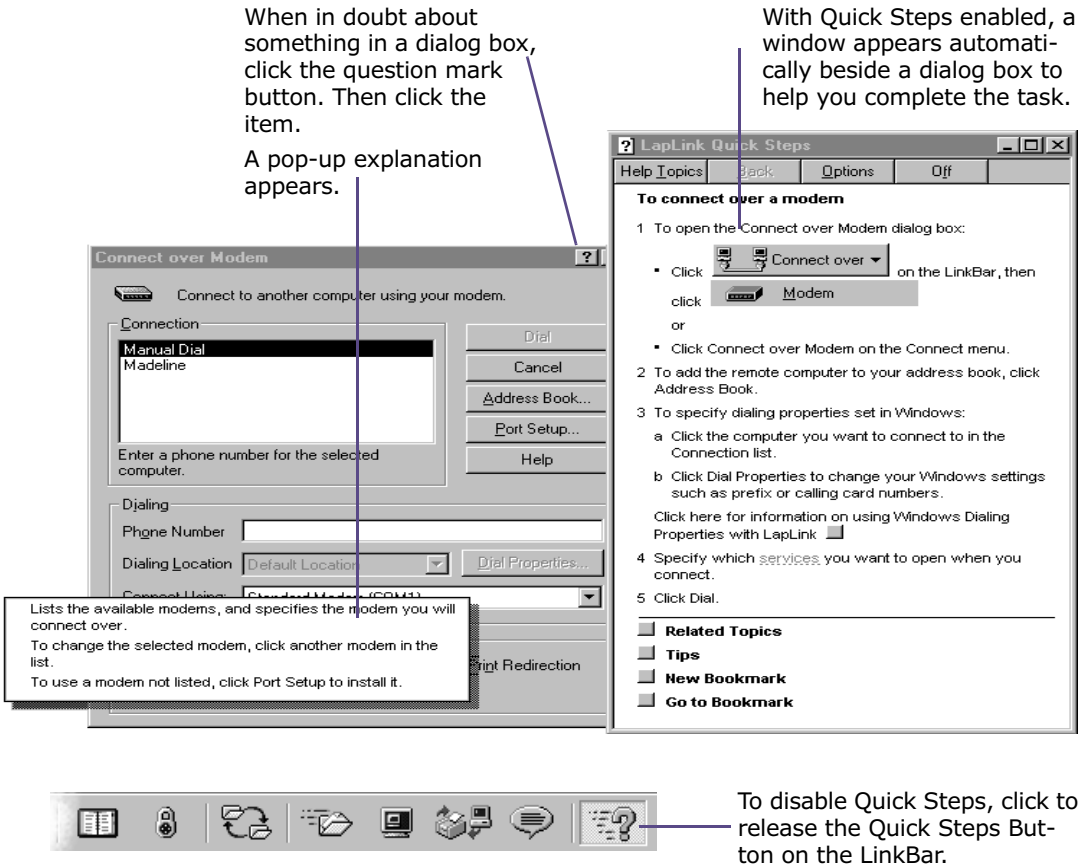
Use Troubleshooting topics when you get stuck

Answers to questions most commonly asked by users appear in the Troubleshooting topics. In many cases, a Troubleshooting topic takes you directly to the dialog box where you can find the solution to your problem.

To use Troubleshooting:

1. On the Help menu, click Help Topics. (If you have a Help window open, click the Help Topics button in the window instead.)
2. Click the Contents tab.
3. Click the Troubleshooting book, and then click Open.
4. Click a topic under Troubleshooting, and then click Display.

Getting help in a dialog box



In the Help Topics window, you can also browse through topics listed alphabetically (click the Index tab) and find topics containing a certain word or phrase (click the Find tab).

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Determine what's what on the screen

When you're not sure about something on the screen, you can display a brief explanation of what it is or does.

To find out about an item on the screen:

- In a dialog box, click the question mark button, and then click the item. Or use the right mouse button to click the item, and then click the What's This? command.
- On a toolbar, place the mouse pointer over a button for a second or two.

✔ Click anywhere to make a pop-up explanation disappear.

2 Connecting to Other Computers

In this chapter

Connecting to other computers—Overview

Using LapLink, you can connect to one or more computers using a variety of connection methods. All computers must be running LapLink before they can connect. After you've connected, you can use any combination of the LapLink services such as File Transfer and Remote Control. You can open services while you connect to another computer or after you've connected.

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When you connect to another computer, you're making an **outgoing connection.** To complete the connection, the other computer accepts your **incoming connection.** The computer you are working at is the **local computer.** The computer accepting your connection is the **remote computer.**

✔ To connect two computers, LapLink must be running on both.

Before you can connect two computers, both must be running LapLink. You can then connect by modem, network, cable, wireless, or CAPI 2.0/ISDN. Which type of connection you choose depends on where the remote computer is.

✔ Connections by wireless and by parallel and USB cable are not available in Windows NT.

If the two computers are close together, you might use cable or wireless. If you're in the same company, you might use a network. If you're in separate locations, not connected by network, modems work best.

Changing security to allow incoming connections

✔ Cable and wireless connections are not protected initially by security; you can secure these in the Security dialog box. See online help for information.

You must change security settings to allow incoming connections by network, modem, or CAPI 2.0/ISDN. Initially, LapLink allows you to make outgoing calls, but nobody can connect to your computer by those methods. Likewise, you can connect only with those remote computers that allow incoming connections.

To set up password-protected access to your computer:

1. Click the Security button on the LinkBar.
2. On the General tab, click Log-in List Only.
3. On the Log-in List tab, add an entry for each user you will allow to access your computer.

✔ If security is not an issue, you can open your computer to *any* LapLink user: click the Security button on the LinkBar and then click Anybody (Public System). *Use this option with caution!*

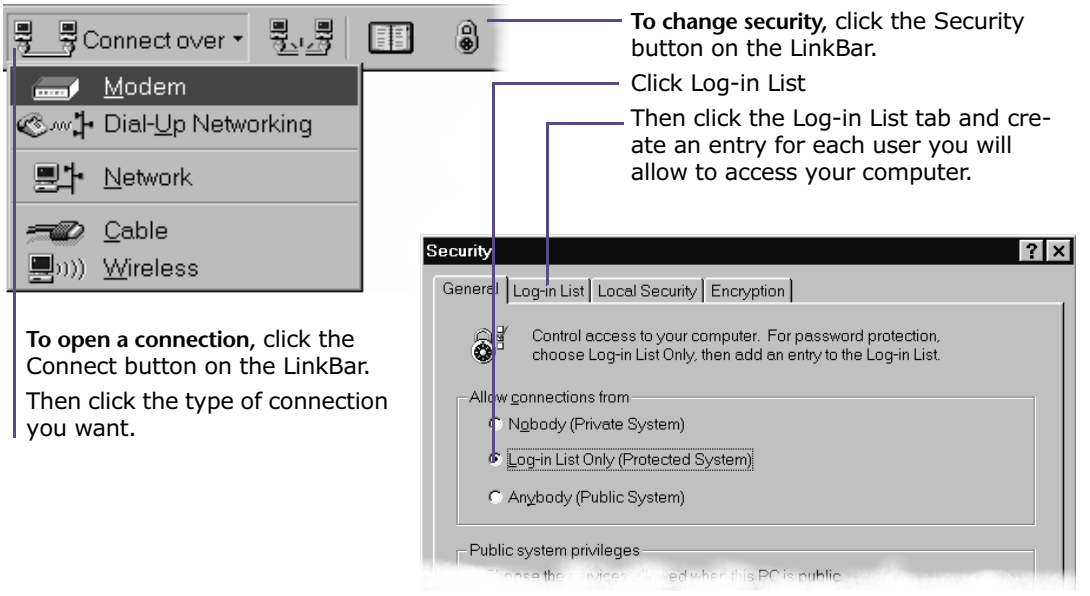
4. In each entry specify the log-in name and the password necessary for access. Also grant the user permission to use some or all of the services as well as the locking and callback features.

   For more information about creating an entry in your Log-in List, see page 48.

Making outgoing connections

When you make an outgoing connection, you follow the same basic steps regardless of how you're connecting or the services you intend to use.

Changing security settings and opening connections



To make an outgoing connection:

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1. Click the Connect button on the LinkBar; then click the type of connection you're using.
2. Click the name of the computer you want to connect to, or type the remote computer's phone number if connecting by modem.
3. Check the service, or combination of services, you want to use.
4. Click OK or Dial.

Disconnecting

When you disconnect, you end communication with the remote computer. You can disconnect your connections individually, or all at the same time.

To disconnect from the remote computer:

1. Click the Disconnect button on the LinkBar.
2. In the Connection list, click the name of the remote computer.
3. Click OK.

Connecting by modem—Overview

With LapLink Professional, you have a choice of connections over a modem: a direct connection between two computers running LapLink or a LapLink connection combined with the Dial-Up Networking feature of Windows.

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Direct LapLink-to-LapLink connections

A LapLink-to-LapLink connection requires only that both computers run LapLink and be connected by modem. When you dial directly in to another LapLink computer, you have access to all the programs and files available to that computer, including any network resources. You can:

- Transfer files between the computers. Using LapLink's compression and patented SpeedSync technology, you can transfer data faster than is possible with Dial-Up Networking.
- Control the remote computer to run its programs and access its files. Through Remote Control, you can efficiently run large programs on the remote computer and access large files (including multiuser files such as order-entry systems or accounting systems).

If the remote computer is attached to a network, you can use its copy of LapLink to exchange files indirectly with other network computers running LapLink.

Using Dial-Up Networking without LapLink

✔ A server can be a specialized server available from many manufacturers. Or it can be your Windows computer running dial-up server software.

When away from the office, you can connect to your office computer and network using a modem to dial in to a remote access server on the network. You can then work as if you were connected directly to the network, though the slow connection speed may limit your activities.

With proper configuration at both ends of the connection, Dial-Up Networking lets you:

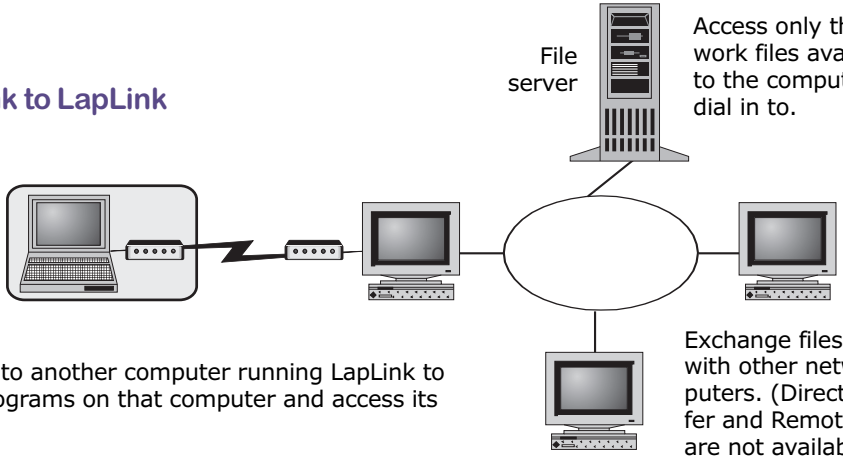
- Make small file transfers using Windows Explorer.
- Run programs on your local computer and edit smaller files on the network.
- Send documents on your local computer to network-based printers.
- Read and send e-mail messages.

Combining LapLink with Dial-Up Networking

Using LapLink *with* Dial-Up Networking, you enjoy all the advantages of both kinds of connections, with these additional benefits:

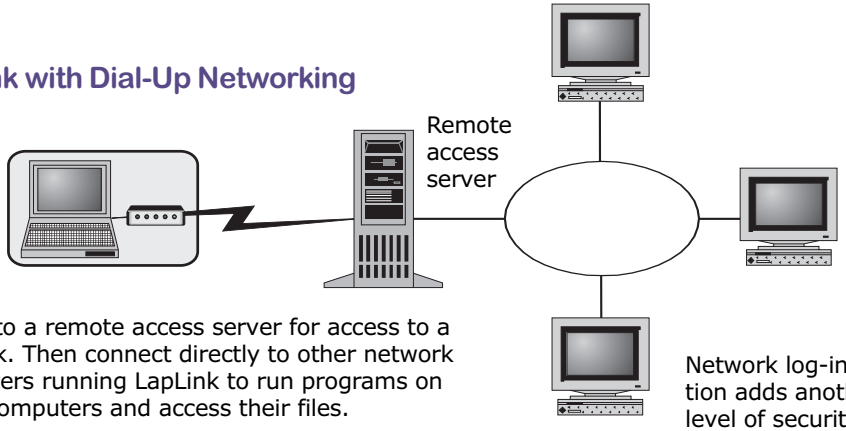
- You can establish a connection to another LapLink computer on the network, and open services such as File Transfer and Remote Control.

LapLink to LapLink



Dial in to another computer running LapLink to run programs on that computer and access its files.

LapLink with Dial-Up Networking



Dial in to a remote access server for access to a network. Then connect directly to other network computers running LapLink to run programs on those computers and access their files.

- Security is enhanced by combining LapLink password protection with network security. When you dial in to a server, you must provide a network log-in name and password. When you connect to another LapLink computer, you must also provide the log-in name and password required by that computer.

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Connecting by modem

Making a LapLink-to-LapLink connection by modem

If you're connecting to another computer using a modem, you must first attach the modem correctly to your computer and phone line. To connect to the other computer, start LapLink, click the Connect button on the LinkBar, and click Modem. Then choose among the modem connections you have entered in Address Book.

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You can make a LapLink-to-LapLink connection to any other computer in the world when both computers have modems and are attached to phone lines. Using the manufacturer's guidelines, connect the modem to a serial (COM) port on your computer and to a phone line.

To connect two computers by modem, both must be running LapLink, and their modem ports must be enabled.

Dialing from an Address Book entry

Before dialing a computer, it's a good idea to create an entry for that connection in Address Book. Address Book entries store phone numbers, requests for services (such as File Transfer and Remote Control), passwords, and other information pertinent to each connection. When you dial a connection, this information is passed on to the remote computer for you.

Though you do not dial from Address Book, you can choose among its entries when you connect to a remote computer. For information about using Address Book for modem connections, see page 24.

✔ Dialing Properties replaces the Suffixes and Prefixes feature of earlier versions of LapLink.

When you dial a connection you have entered in Address Book, you use the Dialing Properties feature of Windows. Through the settings you specify in Dialing Properties, you determine how your calls are dialed in LapLink. Use these settings to charge a call to a calling card, update your location while traveling, reach an outside line, and place long-distance and international calls.

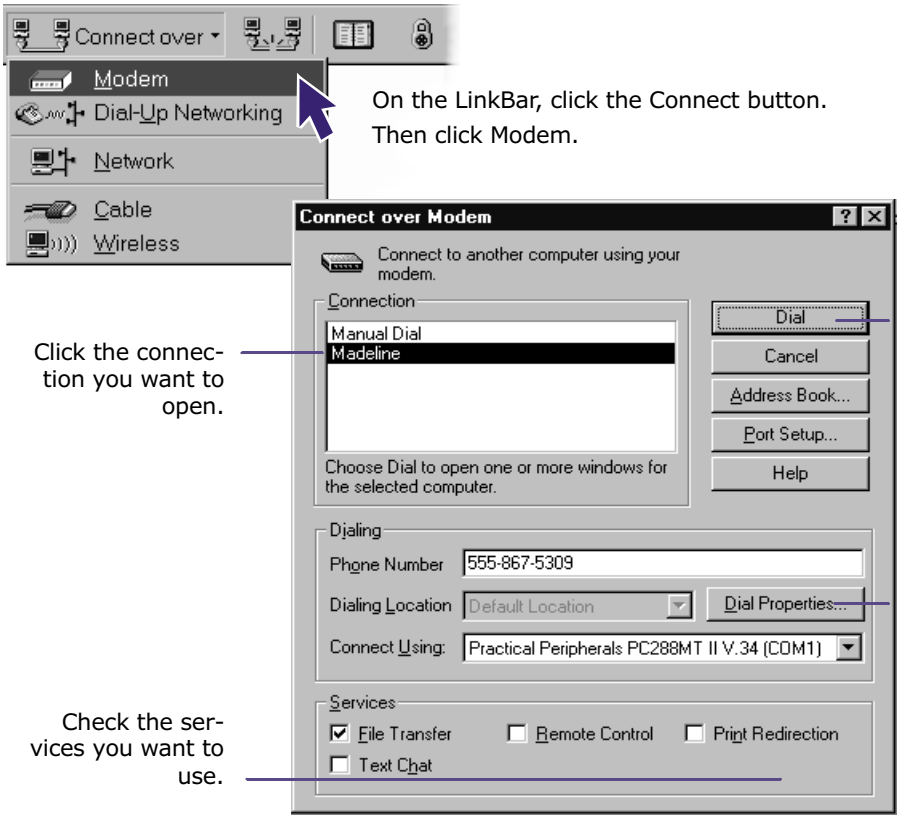
To connect to another computer by modem:

1. Click the Connect button on the LinkBar, and then click Modem.
2. In the Connection list, click the connection you want to open.

   The connections listed under Manual Dial are your Address Book entries for modem connections. To create a new entry, click Address Book.
3. In the Dialing Location list, click the location you're dialing from.
4. Under Services, check the services you want, such as File Transfer and Remote Control.
5. Click Dial.

✔ To review or change any of the settings for your dialing location, click Dial Properties. When you travel, it's important to keep your dialing location up to date.

Connecting by modem to another computer running LapLink



Dialing manually

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To dial a connection that is not complicated by such considerations as calling cards, outside lines, and country codes, you can type the phone number without creating an Address Book entry beforehand. LapLink dials the number exactly as you type it, regardless of how you have set up Dialing Properties.

To dial manually:

1. Click the Connect button on the LinkBar, and then click Modem.
2. Click Manual Dial.
3. In Phone Number, type the number to dial.
4. Click Dial.

✔ To allow incoming modem connections, you must change your computer's security setup. See page 48.

Connecting by modem

Connecting to a network by modem: Dial-Up Networking

Connecting to a network using Dial-Up Networking provides the most versatile kind of modem connection. You can access network resources as a "remote node" and then open LapLink connections with any other network computers running LapLink. The computers at both ends of this connection must be configured for remote access.

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LapLink lets you dial in to a remote access server on your office network. You can then access network resources and open LapLink connections to other computers on the network as you would from your office computer.

To make a LapLink connection to another computer over Dial-Up Networking, both computers must be running LapLink. In addition:

✔ For help in configuring computers for Dial-Up Networking, consult Help in Windows.

- The local computer (the one you dial from) must be configured with the Dial-Up Networking feature of Windows.
- The remote computer (the one you dial in to) may be a dedicated server (such as Novell NetWare Connect, Windows Remote Access Server, or Shiva NetModem) or a computer running dial-up server software.

To connect to a network by modem:

1. Click the Connect button on the LinkBar, and then click Dial-Up Networking.
2. In the Dial-Up Networking Connection list, click the server you want to connect to.
3. In the Dialing From list, click the location you're dialing from.

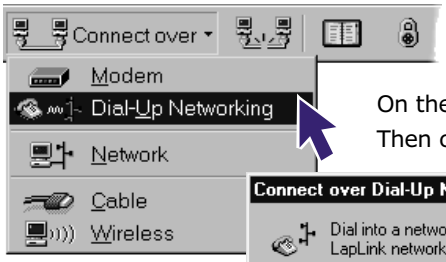
   To review or change any of the settings for your dialing location, click Dial Properties.
4. If you do not want to open a LapLink connection as soon as the Dial-Up Networking connection is established, clear this box: After Connecting to the Network, Choose a LapLink Connection.
5. Click Dial.

✔ You can make a LapLink connection anytime during a Dial-Up Networking session by clicking the Connect button on the LinkBar and then clicking Network.

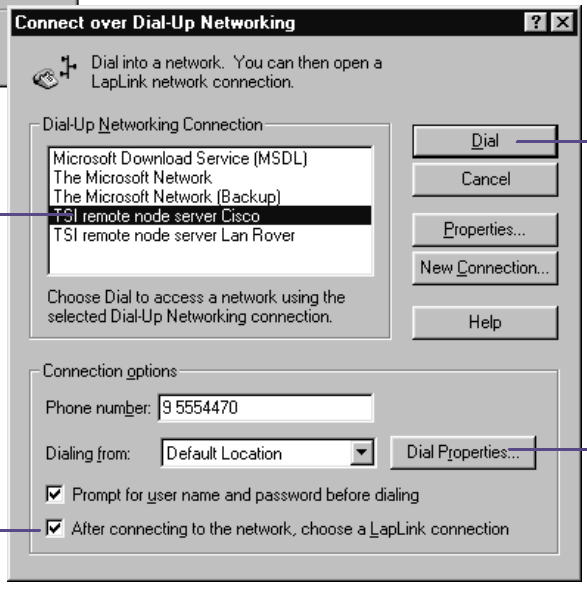
For the list of Dial-Up Networking connections, LapLink shows the dial-up servers set up in Windows on your computer. To learn more about a server or to change the phone number or select a different modem, click Properties. To set up a new connection, click New Connection and follow the instructions on your screen.

When you make a Dial-Up Networking connection in LapLink, you use the Dialing Properties feature of Windows. Through the settings you specify in Dialing Properties, you determine how your calls are dialed.

Connecting over Dial-Up Networking



On the LinkBar, click the Connect button. Then click Dial-Up Networking.



Click one of the available Dial-Up Networking connections.

Clear this box if you do not want to make a LapLink connection as soon as you connect.

Click Dial when you are ready to open the connection.

Click Dial Properties to change Windows settings that determine how the number is dialed.

Use these settings to charge a call to a calling card, update your location while traveling, reach an outside line, and place long-distance and international calls. Dialing Properties replaces the Suffixes and Prefixes feature of earlier LapLink versions.

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Connecting by modem

Using Address Book for modem connections

Making entries in Address Book simplifies the process of making modem connections and opening service windows. Use Address Book entries to store phone numbers, requests for services (such as File Transfer and Remote Control), and passwords. When you dial a connection, this information is passed on to the remote computer for you. In addition, Address Book entries work in combination with Dialing Properties, the Windows feature you can use for dialing outside lines, using calling cards, and placing long-distance and international calls.

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Address Book is a convenient way of storing all the information you need to make a modem connection. Enter the information once, and it will be there whenever you need it again. Your Address Book entries will be available when you connect using Connect over Modem.

✔ The information you store in Address Book will be sent automatically to a remote computer when you dial. You do not open a connection from Address Book itself.

By creating Address Book entries, you can also take advantage of Dialing Properties, the Windows feature that lets you determine how your numbers will be dialed. Set up your Dialing Properties to charge a call to a calling card, update your location while traveling, reach an outside line, and place long-distance and international calls. For more information about Dialing Properties, see the Windows documentation.

To create an entry in Address Book for a modem connection:

1. Click the Address Book button on the LinkBar.

   If you have set up password protection for your security system, you are now asked to type the password.

✔ To change an Address Book entry, click the entry, and then click Edit. To copy an entry for revision as a new entry, click Copy.

2. Click Add.
3. In Description, type a brief description of the remote computer for your own reference.
4. In Computer Name, type the exact name assigned to the remote computer in LapLink.
5. In the Connection Type list, click Modem.
6. Under Phone Number, type the area code and phone number, and identify the location of the remote computer.

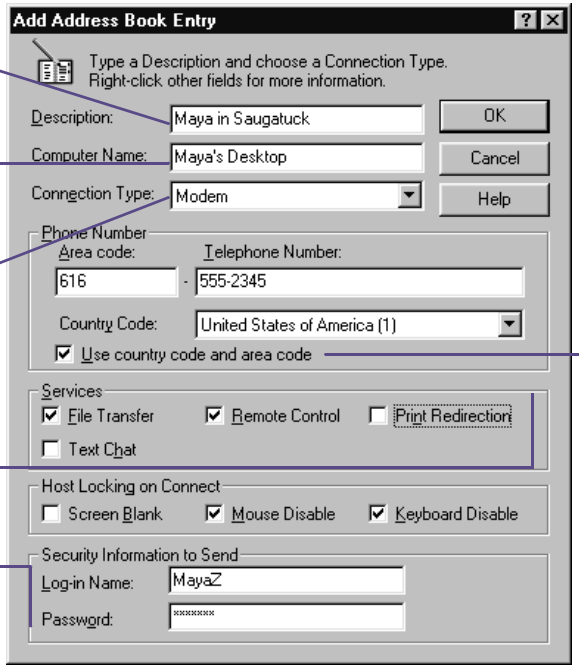
✔ Your requests for services in Address Book will be honored only if the security setup of the remote computer permits.

7. Under Services, check the services you want to use when you connect to the remote computer, such as File Transfer and Remote Control.

   You will be able to change your selections later, as part of the connection process. You will also be able to request new services after you connect.

Creating a modem entry in Address Book

On the LinkBar, click the Address Book button.



Type a description for your own reference.

Type the exact name assigned to the remote computer.

Click Modem as the connection type.

Check the kinds of services you want to use.

Type the log-in name and password required by the remote computer.

Clear this box if you want the number to be dialed exactly as you type it in the Telephone Number box.

8 Under Host Locking on Connect, check the kind of locking, if any, you want to take effect on the remote computer when you connect for Remote Control.

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You can lock a host (blank its screen or disable its mouse or keyboard) only if it has been configured to allow locking.

9 Under Security Information to Send, type the log-in name and the password you must provide in order to gain access to the remote computer. Reenter the password to confirm.

When you have finished the entry, you see Address Book and the description of the new entry. If you want to create another entry, click Add again and complete the entry. Otherwise, click Close.

If you want to have a phone number dialed exactly as you type it in an Address Book entry, clear this box: Use Country Code and Area Code.

✔ Case is irrelevant in LapLink passwords: a capital *D* is treated the same as a lowercase *d,* for example.

Connecting over the Internet

The Internet is a worldwide collection of networks running the TCP/IP protocol. Since LapLink Professional supports TCP/IP networks, you can connect any two computers that have dialed in to the Internet. That means you can use the LapLink services (such as File Transfer and Remote Control) anywhere in the world, all for the cost of a connection to a local Internet service provider (ISP).

Go to illustration

Requirements for using LapLink over the Internet

Before you connect over the Internet, configure both Windows and LapLink:

- In Windows, install the Microsoft TCP/IP protocol stack. *Do not install any other TCP/IP stack.*
- In LapLink, enable the TCP/IP port in Port Setup.

Making a LapLink connection over the Internet

How you make a LapLink connection over the Internet depends on how you access the Internet. There are two common ways of accessing the Internet:

- Over a modem connection to an Internet service provider.
- Over a direct connection from a corporate network.

To open a LapLink connection by modem over the Internet:

1. In LapLink, dial in to your Internet service provider: click the Connect button on the LinkBar, and then click Dial-Up Networking.

   The Connect over Network dialog box appears when you connect.

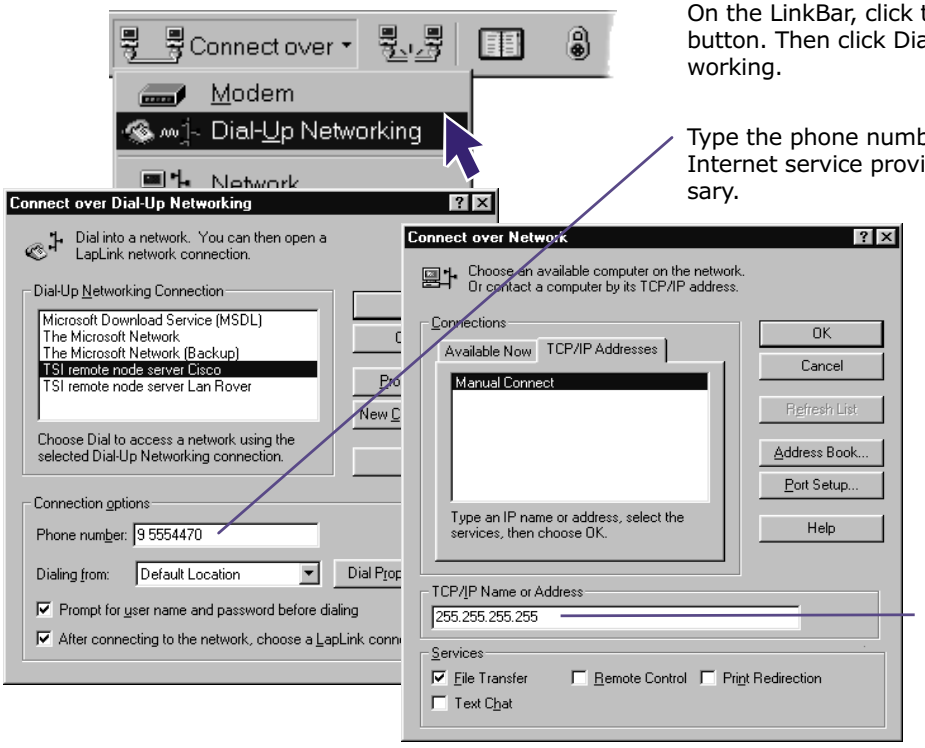
✔ To prepare a computer to receive incoming Internet connections by modem, start LapLink and dial in to your Internet service provider using Dial-Up Networking.

2. On the TCP/IP Addresses tab of the Connect over Network dialog box, type the remote computer's Internet (IP) name or address in the TCP/IP Name or Address box. (For information about Internet names and addresses, see the next section.)
3. Specify the services you want to open at the start of the connection, such as File Transfer and Remote Control.
4. Click OK.

