



About
Apple Remote Desktop

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