To open a LapLink connection over the Internet from a corporate network:

1. Start LapLink.
2. On the LinkBar, click the Connect button. Then click Network.
3. Click the TCP/IP Addresses tab.

Making a LapLink connection by modem over the Internet



On the LinkBar, click the Connect button. Then click Dial-Up Networking.

Type the phone number of your Internet service provider, if necessary.

When the Connect over Network dialog box appears, type the Internet name or address of the computer to connect to.

4 Type the remote computer's Internet (IP) name or address in the TCP/IP Name or Address box.

For information about Internet names and addresses, see the next section.

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5 Specify the services you want to open at the start of the connection, such as File Transfer and Remote Control.

6 Click OK.

To simplify repeat connections to a computer with a permanent Internet address, create an entry in Address Book. Identify the connection type as TCP/IP.

To use your network for LapLink connections over the Internet, the network must have Internet access, your computer must be configured with Microsoft TCP/IP software, and the network's security system must allow LapLink connections. Consult your system administrator if in doubt.

✔ To prepare a computer to receive incoming Internet connections over a corporate network, enable the TCP/IP port in LapLink Port Setup. Then leave LapLink running.

Connecting over the Internet

Determining an Internet address

To connect to another computer over the Internet, you must know the computer's Internet name or address. Conversely, anyone wanting to connect to your computer, must know its Internet name or address. A computer's address on the Internet can vary from session to session, or it can remain constant, depending on how the Internet is accessed. With access to the proper software, however, names can be used instead of addresses; names do not change from session to session and thus simplify the process of connecting.

Go to illustration ➤

When you connect to another computer on your local area network (LAN), you choose from a list of connections available to you. When you connect over the Internet, however, you must provide the computer's Internet (IP) address or name; there is no list of computers to choose from.

Connecting to a computer with a temporary Internet address

✔ Internet addresses consist of a series of numbers, with periods as separators: for example, 255.255.255.255.

If you connect to an Internet service provider by modem, it's likely that your Internet address is assigned dynamically; that is, the address is different every time you connect. (Consult your Internet service provider if in doubt.)

To open a connection to a computer having a temporary address, you have this choice:

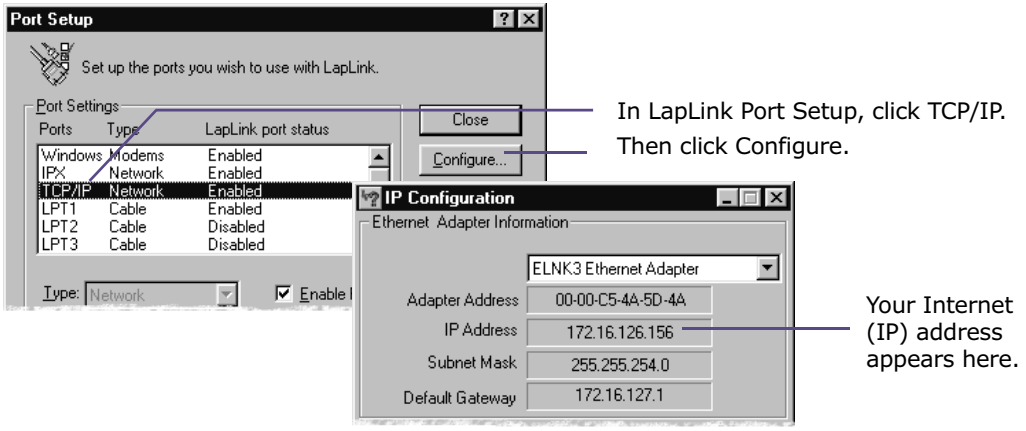
- Use "name-resolution" software to maintain a permanent Internet name even though your address changes every time you connect to the Internet. For information about the free WINS service offered by Traveling Software, see page 30.
- Without name-resolution software, someone must determine the remote computer's temporary address after connecting to the Internet and e-mail you the information. You then type the address in the Connect over Network dialog box. (If someone wants to connect to your computer, you must determine your own address and e-mail the other party.)

Connecting to a computer with a permanent Internet address

If you connect to the Internet directly from your corporate network, your Internet address is probably permanent. Some Internet service providers also offer permanent addresses; even if you dial in to such providers, your address is the same from session to session.

Connecting to a computer with a permanent address simplifies the connection process, since you always know what to type as the address in the Connect over Network dialog box.

Determining your Internet address in Windows 95 or Windows 98



Some networks include a name-resolution service called DNS (Domain Name System), which converts permanent addresses to names. A DNS name looks like an e-mail address (for example, janed.acme.com), but never includes @. If your network uses DNS, other users can connect to your computer using the DNS name.

Go to topic summary

Determining an Internet address

To determine your Internet address in Windows 95 or Windows 98:

1. Do either of these:
   - If you access the Internet by modem through an Internet service provider, start LapLink and connect using Dial-Up Networking. (See the previous section for details.)
   - If you access the Internet directly from your corporate network, start LapLink.
2. Click Port Setup on the Options menu.
3. Click TCP/IP Network in the Ports list, and then click Configure.
4. Your Internet address appears in the IP Address box.

To determine your Internet address in Windows NT:

1. If you access the Internet by modem through an Internet service provider, start LapLink and connect using Dial-Up Networking. (See the previous section for details.)
2. Click the Windows Start button, point to Programs, and click Command Prompt.
3. Type **IPCONFIG** and press ENTER.

   The TCP/IP address for that computer appears in the IP Address line.

Connecting over the Internet

Using the Traveling Software WINS server for Internet connections

A WINS server allows computers with temporary ("dynamic") Internet addresses to connect using permanent names. Even though your address is different every time you connect to the Internet, other computers will be able to locate your computer by specifying your WINS name. As a free service to its users, Traveling Software, Inc., offers a WINS server to facilitate LapLink connections over the Internet.

Go to illustration

Most users who dial in to an Internet service provider are assigned temporary addresses. With only temporary addresses to go by, LapLink users must rely on e-mail to pass on their current addresses once they have connected to the Internet.

✔ To connect to a computer using its WINS name, type the name in the IP Name or Address box in the Connect over Network dialog box.

Users who want to open LapLink connections over the Internet can overcome the issue of temporary addresses by using a WINS (Windows Internet Naming Service) server. A WINS server matches a Windows computer name to the computer's current Internet address. Once users have configured their computers for the same WINS server, they can locate each other using their WINS names (that is, their Windows computer names).

Traveling Software offers a WINS server as a free service to LapLink users.

If you are already using a WINS server, you do not have to switch to the one offered by Traveling Software. If you do switch, however, be sure to record the address of the original server; other programs may rely on that server.

To configure your computer for the Traveling Software WINS server:

1. In Windows, click the Start button and then point to Settings.
2. Click Control Panel and then double-click Network.

✔ To connect over the Internet using WINS names, two computers must be configured for the same WINS server and the same scope ID.

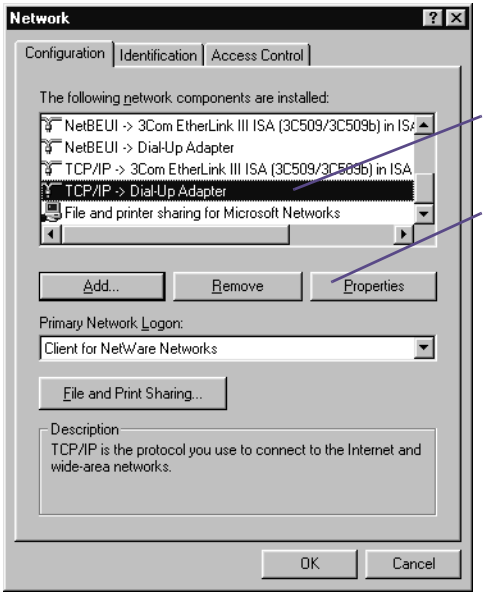
3. On the Identification tab, make note of your computer name. This is your WINS name (other users will use this to connect to your computer).

   If necessary, edit the name to avoid duplicating the name of any computer you plan to connect to.

4. In Windows 95 or Windows 98, click the Configuration tab, click TCP/IP –> Dial-Up Adapter, and then click Properties. Then, click the WINS Configuration tab. On that tab, click Enable WINS Resolution.

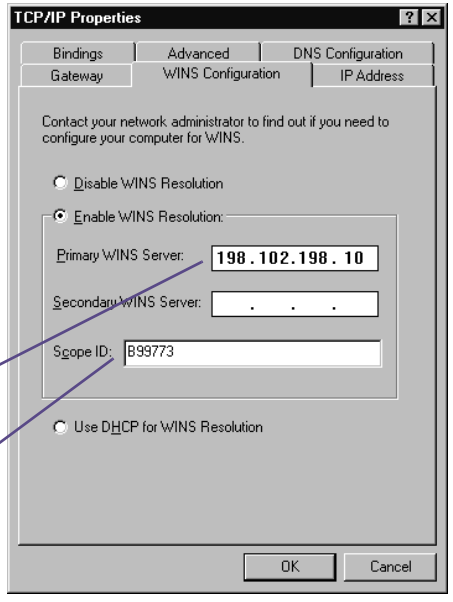
   In Windows NT, click the Protocols tab, click TCP/IP Protocol, and then click Properties. Click the WINS Address tab.

Setting up the Traveling Software WINS server in Windows 95 or 98



After opening the Network option in the Windows 95 or Windows 98 Control Panel, click the TCP/IP -> Dial-Up Adapter line.

Then click Properties.



On the WINS Configuration tab, type the address of the Traveling Software WINS server.

Type a Scope ID. Share this Scope ID with the other LapLink users you want to connect to using the Traveling Software WINS server.

Go to topic summary

5 In the Primary WINS Server box, type this address: **198.102.198.10**

6 In the Scope ID box, type an identifier to be used by you and the other LapLink users you want to connect to.

Begin a scope ID with a letter and follow it with any combination of letters and numbers (avoiding signs and symbols). Uppercase and lowercase letters are treated the same way.

7 Click OK and restart Windows.

8 Ask other LapLink users to configure their computers for the Traveling Software WINS server. Inform them of your WINS name (step 3) and your scope ID (step 6).

By using a scope ID, you speed up service and minimize the possibility of duplicating the name of another computer (duplicate names are allowed in different scope IDs but not in the same one). You also restrict your access to other computers configured with the same scope ID. (If you omit a scope ID, the other users should do the same.)

Connecting over the Internet

Internet security and firewalls

LapLink connections over the Internet may require special configuration if either of the computers has a direct connection to the Internet over a corporate network. Before connecting over the Internet, LapLink users should ensure that their data is being encrypted before being transferred.

Firewalls and LapLink

To protect their data from unauthorized access, corporations commonly insulate their corporate networks from the Internet with firewalls, which selectively allow data to pass between the two.

Without the proper configuration, LapLink connections over the Internet will probably be prevented if either of the computers is on a private or corporate TCP/IP network.

LapLink requires the use of two TCP/IP ports: one for the host (the computer receiving the incoming connection) and another for the guest (the computer opening the connection).

To facilitate LapLink connections over the Internet, Traveling Software, Inc., has registered port 1547 with the Internet Assigned Numbers Authority. This port is used by the host computer.

To allow LapLink connections through a firewall, a network administrator should open port 1547.

✔ If you have any questions about your corporate network, consult the network administrator.

With most networks, this is the only configuration required. With other networks, however, it may be necessary to specify a port for use by the guest computer.

In many cases, the TCP/IP stack assigns guest computers the next available TCP port number above port 1024, and the firewall automatically allows the connection.

If the firewall does not allow automatic port assignment, however, LapLink must be configured on the guest computer to request a specific port. *Consult your network administrator before making this change.*

To request a specific port on a guest computer, add the following section to the computer's LLW.INI file (the file is located in the \TSI32\LLW folder within the Windows folder):

```
[TCPIP]
ClientPort=xxxxx
```

For **xxxxx** type any number between 1025 and 65535, except 1547. Using a large number—for example, one above 30000—reduces the chance of conflicts with another TCP/IP application.

Securing your data on the Internet

The Internet is a large, unregulated network. When transferring data, keep in mind that the data can be intercepted. To keep any intercepted data from being interpreted, set LapLink to encrypt the data beforehand.

To encrypt all data exchanged in a LapLink connection:

1. On the Options menu, click Security. Or click the Security button on the LinkBar.
2. On the Encryption tab, check this box: Encrypt All Information Exchanged with a Remote Computer.
3. Click OK.

! Be sure to enable encryption *before* you open a connection to another computer. Changing the setting during a connection won't have any effect until you connect again.

Connecting by network

If you're connecting to another computer over an IPX (Novell) or a TCP/IP network, make sure that the other computer's security settings have been changed to allow you to connect. To connect to another computer, click the Connect button on the LinkBar; then click Network.

Go to illustration ➤

Networks offer users (and the companies that maintain them) features for sharing files, exchanging files, sharing peripherals, and exchanging electronic mail between computers. A network can link two computers across a room or thousands of computers and a wide variety of peripherals in several buildings.

✔ To connect two computers over a network, both must be running LapLink, and their network ports must be enabled.

If you're using a network, you can use LapLink to connect to other computers on your network. In the same LapLink session, you can also connect to other computers using a cable or modems.

Connecting to another computer by network

Before you can connect to another computer on the network, security settings on that computer must be changed. If you are going to accept incoming LapLink connections, your computer's security settings must be changed. For more information, see page 48.

To connect to another computer by network:

✔ If your network port is not yet enabled, the Port Setup dialog box appears when you connect.

1. Click the Connect button on the LinkBar, and then click Network.
2. In the Available Now list, click the name of the computer you want to connect to.

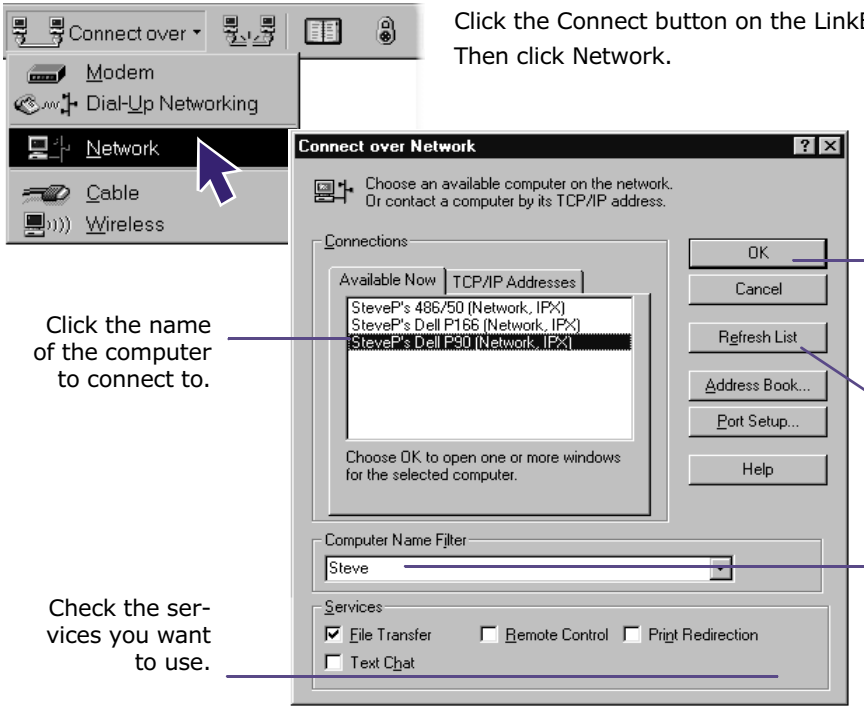
   If the computer is not listed and you are attempting to connect over a TCP/IP network, you can access it though its IP name or address. See the next section for more information.
3. Under Services, check the services you want to use, such as File Transfer and Remote Control.
4. Click OK.

Filtering the list of available network computers

You can display the name of a particular computer in the Connect over Network dialog box by typing all or part of the name in the Computer Name Filter box; then click Refresh List.

Specifying the name of a particular computer can speed up the process of opening a LapLink connection when you are connecting to a network by modem, using Dial-Up Networking.

Connecting by network



Click the Connect button on the LinkBar. Then click Network.

Click the name of the computer to connect to.

Click OK when you are ready to open the connection.

Click Refresh List to update the list of connections.

To locate a particular computer, type its name—or part of its name. Then click Refresh List.

Check the services you want to use.

Go to topic summary

To display the names of all available computers again, click the arrow next to the Computer Name Filter box, click All Computers, and then click Refresh List.

- After connecting to a network using Dial-Up Networking, use the Connect over Network command to connect to other network computers.
- The LapLink name assigned to each computer on a network should be unique. To avoid conflicts, you may use your network log-in name.
- Use Address Book in LapLink to make connecting easier. If you regularly connect to the same computers, add those computer names to Address Book. For more information, see page 38.

Connecting by network

Connecting to computers outside of your TCP/IP subnetwork

Only computers on your local TCP/IP subnetwork appear as available connections when you attempt to connect by network. To connect to a computer beyond your subnetwork, click the TCP/IP Addresses tab in the Connect over Network dialog box and type the computer's IP name or address.

Go to illustration

TCP/IP is the protocol used to connect over many corporate networks as well as the Internet. Each computer on a TCP/IP network has a unique address. You don't need to know this address to connect to other computers on your subnetwork; the names of these computers appear in the list of available connections when you connect.

✔ For information on making a LapLink connection over the Internet, see page 26.

You can connect to a computer outside of your subnetwork by specifying its IP address or name. An IP address consists of numbers (such as 255.255.255.255). A name consists of a string of characters (such as janedoe.acme.com). It is often similar to an e-mail address but never includes the @ symbol.

To connect to a computer outside of your TCP/IP subnetwork:

1. Click the Connect button on the LinkBar, and then click Network.
2. Click the TCP/IP Addresses tab.
3. Under TCP/IP Name or Address, type the name or address.
4. Under Services, check the services you want, such as File Transfer and Remote Control.
5. Click OK.

✔ You can use an IP name only if there is a server available to resolve (translate) the name into its real IP address.

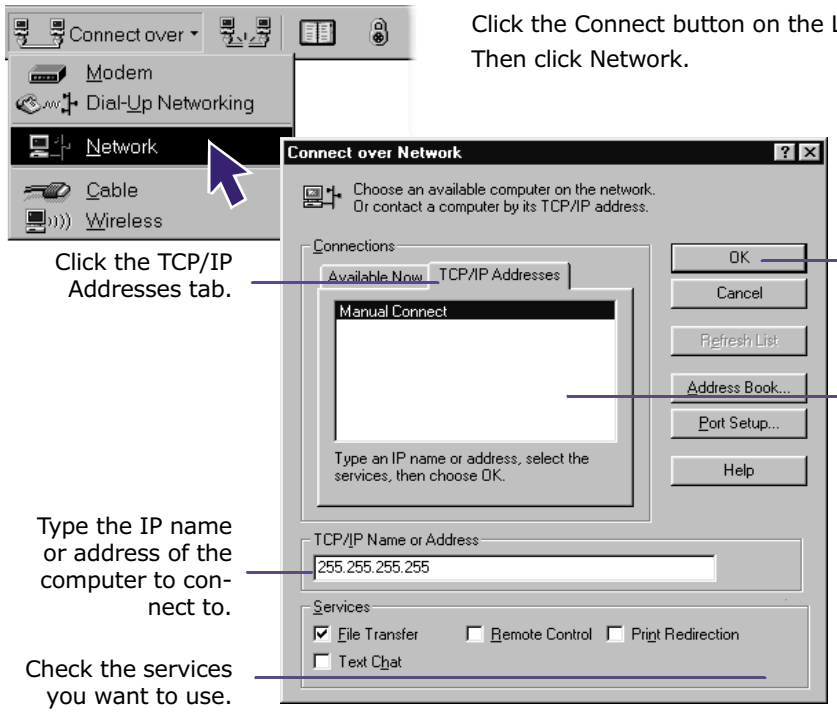
Use Address Book to make connecting easier. If you regularly connect to the same computers over TCP/IP, add their IP names or addresses to Address Book; you can then click a connection instead of typing its name or address. For more information, see the next section.

Finding a TCP/IP address

To find out your TCP/IP address in Windows 95 or Windows 98:

1. Click Port Setup on the Options menu.
2. Click TCP/IP Network in the Ports list, and then click Configure.
3. Your Internet address appears in the IP Address box.

Connecting to a computer by specifying its IP address



Click the Connect button on the LinkBar. Then click Network.

Click the TCP/IP Addresses tab.

Click OK when you are ready to connect.

TCP/IP connections appear here once you add them to Address Book.

Type the IP name or address of the computer to connect to.

Check the services you want to use.

To find out your Internet address in Windows NT:

Go to topic summary

1. Click the Windows Start button, point to Programs, and click Command Prompt.
2. Type **IPCONFIG** and press ENTER.

The TCP/IP address for that computer appears in the IP Address line.

Connecting by network

Using Address Book for network connections

Simplify the process of opening connections and services by making Address Book entries for network computers you frequently connect to. For each Address Book entry, you specify the type of network (Novell IPX or TCP/IP), the kinds of services (such as File Transfer and Remote Control) to be opened automatically, and any security information required by the remote computer. For TCP/IP connections, you can also store the IP address. The information you save in Address Book is used when you open a connection using the Connect over Network command.

Go to illustration

Address Book stores information and requests that will be sent automatically to a remote computer when you open a connection over a network. You do not open a connection from Address Book itself.

✔ You can use Address Book for modem, cable, and other kinds of connections in addition to network connections.

To create an entry in Address Book for a network connection:

1. Click the Address Book button on the LinkBar.

   If you have set up password protection for your security system, type the password.

2. Click Add.
3. In Description, type a brief description of the remote computer for your own reference.
4. In Computer Name, type the exact name assigned to the remote computer.

   Type the computer name assigned in LapLink, not the IP name.

5. In the Connection Type list, click Network IPX or Network TCP/IP.
6. If you selected Network TCP/IP, type the IP name or address of the remote computer under TCP/IP Address.

✔ Your requests for services in Address Book will be honored only if the security setup of the remote computer permits.

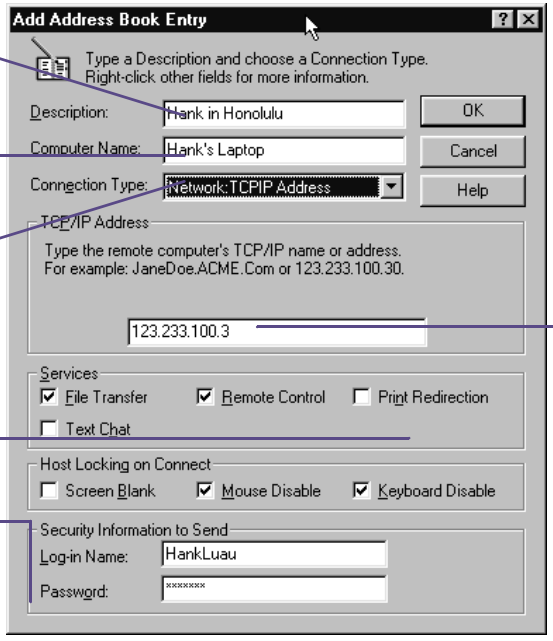
7. Under Services, check the services you want to open when you connect to the remote computer, such as File Transfer and Remote Control.
8. Under Host Locking on Connect, check the kind of locking, if any, you want to take effect on the remote computer when you connect for Remote Control.

   You can lock a host (that is, blank its screen or disable its mouse or keyboard) only if it has been configured to allow locking.

9. Under Security Information to Send, type the log-in name and the password you must provide in order to gain access to the remote computer. Reenter the password to confirm.

Creating a network entry in Address Book

On the LinkBar, click the Address Book button.



Type a description for your own reference.

Type the exact name assigned in LapLink to the remote computer.

Click a type of network connection.

For a TCP/IP connection, type the IP name or address of the remote computer.

Check the services you want to use.

Type the log-in name and password required by the remote computer.

When you have finished the entry, you see Address Book and the description of the new entry. If you want to create another entry, click Add again and complete the entry. Otherwise, click Close.

Go to topic summary

- The log-in name and password you type in Address Book must match a log-in name and password entered in the security system on the remote computer. (Case is irrelevant in LapLink passwords: a capital *D* is treated the same as a lowercase *d,* for example.)
- To edit an entry in Address Book, click the entry, and then click Edit. To copy an entry for revision as a new entry, click Copy. To delete an entry, click Delete.

Connecting by cable

If you're connecting to another computer using a cable, you must first decide which kind of cable you'll use—serial, parallel, or USB—and plug the cable into both computers. Start LapLink on both computers. Autoconnect, the default setting for cable connections, connects the computers automatically when you start LapLink. To manually connect, click the Connect button on the LinkBar, and then click Cable.

Go to illustration

You must choose the type of cable—serial, parallel, or USB (Universal Serial Bus)—you are going to use based on the cables and ports you have available.

✔ Parallel and USB cable connections are not available in Windows NT.

Ports are the connectors to which you attach cables and peripherals like printers and external modems. To find out which types of ports are available, consult the documentation or the Windows Device Manager for your computer.

✔ To connect two computers over a cable, both must be running LapLink, and the appropriate ports must be enabled on both.

Once you decide which kind of cable connection you'll use, plug a LapLink cable into both computers: Attach a LapLink serial cable to a serial port on each computer, a LapLink parallel cable to a parallel port on each computer, or a LapLink USB cable to a USB port or a USB "hub" device on each computer.

Cables you can use for LapLink connections

For a serial, parallel, or USB connection use a LapLink cable.

If there is more than one type of port available to you, remember that parallel cables transfer data faster than serial cables. And USB cables, the fastest of the three, transfer up to seven times faster than serial cables.

In addition, you can attach a USB cable to any USB peripheral that incorporates a "hub" to which other devices can be connected. This feature lets you use more than one USB-compatible device at a time.

Connecting to another computer by cable

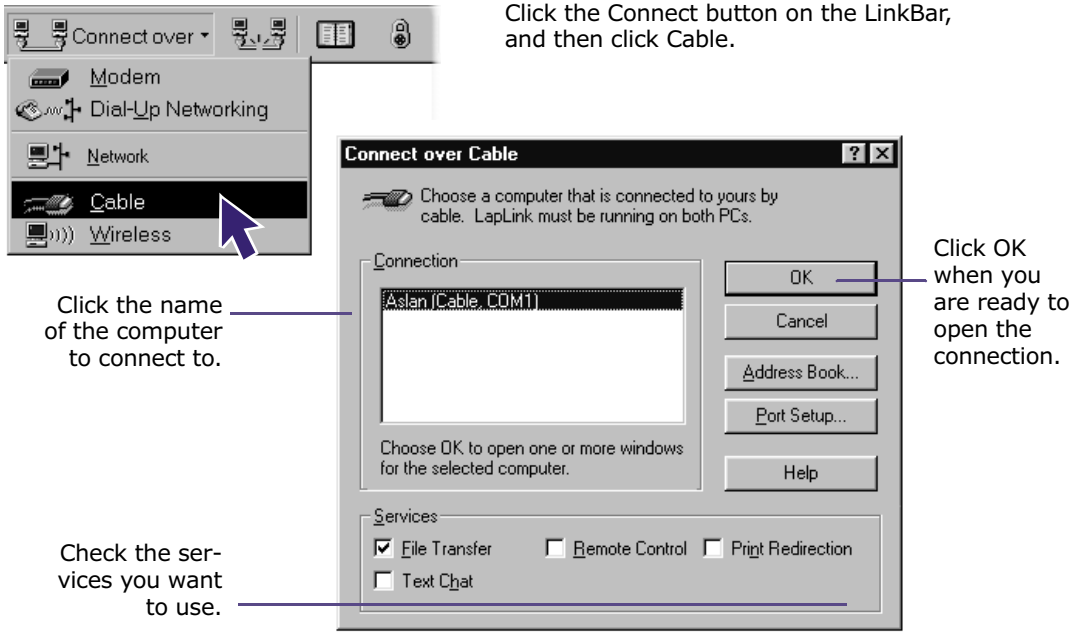
When you start LapLink on two computers connected by cable, they will automatically connect. Autoconnect, the default setting for cable connections, causes the computers to connect automatically. If you change this setting, you can connect to the other computer manually.

If the connection does not open automatically, click Port Setup on the Options menu and verify that the appropriate port (COM, LPT, or USB) is enabled for cable.

To manually connect to another computer by cable:

1 Click the Connect button on the LinkBar, and then click Cable.

Connecting by cable manually



Go to topic summary

2 In the Connection list, click the name of the computer you want to connect to.

3 Under Services, check the services you want to use, such as File Transfer and Remote Control.

4 Click OK.

To turn Autoconnect off, click Connect Options on the Options menu. On the Connect tab, clear the Enable Autoconnect box.

✔ If your cable port is not yet enabled, the Port Setup dialog box appears when you try to connect.

Connecting by wireless

If you're connecting to another computer using wireless, simply start LapLink, and the connection is opened for you. Autoconnect, the default setting for wireless connections, lets computers connect automatically when you run LapLink. To connect manually, click the Connect button on the LinkBar, and then click Wireless.

Go to illustration

Connecting to another computer by wireless

✔ Wireless connections are not available in Windows NT.

When you start LapLink on both computers, they will automatically connect by wireless. Autoconnect, the default setting for wireless connections, forces the computers to connect automatically. If you change this setting, you can connect to the other computer manually.

If the connection does not open automatically, click Port Setup on the Options menu and verify that the appropriate COM port is enabled for wireless.

In LapLink wireless connections are short-range, usually between two infrared devices. If you are using a cellular modem, connect using Connect over Modem. If you are using a wireless LAN adapter, connect using Connect over Network.

✔ To connect two computers by wireless, both must be running LapLink, and the appropriate wireless port must be enabled on both.

To manually connect to another computer by wireless:

1. Click the Connect button on the LinkBar and then click Wireless.

   If your wireless port is not yet enabled, the Port Setup dialog box appears when you click Connect and then Wireless.

2. In the Connection list, click the name of the computer you want to connect to.
3. Under Services, check the services you want to use, such as File Transfer, and Remote Control.
4. Click OK.

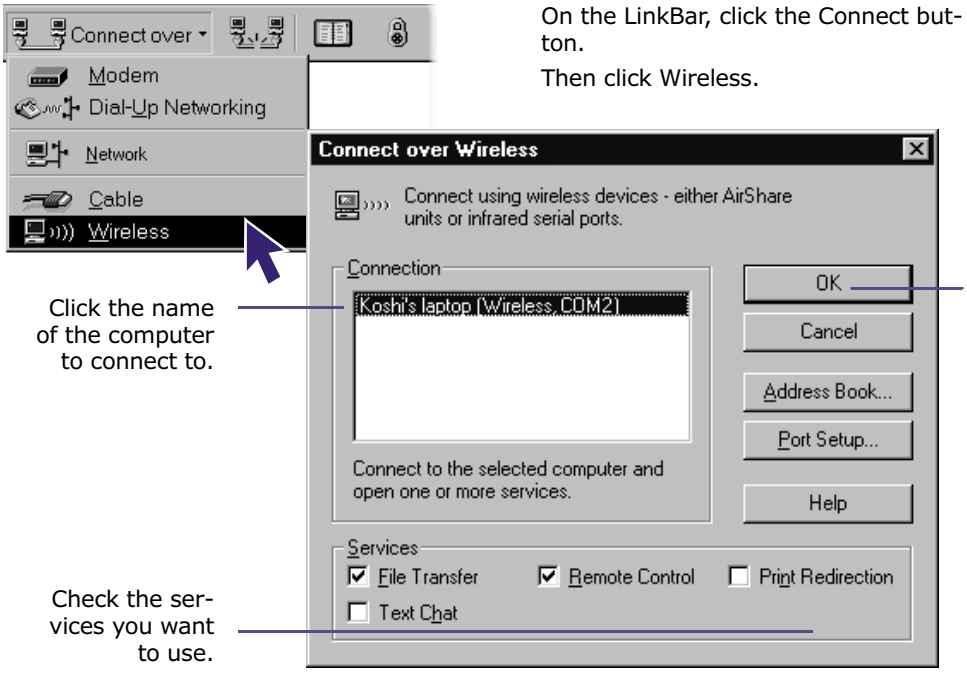
To turn Autoconnect off, click Connect Options on the Options menu. On the Connect tab, clear the Enable Autoconnect box.

Using infrared devices

In LapLink you can connect over infrared devices set up in Windows 95 or Windows 98. The Windows infrared driver supports a variety of built-in ports, including fast infrared devices, as well as adapters connected to serial ports. If the driver is not installed on your computer, you can download it from the Microsoft site on the Internet.

When you install the infrared driver, specify any one of the COM ports from COM1 to COM9 as the redirected port. In LapLink, click Port Setup

Connecting by wireless manually



On the LinkBar, click the Connect button.

Then click Wireless.

Click the name of the computer to connect to.

Click OK when you are ready to open the connection.

Check the services you want to use.

(Options menu) and enable the same redirected port for wireless communications.

Go to topic summary

Using AirShare Radio Modules

You can connect over AirShare Radio Modules by editing the LapLink initialization file, LLW.INI. (The file is located in the \TSI32\LLW folder within your Windows folder.)

Open LLW.INI in Notepad and locate the section corresponding to your wireless port: [COM1], [COM2], and so on. Edit the section so that it includes this line: **UseIRDADriver=No**. Restart LapLink; in Port Setup (Options menu), ensure that the port is enabled for wireless communications.

Connecting over CAPI 2.0/ISDN

When connecting to another computer over CAPI 2.0/ISDN, ensure that the other computer is also equipped with CAPI 2.0/ISDN and its security settings have been changed to allow let you connect. To connect, click the Connect button on the LinkBar; then click CAPI 2.0/ISDN.

Go to illustration

CAPI 2.0/ISDN is an implementation of ISDN that provides two channels for the transfer of voice and data. In LapLink these channels can be used separately, for two concurrent connections, or combined for a single, high-speed connection.

✔ CAPI 2.0/ISDN is not available in LapLink unless CAPI 2.0/ISDN is installed on your computer.

CAPI 2.0/ISDN is widely used in Europe, particularly in Germany. In North America ISDN seldom is implemented as CAPI 2.0, but you can still use your ISDN device for high-speed LapLink connections: If you use your ISDN device as a modem, use Connect over Modem in LapLink. If you use it to dial in to, and log on to, a network, use Connect over Network in LapLink.

Requirements for using LapLink over CAPI 2.0/ISDN

- A CAPI 2.0/ISDN adapter and driver must be installed on both computers.
- Both computers must be running a version of LapLink that supports CAPI 2.0/ISDN.

Connecting to another computer over CAPI 2.0/ISDN

✔ Before you can connect to another computer over CAPI 2.0/ISDN, security settings on that computer must be changed. See page 48.

To connect to a computer over CAPI 2.0/ISDN:

1. Click the Connect button on the LinkBar, and then click CAPI 2.0/ISDN.
2. Click the name of the computer you want to connect to in the Connection list or type a phone number under Dialing.

   The connections listed under Manual Dial are your Address Book entries for CAPI connections. To create a new entry, click Address Book.

✔ Be sure to include any required country or area codes. These aren't added automatically to the number.

3. Under Services, check the services you want, such as File Transfer and Remote Control. You can choose any combination of these services.
4. Click Dial.

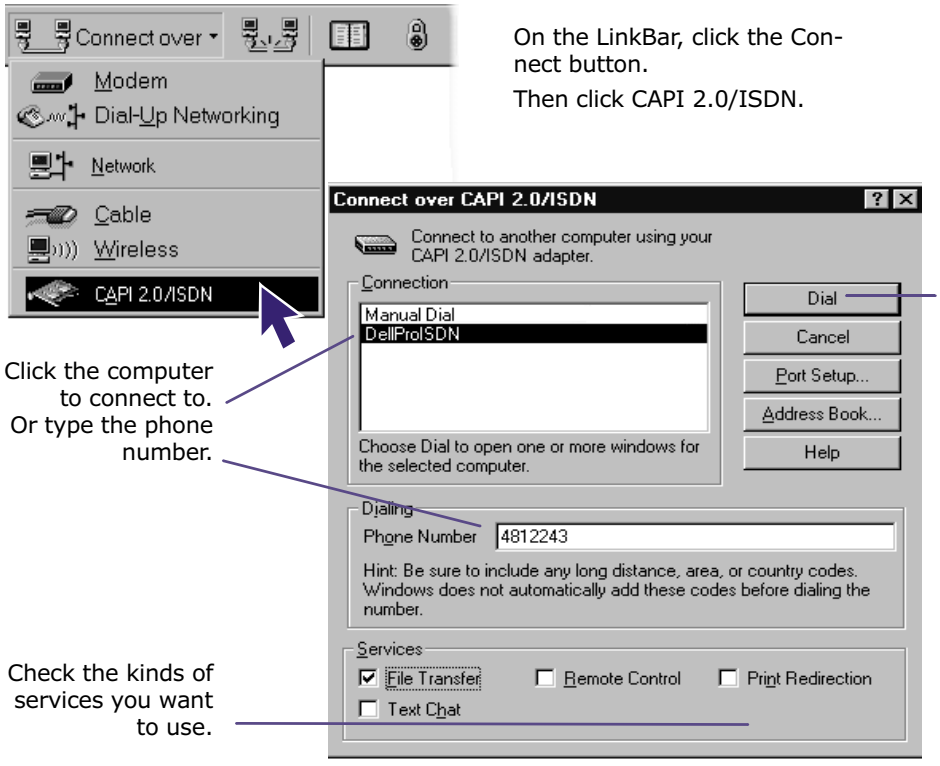
Dialing from an Address Book entry

Before dialing a computer, it's a good idea to create an entry for that connection in Address Book. Though you do not dial directly from Address Book, you can choose among its entries when you connect to a remote computer.

To create an entry in Address Book for a CAPI 2.0/ISDN connection:

1. Click the Address Book button on the LinkBar.
2. Click Add.

Connecting over CAPI 2.0/ISDN



Go to topic summary

3 In Description, type a brief description of the remote computer for your own reference.

4 In Computer Name, type the exact name assigned to the remote computer in LapLink.

5 In the Connection Type list, click CAPI 2.0/ISDN.

6 Under Phone Number, type the phone number.

7 Under Services, check the services you want to use when you connect to the remote computer (such as File Transfer and Remote Control).

8 Under Security Information to Send, type the log-in name and the password you must provide in order to gain access to the remote computer. Reenter the password to confirm.

✔ Requests for services in Address Book will be honored only if the security setup permits.

✔ LapLink passwords are not case sensitive.

Connecting over CAPI 2.0/ISDN

Changing CAPI performance in LapLink Professional

Before using CAPI in LapLink, you may want to customize the way that LapLink responds to CAPI calls and uses the two channels available for LapLink communications. For example, you can specify that LapLink not respond to any incoming calls to a particular channel, or you can double the rate at which data is transmitted over your CAPI connections.

Go to illustration

To change CAPI performance in LapLink:

1. Click Port Setup on the Options menu.
2. Under Port Settings, click CAPI.
3. Click the Configure button.
4. If you do not want LapLink to answer any incoming CAPI calls, clear the Enable box under Auto Answer.

   To answer calls to only one number, type the number in this box: Accept Calls Only on the Following Numbers.
5. If you want to combine the two CAPI channels for faster connections, check the Enable box under Channel Bonding.

   Be sure that channel bonding is also enabled on the computer you will connect to.
6. Customize the Timeout options as necessary.

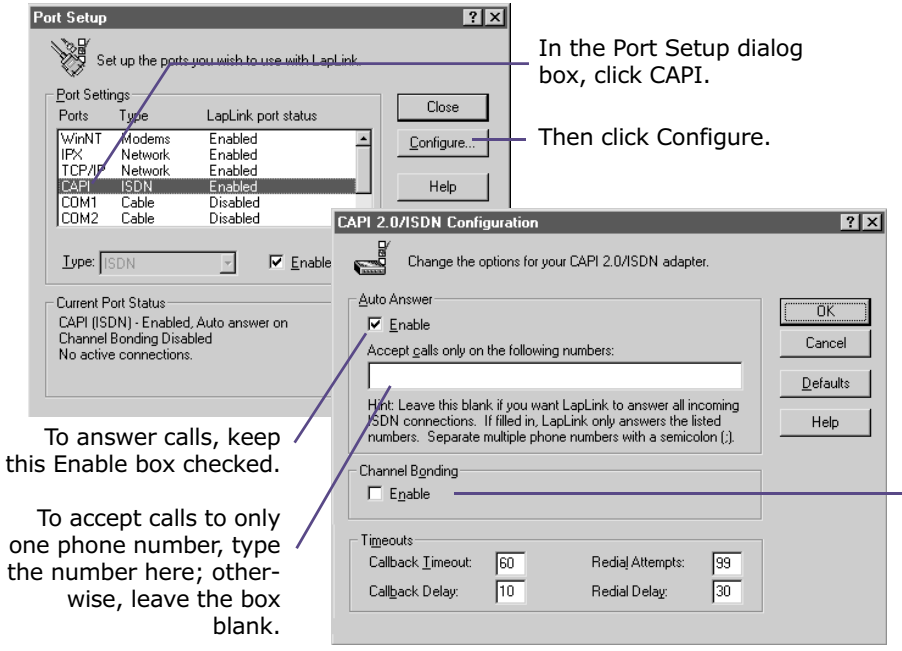
   The Callback Timeout, Callback Delay, and Redial Delay settings are in seconds.
7. Click OK.

Answering calls

At the outset, LapLink is set up to answer all incoming CAPI calls on both channels. You can modify this so that it does not answer any of these calls or it answers calls to just one of the channels.

- If you don't want LapLink to answer any incoming calls, clear the Enable box under Auto Answer; then make sure that the Accept Calls Only on the Following Numbers box is blank.
- When typing the number to accept calls to, use only numerals; avoid characters like dashes, parentheses, slants, and periods. When typing more than one number, use a semicolon to separate them.

Changing CAPI 2.0/ISDN performance



In the Port Setup dialog box, click CAPI.

Then click Configure.

To answer calls, keep this Enable box checked.

To accept calls to only one phone number, type the number here; otherwise, leave the box blank.

For faster connections, check the Enable box under Channel Bonding.

Channel bonding

Go to topic summary

CAPI provides two channels that can be used for LapLink communications. Each channel has a transmission speed of 64 Kbps. By combining ("bonding") these channels, the transmission rate can double, to 128 Kbps.

At the outset, LapLink does not use channel bonding, even when both channels are available. This setting keeps transmission costs to a minimum for users who pay additional fees for each channel connection.

For faster transmissions, enable channel bonding. When both channels are available, LapLink can then transmit at speeds of up to 128 Kbps.

- Be sure to enable channel bonding on both computers. LapLink may not be able to make a connection between them otherwise.
- When one channel is already in use, LapLink uses the available channel to transmit at 64 Kbps, even when channel bonding is enabled.

Changing the security setup

After you install LapLink, you can make outgoing connections to other computers, but other computers cannot open incoming connections to yours except by cable or wireless. To allow incoming connections, change the security setup and create one or more entries in the Log-in List. In each entry, specify the password and the log-in name the user must provide to gain access to your computer. Then grant privileges to use services and other features. Any LapLink user who can provide the password and log-in name can connect to your computer and operate within the restrictions you impose.

Go to illustration ➤

The safest way to allow incoming connections is to set up password-protected access through the Log-in List. The number of entries you make in your Log-in List will be determined by the number of special cases you have in mind. If you want to allow one user to use only File Transfer, for example, and another to use only Remote Control, create two entries, with different log-in names and passwords.

✔ If security is not an issue, you can open your computer to *any* LapLink user: click the Security button on the LinkBar and then click Anybody (Public System). *Use this option with caution!*

On the other hand, a single entry would be enough if you will be the only one to connect to the computer. A single entry will also suffice if you want to grant several users the same privileges.

To set up password-protected access to your computer:

1. Click the Security button on the LinkBar.
2. On the General tab, click Log-in List Only (Protected System).
3. Click the Log-in List tab, and then click Add.
4. Under Guest Information, type the log-in name and the password the user must provide in order to make a connection to your computer.

   Reenter the password and click OK to confirm.

✔ Log-in names and passwords can contain 1–20 characters, including letters, numbers, and spaces. Passwords are not case-sensitive: capitals and lowercase letters are treated the same way.

5. Under Services, check the services you want to make available to the user, such as File Transfer and Remote Control.
6. Under Locking Permissions, click options to determine whether the user can blank the screen of your computer and disable its mouse and keyboard. You can grant locking permissions only if you select Remote Control as one of the available services.
7. Under Modem Callback, click an option to determine whether, or how, a user connecting by modem will be called back when opening a connection. If you click an option requiring a callback to a certain number, type the number in Phone Number. For details see the next page.
8. Click OK.

Setting callback options for incoming modem connections

None Prevents callbacks.

Creating an entry in the Log-in List

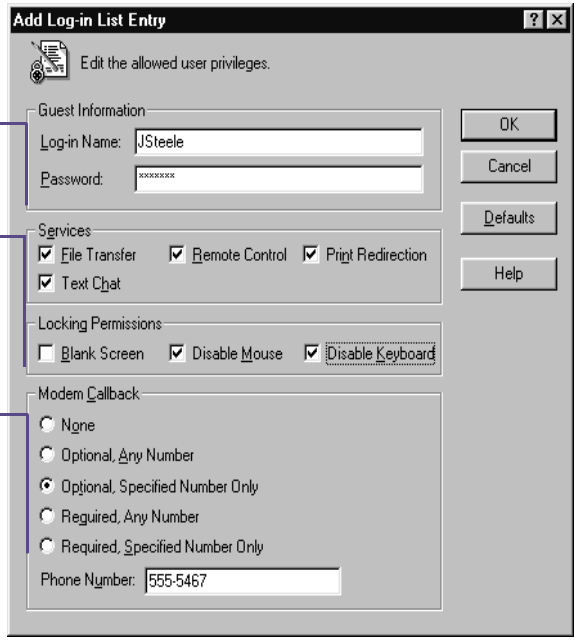
Change the security setup by clicking the Security button on the LinkBar.

To create a Log-in List entry:

Type the log-in name and password the remote user must provide.

Check these boxes according to the services and locking permissions you want to grant the remote user.

Click the appropriate callback option.



Optional, Any Number Lets the remote user decide whether to be called back; users who choose to be called back can specify the number to dial. This is the most flexible of all the options.

Go to topic summary

Optional, Specified Number Only Lets the remote user decide whether to be called back to the number you specify or to open the connection without any callback. Only the number you specify in Phone Number can be dialed for the callback.

Required, Any Number Requires remote users to be called back but allows them to specify the number to be dialed. The number can vary from session to session.

Required, Specified Number Only Requires the remote user to be called back to the number you specify in Phone Number. Click this option if you always want the remote user to be called back to the same number.

✔ You can use callbacks to save money, as when you call from a hotel room. Requiring a callback to a particular number adds an additional level of security.

Changing the security setup

Securing your computer and encrypting the data you transfer

Protecting your computer with a Local Security password prevents unauthorized users from compromising your security system; it also keeps them from viewing your Address Book entries and using them to open connections. Protecting your security system is a particularly good idea if you allow others to control your computer remotely. Another security measure, data encryption, is recommended if you connect to other computers over the Internet or WANs (wide-area networks).

Go to illustration

Securing your computer

✔ Setting up password protection for your security system is important if your computer serves as a host to other users in Remote Control sessions. Without password protection, a remote user could read your security information.

Setting a Local Security password ensures that the protections you set up for your computer cannot be compromised—either by someone using your computer in your absence or by remote users.

Without knowledge of your password, users cannot view or change any of this information:

- Log-in names, passwords, and other Security settings
- Telephone numbers, passwords, and other information stored in your Address Book entries
- Privileges you have granted to guest computers and other settings in Remote Control Options

In addition, the same password is required for access to Connect over Modem and certain Logging features.

To set a Local Security password:

1. Click the Security button on the LinkBar.
2. On the Local Security tab, check this box: Protect Local Security with a Password.

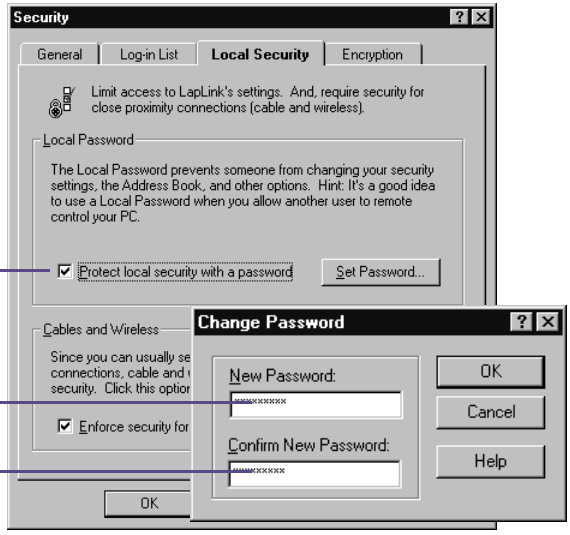
✔ In LapLink, passwords are not case-sensitive: capitals and lowercase letters are treated the same way.

3. In the Change Password dialog box, type the password in the New Password box. In the Confirm New Password box, type it again.
4. Click OK.

- To remove password protection, clear this box: Protect Local Security with a Password. To change the password currently in effect, click the Set Password button.
- By default, security is not imposed on incoming connections by cable and wireless. If you set up password protection for modem and network connections, however, you can extend that protection to cable and wire-

Setting a password for your security system

On the LinkBar, click Security.



On the Local Security tab, check the Protect Local Security with a Password box.

Type the password.

Retype it for confirmation.

less connections as well. On the Local Security tab, check this box: Enforce Security for Connections.

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Encrypting information

LapLink always encrypts (encodes) log-in names and passwords. Unless you specify otherwise, nothing else is encrypted. Encryption is usually not necessary over LAN connections or other secure connections.

On the Internet or a WAN, however, security is an issue; the information you exchange with another computer can be intercepted. Before connecting over the Internet or a WAN, enable the encryption feature in LapLink.

To encrypt all information exchanged during a LapLink connection:

1. Click the Security button on the LinkBar.
2. On the Encryption tab, check this box: Encrypt All Information Exchanged with a Remote Computer.
3. Click OK.

! Be sure to enable encryption *before* you open a connection to another computer. Changing the setting during a connection won't have any effect until you connect again.

✔ Encryption is determined entirely by the setting on the guest computer (the one opening the connection); the setting on the host computer has no effect.

Connecting automatically

Once you have established a connection, you can save it for easy restoration later. You can restore a saved connection by double-clicking a shortcut icon, setting LapLink to restore the connection automatically at startup, or restoring the connection while running LapLink. When LapLink restores a connection, it connects to the same computer or computers and opens the same services.

Go to illustration

Instead of spending time connecting to the same computer and opening the same service windows time after time, you can save the connection and use the saved connection as a convenient way to reconnect later.

✔ To connect automatically to several computers at once, open connections to those computers before saving connections. All connections that are open when you save will be restored automatically.

When you save a connection, you record such details as the number and types of connections (modem, network, Internet, cable), the names of computers, and the kinds of services in use. Each connection is saved as a file. Opening the file reopens the connections and services and arranges windows to appear much as they did before.

Saving a connection

To save a connection:

1. Open one or more connections as usual.
2. On the Connect menu, click Save Connections.
3. In the File Name box, type a name to identify the connection file.
4. If you want to create a shortcut icon for restoring the connection, check this box: Create a Shortcut to This File on the Desktop.
5. Click Save.

Restoring a saved connection

✔ To completely automate the connection process, create entries in Address Book for saved connections. Include the log-in name and password required to open each connection.

Once you have saved a connection, you can restore it three ways:

- Double-click the shortcut icon you created when you saved the connection. (The icon appears on the desktop, the large area you see when you start Windows.)
- Set up LapLink to restore the connection when you run LapLink again.
- Open the connection file while running LapLink.

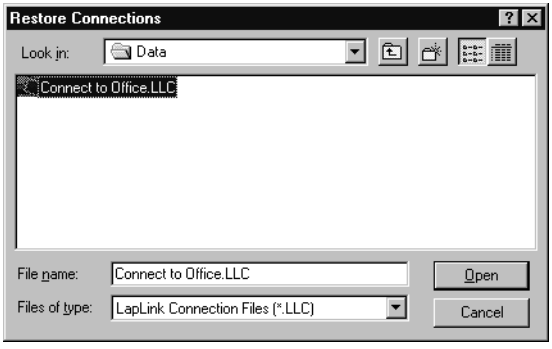
To set up LapLink to restore a saved connection when you start the program:

1. On the Options menu, click Connect Options.
2. On the Startup tab, check this box: Restore Saved Connections at Startup.
3. Click the name of the connection file you want to open, or type it in the Connection File box.

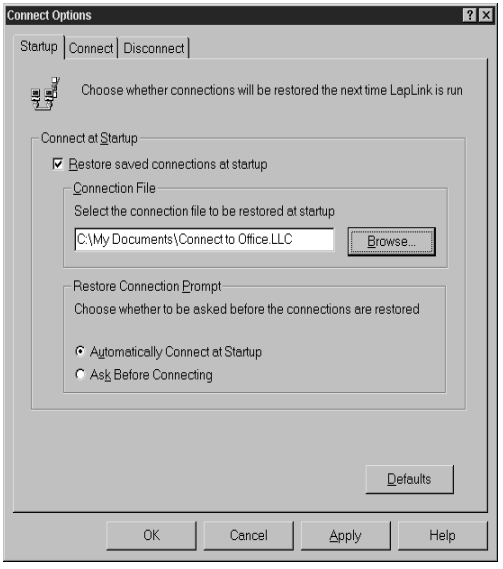
Three ways to restore a saved connection

Double-click the shortcut icon on the desktop.

While running LapLink, use Restore Connections (Connect menu) to open the connection file.



Set Connect Options (Options menu) to restore the connection when LapLink is run in the future.



If the file does not appear in the list of files, click the Browse button and locate the drive and folder containing the file.

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Connection files have the .LLC extension. In Windows 95 and Windows 98, they are stored in the My Documents folder. In Windows NT, they are stored in the \Profiles*yourname*\Personal folder within the Windows folder (where *yourname* is your Windows NT logon name).

4. If you want the connection restored without confirmation, click Automatically Connect at Startup. Otherwise, click Ask Before Connecting.
5. Click OK.

To open a saved connection while running LapLink:

1. On the Connect menu, click Restore Connections.
2. Click the name of the connection file you want to open, or type it in the File Name box.

   If the file does not appear in the list of files, locate the appropriate drive in the Look In box; then double-click the folder containing the file.
3. Click Open.

3 Using Remote Control and Text Chat

In this chapter

Using Remote Control—Overview

When you open a Remote Control window on your computer, the computer in front of you becomes the guest, and the remote computer displayed on your screen becomes the host. From the guest, you can view and operate the host as if you were sitting in front of it. Images from the host appear on your screen in a Remote Control window within the LapLink workplace.

Go to illustration

Remote Control provides a way to operate another computer at a distance. You begin Remote Control as soon as you open a Remote Control window. While you are working in this window, your mouse moves the mouse pointer on the remote computer, your keyboard types characters on the remote computer, and your Remote Control window shows the remote computer's screen.

Remote Control terminology

✔ You cannot open a connection to a remote computer by modem or network unless the default security setup on that computer has been changed to grant you access. For more information, see page 70.

A LapLink Remote Control session creates two kinds of computers:

Guest The Remote Control window and the mouse and keyboard on the guest are your links to the remote computer. Working in the Remote Control window, you use your mouse and keyboard to operate the host. Your work, meanwhile, is being processed on the host computer.

Host There is no special procedure associated with setting up a host. The computer need only be running LapLink and configured to allow incoming connections. You do not need to be at the computer. On the other hand, you may want to join the guest as an observer or an active participant.

Opening a Remote Control window

✔ No one else can control your computer while you are using Remote Control. Nor can a computer be controlled by anyone else while you are controlling it.

On a guest, you can open a Remote Control window at the time you connect to the host. Or you can or open a Remote Control window sometime after the connection is made. Because LapLink supports multiple connections, you can maintain several Remote Control windows, one for each host computer.

To open a Remote Control window while connecting:

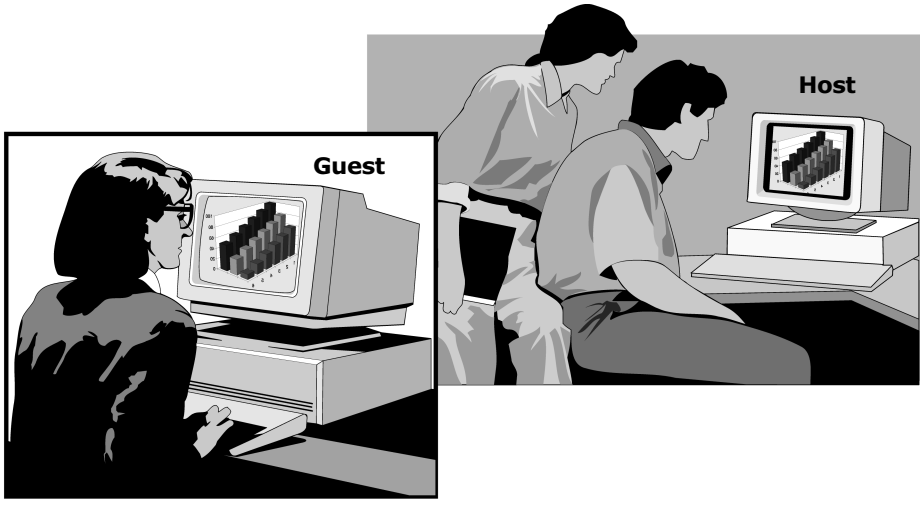
- Click the Connect button on the LinkBar and then click Modem, Network, or some other means of connecting. Under Services, click Remote Control. (For complete information about connecting to other computers, see chapter 2.)

To open a Remote Control window after opening a connection:

- Click the Open Remote Control button on the LinkBar. Or click Open Remote Control on the Window menu.

If you have more than one connection, select a window for the desired connection *before* clicking the Open Remote Control button.

Operating the host computer from the guest computer



What you see

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The host screen appears on your screen as a window within LapLink. The name of the host computer appears in the window's title bar. You can move, resize, minimize, or maximize the window as you would any other window. Use the scrollbars to view other parts of the host screen.

If you prefer to display the host screen across your entire screen instead of a window, press CTRL+SHIFT+F. Press CTRL+SHIFT+F again to return to the window view. For more information about changing your view of the host, see the next section.

- A host screen can be made to display full screen by default. To make this change, click Remote Control Options on the Options menu. On the Guest tab, check the Always Use Full-Screen box. The Remote Control window then alternates between full screen and icon; the window view is no longer available.
- There are several ways to customize Remote Control performance—whether you want to enhance your view of the host or speed up performance. For instance, you can use solid rather than dithered colors or prevent the display of large bitmaps. For more information see page 70.

Viewing the host

As a guest, you can alternate between two views of the host screen. Your first view appears in a window within LapLink. Inside the window, you control the host; outside the window, you perform other tasks, in LapLink or in other applications on your computer. Switch to a full-screen view when you want to maximize your view of the host and use Remote Control exclusively. When you cannot see the entire host screen even in full screen, you can change the resolution of the host screen or scale its image to fit within your view.

Go to illustration ➤

Devoting your entire screen to a view of the host

You can view the host screen in two ways:

- In a window within LapLink (the default)
- As a full-screen display, hiding LapLink and the rest of your Windows workspace

In a window view, you have quick access to File Transfer, Text Chat, and other LapLink features. You can also switch to other applications on your computer.

To maximize the area in which you view and control the host, switch to a full-screen view. Your entire screen is now devoted to controlling the host; you do not have access to your own applications. When you want to do something other than control the host, switch back to the window view.

To switch between window and full-screen view:

✔ You can substitute another key combination for CTRL+SHIFT+F. For more information, see the next section.

- Press CTRL+SHIFT+F.

In full screen, you can also switch to a window from the copy of LapLink running on the host: If LapLink is an icon, click it to restore it to a window. Then click the icon representing your Remote Control window, and click Guest Full Screen to clear the check mark.

To make Remote Control alternate between full screen and icon, bypassing the window view, click Remote Control Options on the Options menu. On the Guest tab, check the Always Use Full-Screen box.

Viewing the entire host screen at once

There are two ways to fit the host screen into your view:

- From your computer, lower the resolution of a higher-resolution host screen to match that of your screen.
- Scale the image of the host screen to fit within your view.

Temporarily changing the resolution of the host screen When using a laptop to control a desktop, you often can't view the entire host screen at once if the desktop operates at a higher screen resolution. From

Alternating between a window and a full-screen view of the host

By default, your view of the host screen appears in a window within LapLink.

When you switch to full-screen view, the host screen occupies your entire screen, hiding your local Windows workspace.

your laptop, you can lower the desktop's screen resolution to match your laptop's.

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You can then view all of the host screen in full-screen view. The original resolution is restored automatically on disconnect or at your direction.

✔ You cannot lower the resolution of a host computer unless its monitor and display adapter allow the change without restarting Windows. The host must also be running a version of LapLink that supports this feature.

To lower the resolution of the host screen to match that of your screen:

1. On the Options menu, click Remote Control Options.
2. On the Guest tab, check this box: Match Host to Guest.

   Clearing the box restores the host to its original resolution.
3. Click OK.

Scaling the image of the host screen to fit You can also view the entire host screen at once by scaling the image to fit within the LapLink window. You always see all of the host's screen, whether you are working in full screen or window, though the image may be distorted.

To scale the image of the host screen to fit within your view:

- Press CTRL+SHIFT+S.

  Pressing CTRL+SHIFT+S again restores the image to normal

In full-screen view, you can also scale the image of the host screen by clicking the icon in the host's LapLink workplace which represents your connection. Then click Guest Scale to Fit.

Customizing keyboard control

By default, Windows system keys pressed on the guest computer take effect on the host. If you want the system keys to operate on the guest while working in a Remote Control window, click Remote Control Options on the Options menu. Then on the Guest tab, click Execute on Guest. Through Remote Control Options, you can also change the key combinations that control your view of the host.

Go to illustration

✔ Windows system keys are keys that take effect in Windows; other key combinations, like CTRL+C or CTRL+BREAK, which affect DOS sessions, are not affected by LapLink settings.

Windows system keys

Windows system keys are key combinations that perform a variety of tasks. Pressing ALT+TAB, for example, switches to the program you used last. By default, LapLink sends most system keys to the host during Remote Control: pressing ALT+TAB on the guest, therefore, switches to the program last used on the host.

You can make system keys work on your own computer (the guest) when you are working in a Remote Control window.

- Windows system keys (except CTRL+ALT+DELETE) always take effect on the host when you are using Remote Control in the full-screen view.
- If you intend to control a remote computer using the keyboard exclusively (without a mouse), set the Windows system keys to execute on your computer (the guest). When you want the keys to execute on the remote computer (the host), switch to the full-screen view.

To execute Windows system keys on the guest:

1. Click Remote Control Options on the Options menu, and then click the Guest tab.
2. Click Execute on Guest.
3. Click OK.

Remote Control shortcut keys

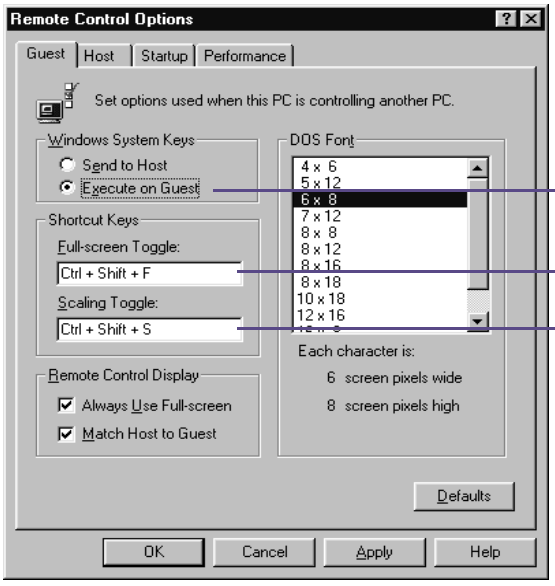
LapLink offers two shortcut keys to change your view of a host screen. Pressing CTRL+SHIFT+F switches between full-screen and window view of the host. Pressing CTRL+SHIFT+S switches between scaled-to-fit and normal view. (See the previous section for more information.)

You can change these default key combinations to certain other combinations. (To avoid interference with other LapLink and Windows shortcut keys, you are limited in your choice of replacements.)

To change the LapLink shortcut key combinations:

1. Click Remote Control Options on the Options menu.

Customizing keyboard options in Remote Control Options



When you are working in a Remote Control window, the Windows system keys you press on your computer (the guest) take effect on the remote computer.

If you prefer to have system keys take effect on your computer, click Execute on Guest.

With this option, you can change the shortcut key that alternates between full-screen and window view.

With this option, you can change the shortcut key that alternates between scaled to fit and normal view.

Go to topic summary

2 On the Guest tab, click in one of these boxes:

- **Full-screen Toggle** Changes the shortcut key that alternates between full-screen and window view.
- **Scaling Toggle** Changes the shortcut key that alternates between scaled-to-fit and normal view.

3 Press any of the following key combinations (where *N* is a number or a letter):

SHIFT+ALT+*N*
CTRL+SHIFT+*N*
CTRL+ALT+*N*
CTRL+SHIFT+ALT+*N*

Disabling the host keyboard and mouse and blanking its screen

From a guest computer, you can ensure privacy and prevent interruptions by disabling the host keyboard and its mouse and by blanking its screen. To perform any of these "locking" operations from the guest, click the appropriate command on the Session menu. On the host, you can allow locking by changing the default security setup.

Go to illustration

Locking the host from the guest

With the permission of the host computer, you can:

- **Blank the host screen** The host's screen is darkened, preventing your work from being viewed at the host.
- **Disable the host keyboard** The host's keyboard is locked, preventing anyone at the host from using the keyboard to interrupt your work.
- **Disable the host mouse** The host's mouse is locked, preventing anyone at the host from using the mouse to interrupt your work.

To lock the host during a Remote Control session:

- On the Session menu, click any of these commands to place a check mark beside the command: Blank Host Screen, Lock Host Mouse, or Lock Host Keyboard.

To disable locking, click the command again to clear the check mark.

If a command is dimmed, it is not available: either the host cannot perform the action, or the security setup of the host computer does not allow it.

Through Address Book, you can request the kinds of locking you want to take effect as soon as you open a Remote Control session. Your requests will be honored as long as they are allowed by the host. For information on using Address Book to make connections, see chapter 2.

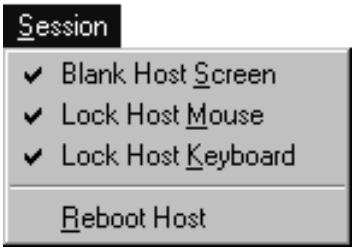
✔ As a host, you can keep guests from changing your locking and rebooting settings during Remote Control sessions by setting up password protection for your security system. For more information, see page 48.

Configuring a host for locking

You can configure a host to determine who can lock it and how it will be locked. Guests cannot lock the host without your permission, and locking privileges you grant cannot be changed during a Remote Control session.

Whether you permit any kind of locking depends on how you intend to use LapLink. If you want to use Text Chat, for example, there should be no locking.

Locking the host from the guest



To ensure privacy and prevent interruptions at the host, blank the host screen and lock its mouse and keyboard.

A check mark beside a command on the guest means the protection is in effect on the host. Clicking the command again removes the check mark—and the protection.

If commands appear dimmed on your Session menu, the security setup on the host computer must be changed to allow their use.

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You grant locking permission by changing the security setup on the host computer: Click the Security button on the LinkBar. You then have a choice:

- Set up a Log-in List by clicking Log-in List (Protected System) and adding one or more entries. In each entry, check any of the three boxes under Locking Permissions. The permissions will apply only to guests whom you provide with the appropriate log-in name and password. For more information about setting up a Log-in List, see page 48.
- If security is not an issue, open the system to any LapLink user by clicking Anybody (Public System). Check the Remote Control box, and then check any of the three boxes under Locking. The permissions will apply to all guests.

Rebooting and logging on to the host

From a guest computer, you can reboot a host computer and restart Windows. To reboot a host from the guest during Remote Control, click the Reboot Host command on the Session menu. To configure a host for rebooting and restarting Windows, click Remote Control Options on the Options menu.

Go to illustration

Rebooting the host from the guest

From a guest computer you may want to restart a host to put into effect changes you have made on that computer. Or you may want to restart a host computer to ensure that no one else can call in after you disconnect.

✔ If Reboot Host is dimmed on the Session menu, the host has not set the option to allow rebooting by a guest.

To reboot the host from the guest during Remote Control:

- On the Session menu, click Reboot Host.

  You are then asked for confirmation. If you have not saved your work, you are asked if you want to do so before rebooting.

Logging onto Windows NT from the guest

Depending on how a Windows 95 or Windows 98 computer is set up, you may or may not be prompted to log on to Windows. On every Windows NT computer, however, you must always press CTRL+ALT+DELETE before you can log on to Windows.

To send CTRL+ALT+DELETE to a Windows NT host, do one of these:

- Press the key combination specified for this purpose on the host. (For more information, see the next page.)
- On the host's Session menu, click Send CTRL+ALT+DELETE to the Host.
- Click the Remote Control icon at the bottom of the host's LapLink workplace, and then click Feed CTRL+ALT+DELETE.

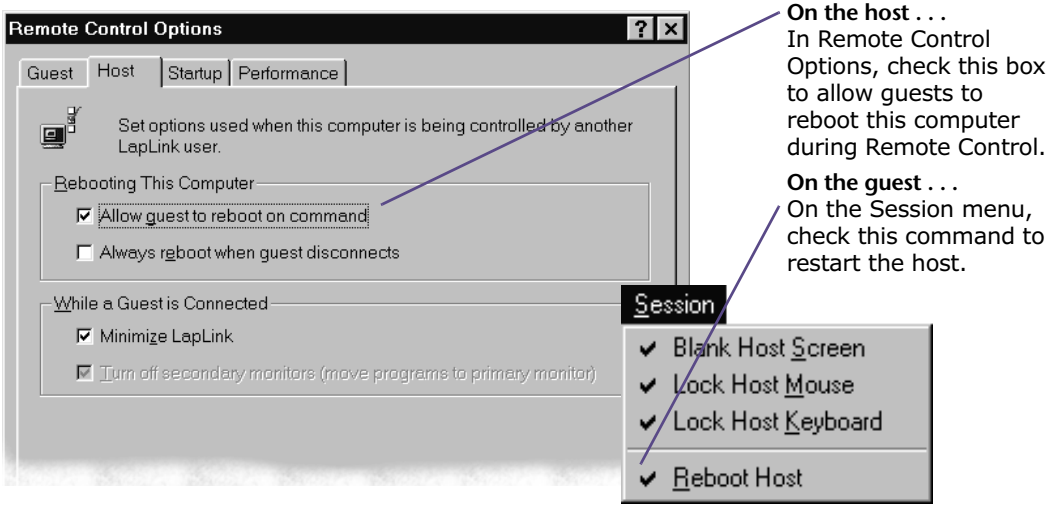
Configuring the host for rebooting

You must configure a host to allow any guest to restart it during a Remote Control session. You can also require that the host be restarted whenever a Remote Control connection is interrupted.

To configure a host computer for rebooting:

- On the Host tab of Remote Control Options (Options menu), check either or both of these boxes:
  - **Allow Guest to Reboot on Command** Check this box to allow guests to restart the host using the Reboot Host command on their computers.

Rebooting the host from the guest in LapLink



- **Always Reboot When Guest disconnects** Check this box to require that the host be restarted whenever a guest breaks a connection or the connection is broken accidentally.

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Ensuring access to the host after a reboot

At the same time you are configuring a host for rebooting, you can configure it so that a guest can resume a LapLink connection after the host is rebooted. You can do this by setting up LapLink to run whenever Windows is started.

To configure a host to so that it automatically runs LapLink each time Windows is started:

- On the Startup tab of Remote Control Options (Options menu), check this box: Always Start LapLink before Windows Logon Prompt.

Logging on to Windows NT When a Windows NT host requires the user to press CTRL+ALT+DELETE at logon, a guest can press a special key combination specified on the host.

To specify the key combination for CTRL+ALT+DELETE:

1. On the Host tab of Remote Control Options (Options menu), click in this box: Send CTRL+ALT+DELETE to This Computer When a Guest Presses This Key Combination.
2. Press one of these key combinations (where *N* is a number or letter): SHIFT+ALT+*N*, CTRL+SHIFT+*N,* CTRL+ALT+*N*, or CTRL+SHIFT+ALT+*N.*

Hosting a Remote Control session

When you allow your computer to be controlled from a remote computer, your computer becomes the host to a guest computer. For Remote Control to take place the host need only be running LapLink—you do not need to be at the computer. Sensitive information is protected by the conditions of the connection. You can grant greater access, or limit these conditions, through the LapLink security system.

Go to illustration

When you control a host, you control who can connect to that computer and the kinds of services they can use. For example, you can limit a guest to Remote Control only, or you can allow access to Text Chat and File Transfer as well. You can even allow a guest to blank your computer's screen or disable the mouse and keyboard. All of these options are set in the LapLink security system.

✔ To allow other computers to control your computer by modem or network, you must relax the security setup established during installation. (See page 48.) The only other action needed in order to become a host is to run LapLink.

You can leave the host computer unattended, giving an authorized user exclusive control. Or you can stay at the computer and interact with the guest by trading off control. For example, the two of you could edit a document together, participate in a training session, or explore a new program.

A host can be controlled by only one computer at a time. In the meantime, however, other computers can connect to the host using any other services than Remote Control.

What you see on a host

When a guest connects to your computer and begins Remote Control, your LapLink workplace is minimized. If you double-click the icon, the LapLink workplace is restored to a window.

At the bottom of the restored LapLink workplace, you see an icon for the Remote Control connection. The icon is identified by the name of the remote computer. Clicking this icon displays a Windows menu with standard commands. Clicking Close closes the Remote Control connection.

You can make the LapLink workplace remain a window when a guest connects: Click Remote Control Options on the Options menu, and then click the Host tab. Clear this box: Minimize LapLink When This Computer Is a Host.

Reversing a Remote Control session

There may be times when the guest and you want to switch roles so that you become the guest controlling the remote computer.

To reverse the direction of Remote Control, the current Remote Control connection must be broken on either computer. Then, as the prospective guest, you open a Remote Control window and begin controlling the other computer.

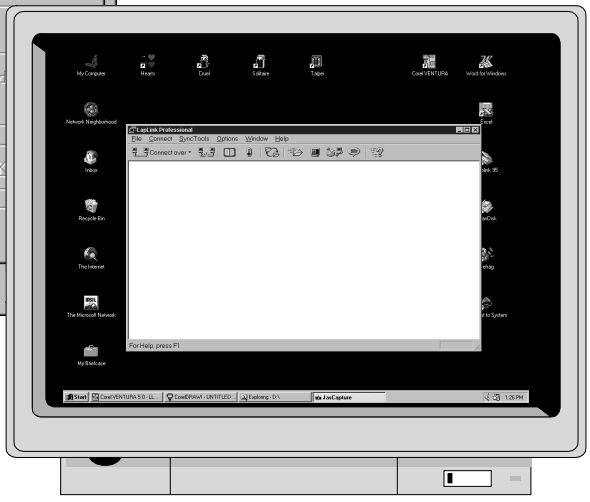
Hosting a Remote Control session

To allow a computer to serve as a host for the first time, you must change the security setup.

The default setup prevents incoming connections by modem or network.

To prepare a computer to host a Remote Control session, start LapLink and leave it running.

There is no special host setup procedure.



To avoid breaking the connection when a Remote Control connection is closed, make sure that there is at least one other service window open, such as File Transfer. If Remote Control is the only service in use, open another service window *before* closing Remote Control.

Go to topic summary

Sharing clipboard information with remote computers

Computers in a Remote Control connection share a common clipboard: you can copy or cut information to the clipboard on one computer and paste this information on another. Only information put in the clipboard during a Remote Control session is available to other computers.

Go to illustration

When you cut or copy information for pasting in another document, the information is stored temporarily in the clipboard. Normally, clipboard information is transferred between documents on the same computer. When you use Remote Control, however, you can use the clipboard to transfer information from one computer to another. You can copy text or graphics on the host computer, for example, and paste it on the guest.

If you are controlling several computers at the same time, information you cut or copy on any of the linked computers can be made available for pasting on any of the others.

- Only information placed in the clipboard *during* Remote Control can be pasted on other computers. You cannot share any information copied or cut to a clipboard before a Remote Control connection is opened.
- When you clear the contents of the clipboard on one computer, you clear the contents of all the other clipboards as well.

Pasting from the clipboard during Remote Control

When you copy or cut information to the clipboard during Remote Control, only a small part of the information is transferred to the other computer immediately. The rest of the information is transferred when you paste.

To prevent the loss of information added to the clipboard from the remote computer during Remote Control, paste the information before disconnecting.

If you are controlling several remote computers, information in the clipboard on your computer is available to any of the remote computers. If you want to transfer clipboard information from one remote computer to another, however, you must first paste the information into a document on your computer; then paste it into a document on another remote computer.

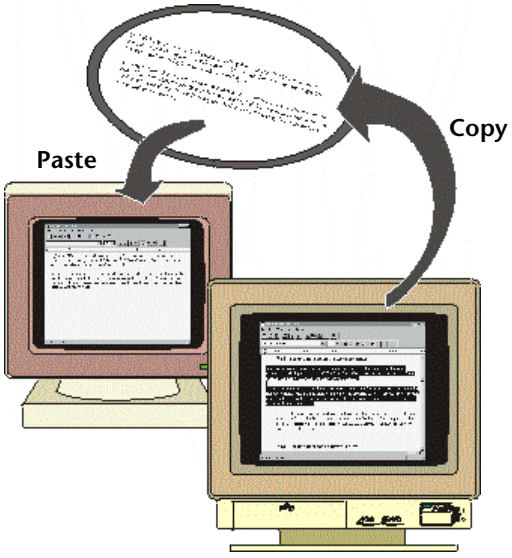
Disabling clipboard sharing

Clipboard sharing is available during Remote Control sessions unless you disable it.

To disable clipboard sharing:

1. Open a Remote Control connection to another computer.

Sharing clipboard information during Remote Control



When you are controlling another computer, the two computers share a common clipboard.

You can cut or copy text or graphics on either computer and paste it on the other.

Only information placed in the clipboard during a Remote Control session is available to other computers.

2 On the Edit menu, click Link Clipboards to clear the check mark.

Go to topic summary

If there is data in the common clipboard that hasn't been transferred completely, you are asked whether to complete the transfer.

To enable clipboard sharing again, repeat the procedure to restore the check mark to Link Clipboards. Only data placed in the clipboard *after* you enable this option can be shared with other computers.

Customizing Remote Control performance

As a guest, you can change several Remote Control settings either to speed up performance or to enhance your view of the host screen. When speed is your priority, change the settings to enhance performance. When you want the best view of the host screen, turn off the performance enhancements. To change performance settings, click Remote Control Options on the Options menu, and then click the Performance tab.

Go to illustration

To improve Remote Control performance, LapLink temporarily alters the host screen by removing its wallpaper, screen saver, and other visual enhancements. You can restore any of these enhancements. Or you can improve performance even more by minimizing the number of bitmaps and bitmap colors transferred over a connection.

To change Remote Control performance settings:

1 On the Options menu, click Remote Control Options.

✔ By default, Remote Control performance is configured for the Typical option. To restore the original settings, click Typical.

2 On the Performance tab, click one of these options:

- **Best Quality** Improves the appearance of fonts and does not change the appearance of the host screen except to disable its screen saver.
- **Best Performance** Displays smaller bitmaps in black and white and does not show larger bitmaps at all; also changes the appearance of the host screen to maximize performance.
- **User Customized**

3 To customize the settings for any of these options, click the Settings button and change the settings on the Guest Display and Host Display tabs as described below.

Changing your view of the host screen

✔ To alter your view of the host screen, click the Settings button in Remote Control Options.

On the Guest Display tab, you can change the quality of your view of the host screen without affecting the host screen itself. Three of the settings change the amount of information transferred to your computer and therefore affect the speed of the connection.

Send Font Information Displays text and symbols on the guest computer. Checking this box speeds display performance but may not present the most accurate representation of text and symbols.

✔ Do not prevent the display of large bitmaps if you intend to work in a paint program on the host.

Use Solid Colors Displays solid colors instead of dithered, or patterned, colors. Performance is not affected, but your view of the host may improve.

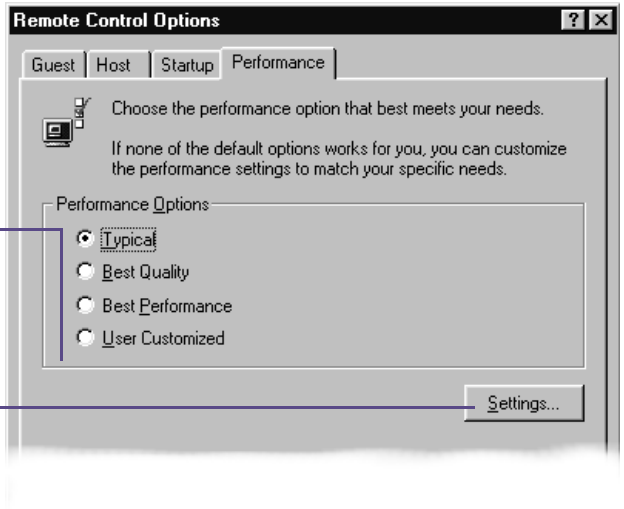
Prevent Display of Large Bitmaps Determines the size of the largest bitmap to be displayed in your view, ranging from 32 by 32 to 512 by 512 pixels. Choosing a smaller size improves performance but may cause bitmaps not to appear in some dialog boxes, wizards, and buttons. (Experi-

Customizing Remote Control performance

On a guest computer, you can choose between enhancing your view of the host and improving Remote Control performance.

On the Performance tab of Remote Control Options, choose one of the preset options.

Or click the Settings button to show the Guest Display and Host Display tabs and tailor the settings to your requirements.



ment with the setting, increasing it as necessary to display larger bitmaps.)

Go to topic summary

Bitmap Color Selects the palette used to display bitmaps. The values range from Monochrome to True Color (24 bit). Choose a palette with fewer colors to improve performance.

✔ The monitor and the screen adapter on both the guest and host determine the maximum number of colors that can be viewed on the guest.

Temporarily changing the host screen

On the Host Display tab, you can alter your view of the host by changing the appearance of the host screen itself. When you disconnect, the host screen is restored to its original appearance.

Don't Show Active Desktop as Web Page Disables the View as Web Page feature of Windows 98 and Internet Explorer 4.0. (Clearing this option slows performance considerably.)

Don't Show Any Background Wallpaper or Patterns Hides the wallpaper and patterns that normally decorate the desktop of the host.

✔ Keep all of the Host Display boxes checked for best Remote Control performance.

Don't Animate Windows, Menus, or Lists In Windows 98 and Internet Explorer 4.0, does not show animations of windows, menus, and lists.

Don't Smooth Edges of Screen Fonts Disables font smoothing, which makes large fonts look better on the screen.

Don't Show Window Contents When Dragging or Sizing Shows only the outline of windows dragged and sized on the host.

Disable Screen Saver Keeps the host's screen saver from running.

Using Text Chat

Text Chat lets you exchange typed messages with a person sitting at a remote computer. Used with a service like Remote Control or File Transfer or by itself, Text Chat is useful for exchanging brief messages and sending instructions.

Go to illustration ➢

Opening a Text Chat window

When you connected to the remote computer, you may have opened a Text Chat window. If not, you can open one after you open the connection.

To open a Text Chat window:

- Click the Open Text Chat button on the LinkBar. Or click Open Text Chat on the Window menu.

If you have opened more than one connection, click a window for the desired connection *before* opening Text Chat.

Sending messages

✔ A Text Chat window pops to the foreground on your screen whenever the remote user sends a message. To keep the Text Chat window from activating automatically, click Text Chat Options on the Options menu. Then clear this box: Restore Text Chat Window Automatically.

A Text Chat window consists of two parts:

- The upper part displays the messages you have sent to the remote user as well as those the remote user has sent to you. Each message is identified by the name of the computer from which it was sent.
- The lower part serves as a note pad on which you write your messages. It clears each time you send a message.

To send a message to the remote user:

1. Click the Text Chat window.
2. Type your message.

   Avoid pressing ENTER until your message is complete. To start a new paragraph, press CTRL+ENTER.
3. Press ENTER to send the message.

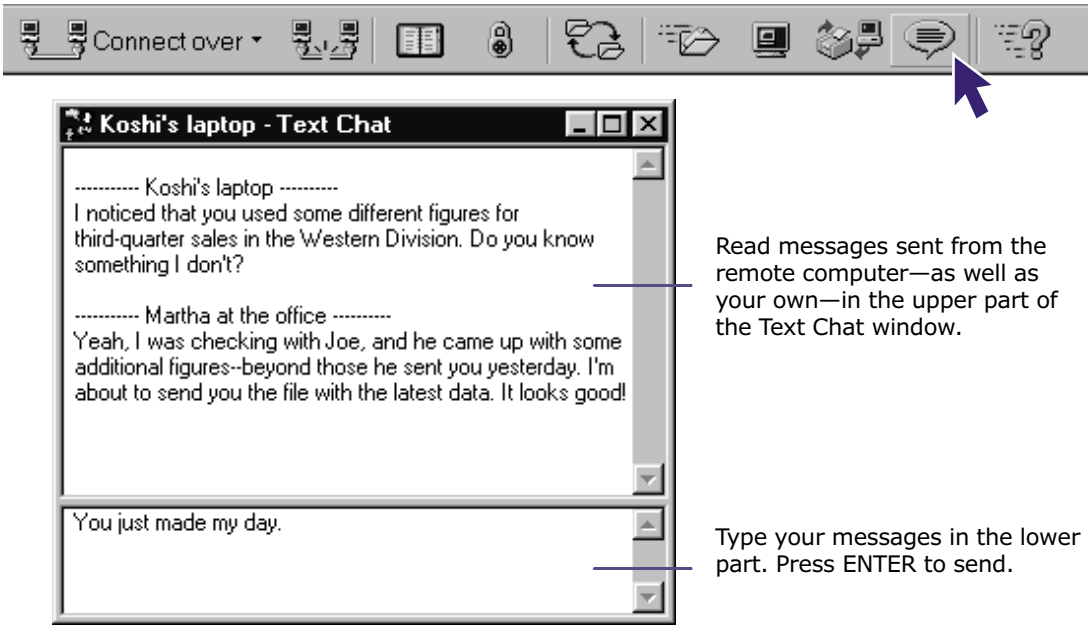
Pasting text into your Text Chat window

Instead of typing messages while connected, you can prepare them ahead of time and paste them into the Text Chat window as necessary.

To paste text into a Text Chat window:

1. In Notepad or another Windows text editor, select the text and copy it.
2. In LapLink, click the lower part of the Text Chat window.
3. Click Paste on the Edit menu.

Using Text Chat



Copying text from your Text Chat window

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You can copy part or all of a Text Chat conversation and paste it into another Windows program.

To copy your Text Chat conversation:

1. In the upper part of the Text Chat window, highlight part of the text, or select the entire conversation by clicking Select All on the Edit menu.
2. Click Copy on the Edit menu.
3. Switch to another Windows program, and paste the text into that program.

As a guest during Remote Control, you can carry on a Text Chat conversation with the host only by viewing the host screen in a window. (In full-screen view, you cannot see your own Text Chat window.) To arrange the Text Chat window beside the Remote Control window, click Tile Side by Side on the Window menu.

✔ To reverse your latest editing action in the lower part of a Text Chat window, click Undo on the Edit menu.

4 Using File Transfer

In this chapter

Using File Transfer—Overview

Once you have connected to another computer and opened File Transfer windows, you are ready to transfer files between the computers. First, display your target, and then select the files you want to transfer. If you want the files on both computers, copy them. If you want to transfer the files to one computer and delete them from the other, move the files.

Go to illustration

You can open File Transfer windows at the time you connect to a remote computer. Or you can open File Transfer windows sometime after the connection is made.

To open File Transfer windows:

- Click the Open File Transfer button on the LinkBar. Or click Open File Transfer on the Window menu.

  Two File Transfer windows appear: one for the remote computer, one for your computer. Using these windows, you can view all the files on any drive on both computers.

✔ In Windows, *folder* and *subfolder* are used in place of *directory* and *subdirectory.*

Step one: Display the target

Since you will be using the drag-and-drop method of copying and moving files, first find your target and make it visible on your screen. A target is the drive or folder you want to transfer the files to.

To display the target:

1. Identify the target window: it may be the window for your computer or the remote computer—whichever you want to receive the files.
2. On the left side of the target window, double-click the target drive.
3. Click the target folder. Its contents now appear on the right.
4. If you are looking for a subfolder, click the plus sign (+) beside the folder containing the subfolder. Then click the subfolder.

✔ To determine which File Transfer window is which, look for the computer name in the title bar, at the top of each window.

Step two: Select the files

In the opposite File Transfer window, select the files you'll be transferring to the target you just displayed.

To select the folders and files you want to transfer:

- On the right side of the window, click the folder or file you want to transfer.
- To select more than one item, do either of the following:
  - Hold down CTRL as you click each item.

✔ You can also select a group of files or folders by clicking at a right corner of the group and dragging to the opposite corner to form a selection box.

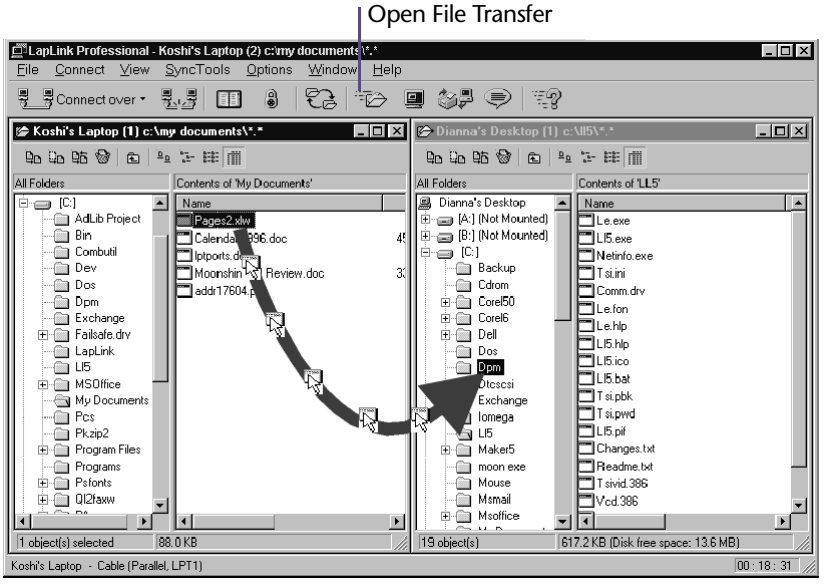
Transferring files using drag and drop

To use drag and drop:

1 Display the target drive or folder.

2 Select the files you want to transfer.

3 Drag the selected files and drop them onto the target.



- To select two or more items listed next to each other, click the first item and press SHIFT while you click the last item.

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Step three: Drag and drop

Using the drag-and-drop method simplifies file transfers. Keep in mind the difference between copying and moving: Copying puts a copy of the files on the other computer, leaving the originals where they were. Moving puts the files on the other computer, deleting the originals.

To drag and drop the selected files:

- To copy the files, hold down CTRL and your left mouse button as you drag them to the target folder.
- To move the files, hold down SHIFT and your left mouse button as you drag them to the target folder.

If you drag without using CTRL or SHIFT, files are *copied* when you drag to a different drive or computer and *moved* when you drag to another location on the same drive.

Navigating through drives and folders

Each File Transfer window is split into a left and a right side. The left side is designed for navigating through drives and folders: click or double-click a drive or folder to open it and display its contents. On the right side, you see the contents of the open drive and folder. Commands on the View menu let you change the appearance and the order of the contents.

Go to illustration

Follow these guidelines to navigate through the left side of a File Transfer window:

- **Double-click a drive or folder** Opens and expands the drive or folder, displaying its subfolders immediately below. (Double-clicking is the fastest way to navigate downward in a hierarchy of folders.)
- **Click a drive or folder** Opens the drive or folder without expanding it.
- **Click a plus sign (+)** Expands the drive or folder, displaying its subfolders immediately below. The drive or folder is not opened.
- **Click a minus sign (-)** Collapses the drive or folder, hiding its subfolders.

✔ Want to locate a particular folder or file? Type the first letter of its name. The highlight moves to the next item beginning with that letter. Typing the letter again finds the next occurrence.

Changing the view

When you open a drive or folder, you see its contents—subfolders and files—on the right side of the File Transfer window.

By default, the contents appear in Detail view: file name, size, type (based on the MS-DOS name extension), modification date, and attributes.

To change the appearance of the items displayed on the right side of a File Transfer window:

- On the View menu, click one of these commands: Large Icons, Small Icons, or List.

Try the different views to find your preference. To return to the original view, click Detail.

✔ As an additional navigational aid, you can filter files and folders according to names and dates. Only the items that match your filter criteria are displayed. On the View menu, click Filter.

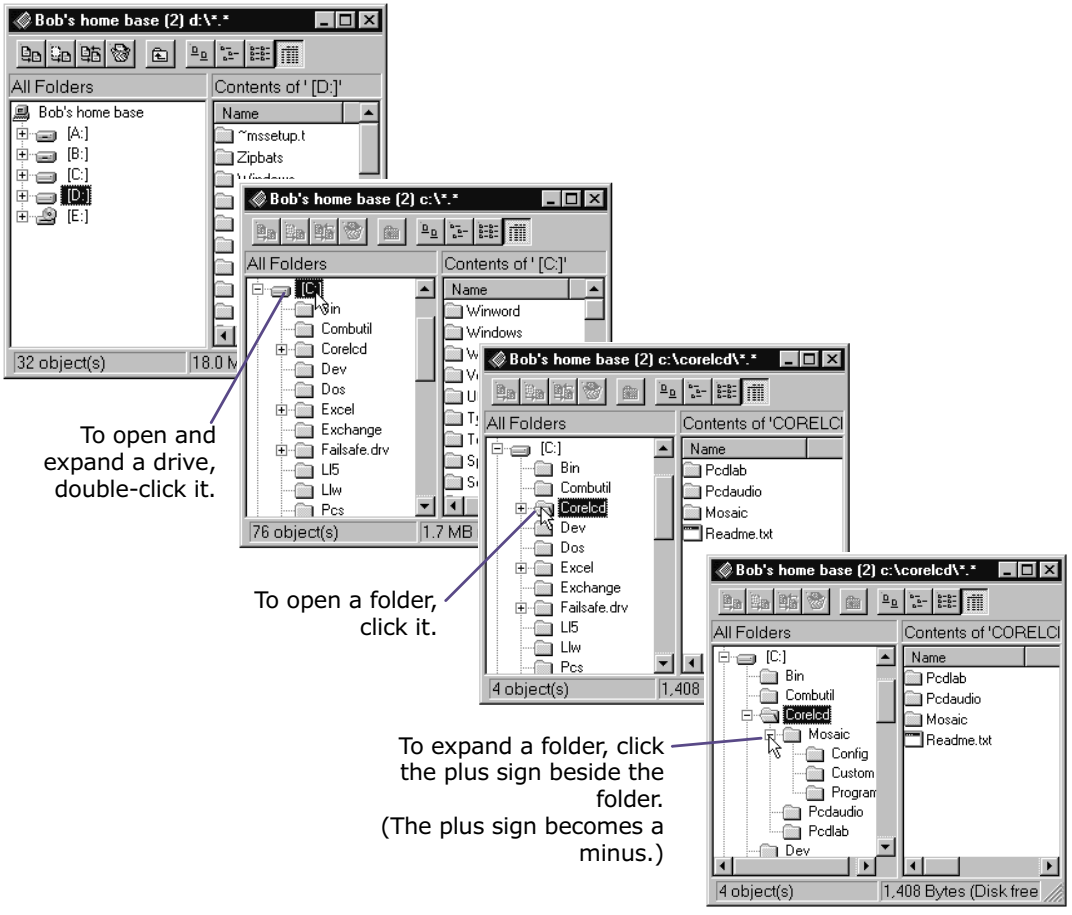
Sorting files and folders

Regardless of the view, you can rearrange the folders and files on the right side of a File Transfer window according to name, size, date, and so on.

To change the order of files and folders:

- On the View menu, point to Arrange Icons; then click one of these commands: By Name, By Type, By Size, By Date, or By Attributes.

Navigating through a drive



If you are displaying files in Detail view, you can sort them by name, size, type (file name extension), modification date, or attribute: click the corresponding button at the top of a column. Clicking the same button again reverses the order.

Go to topic summary

Selecting files and folders

On the left side of a File Transfer window, you can select only one folder at a time. On the right side, you can select multiple folders and files. To select a single item, point to it and click the left mouse button. To select several items in sequence, click the first item; then hold down SHIFT while you click the last item. To select items out of sequence, hold down CTRL while you click each one. You can also click Select All or Select By on the File menu. To cancel an individual selection, hold down CTRL, and click the item.

Go to illustration

You must select a folder or file before you can copy or move it. When you select an item, its name and icon are highlighted.

You can select a single folder on *either* side of a File Transfer window. You can select files and multiple folders only on the *right* side.

By default, selecting a folder selects all of its files and its subfolders. To change the default, click File Transfer Options (Options menu). On the Filter tab, clear this box: Include Subfolders in Copies. (You can always override this setting when you are asked to confirm a copy or move operation.)

To select a single file or folder:

- Place the mouse pointer on its name or icon, and click the left mouse button.

✔ If you want information about your selections—such as the number of files and the total size—click Size of Selections on the File menu.

To select a group of items, do either of the following:

- Click the first item, and press SHIFT while you click the last item.
- Click at a right corner of the group and drag to the opposite corner to form a selection box.

To select two or more items out of sequence:

- Press CTRL while you click the items.

To select all folders and files in the current folder:

- Click Select All on the File menu.

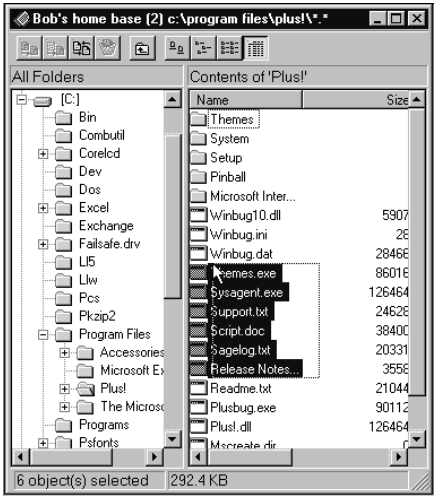
To select everything on a drive, click the drive and then click Select All.

To select folders and files using the Select By command:

1. Click Select By on the File menu.
2. In the Filter box, type the name of a file or folder. Or use wildcards to specify items with similar names.

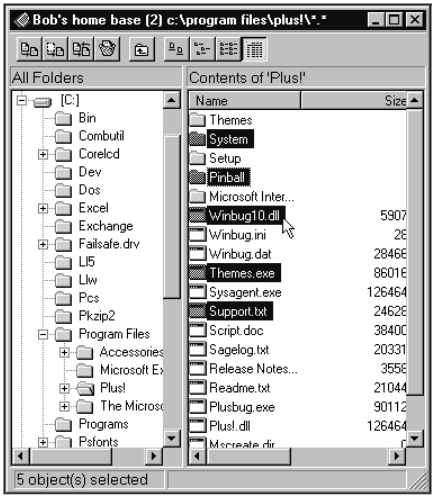
   For example, typing ***.DOC** selects all files with the .DOC extension. The default (***.***) selects all files and folders.

Selecting several files



Select a group of items by dragging a selection box around them, from right to left.

Or click the first item and then press SHIFT while you click the last one.



Select several items not listed together by pressing CTRL while you click the items.

Go to topic summary

You can specify several criteria at once by typing them one after another and inserting a space or a comma between them. For example, typing ***.DOC,*.TXT** displays all files with those extensions.

3 If you want to select according to date, check the Enable Date/Time Range box. Then type the dates and times under Oldest File and Newest File.

4 Click OK.

Clearing selections

To clear an individual selection:

- Hold down CTRL while you click the item.

To clear all selections:

- Click Clear Selection on the File menu.

Copying or moving files and folders

Once you have displayed the target and selected the items to be transferred, you are ready to use the Copy or Move command. Or you can use the mouse to drag the items and drop them onto the target. Before the transfer is completed in either case, you see a confirmation dialog box showing details of the operation you are about to perform. You can then proceed immediately, change certain conditions, or cancel the operation entirely.

Go to illustration

When you copy or move, you transfer items from one location—the *source*—to another—the *target.* You can transfer items using the Copy or Move commands or by dragging them with the mouse.

✔ Before attempting to transfer between computers, open a File Transfer window for each of them.

To prepare for a copy or move operation:

1. Navigate through the left side of the target window to display the folder where you want to put the selections. Click the folder. (For more information, see page 78.)
2. In the source window, select the items you intend to transfer. Make sure that the source and the target are still showing. (For more information, see page 80.)

✔ For information about copying and moving files with long names to Windows 3.1, see page 94.

To copy or move using drag and drop:

1. Place the mouse pointer over a single item or one of several items you have selected on the source.
2. Do either of the following:
   - To copy, press CTRL and your left mouse button as you move the pointer over to the target folder.
   - To move, press SHIFT and your left mouse button as you move the pointer over to the target.
3. Once the target is highlighted, release the mouse button and the CTRL or SHIFT key.

   You now see the File Copy or File Move dialog, as described on the opposite page.

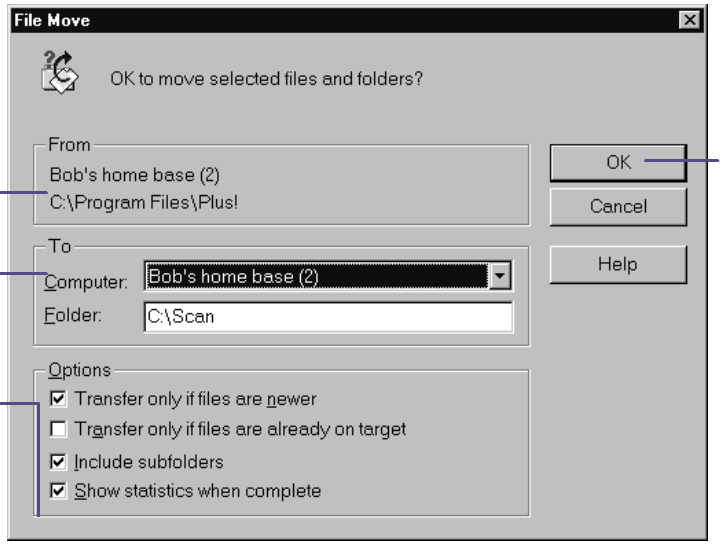
✔ Copy and Move also appear as buttons on the Drive Bar, near the top of each File Transfer window.

To copy or move using a command:

- With the source still window active, click Copy or Move on the File menu.

  You now see the File Copy or File Move dialog, as described next.

Confirming a copy or move operation



Tips for drag and drop

Copy by pressing CTRL as you drag.

Move by pressing SHIFT as you drag.

To complete the copy or move:

Go to topic summary

1 In the File Copy or File Move dialog box, you can verify the source and the target, change the target, and set options. Do any of the following:

- Under To, verify the target. You can choose a different computer from the Computer drop-down list; in the Folder box, you can type any drive and folder already on the target.
- Under Options, check or clear the boxes as you wish. For more information, see the next section.

2 Click OK to complete the operation or Cancel to halt it.

You now see a dialog box reporting on the operation as it proceeds. Click Cancel to halt the operation. If the Protected Files dialog box appears, select the files you want to transfer, and click OK.

✔ When you transfer folders that are not on the target already, the folders are created for you. You do not have to create them yourself.

- Dropping onto a drive puts the selections at the highest level of the hierarchy of folders.
- Dropping onto a folder puts the selections inside the folder.
- Dropping onto a file puts the selections on the same level as the file.

Setting File Transfer options for the results you want

Certain File Transfer options play a crucial role when you are copying or moving files. Depending on how you set them, you can include or exclude subfolders, prevent the overwriting of files except by newer copies, or copy only files you have backed up before. To specify global preferences for these options, click File Transfer Options on the Options menu; then click the Filter tab. Whenever you confirm a copy or move operation, you can change the settings for that operation.

Go to illustration

There are three File Transfer options that determine which files are transferred and which are overwritten:

- Transfer Only If Files Are Newer
- Include Subfolders in Copies
- Transfer Only If Files Are Already on Target

The first two options are in effect until you change them.

To change your global preferences for File Transfer options:

- Click File Transfer Options on the Options menu. Click the Filter tab, and then check the appropriate boxes.

When you transfer files, you can tailor these options for that operation before giving your confirmation.

Protecting newer copies of files

✔ Before transferring files between computers, ensure that their clocks are reasonably in sync. If they are not, files that appear to be older may actually be newer, and you could lose your most recent work.

One of the options—Transfer Only If Files Are Newer—is designed to preserve files that represent your most recent work. It is also useful for speeding up file transfers; files that do not need to be updated are excluded from the operation.

When the box is checked, Transfer Only If Files Are Newer ensures that files are not overwritten by older copies of those files. (Files not already on the target will be copied anyway.) When the box is cleared, files are overwritten without regard to their dates and times.

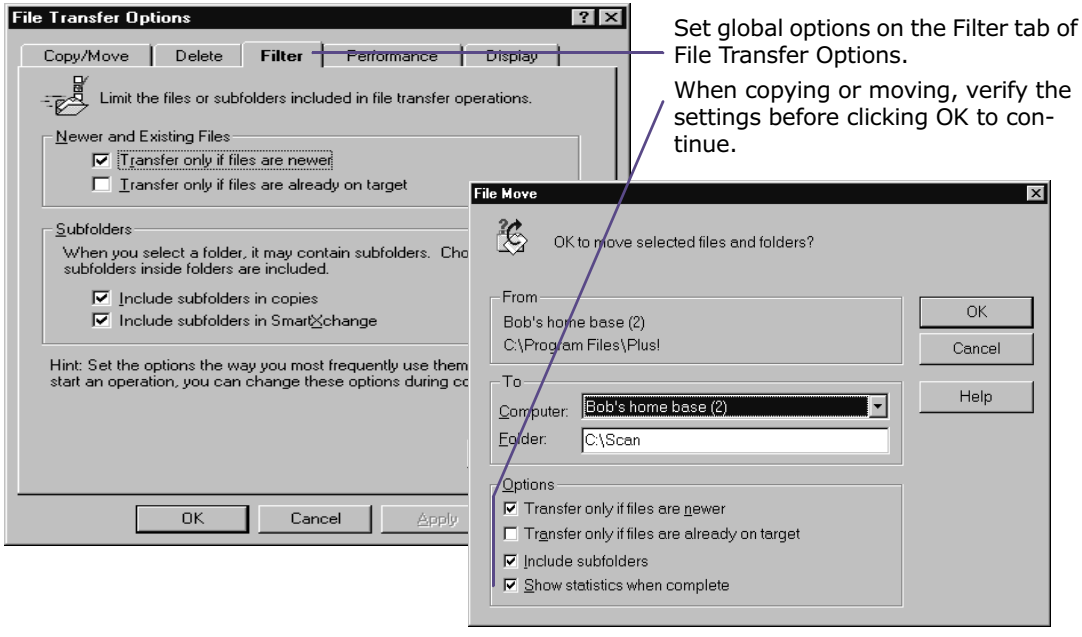
Including or excluding subfolders

One of the options—Include Subfolders in Copies—is designed for copying a hierarchy of folders and subfolders and is potentially the most powerful of the File Transfer options. It can make the difference between copying hundreds of files or only a few.

✔ Subfolders are always included when you *move* a folder.

When the box is checked, Include Subfolders in Copies extends your selection to include any subfolders within the folders you have selected. When the box is cleared, your selection is limited to the selected files and folders (including the files in those folders); subfolders within folders are excluded.

Setting options for copy and move operations



Set global options on the Filter tab of File Transfer Options.

When copying or moving, verify the settings before clicking OK to continue.

Updating older copies of files

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One of the options—Transfer Only If Files Are Already on Target—simplifies the task of updating older copies of files without adding new ones. It is designed for anyone who regularly updates the same set of files. No matter how many files you select on the source, only those already on the target will be copied; those not on the target will be ignored.

In preparation for using this option the first time, copy the files to the target with the box cleared. When you are ready to update the same files, check the box.

Deleting to the Recycle Bin

By default, any files you delete from a hard drive are "recycled," that is, moved to the Windows Recycle Bin, where you can retrieve them later. (The Recycle Bin must be enabled for this feature to work.) You can change this setting so that all files are permanently removed when you delete them in LapLink. (Files deleted from floppy disks and network drives are always permanently removed.)

✔ Whether files are recycled or permanently removed is determined solely by the setting on the computer that opens the connection.

To permanently remove files when you delete them in LapLink:

1. On the Options menu, click File Transfer Options.
2. On the Delete tab, clear this box: Move Deleted Files and Folders to the Recycle Bin.

Synchronizing folders with SmartXchange

Use SmartXchange to synchronize two folders in a two-way exchange of files. You can limit the scope of the operation by including only the files already in both folders. You can also use SmartXchange to update a backup folder quickly. In either case, older files are overwritten, but no files are deleted.

Go to illustration ➤

Synchronizing folders

If you have ever copied files back and forth between computers so that they share the latest files, you have synchronized. Unlike the usual copy operation, synchronization works in two directions: from one folder to the other and back again.

✔ With SmartXchange, you determine the items to be copied by selecting the folder containing the items, not by selecting the items themselves. Select the folder on the left side of each File Transfer window.

With SmartXchange, you can accomplish this in one operation, one folder at a time. You can increase the scope of the operation by including subfolders within the folder. You can limit its scope by exchanging only the files that are on both folders already.

! SmartXchange is a tool for exchanging files between folders. It does *not* merge the contents of files. If you need to merge databases, schedules, or other shared files, see the documentation for the program in which they were created.

If you synchronize the same folders on a routine basis, consider using Xchange Agent instead of SmartXchange. Xchange Agent automates the process of opening connections, selecting the pairs of folders to be synchronized, setting the appropriate options, initiating the exchange, and disconnecting. For more information, see page 98.

To use SmartXchange to synchronize folders:

1. On the *left* side of each File Transfer window, click the folder (not an entire drive) containing the files you want to exchange.

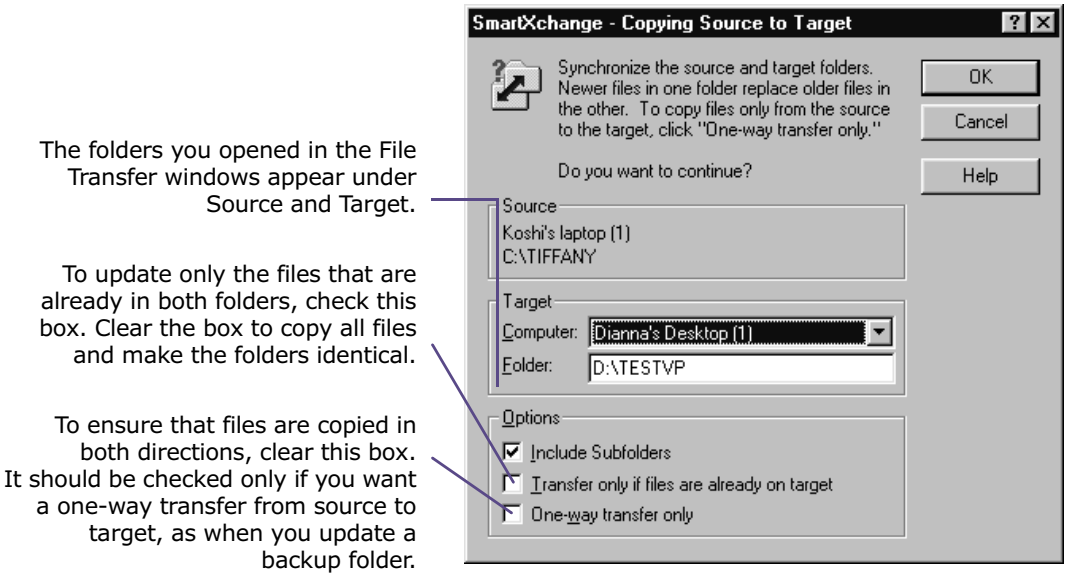
✔ To verify which folder is open, look at the title bar, at the top of the File Transfer window.

2. On the SyncTools menu, click SmartXchange. Or click the Sync button on the Drive Bar, near the top of the File Transfer window.
3. Verify that the source and target are correct. If necessary, change the target.
   - If you want to include subfolders in the exchange, check this box: Include Subfolders.
   - If you merely want to update files—and not add new ones—check this box: Transfer Only If Files Are Already on Target. If you want the two folders to be identical, the box must be cleared.

✔ For information about using SmartXchange with a Windows 3.1 computer, see page 94.

4. Make sure that this box is cleared: One-way Transfer Only.
5. Click OK.

Synchronizing folders



The folders you opened in the File Transfer windows appear under Source and Target.

To update only the files that are already in both folders, check this box. Clear the box to copy all files and make the folders identical.

To ensure that files are copied in both directions, clear this box. It should be checked only if you want a one-way transfer from source to target, as when you update a backup folder.

Updating backup folders

Go to topic summary

You can also use SmartXchange to simplify the process of updating a folder to which you have backed up a set of files.

To use SmartXchange to update a backup folder:

1. On the *left* side of the target (backup) window, click the folder you want to update.
2. On the *left* side of the source window, click the folder containing the files you want to back up again.
3. On the SyncTools menu, click SmartXchange.
4. Verify that the source and target are correct. Change the target if necessary.
   - If you want to include subfolders in the exchange, check this box: Include Subfolders.
   - If you want to update files—and not add new ones—check this box: Transfer Only If Files Are Already on Target. If you want the folders to be identical, the box must be cleared.
5. Make sure that this box is checked: One-way Transfer Only.
6. Click OK.

Replacing one folder with another: Clone Folder

Clone Folder replicates one folder onto another by adding, deleting, and updating files on the target until they match those on the source. After opening the target and the source folders, click Clone Folder on the SyncTools menu. Then choose whether to include or exclude subfolders.

Go to illustration ➤

Clone Folder replaces one folder (the target) with another (the source). The effect is the same as deleting everything on the target and copying everything from the source.

✔ With Clone Folder, you determine the items to be copied by selecting the folder containing the items, not by selecting the items themselves. Select the folder on the left side of each File Transfer window.

Cloning a folder adds and updates target files until they are identical to those on the source. In addition, it deletes any target file that has no counterpart on the source.

It's the deletion of files that makes Clone Folder useful, particularly when you are maintaining a backup folder. With the usual copy operation, the backup folder over time accumulates all the files you have deleted from the source. With Clone Folder, those unwanted files are removed with each backup.

! Use this command with caution. Any subfolder or file not on the source will be deleted from the target.

To replace one folder with another:

1 On the *left* side of the *target* window, click the folder whose contents you want to replace.

✔ For information about using Clone Folder with a Windows 3.1 computer, see page 94.

2 On the *left* side of the *source* window, select the folder whose contents you want to reproduce.

3 With the source window still active, click Clone Folder on the SyncTools menu.

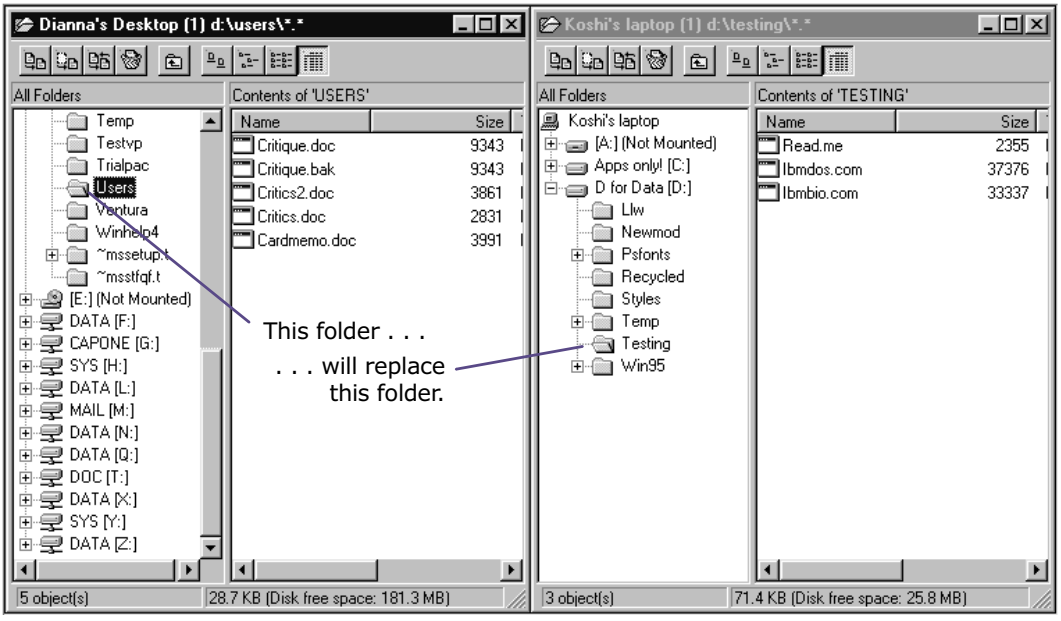
4 Verify that the source and target are correct. Change the target if necessary.

5 If you want to reproduce subfolders within the selected folder, check this box: Include Subfolders.

6 Click OK.

Using Clone Folder to replace one folder with another

Source window → Target window



Clone Folder deletes any files in the target folder that are not included in the source folder. It then updates older files on the target.

Go to topic summary

Speeding file transfers with SpeedSync and compression

When you are updating files, SpeedSync can shorten transfer times by sending only the parts of the files that have changed since the last update. SpeedSync is most effective when you update files that have not been changed extensively since the last update. Compression, on the other hand, speeds file transfers by "shrinking" files before they are sent and restoring them to their original sizes afterward. Compression is most effective with large files that have not been compressed already. Though both features are in effect by default, there may be circumstances in which you might improve transfer times by disabling them.

Go to illustration

Using SpeedSync

SpeedSync is designed to cut transfer times when you are updating files. It has no effect when you are copying files that were not on the target before you started copying.

✔ Whether SpeedSync and compression are used in file transfers depends entirely on the settings of the guest (the computer that opens the connection).

Before a file is copied, SpeedSync searches the target for a file with the same name. If none is found, the entire file is copied. Otherwise, the two files are compared to locate changes in the source file. Only the changes located in the source file are copied.

The time necessary to locate changes is usually more than offset by the smaller amount of data that has to be transferred. The reverse may be true in a few circumstances, particularly when you are updating files over a fast network connection.

! SpeedSync is a tool for decreasing transfer times. It does *not* merge the contents of two files. The contents of one file will always replace the contents of the other. If you need to merge databases, schedules, or other shared files, see the documentation for the program in which they were created.

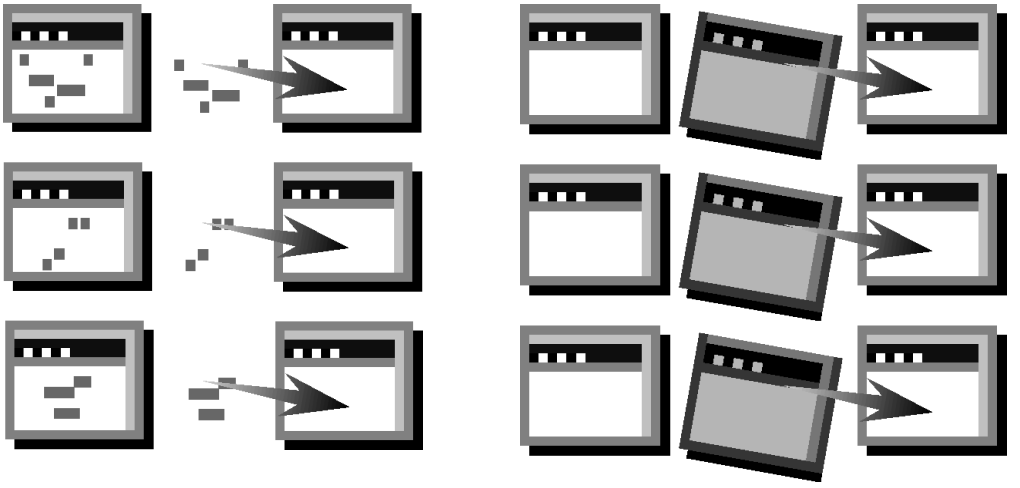
To disable SpeedSync:

1 On the Options menu, click File Transfer Options.

2 On the Performance tab, clear this box: Use SpeedSync on All File Transfers.

To review the effect of SpeedSync on your past file transfers, open at least one File Transfer window. Then click SpeedSync Statistics on the SyncTools menu. You see the statistics for your most recent transfer as well as combined statistics for earlier transfers.

How SpeedSync works



With SpeedSync

Source and target files are compared to locate changes in the source file.

Only changes are copied. The result is often shorter transfer times.

Without SpeedSync

Source and target files are not compared for changes.

Entire files are copied, often resulting in longer transfer times.

Using compression

Go to topic summary

Because compression usually results in the transfer of less data, it is particularly useful when you transfer large files by modem: the larger the files, the greater the savings.

Since compression would actually slow the transfer of files that have already been compressed (by PKZIP or another file-compression program), LapLink automatically turns this feature off while it is transferring such files.

If you find a situation in which compression does not speed up file transfer, you can disable it: On the Options menu, click File Transfer Options. On the Performance tab, clear this box: Use Compression When Transferring Files.

Resuming an interrupted file transfer

If you lose your connection to another computer while transferring files, File Transfer Recovery lets you connect again and continue the transfer where it left off. Any file—or portion of a file—copied before the interruption is skipped; only the untransmitted data is copied.

Go to illustration

File Transfer Recovery lets you continue a file transfer even when you have lost a connection. Instead of starting the transfer at the beginning, File Transfer Recovery resumes at the point where the connection was lost:

- Only the missing part of the interrupted file is copied.
- Files successfully copied before the interruption are not copied again.

File Transfer Recovery is particularly useful when you copy large files over an unreliable modem connection.

To resume an interrupted file transfer:

- If you were running an Xchange Agent when the interruption occurred, run the agent again.
- If you were transferring from File Transfer windows:

1. Re-establish the connection.
2. *Select the same files and folders.*
3. Begin the transfer again.

File Transfer Recovery and other options

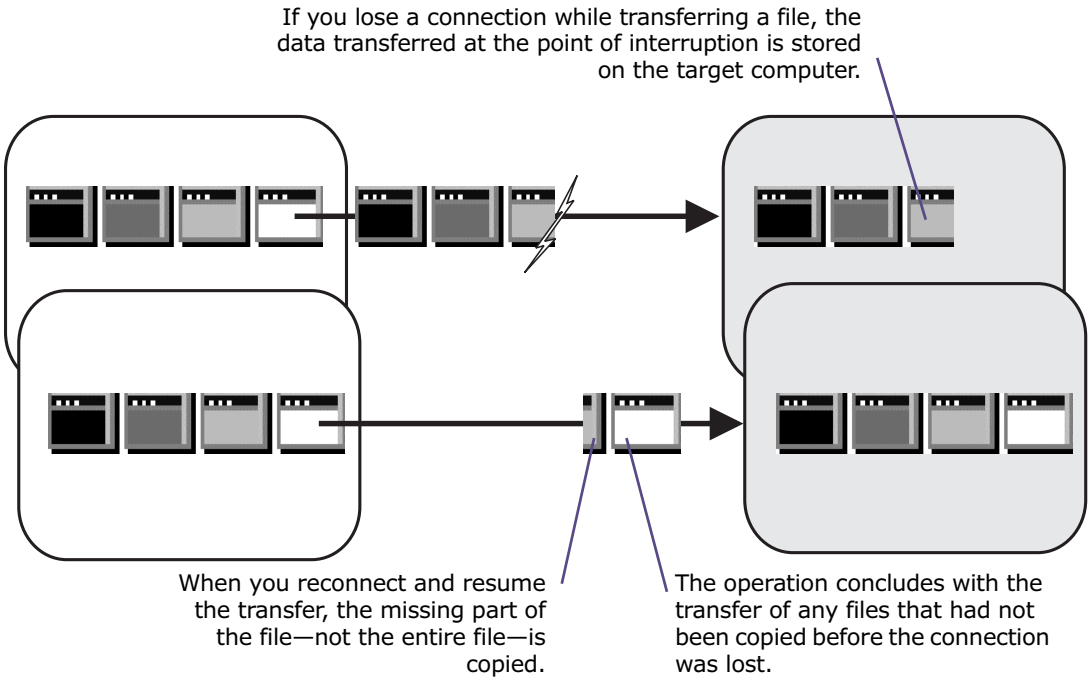
Three options must be enabled for File Transfer Recovery to work effectively. All three appear in File Transfer Options (Options menu) and are enabled by default.

Enable File Transfer Recovery Located on the Copy/Move tab, this box must be checked for File Transfer Recovery to occur at all.

Use SpeedSync on All File Transfers Located on the Performance tab, this box must be checked to allow the transfer to resume with the missing part of a file. When it is cleared, the entire file must be sent again.

Transfer Only If Files Are Newer Located on the Filter tab, this box must be checked so that files successfully copied before the interruption are not copied again.

How File Transfer Recovery works



Go to topic summary

When a transfer is interrupted, File Transfer Recovery creates a file in the target folder containing whatever part of the file has been transferred successfully. The file is named !LAPLINK.TSI.

When File Transfer Recovery resumes a transfer, this file is compared with the source file to determine what's missing. Once the file is complete, !LAPLINK.TSI is given its original name. (If you do not use File Transfer Recovery to resume the transfer, the file remains in the folder and can be deleted.)

Transferring files with long names to Windows 3.1

Transferring files with long names to a Windows 3.1 computer or to some other target that does not support long file names requires that the names be shortened. In LapLink, you can rename them yourself, leave them to LapLink to rename automatically, or omit them from the transfer. SmartXchange and Clone Folder are of limited use when exchanging files with a Windows 3.1 computer.

Go to illustration

Windows 95, Windows 98, and Windows NT give you the flexibility of naming files pretty much as you want them: you are not limited to eight characters with a three-character extension. LapLink fully supports the long file name feature. File names appear in their entirety in File Transfer windows, and, with the exceptions noted next, you retain the long names when you transfer the files.

Long file names pose a problem only when you transfer them to a target that does not support long file names. Such targets include—

- A computer running Windows 3.1
- A computer running LapLink for Windows 6.0, in Windows 3.1 or Windows 95
- Older networks

Using Copy and Move

If you copy or move a file with a long name to a target that does not support long file names, LapLink automatically detects the situation and displays a dialog box giving you these options:

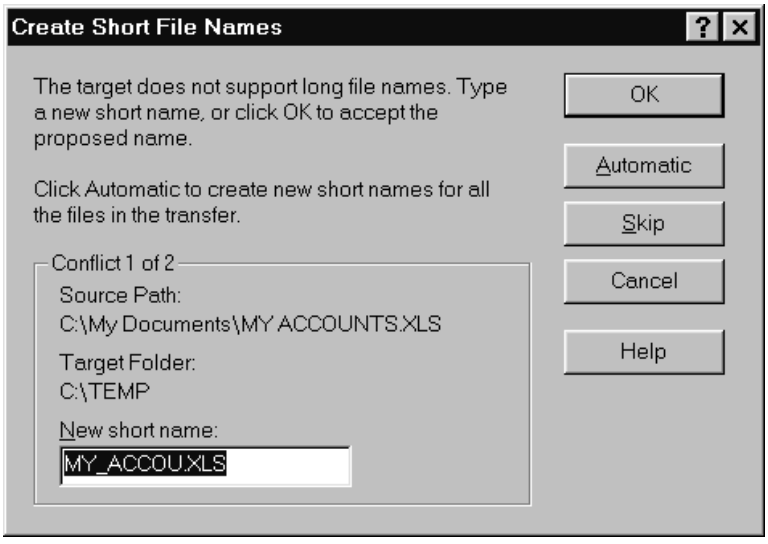
- Create a short name yourself
- Let LapLink rename the file for you
- Skip the file entirely

If there are several files with long file names, you can click Automatic to let LapLink create short names for all the long-name files at once.

How LapLink automatically assigns short names The short name LapLink assigns to a file depends on the long file name and the number of times the long file name has been transferred to a particular target, as illustrated in the following examples:

	File name
Original	LongFileName.DOC
On first transfer to target	LongFile.DOC
On second transfer to target	LongFil1.DOC
On third transfer to target	LongFil2.DOC

Transferring long file names to Windows 3.1



When you transfer a long file name to a target that does not allow long file names, LapLink suggests a shorted version of the name. You can then

- Click OK to accept the suggested name.
- Revise the name and click OK.
- Click the Automatic button to let LapLink rename the files.
- Click the Skip button to proceed without transferring the file.

When you let LapLink assign short names in repeat transfers to the same target, you create new files instead of overwriting old ones. To prevent this accumulation of files, rename the source files, assigning only short names. Or assign the short names yourself when LapLink displays the Create Short File Names dialog box; be sure to assign the same name in each transfer.

Go to topic summary

Using SmartXchange

Since SmartXchange is intended as a two-way exchange of files, it is of limited use in synchronizing files with long names when either the source or the target does not support long names.

SmartXchange is completely disabled when there are long file names on the source and the target does not support them. (LapLink detects this situation and displays a message informing you of the situation.)

SmartXchange is reduced to a one-way transfer when there are long file names on the target and none on the source. (LapLink automatically detects the situation and displays a message informing that you can copy files only from the source to the target.)

✔ If you want SmartXchange to work as intended, give all files short names before synchronizing.

Using Clone Folder

You can safely use the Clone Folder feature to clone folders in all circumstances except one: when you are trying to replicate a source containing files with long names onto a target that does not support long file names. In such circumstances, use Clone with caution; you may lose files from the target even if they are newer than their long-name counterparts on the source.

5 Automating File Synchronization with Xchange Agent

In this chapter

Introduction to Xchange Agent

Xchange Agent automates synchronization—the process of keeping your files updated when you use two computers. To set up an Xchange Agent, open a connection to another computer, choose the pairs of folders to be synchronized, preview, and then perform the synchronization. After working on the files on either or both of the computers, run the agent to reconnect and update the older copies of the files automatically. You can run an agent by double-clicking its shortcut icon or by scheduling it to run unattended.

Go to illustration

Xchange Agent simplifies the repetitive process of keeping two computers—often a laptop and a desktop—in sync.

✔ Xchange Agent automatically picks the newer copies of all the files regardless of which computer they are on. Files that have no match are copied onto the computer that lacks them.

Whether your most recent work appears on one or both of the computers, Xchange Agent transfers files so that both have only the newer copies of your files.

Xchange Agent automates the process of opening connections, selecting the pairs of folders to be synchronized, setting the appropriate options, initiating the exchange, and disconnecting. To prevent unwanted results, you can preview beforehand.

Creating an Xchange Agent

Open a LapLink connection—by modem, network, or any other means—to the computer with which you want to exchange files.

✔ Xchange Agent is also useful for local synchronizations, as when you want to keep files on your desktop in sync with files on your corporate network.

Then use the Xchange Agent wizard to create your own Xchange Agent:

- From the hierarchy of folders displayed for each computer, choose the pair of folders—one folder on each computer—you want to synchronize. Choose as many pairs as you want.
- Name your Xchange Agent file and save it.
- Preview the agent you just created, making sure that you set it up as intended.

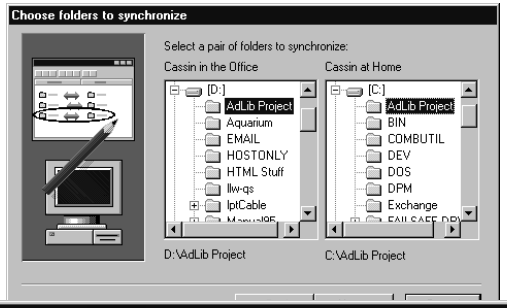
Then run the agent to make the files in each pair of folders identical.

Previewing an Xchange Agent

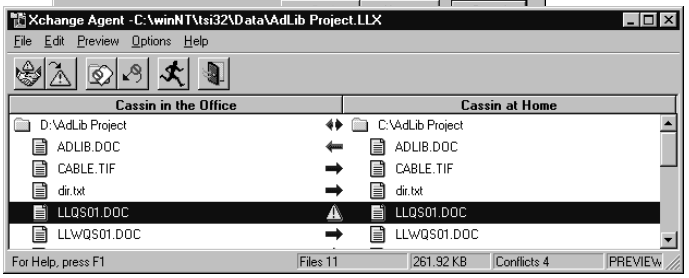
To prevent unintended consequences, you can preview an agent before synchronizing. The preview screen shows pairs of folders and files, with arrows to indicate the direction in which files will be copied when the agent is run.

In a preview, you can customize the agent by excluding pairs of files (and entire folders) from the current synchronization, leaving the files as they are on each computer.

Using Xchange Agent



Create an agent by connecting to another computer and selecting the pairs of folders to be synchronized.



Preview the agent and customize it as necessary. Then run the agent.

You can also run an agent from the desktop or by scheduling it.

By default, agents are previewed before being run. To bypass preview, click Properties on the File menu and click an option on the Run Options tab. For more information see page 107.

Go to topic summary

Running an Xchange Agent

There are several ways to run an Xchange Agent:

- Double-click its shortcut icon on the desktop.
- Schedule the agent to run unattended.
- Start LapLink and run the agent.
- Double-click the agent file in Windows Explorer.

✔ Xchange Agent exchanges files between folders. It does ***not*** merge the contents of files. To merge databases and other shared files, use the program in which the files were created.

Beyond the basics

Xchange Agent offers various options for customizing each synchronization. For example, you can—

- Change the direction of copy: instead of a two-way change of files, files are copied in one direction only, from one computer to the other.
- Include or exclude (filter) files according to type or name.
- Include or exclude subfolders within synchronized folders.

Creating an Xchange Agent

Once you connect to another computer, you create an Xchange Agent by selecting the pairs of folders—one folder on each computer—which you want to keep synchronized. You can select the pairs from a window displaying the folders on both computers, or you can drag folders from File Transfer windows onto the Xchange Agent window. In either case, you can preview the agent to ensure that you have set up the synchronizations as intended.

Go to illustration

To create an Xchange Agent:

1. Start LapLink and open a connection with the computer with which you want to synchronize files.

   For a local synchronization, simply start LapLink.

2. On the SyncTools menu, click either of these:

   - Xchange Agent Wizard
   - New Xchange Agent

Using the Xchange Agent wizard

The wizard guides you through the process of selecting pairs of folders to be synchronized. After naming and saving the agent file, you can preview the agent and change its settings.

To make the files in each folder pair identical, click the Run button on the toolbar.

Using New Xchange Agent

✔ There are two "modes" in Xchange Agent: edit and preview. Certain operations are available in one mode and not the other. To save an agent, for example, you must be in edit mode. To change to edit mode from preview mode, click the Close Preview button on the toolbar.

After choosing New Xchange Agent from the SyncTools menu, you can select the pairs of folders to be synchronized in two ways:

- On the Edit menu, click Add Folder Pair. After specifying whether the synchronization is Local-Local or Local-Remote, click a folder on each side of the window. Repeat the procedure to add other folder pairs.
- Drag folders from File Transfer windows onto the Xchange Agent window. Drag a folder first from one File Transfer window, then from the other one. Repeat the procedure to add other folder pairs.

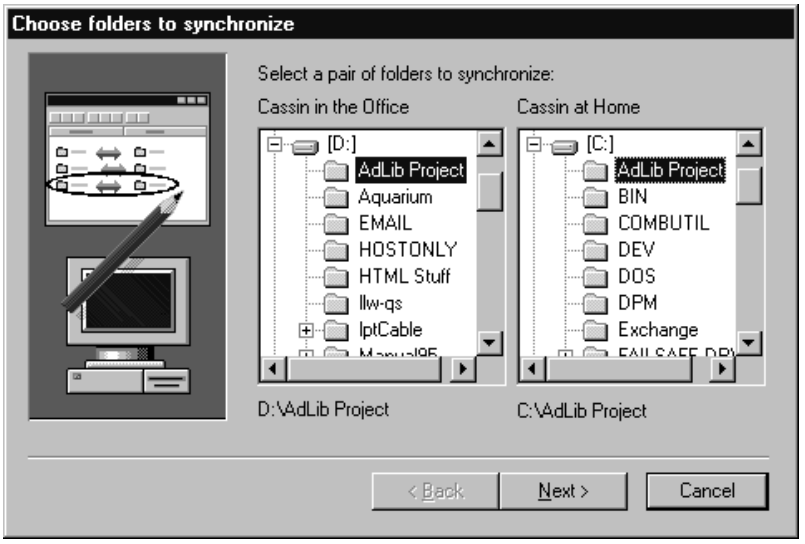
Once you have selected the pairs to be synchronized, you can do any of the following:

- Preview the agent: click the Preview button on the toolbar.
- Name and save the agent file: On the File menu, click Save. In the File Name box, type a name, and click OK.

Selecting folder pairs for synchronization

While using the Xchange Agent wizard or Add Folder Pair, you see the hierarchy of folders on both computers.

Create a folder pair by clicking one folder for each computer.



- Run the agent to make the files in each folder pair identical: click the Run button on the toolbar.

Go to topic summary

Xchange Agent files are given the .LLX extension. In Windows 95 and Windows 98, they are stored in the My Documents folder. In Windows NT, they are stored in the \Profiles*yourname*\Personal folder within the Windows folder (where *yourname* is your Windows NT logon name).

Previewing and running an Xchange Agent

Previewing an Xchange Agent lets you see exactly which folders will be synchronized and which files will be overwritten. It also lets you skip pairs of folders and files and resolve conflicts. Unless you specify otherwise, you preview each agent before you run it. You can run an agent from the desktop, from within LapLink, or you can schedule it to run in your absence.

Go to illustration

✔ Only agents that you schedule to run unattended will proceed without a preview. To set up other agents to run without a preview, see page 107.

Previewing

By default, a preview appears whenever you run most Xchange Agents. You can also open an agent and preview it.

To open and preview an Xchange Agent:

1. In LapLink, click Open Xchange Agent on the SyncTools menu. (In Xchange Agent, click Open Xchange Agent on the File menu.) Then click the agent file and click Open.
2. Click the Preview button on the toolbar.

✔ In a preview, arrows indicate the direction in which files will be copied, and thus which files will be overwritten. Special icons indicate conflicts between files.

While previewing an agent you can do any of the following:

- **Select files or folders to be omitted from the current synchronization only** Click a pair and click the Skip Pair button on the toolbar. Skipping a folder skips all the files and subfolders it contains.
- **Put skipped pairs back into a synchronization** Click a skipped pair and then click the Undo Skip button on the toolbar.
- **Resolve conflicts** Click a pair showing a conflict icon, click the Resolve Conflict button on the toolbar, and specify how you want the conflict resolved. For more information about resolving conflicts, see the next section.

! Once you have resolved conflicts or marked pairs to be skipped, run the agent *before closing preview.* Your modifications will be lost otherwise.

To select every pair of folders and files in the agent, click Select All on the Edit menu.

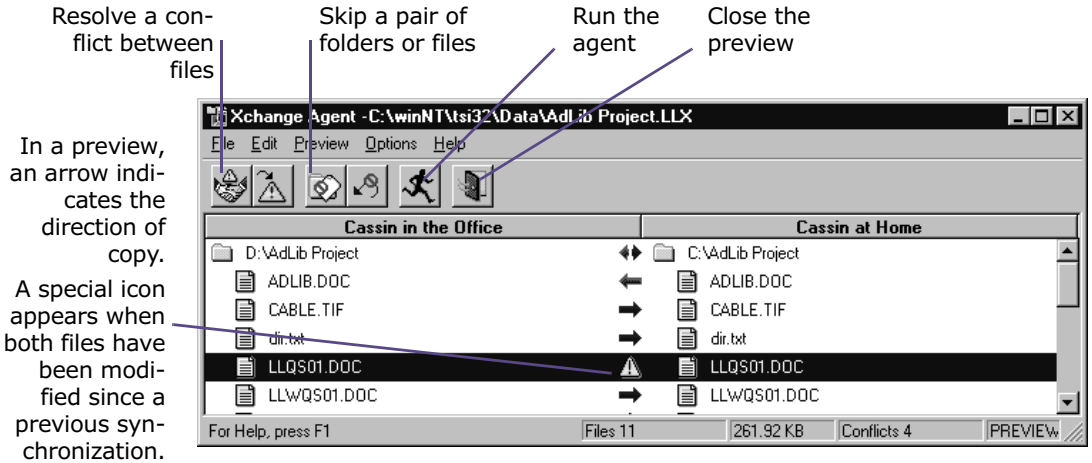
To locate a pair with a conflict, click the Next Conflict button on the toolbar.

To close a preview:

- Click the Close Preview button on the toolbar. You are now in edit mode.

While in edit mode you can customize an agent in several ways. For more information see page 106.

Previewing an Xchange Agent



Running an Xchange Agent

Go to topic summary

There are several ways to run an Xchange Agent:

- Double-click the agent's shortcut icon on the desktop. To create a shortcut icon for an open agent, click Create Desktop Shortcut on the File menu.
- Schedule the agent to run at an appointed time. For more information see page 110.
- Run the agent from within LapLink: Click Run Xchange Agent on the SyncTools menu. Then click the name of the agent file and click Open.
- Run an agent you have opened in Xchange Agent: click the Run button on the toolbar.
- In Windows Explorer, double-click the agent file.

Once an agent finishes synchronizing files, the connection with the remote computer is closed. If LapLink was not running to begin with, it is shut down automatically.

✔ For a record of your latest synchronizations, refer to the LapLink log file: on the Options menu, click Logging.

Previewing and running an Xchange Agent

Dealing with conflicts

When you are keeping folders on two computers in sync, the most common kind of conflict occurs when a file has been modified on both computers since the last time you synchronized. You can handle these conflicts when you preview or run the agent. Or you can set options to handle them automatically.

Go to illustration

Conflicts between files

Conflicts occur when you modify a file on both of your computers. Since both files are new, you need to decide how to handle them. These are the choices you can make while previewing or running an Xchange Agent:

- Copy either the older or the newer file over the other.
- Copy either the older or the newer file and give the copy a new name.
- Skip the conflict, without copying either file.

When you skip a conflict, you carry it over to future synchronizations. There are now two categories of conflicts:

- **New conflicts** Files have been changed on both computers since the previous synchronization.
- **Old conflicts** Conflicts were left unresolved in earlier synchronizations. The two computers now have different versions of the same file, and both are dated prior to the latest synchronization. You can treat these conflicts like new conflicts, or ignore them and let both versions remain.

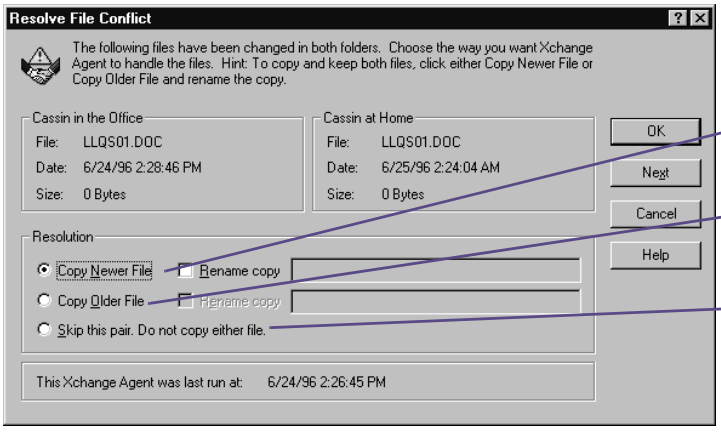
Changing how all conflicts are handled By default, each conflict is presented for resolution when you run an Xchange Agent. You can change this so that conflicts are handled automatically.

To change how conflicts are handled by an Xchange Agent:

1. Open the Xchange Agent.
2. On the File menu, click Properties.
3. On the Run Options tab, click this option: Run Unattended, without Preview or Confirmation. Then click either of these options:
   - Do Not Copy Either; Keep Both Files
   - Copy the Newer File over the Older

Ignoring old conflicts By default, old and new conflicts are treated alike, according to the settings on the Run Options tab in Properties. For example, if you specify that conflicts are to be displayed every time you

Resolving a conflict between files



When you are asked to resolve a conflict between files, you can do any of the following:

- Copy the newer file over the older, with the option of giving the copy a new name.
- Copy the older file over the newer, with the option of giving the copy a new name.
- Skip the conflict, without copying either. You will then retain two versions of the file, one on each computer.

run an agent, old conflicts will appear every time you run the agent. The alternative is to exclude old conflicts, regardless of how other conflicts are handled.

Go to topic summary

To exclude old conflicts from synchronizations:

1. Open the Xchange Agent.
2. On the File menu, click Properties.
3. On the Advanced tab, click this option: Exclude Previously Skipped Files.

✔ To retain both versions of files in old conflicts, click this option on the Advanced tab in Properties: Exclude Previously Skipped Files.

Other conflicts

You will encounter other kinds of conflicts in these situations:

- When you attempt to copy a file or folder with a long name to a drive that does not accept long names.
- When you attempt to synchronize a file with a folder; this happens only when a file and a folder have exactly the same name.

Long name conflicts If you do not shorten long names, you are given this choice when you run an agent: copy the file and give the copy a short name, or skip the conflict without copying the file.

Conflicts between files and folders If you do not rename the file to avoid the conflict, you are given this choice when you run an agent: copy both the file and folder and give the copies new names, or skip the conflict without copying either.

The best way to handle either of these conflicts is to rename files: shorten the long names or rename the file so that it does not conflict with the name of the folder. True synchronization cannot occur otherwise. If you set an agent to run unattended, for example, neither file in a conflict is copied.

Customizing an Xchange Agent

Instead of a two-way synchronization, you can customize an agent so that files within folder pairs are copied in one direction only, from one computer to the other. Among other modifications, you can create a shortcut icon to run an agent directly from the desktop, run an agent without a preview, and limit synchronizations just to the files that already appear on both computers.

Go to illustration

To customize an agent, you must open it from within LapLink or Xchange Agent.

To open an agent:

- In LapLink, click Open Xchange Agent on the SyncTools menu. Click the agent file and then click Open.
- In Xchange Agent, click Open Xchange Agent on the File menu. Click the agent file and then click Open.

Changing the direction of copy

✔ To customize an agent, you must be in edit mode. If you are previewing, click the Close Preview button on the toolbar.

When you create an Xchange Agent, all folder pairs are set for a two-way exchange of files. Files are copied in both directions, until the folders on both computers are identical.

You can modify this by specifying that files in a folder pair be copied in one direction only, so that only one folder updates the other.

To change the direction in which files are copied in a folder pair:

1. Click the folder pair.

   To change the direction of copy for all folder pairs, click Select All on the Edit menu.

2. Click an arrow button on the toolbar to change the direction of the copy.

Adding folder pairs

✔ To delete a pair of folders, click the pair and click Delete Pair(s) on the Edit menu. Then click Yes. The folders are deleted from the agent, not from the computers.

To add a pair of folders to an Xchange Agent:

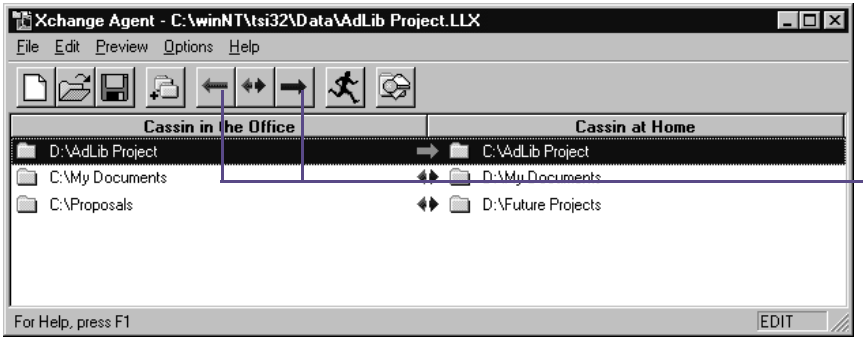
1. Open a connection with the computer with which you are synchronizing.
2. On the Edit menu, click Add Folder Pair.
3. Click one folder for each computer and then click OK.

Changing how an Xchange Agent is run

There are several ways to customize how an agent is run:

- Create a shortcut icon for running an agent from the desktop: on the File menu, click Create Desktop Shortcut.

Changing the direction of copy



To change the direction of copy, click one or more of the folders.

Then click either the left or right arrow button to specify the direction.

- Schedule the agent to run at the time you want: on the File menu, click Schedule. For more information see page 110.

Go to topic summary

- Set up the agent to run unattended: On the File menu, click Properties. On the Run Options tab, click this option: Run Unattended, without Preview or Confirmations. Then determine how conflicts will be handled by clicking either of these options: Copy the Newer File over the Older or Do Not Copy Either; Keep Both Files.

✔ For more information about handling conflicts, see the previous section.

Changing which files are included in synchronizations

By default, subfolders within folder pairs are included in synchronizations. Read-only files are also included, but hidden files and system files are not. To change these settings, click Properties on the File menu. Then click the File Options tab and change the settings as necessary.

✔ Filters offer another way of determining which files are to be included in synchronizations. For more information, see the next section.

Also on the File Options tab, you can set an option to limit synchronizations by exchanging only files that already appear on both computers. To exclude files that have been added to one computer and not the other, check this box: Include Files Only If They Are Present in Both Folders.

Instead of changing the various options every time you create a new agent, you can set default options to apply to any agents you create in the future. These defaults will take effect in new agents unless you specify otherwise in Properties. To change the defaults, click Properties for New Agents on the Options menu.

Customizing an Xchange Agent

Using filters to include or exclude files

Using preset filters or filters you create yourself, you can limit synchronizations by including only certain files or types of files. Or you can use the same filters to exclude certain files and file types.

Go to illustration

Xchange Agent is shipped with filters for some of the most common types of files, including Microsoft Word, Lotus 1-2-3, and dBase. File types are defined by one or more extensions. Word files, for example, are defined by the extensions .DOC and .DOT.

✔ You can use Xchange Agent to synchronize a single file: First, create an agent to include only the folder pair containing the file. Then create a filter to specify the name of the file.

You can also create your own filters for different file types—or for specific files.

You can use filters to synchronize only the files matching the filters. Or you can exclude the files matching the filters and synchronize the rest of the files.

To filter files by type using the preset filters:

1. Click a folder pair, and then click Set Filter on the Edit menu.

   To filter all folder pairs, click Select All on the Edit menu.

2. In the list of available filters, click a filter and then click the Add button. Repeat the process to add other filters.

3. To use the filters to exclude—not include—file types, check this box: Exclude Files That Match These Filters.

4. Click OK.

To create and apply your own filter:

1. Click a folder pair and then click Set Filter on the Edit menu.

2. Under the list of available filters, click the New button.

3. In the Filter Name box, type a description for the filter.

4. In the Pattern(s) box, type one or more file extensions or file names, using a semicolon (;) to separate them.

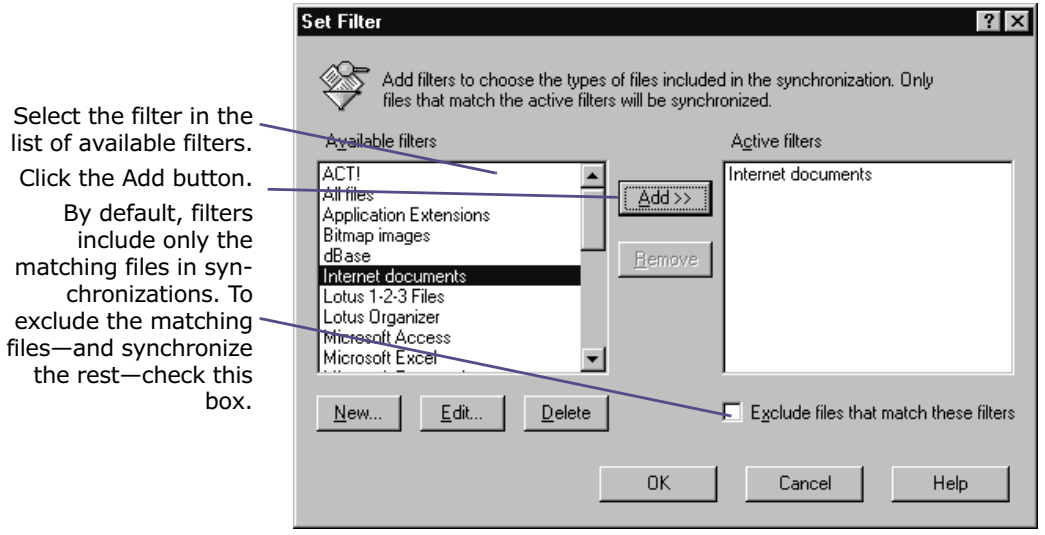
   To specify file types, use extensions preceded by asterisks: ***.chp;*.sty** and so on. To specify certain files, type their entire names: **annual.xls;march.xls;april.xls** and so on.

5. Click OK.

   Your filter now appears in the list of available filters.

6. Click the filter and then click the Add button.

Adding a filter to include or exclude files



7 To use the filters to exclude—not include—file types, check this box: Exclude Files That Match These Filters.

Go to topic summary

To remove the effects of a filter:

1 Click the filter in the list of active filters.

2 Click the Remove button.

Modifying a filter

You can modify any of the filters appearing in the list of available filters. To apply the modifications, you must add the filter to the list of active filters, even if the filter already appears in that list.

To edit and apply a filter:

1 Click the filter in the list of available filters.

2 Click the Edit button.

3 Change the Filter Name or Pattern(s) as necessary and then click OK.

4 In the list of available filters, click the filter then click the Add button.

To delete an available filter, click it and then click the Delete button.

Customizing an Xchange Agent

Scheduling an Xchange Agent to run automatically

You can schedule an Xchange Agent to run at a certain time on the days you specify. Scheduled agents run unattended: there is no preview, and conflicts are handled automatically. To schedule an agent, open it from within LapLink or Xchange Agent. To run the agent on schedule, simply leave your scheduler running.

Go to illustration ➤

You can set up an Xchange Agent to run at a particular time on one of these schedules:

- Just once, on a particular date (such as June 27, 1999)
- Every day
- On certain days of the week (such as Monday and Friday)
- Once a month on a particular day (such as the first day of each month)

LapLink does not have to be running for an agent to run as scheduled. When the scheduled time comes, LapLink starts, the connection is opened, files are synchronized, the connection is closed, and LapLink shuts down.

LapLink sets up an Xchange Agent to run at a scheduled time by setting it up in a scheduler program running in Windows. If you have either of the following scheduler programs, it will be used to run scheduled Xchange Agents:

- The System Agent program included in the Microsoft Plus! Companion for Windows 95
- The Task Scheduler program included in Microsoft Internet Explorer

✔ Xchange Agents can't be scheduled using the Task Scheduler in Windows NT 4.0.

Otherwise, the LapLink Scheduler program (installed by LapLink) is used. The LapLink Scheduler icon appears at the right end of the Windows taskbar.

To schedule an Xchange Agent:

1. From within LapLink or Xchange Agent, open the agent.
2. On the File menu, click Schedule.

   The Schedule Wizard begins.
3. Give a name to the schedule file.
4. Fill out the schedule by specifying the time and frequency.

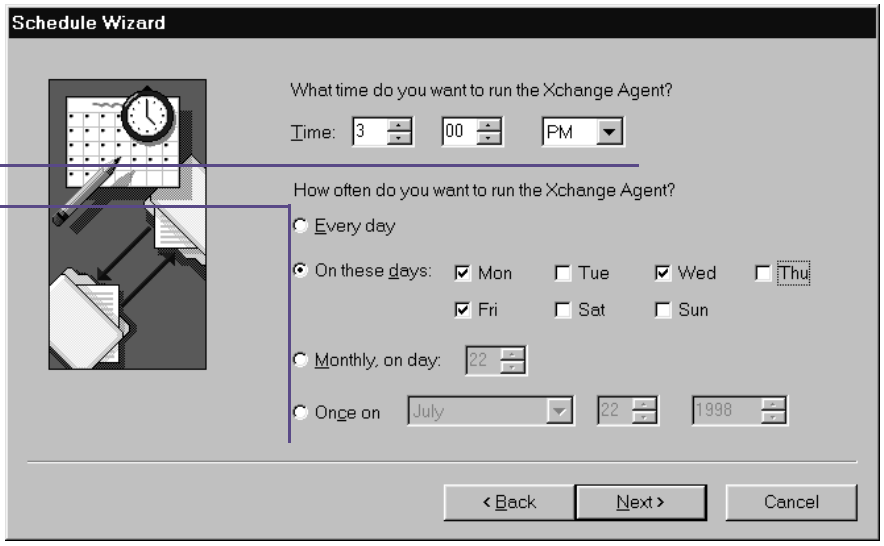
📌 Once you have scheduled an Xchange Agent in LapLink, you should modify it in your scheduler program, **not** in LapLink.

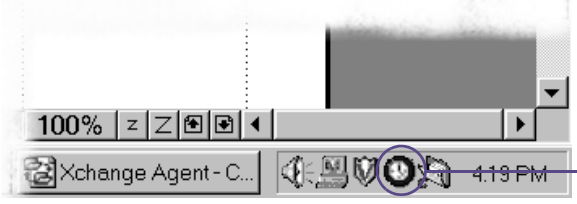
📌 To create another schedule for the same agent repeat the above procedure and assign a different name to the schedule file.

Scheduling an Xchange Agent from within LapLink

Set the time when the agent will run.

Click one of these options to set the frequency.





The icon for LapLink Scheduler appears in the lower right corner of your screen after you install LapLink.

To run a scheduled agent:

Go to topic summary

- Leave your Windows operating system and your scheduler running.

Running an agent unattended

A scheduled agent runs without preview, even if you have specified preview on the Run Options tab of Properties.

When conflicts are encountered, they are ignored; neither file is copied. If you prefer to have the newer file in each conflict copied over the older one, click Properties on the File menu. On the Run Options tab, click this option: Run Unattended, without Preview or Confirmations. Then click this option: Copy the Newer File Over the Older.

✔ For more information about resolving conflicts, see page 104.

To ensure that an agent will run and synchronize as scheduled, create an entry in Address Book. Include the log-in name and password required by the remote computer to open the connection.

6 Using Print Redirection

In this chapter

Using Print Redirection—Overview

There are two ways to print over a LapLink connection. While controlling a remote computer, you can print from that computer directly to your local printer. Or you can reverse direction and print directly from your local computer to a remote printer. Either way, you use Print Redirection to send a document over LapLink to be printed at the opposite end of the connection.

Go to illustration

Once you have opened a LapLink connection, you can use Print Redirection to send a document from the computer at either end of the connection to a printer at the other end.

There are two ways to use Print Redirection over a LapLink connection:

- **Print from remote to local** While using Remote Control to view and operate another computer, you can send a document from that computer to a printer at your location. For example, you can prepare a document on your office computer from home and print the document on your home printer.
- **Print from local to remote** When connected to another LapLink computer, you can print a document from your computer to a printer at the remote location. For example, after working on a report at home or on the road, you can connect to your office computer and print the report to a high-quality laser printer in your office.

  Without Print Redirection, you'd have to transfer the document to the other computer and then use Remote Control to run a program on the remote computer and print the document.

✔ For instructions on printing over a LapLink connection, see page 116.

Printing a document over a LapLink connection is much like printing it on a local printer: In the program in which you have prepared the document, choose the standard Print command. Normally you would then choose a printer close at hand. In Print Redirection, however, you choose a printer at the opposite end of the connection from the document.

When printing from remote to local, use Remote Control to choose Print on the remote computer; then choose a printer attached to your local computer.

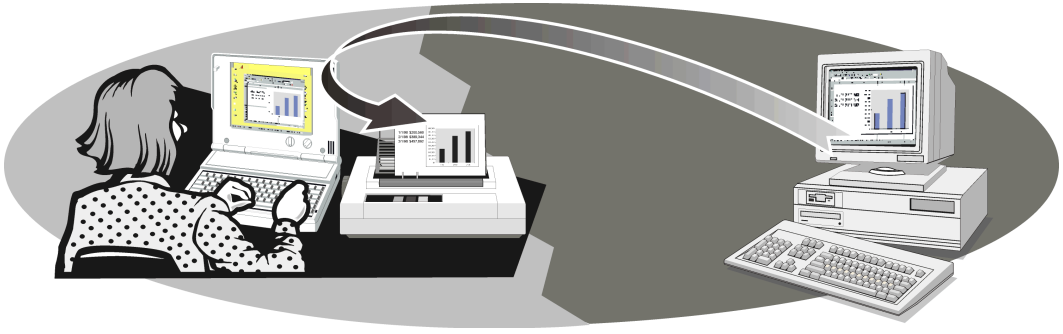
When printing from local to remote, choose Print on your local computer; then choose a printer attached to the computer at the other end of the LapLink connection.

Preparing for Print Redirection

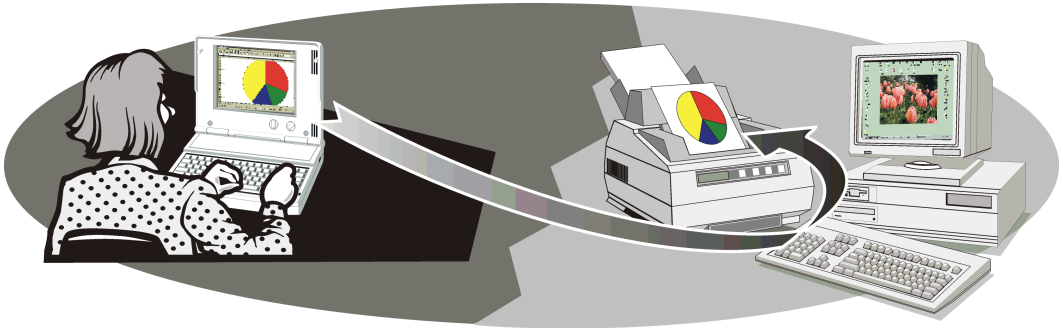
✔ To set up a printer for Print Redirection, see page 118.

To print documents from a computer to a printer at the other end of a LapLink connection, you need to set up the destination printer on that computer. If you want to print reports on the office printer while at home, for example, set up the office printer on your home computer.

Printing over a LapLink connection



Printing from remote to local While using Remote Control, you can prepare a document on the remote computer and print it on your local printer.



Printing from local to remote You can prepare a document on your local computer, open a LapLink connection, and send the document to a printer at the other end of the connection.

You can set up a printer for Print Redirection during LapLink Setup or afterward, using Print Redirection options in LapLink.

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Requirements for Print Redirection

There are two requirements for using Print Redirection:

- You must connect to another version of LapLink that supports Print Redirection.
- The default security setup on the other computer must be changed to allow Print Redirection.

Printing over a LapLink connection

To print over a LapLink connection, choose the standard Print command in any Windows program and then choose a printer set up especially to receive print jobs from remote computers. The document then travels over the LapLink connection, to a printer at the other end.

Go to illustration

Printing over a LapLink connection is much like printing to a local printer. You simply choose a different printer—one that has been installed especially to print over LapLink.

✔ For information about setting up a printer for Print Redirection, see the next section.

When printing from remote to local, choose a local printer from the remote computer using Remote Control. When printing from local to remote, choose a remote printer from the local computer.

To print a document over a LapLink connection:

1. Open a LapLink connection to the remote computer.
   - To print from remote to local, include Remote Control in the services you open.
   - To print from local to remote, open Print Redirection or any of the other services.

✔ You can use Print Redirection over a LapLink connection even when it is not one of the services currently open. Print Redirection becomes available on demand.

2. Open a word processor, spreadsheet, or other program and prepare the document for printing.
3. Use the standard Print command for your program and choose the printer you set up just for Print Redirection. (It is typically a printer with [LapLink] at the end of its name.)

The Print Redirection icon on the LapLink status bar animates as the document is sent over a LapLink connection to the destination printer.

When the animation stops, the document has arrived at the other computer. You can then close LapLink if you want.

You can monitor the status of the printing document after it's been sent over a LapLink connection. On the computer to which the printer is attached, click the Windows Start menu, point to Control Panel, and click Printers. Then double-click the printer icon.

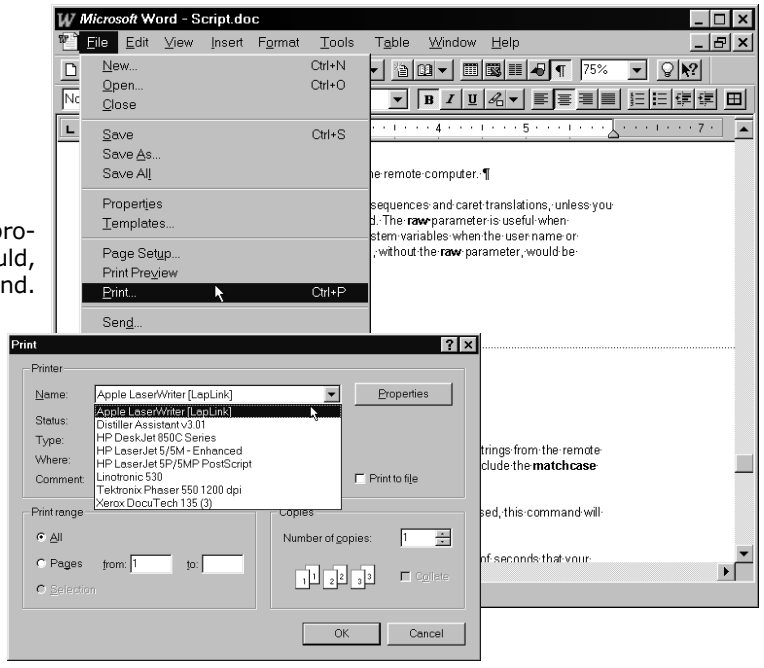
Choosing among several printers

Normally, Print Redirection sends documents to the printer that has been set up as the default printer on the connected computer. If you send a print job from home to the office, for example, the printer designated as the default on the office computer automatically gets the job. (If there is only one printer set up on a computer, that printer is always used.)

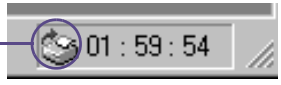
Printing over a LapLink connection

Print from a Windows program as you normally would, using the Print command.

Then choose the printer you set up for Print Redirection.



The Print Redirection icon on the status bar animates while the document is being sent to the other computer. The document is then printed.



Go to topic summary

If you want to use a printer other than the default, you need to set up LapLink to prompt you with a list of available printers whenever you print. Change this setting on the computer the printers are attached to, *not* the computer with the document.

If you're not in front of that computer, you can still change this setting by remote controlling the computer.

To set up LapLink to prompt with a list of printers:

1. On the computer the printers are attached to, click Print Redirection Options on the Options menu.
2. Click Prompt with a List of Available Printers.

Whenever you send a document to that computer to be printed, you'll be prompted with a list of all the printers set up on that computer.

Setting up printers for Print Redirection

To print documents from a computer to a printer at the other end of a LapLink connection, you need to set up the destination printer on that computer. If you do not set it up while installing LapLink, you can set it up using the Print Redirection Options in LapLink. For best results set up a printer identical to the one you will be printing to, at the other end of the connection.

Go to illustration

Before you can use Print Redirection, you need to add a printer for Print Redirection to the computer you'll be printing from (the location where your documents are kept).

✔ You may already have added a printer when you installed LapLink.

For example, if you're remote controlling your office computer and want to print a document on that computer to your printer at home, you'll need to set up your home printer on the office computer.

If you want to print a document on your home computer to a high-quality printer at your office, you'll need to set up that printer on your home computer.

The printer you set up for Print Redirection should match the printer you'll be printing to at the other end of the connection. Although it is possible to use a compatible printer, the results you get when printing might not be as good.

Setting up a printer

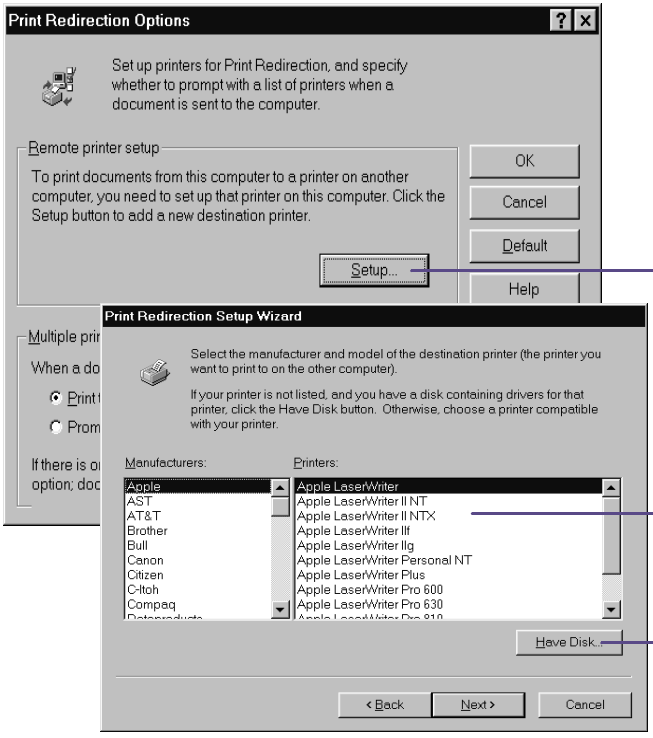
You can set up a printer during LapLink Setup or from within LapLink after installation. You will probably need your Windows CD-ROM or the disk that accompanied your printer.

To set up a printer from within LapLink:

1. Click Print Redirection Options on the Options menu.
2. Click the Setup button to start the Print Redirection Setup Wizard.
3. Follow the instructions in the wizard.

Once the printer is set up, you can print to it, and your document will be sent over your LapLink connection. In order to print, LapLink must be running and connected to the computer you want to print to.

Setting up a printer for Print Redirection



To set up a new printer, click the Setup button in the Print Redirection Options dialog box.

Choose the printer from the list.

If your printer arrived with a setup disk, click Have Disk.

Go to topic summary

7 Troubleshooting Tips

In this chapter

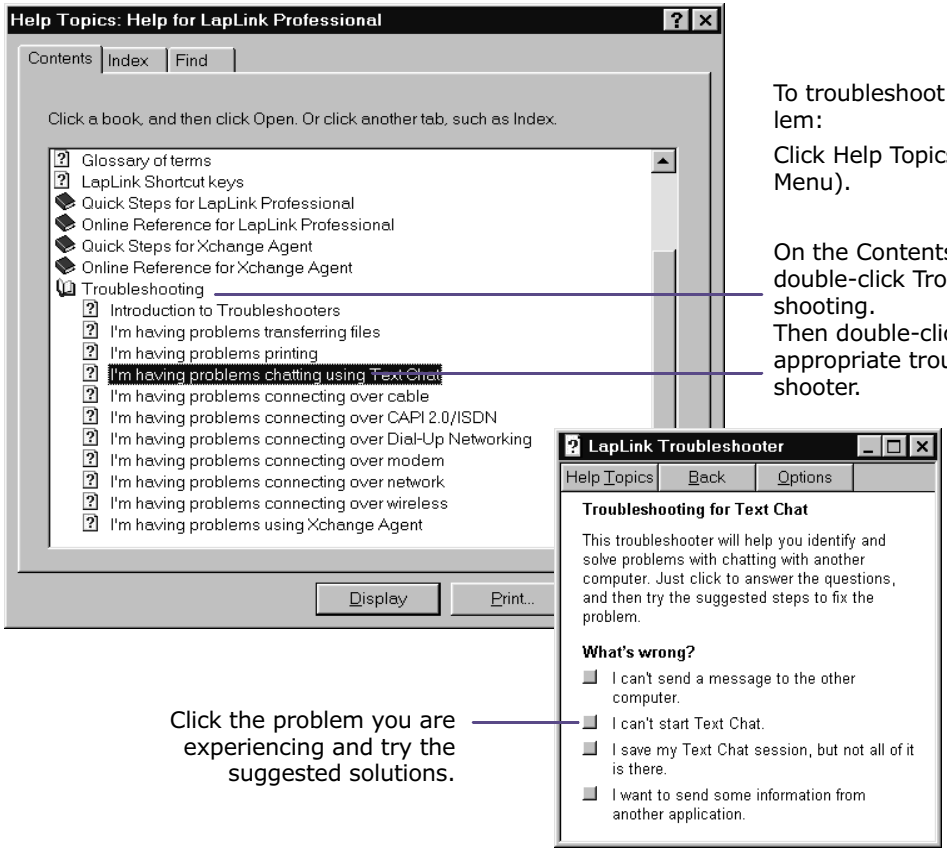
Introduction to troubleshooting

This chapter provides checklists for solving problems and improving performance. These checklists are designed as a quick overview of possible solutions, with enough information to guide experienced users to solutions.

For detailed, step-by-step information, consult the troubleshooters in online Help. The troubleshooters are designed to solve problems you may encounter in opening connections and using the services once you have opened connections.

To use an online troubleshooter, open the Troubleshooting book in Help Topics and display one of the topics. Then answer the questions about your problem and try the suggested remedies. In some cases you will find shortcut buttons to dialog boxes; use these buttons to resolve the problem faster.

Using Help to troubleshoot a problem



To troubleshoot a problem:

Click Help Topics (Help Menu).

On the Contents tab, double-click Troubleshooting.
Then double-click the appropriate troubleshooter.

Click the problem you are experiencing and try the suggested solutions.

Checklist for modem connections

Run LapLink on both computers

No connections are possible by modem or any other means unless LapLink is running on both computers. You can connect to a computer running LapLink Professional or another Windows-based version of LapLink.

In Windows 95 and Windows 98 use your Windows modem for LapLink connections and enable its port

In Windows 95 and Windows 98 it's a good idea to specify the modem you've already set up in Windows as the modem to use in LapLink, too. (In Windows NT, there is no alternative to using the Windows modem.) In LapLink, click Port Setup (Options menu), click Windows Modems, and then check the Enable Port box.

If you have trouble communicating using the Windows modem, use Port Setup to enable the COM port to which the modem is attached.

Ensure that the modem can answer a call

A modem cannot answer an incoming call unless the Auto Answer option is on. In Port Setup (Options menu), click Windows Modems. Click Configure, and then verify that Enabled under Auto Answer is checked.

Make sure the modem port is not already in use

LapLink cannot use a modem as long as the modem port is being used by another program. Either close the program or wait until it releases the port.

Check the settings for a Windows modem

If your modem does not answer calls or dial after you have enabled it as a Windows modem in LapLink, exit LapLink, and make sure the modem is turned on. In the Windows Control Panel, double-click Modems, click the Diagnostics tab, and click the appropriate port. Click More Info. If the test fails, click the General tab, and remove the modem. Shut down the computer and then restart it. Return to Modems in the Control Panel and reinstall the modem.

Disable error control and data compression on both computers

Some modems communicate better if error control and data compression are disabled on both computers. In Port Setup (Options menu), click Windows Modems, Configure, and then Properties. On the Connection tab, click Advanced. Then clear Use Error Control. Repeat this procedure on the other computer.

Set a longer timeout value

If the computer you are dialing takes a long time to answer and complete the connection, try increasing its modem timeout. In Port Setup (Options menu), click Windows Modems. Click Configure and then Properties. On the Connection tab, type a larger number in this box: Cancel the Call If Not Connected Within.

Lower the modem speed on the computer opening the connection

In Port Setup (Options menu), click Windows Modems. Click Configure and then Properties. On the General tab, click a lower speed in the Maximum Speed box.

Check the security setup on the remote computer

✔ To let other computers connect to your computer by modem, you must change the security setup established during installation.

If you are denied the use of Remote Control or one of the other services while connected to another computer, check the security setup on that computer. You can gain access to services through Security (Options menu).

Disable call waiting

Ensure that the call waiting feature is disabled on the telephone systems at both ends of the connection. Call waiting interferes with modem connections when incoming calls are detected.

Try using Dialing Properties to simplify the dialing process

When you use a Windows modem, try using the Dialing Properties feature in connection with Address Book. It simplifies the process of accessing outside lines, making long-distance and international calls, and using a calling card.

With the proliferation of area codes, however, you may find that some numbers may not be dialed correctly, as when you make a local call to another area code or a long-distance call within the same area code. In this case, edit your Address Book entry for that number so that the Use Country Code and Area Code box is cleared. In the Telephone Number box, type the number exactly as it is to be dialed. Include the number for outside access, country code, area code, and "1" for long-distance, as required. (When you travel, you may have to edit this data to reflect your current location.)

Disable other programs that use COM ports while running LapLink

You may experience problems if you use LapLink to connect by modem while running any other programs that monitor serial (COM) ports; modem and fax programs typically monitor serial ports for incoming calls or faxes and may cause a modem to disconnect unexpectedly. Disable such programs while using LapLink.

Checklist for Dial-Up Networking connections

☑ Ensure that Dial-Up Networking is installed

You can connect over Dial-Up Networking only if Microsoft Dial-Up Networking has been installed. Dial-Up Networking should already be installed in Windows NT. In Windows 95 or Windows 98, you can install this feature from your Windows CD-ROM as follows: In the Windows Control Panel, double-click Add/Remove Programs. Click the Windows Setup tab, and double-click the Communications line. If Dial-Up Networking is checked, it is installed. If it is not checked, click Dial-Up Networking, and then click OK to begin installation.

✔ For more information about Microsoft Dial-Up Networking, consult Windows Help.

☑ Once connected using Dial-Up Networking, connect to the network

When you connect over Dial-Up Networking in LapLink, you dial in to a remote access server and connect to a network. Then you make LapLink connections in the Connect over Network dialog box. Unless you specify otherwise, the list of available LapLink connections appears automatically as soon as you are connected to the network. If the list of connections does not appear automatically, click the Connect button on the LinkBar and then click Network.

To connect to another LapLink computer as soon as a Dial-Up Networking connection is established, make sure that this box is checked in the Connect over Dial-Up Networking dialog box: After Connecting to the Network, Choose a Laplink Connection.

☑ Ensure that your computer is set up for network connections

Making connections to other LapLink computers through Dial-Up Networking requires that your computer meet the requirements for network connections in LapLink: a network protocol must be installed, your network ports must be enabled in LapLink, and so on. For more information about network connections, see page 127.

✔ To let other computers connect to your computer through Dial-Up Networking, you must change the security setup established during installation.

☑ Run LapLink on both computers

No connections are possible by Dial-Up Networking or any other means unless LapLink is running on both computers. You can connect to a computer running LapLink Professional or another Windows-based version of LapLink. Verify that the computer has a network port enabled for the same kind of network connection as your network port.

☑ Try using Dialing Properties to simplify the dialing process

When you use a Windows modem, try using the Dialing Properties feature in connection with Address Book. It simplifies the process of accessing outside lines, making long-distance and international calls, and using a calling card.

With the proliferation of area codes, however, you may find that some numbers may not be dialed correctly, as when you make a local call to another area code or a long-distance call within the same area code. In this case, edit your Address Book entry for that number so that the Use Country Code and Area Code box is cleared. In the Telephone Number box, type the number exactly as it is to be dialed. Include the number for outside access, country code, area code, and "1" for long-distance, as required. (When you travel, you may have to edit this data to reflect your current location.)

Disable other programs that use serial (COM) ports while running LapLink

You may experience problems if you use LapLink to connect by modem while running any other programs that monitor serial (COM) ports; modem and fax programs typically monitor serial ports for incoming calls or faxes and may cause a modem to disconnect unexpectedly. Disable such programs while using LapLink.

Disconnect a Dial-Up Networking connection

When connecting by modem, you can instruct LapLink to break a connection after a specified number of minutes in which there is no activity at either end of the connection: Click Connect Options (Options menu). On the Disconnect tab, check the Disconnect Inactive Connections box, and type the number of minutes below.

In most cases, the connection is completely broken after the specified period. With Dial-Up Networking connections, however, you must complete the process: click Disconnect (Connect menu) and then click Disconnect All.

Checklist for network connections

☑ Enable the network port for LapLink

Access to a network by e-mail and other programs does not automatically provide network access in LapLink. To connect by network in LapLink, your network port must be enabled—that is, made available for use in LapLink. To enable a network port in LapLink, click Port Setup (Options menu). Click the type of network—either IPX or TCP/IP—in the Ports list. Then check the Enable Port box. If the network is IPX, click Configure, and ensure that Internetwork Name Broadcast is checked.

☑ Run LapLink on both computers

No connections are possible by network or any other means unless LapLink is running on both computers. You can connect to a computer running LapLink Professional or another Windows-based version of LapLink. (LapLink for Windows 3.1 allows connections over IPX networks but not over TCP/IP networks.) Verify that the computer has a network port enabled for the same kind of network connection as your network port.

☑ Refresh the list of connections

If LapLink was started on the other computer after you started connecting, you may need to refresh the list of available connections in order to include the computer in the list. Click the Refresh List button, and wait while the list of LapLink computers is updated.

☑ Ensure that the network is installed

LapLink cannot connect by network unless a network protocol—either IPX or TCP/IP—is installed. Network protocols are installed using the Networks option in the Windows Control Panel. See your Windows Help and documentation for information on adding network protocols.

☑ Type the TCP/IP name or address

If you do not see a computer listed as an available connection over a TCP/IP network, you may have to type the computer's IP name or address. Click the Connect button on the LinkBar, and then click Network. On the TCP/IP Addresses tab, type the IP address or the Windows computer name in the TCP/IP Name or Address box. (This name may differ from the name assigned to the computer in LapLink.)

To determine the TCP/IP address for a Windows 95 or Windows 98 computer, click Port Setup (Options menu); click TCP/IP in the ports list; and then click Configure. The computer's address appears in the IP Address box.

To determine the TCP/IP address for a Windows NT computer, click the Start button, point to Programs, and click Command Prompt. Then

type **IPCONFIG** and press ENTER. The address appears on the IP Address line.

If you cannot connect after typing a TCP/IP address, click the Start button, point to Programs, and click MS-DOS Prompt. Then type **PING** followed by a space and the address you are trying to reach. Press ENTER. If you do not receive a positive reply, the address is not available, and you cannot connect.

Check the security setup of the remote computer

✔ To let other computers connect to a computer by network, you must change the security setup established during installation.

If you are denied the use of Remote Control or one of the other services while connected to another computer, check the security setup on that computer. You can gain access to services through Security (Options menu).

IPX connections: change the type of frame on both computers

Some IPX connections work better if the frame type for the IPX connection is preset rather than selected automatically; try setting the frame type to Ethernet 802.2 or Ethernet 802.3. This setting should be changed on both computers making a LapLink connection. Network protocols are installed using the Networks option in the Windows Control Panel. See your Windows Help and documentation for information on changing the frame type.

Checklist for cable connections

Ensure that Autoconnect is turned on

Autoconnect opens cable connections for you automatically. To ensure that Autoconnect is in effect, click Connect Options (Options menu). On the Connect tab, verify that this box is checked: Enable Autoconnect. Below the option, verify that the services you want to use are also checked.

If you have trouble maintaining a cable connection, try disabling Autoconnect on one or both of the computers.

Run LapLink on both computers

No connections are possible by cable or any other means unless LapLink is running on both computers. You can connect to a computer running LapLink Professional or another Windows-based version of LapLink.

Check the cable

Make sure that each end of the cable is securely attached to the proper port; check the port labels for proper identification. Check a parallel cable for damaged pins. Try reconnecting the cable to each port or even reversing the cable ends.

Attach the yellow LapLink cable to Parallel/LPT (printer) ports. Attach the blue LapLink cable to Serial/COM (modem or mouse) ports; connect only one end to each computer. LapLink does not work over most other serial cables or any printer cables. Attach a LapLink USB cable to a USB port or a USB hub at each computer.

Consult the Windows Device Manager when in doubt about USB or other kinds of ports

If you are not certain whether you have a USB port or another kind of port, check the Windows Device Manager: Right-click My Computer; then click Properties. Look on the Device Manager tab. Note that USB connections are not available in Windows NT or in early versions of Windows 95.

Enable the port

You cannot connect by cable until a port is enabled—that is, made available specifically to LapLink. To enable a port for cable, click Port Setup (Options menu). Click the port you want to enable. Then check the Enable Port box.

If a port is listed as unavailable, quit any program that may be using the port, or enable a different port. Make sure that the cable is attached to an available port.

Use a serial cable when connecting to a Windows NT computer

When you want to connect by cable to a computer running LapLink on Windows NT, parallel and USB connections are not available. Use a serial cable instead.

Serial cable connections: lower the speed of a serial port

In Port Setup (Options menu), click the COM port to which the cable is attached. Click Configure. In the Port Speed box, click 57600. Repeat this procedure on the other computer. If you still can't connect, repeat the procedure, lowering the speed one step at a time until you can connect.

Serial cable connections: check for an internal modem

In Port Setup (Options menu), look for an internal modem that is enabled for the serial port to which the cable is attached. Change the port setup so that the modem is enabled for a different serial port.

Restart the computer

If all else fails, remove the cable from both computers, and restart the computers. Reattach the cable, and try the connection again.

Improving parallel cable performance in Windows 95 and Windows 98

✔ Parallel cable connections are not available in Windows NT; use a serial cable instead.

There are three drivers you can use in LapLink for parallel ports: the LapLink Enhanced driver (the default), the LapLink Standard driver, and a Windows driver. The LapLink Enhanced driver is preferable when you alternate between parallel communications and other types of communications: you can leave the parallel port enabled without experiencing any degradation of performance. The Windows driver, on the other hand, generally provides better performance for parallel connections; use the Windows driver if you intend to use parallel connections exclusively. If you then want to switch to modem or some other type of communication, be sure to disable the parallel port beforehand.

✔ For maximum performance from an ECP port, use the Windows driver for the parallel port to which the cable is attached.

To change the parallel port driver, click Port Setup (Options menu) and then click the appropriate LPT port. Ensure that the Enable Port box is checked. Click Configure and then click one of these options: Use the Windows Driver, Use the LapLink Enhanced Driver, or Use the LapLink Standard Driver.

Checklist for wireless connections

☑ **Make sure you're not trying to connect to a Windows NT computer**

You cannot connect computers using wireless devices when either or both of the computers is running Windows NT. Use a serial cable instead.

☑ **Set up the Windows infrared driver**

The Windows infrared driver supports a variety of built-in ports and devices attached to serial ports. When you set up the driver, specify any serial port, from COM1 to COM9, as the redirected port. In LapLink Port Setup (Options menu), enable the redirected port for wireless communications.

☑ **Edit the LapLink initialization file if you use AirShare Radio Modules**

A setting in the LLW.INI file must be changed in order to connect computers using AirShare Radio Modules. Open LLW.INI in Notepad; the file is located in the \TSI32\LLW subfolder within your Windows folder. Locate the section of the file corresponding to your wireless port: [COM1], [COM2], and so on. Edit the section so that it includes this line: **UseIRDADriver=No**. Restart LapLink. In Port Setup (Options menu), ensure that the port is enabled for wireless communications.

☑ **Enable the wireless port**

You cannot connect by wireless until a serial port is enabled for wireless connections in LapLink. In Port Setup (Options menu), click the COM port to which the wireless device is attached. Click Wireless in the Type box, and then check the Enable Port box.

☑ **Ensure that Autoconnect is turned on**

Autoconnect opens wireless connections for you automatically. To ensure that Autoconnect is in effect, click Connect Options (Options menu), and verify that this box is checked: Enable Autoconnect. Below the option, verify that the services you want to use are also checked.

☑ **Run LapLink on both computers**

No connections are possible by wireless or any other means unless LapLink is running on both computers. You can connect to a computer running LapLink Professional or another Windows-based version of LapLink.

☑ **Check the cable, if any**

If you have an external wireless device, make sure that its cable is securely attached to the proper port.

✔ In LapLink, *wireless* refers to short-range connections over infrared or radio devices. Other "wireless" connections are available over wireless LAN adapters (using Connect over Network) and cellular modems (using Connect over Modem).

Lower the speed of the ports

If you are using wireless devices without the Windows infrared driver, try lowering the port speeds on both computers. In Port Setup (Options menu), click the COM port to which the wireless device is attached. Click Configure, and then click 57600 in the Port Speed box. Repeat this procedure on the other computer. If you still can't connect, repeat the procedure, lowering the speed one step at a time until you can.

Tips for AirShare Radio Modules

- Check the LED lights; both the red and the green lights should be lit.
- On one computer at a time, try connecting the module to a different serial (COM) port.
- Switch to a different channel; be sure that the same channel is set on both modules.
- Move the modules closer together and away from metal surfaces, laptop screens, desktop monitors, and electrical transformers.
- Swap the modules between the computers.
- Replace the batteries.

Checklist for CAPI 2.0/ISDN

Run CAPI-compatible versions of LapLink on both computers

No connections are possible by CAPI 2.0/ISDN or any other means unless LapLink is running on both computers. Ensure that the version of LapLink running on that computer is compatible with CAPI 2.0/ISDN.

Check the security setup on the remote computer

If you are denied the use of Remote Control or one of the other services while connected to another computer, check the security setup on that computer. You can gain access to services through Security (Options menu).

Ensure that LapLink is set up to answer calls over CAPI 2.0/ISDN

CAPI cannot answer an incoming call unless the Auto Answer option in LapLink is enabled. In Port Setup (Options menu), click CAPI 2.0/ISDN. Click Configure, and then verify that the Enable box under Auto Answer is checked.

If you are using ISDN in North America, avoid using the LapLink CAPI 2.0/ISDN

In North America, ISDN doesn't usually include CAPI 2.0 but you can still use your ISDN device in LapLink. If the device is set up as a Windows (TAPI) modem, you can open a LapLink connection using Connect over Modem or Connect over Dial-Up Networking. Simply ensure that the device is enabled in LapLink Port Setup (Options menu) as a Windows modem.

If your ISDN device is set with its own dialer, use the dialer to log on to a network. Then, in LapLink, use Connect over Network to connect to other computers running LapLink on that network.

Close some LapLink services to allow connections over both channels

Normally CAPI 2.0/ISDN hosts on which channel bonding is not enabled can handle incoming connections on both channels. When only one connection is possible, try closing services on that connection.

Checklist for File Transfer

✔ To ensure that files are copied, press CTRL while dragging. To ensure that files are moved, press SHIFT while dragging.

☑ Drop files directly on target folder

The most common mistake in drag and drop is dropping files on the wrong target folder (the folder to receive the files). To help prevent this mistake, open the target folder first; the name of the folder now appears in the title bar. Then open the source folder and select and drag the files until the mouse pointer rests on the open folder and the folder is highlighted. As soon as you release the mouse button, you receive a confirmation dialog box showing, among other things, the target you just dropped on. Check the target, and change it if necessary.

If you are copying an entire folder (rather than files *within* a folder), drop the folder on the target one level higher than where you want the files to appear; this may be another folder or a drive letter. Assume that you want to update your Letters folder on your desktop computer with your Letters folder from your laptop, and the Letters folder appears at the highest level of folders on drive C. Drag the folder from the laptop to the desktop and drop it on drive letter C.

☑ Use the Copy or Move command

Instead of using drag and drop, use the Copy or Move command. First, click the target folder. After selecting the files to be transferred, click Copy or Move (File menu). Then verify that the source and target are correct.

☑ Make File Transfer available to other computers

If you are denied the use of File Transfer or one of the other services while connected to another computer, check the security setup on that computer. You can gain access to services through Security (Options menu).

☑ Log on to Windows before trying to use File Transfer

✔ To set up LapLink to run before the Windows logon dialog box appears, click Remote Control Options (Options menu). On the Startup tab, check this box: Always Start LapLink before Windows Logon Prompt.

As a security measure, LapLink does not allow users to connect to a computer and open File Transfer while the computer is waiting to be logged on to Windows. (When you attempt to open a File Transfer connection to a computer running LapLink and displaying the Windows logon dialog, you see this message: "Creation of window failed.")

The solution is to open a Remote Control connection first. Log the remote computer on to Windows and then open File Transfer.

☑ General tips for faster transfers

Follow these suggestions to improve transfer speeds:

Check the folders and files you have selected for transfer, making sure that you are not including more than necessary. For example, have you selected an entire folder when you want to transfer only a few files within the folder?

- Use SpeedSync to improve file transfer times when updating files, particularly over modems: on the Performance tab of File Transfer Options, make sure that the Use SpeedSync on All File Transfers box is checked.
- Disable any ports that are not in use: in Port Setup (Options menu), click an unused port, and then clear the Enable Port box.
- Close other service windows and any connections to other computers you may have opened in LapLink.
- On laptop computers, disable power management functions. Attach the AC adapter to the computer to ensure steady voltage throughout the transfer.
- Disable screen savers, and close other programs.

Tips for transfers over a serial cable

- Ensure that the serial port is configured for maximum speed: in Port Setup (Options menu), click the appropriate COM port; click Configure; and ensure that Port Speed is set at 115200.
- Change the transfer mode to standard: in Port Setup (Options menu), click the appropriate COM port; click Configure; and click Standard under Transfer Mode.

Tips for transfers over modems

Consult the documentation for your modem and verify that the port speed is set for optimum performance: In Port Setup (Options menu), click Windows Modems. Click Configure, and click the modem you are using. Click Properties. In the Maximum Speed list on the General tab, click the maximum speed your modem can use.

Tips for transfers over a network

- Transfer your files when there is less traffic on the network.
- Ask your system administrator to verify that the network drivers are current.

Tips for SmartXchange

Use SmartXchange to update files in two folders so that the folders share the latest files. Since SmartXchange always overwrites older files, do not use it if you want to *merge* the contents of two files. Use SmartXchange by opening the two folders you want to update; do not select the individual files. After clicking SmartXchange (SyncTools menu), verify that you have opened the right folders. If you do not want to add new files to either folder, check this box: Transfer Only If Files Are Already on Target.

- Because long file names are not supported in Windows 3.1, SmartXchange may not work as expected when you are synchronizing with a computer running LapLink for Windows 3.1. For more information, see page 95.

Ensure that you have read access rights to network files you want to copy

If you can locate the files you want to copy but then are denied access when you attempt to copy them, contact the network administrator. You can copy only files to which you have been assigned read access.

Checklist for Xchange Agent

☑ **Ensure that LapLink is running on the remote computer**

LapLink must be running on the remote computer before an agent can connect to it and synchronize files. On the local computer merely keep Windows running. (LapLink will start automatically when the agent runs.)

☑ **Make sure that a scheduler program is running**

To schedule Xchange Agents—and have them run on schedule—you must have a supported scheduler program running.

LapLink prepares an Xchange Agent to run on either of these scheduler programs: the System Agent program included in the Microsoft Plus! Companion for Windows 95; and the Task Scheduler program included in Microsoft Internet Explorer (not supported in Windows NT 4.0). If you don't have either of these programs, LapLink uses its own scheduler program, which it installs during Setup. (Its icon appears at the right end of the Windows taskbar.)

✔ Because long file names are not supported in Windows 3.1, Xchange Agent may not work as expected when you attempt to synchronize with a computer running LapLink for Windows 3.1. For more information, see page 105.

☑ **You can disable LapLink Scheduler if you do not intend to use it**

If you do not intend to use LapLink Scheduler to run Xchange Agents, you can keep it from starting automatically every time you start Windows.

To disable LapLink Scheduler, right-click the Windows Start button and click Open (in Windows NT, click Open All Users). Double-click Programs and then Startup. Click Scheduler and press DELETE.

✔ When LapLink Scheduler is running, its icon appears on the Windows taskbar.

☑ **Close an Xchange Agent before it is scheduled to run**

An agent cannot run on schedule while it remains open in Xchange Agent.

☑ **Create an Address Book entry to meet the security requirements of the remote computer**

If the remote computer requires a name and password, create an Address Book entry and include the name and password required by that computer. LapLink can then send this information and connect automatically.

☑ **Turn off the LapLink callback feature**

If the remote computer requires or requests a callback before opening a modem connection, the agent cannot run. On the remote computer, turn off the callback feature: Click the Security button on the LinkBar. On the Log-in List tab, click the name of the guest computer and then click Edit. Under Modem Callback, click None.

☑ **Avoid moving or deleting agent files for which you have created shortcut icons**

If you have moved or deleted the Xchange Agent file, the shortcut icon can no longer run the agent. Create the agent again. You can reuse the

shortcut icon by saving the new file in the same location, with the same name, as the original file. Or you can create a shortcut icon for the new agent file.

Create a filter to synchronize a single file

Xchange Agent always synchronizes by folder pairs, but you can create a filter so that only one file within a folder pair is synchronized. Open the agent in Xchange Agent and click the folder pair. On the Edit menu, click Set Filter and then click New. After typing a description for the filter, type the complete name of the file, including its extension. (To add more than one file name, type a semicolon and then the next file name.) Click OK. Click the filter's name in the Available Filters list, and then click Add.

Preview the agent to see if the correct files are included in the synchronization.

Use Preview to limit the files to be copied in the current synchronization

While previewing an agent, you can specify that certain pairs of files and folders will be omitted from the current synchronization: Click a pair of files or folders and then click the Skip Pair button on the toolbar. Repeat this procedure for any other pairs you do not want synchronized. Then—before closing Preview or quitting Xchange Agent—run the agent.

You can omit file and folder pairs only from the current synchronization. To remove them from a future synchronization, you must use Preview again.

Use Xchange Agent to overwrite, not merge, files

Xchange Agent overwrites files. Unless you specify otherwise, it copies the newer file to the other computer. It does not merge files. To merge databases and other shared files, use the program in which the files were created.

Checklist for Remote Control

Improve performance from the guest

On the guest, you may be able to speed up Remote Control connections by changing settings in Remote Control Options (Options menu) on your computer. On the Performance tab, click the Best Performance option. (To further customize settings, click the Settings button.) Your view of the host should be updated faster, though you will now be viewing the host screen in black and white, and larger bitmaps will not be displayed.

Control the display properties of the host from the guest

By default, LapLink is configured to speed up Remote Control connections: any wallpaper or screen saver on the host is temporarily disabled, along with certain other visual enhancements. From the guest, you can restore these enhancements to the host screen through settings on your computer. On the Performance tab of Remote Control Options (Options menu), click Best Quality. (To further customize settings, click the Settings button.) Keep in mind that changing these settings may slow Remote Control connections.

Make Remote Control available to other computers

If you are denied the use of Remote Control or one of the other services while connected to another computer, check the security setup on that computer. You can gain access to services through Security (Options menu).

Use the keyboard to view the host screen

If the window in which you are viewing the host screen does not show all of the host screen, you can use your keyboard to view areas beyond the borders of the window: press CTRL+ALT+SHIFT and any of the arrow keys, PAGE UP, PAGE DOWN, HOME, or END.

Use the latest driver for your video adapter

Contact the manufacturer of your video adapter, on its Web site or elsewhere, to verify that you are using the latest driver.

Avoid changing the color depth or display properties of a host

From the guest, avoid changing the number of colors displayed on the host while you're connected to it using Remote Control. Also avoid changing the Refresh Frequency and other settings in the host's Display Properties while connected. To safely change these properties, you should be seated at the host and fully informed of the capabilities of its monitor. Incorrect settings can damage a monitor.

Use a special key combination to log on to a Windows NT host

When you restart a Windows NT host, you must press CTRL+ALT+DELETE to log on to Windows again. You can accomplish this from the guest by

pressing a special key combination specified on the host. (Pressing CTRL+ALT+DELETE on the guest affects the guest, not the host.) To specify a key combination for use on the guest, start LapLink on the host and click Remote Control Options (Options menu). On the Host tab, type the key combination in this box: Send CTRL+ALT+DELETE to This Computer When a Guest Presses This Key Combination.

Instead of pressing a special key combination for CTRL+ALT+DELETE, you can click the Remote Control icon at the bottom of the host's LapLink workplace, and then click Feed CTRL+ALT+DELETE.

Do not install other remote control products and LapLink on the same computer

Because of possible incompatibilities, avoid installing LapLink and another remote control product on the same computer.

Avoid pressing CTRL+ALT+DELETE when viewing a Windows NT host in full-screen Remote Control

✔ To have CTRL+ALT+DELETE take effect on a host computer, click Send CTRL+ALT+DELETE to Host on the guest's Session menu.

Pressing CTRL+ALT+DELETE on a Windows NT computer always displays the Windows Security dialog box on that computer. When you are working in a full-screen Remote Control session, pressing CTRL+ALT+DELETE not only displays the Security dialog box locally but also causes the CTRL and ALT keys to be pressed—but not released—on the host computer. To release these keys and resume normal keyboard operation press CTRL and ALT again.

Keep LapLink running before the Windows NT logon prompt

If you have set up LapLink on the host computer to run before the Windows NT logon dialog box appears, avoid closing LapLink on that computer unless you have Administrator rights. If you close LapLink, you will have to restart the computer in order to reset LapLink so that other people can connect. (Restarting LapLink is not sufficient.)

Avoid running a Windows NT host in VGA mode

When a Windows NT computer is running in VGA mode you can make LapLink connections from it to other computers using Remote Control and File Transfer, but the computer cannot serve as a Remote Control host. That is, it cannot be remotely controlled by other computers.

Run DOS in a window on a Windows NT host

You cannot control full-screen DOS programs on a Windows NT host. When you attempt to do so, LapLink minimizes the program and displays a warning message. (To close the DOS program, right-click the icon, and click Close.)

Avoid this problem by setting up the Windows NT host to display DOS programs in a window. If you use a shortcut to a DOS program, for example, right-click the shortcut icon, click Properties, and then click the Options tab. Below Display Options, check Window.

Checklist for Print Redirection

Use the same printer driver on both ends of a connection

For best print results in Print Redirection, both computers should be set up with the same printer driver. To add a printer driver, you may need your Windows CD or a disk from the printer manufacturer.

Use the Windows Control Panel to get additional information

If the document you printed is sent over LapLink correctly but does not print, examine the printer in the Windows Control Panel to get additional information about why the document didn't print. Make sure the printer is connected correctly and has enough paper, and the printer cartridge is not empty.

When several printers are available, you can set up LapLink to prompt you for the printer to use

Normally, LapLink automatically directs print jobs to the printer currently set up as the default printer at the other end of the connection. When there are several printers available, however, you may want to use a printer other than the default.

To set up LapLink to allow you to choose among the available printers, click Print Redirection Options (Options menu) on the computer the printers are attached to. Then click Prompt with a List of Available Printers.

When printing from 16-bit programs, use the default printer

Before printing from 16-bit Windows programs (programs written for versions of Windows prior to Windows 95, Windows 98, and Windows NT 4.0), set up the destination printer as the default printer on the computer to which it is attached. When using Print Redirection from the 16-bit Windows program, print to the default printer instead of selecting a printer from the list of available ones.

Some printer drivers do not support Print Redirection

To use Print Redirection you must set up a printer to direct print jobs to a special port instead of the usual parallel port. You cannot use a printer driver that does not allow you to change the port in this way. You may want to contact the printer manufacturer to see if an updated driver is available.

Checklist for Text Chat

Press ENTER to send your message

Type your message in the lower part of the Text Chat window. (In some cases, you may have to click in the lower part of the window before you can begin typing.) To send your message to the remote computer, press ENTER.

To begin a new paragraph, press CTRL+ENTER.

Open a Text Chat window after connecting

If you are connected to more than one computer, be sure to specify which computer you want to use Text Chat with: Click the name of the computer on the Window menu. Then click the Open Text Chat button on the LinkBar or Open Text Chat on the Window menu.

Make Text Chat available to other computers

If you are denied the use of Text Chat or one of the other services while connected to another computer, check the security setup on that computer. You can gain access to services through Security (Options menu).

Save your Text Chat conversation from time to time

As a Text Chat conversation grows in length, the most recent messages begin to replace the earliest. This starts to happen when the conversation exceeds 32,000 characters. If you intend to save a lengthy conversation, begin saving before this limit is reached. To save a conversation, click in the upper part of the Text Chat window. Click Select All (Edit menu), and then click Copy (Edit menu). You can then switch to another Windows program such as Notepad, paste the text, and save it as a file.

Shorten connection time by preparing messages beforehand

Instead of typing text while connected, you can prepare it ahead of time in Notepad or a similar Windows program and send it to a remote computer through Text Chat. In the other application, select the text, and press CTRL+C to copy. In the lower part of the Text Chat window, press CTRL+V to paste. Then press ENTER to send.

Use File Transfer for long messages

Text Chat can send as many as 2,048 characters at once. When you attempt to send a message that exceeds that limit, part of the message will not be transmitted to the other computer. Try sending the message in parts. Or save the message as a file, and send the file using File Transfer. You can still use the Text Chat window to let the remote user know what you're sending and to pass along additional notes.

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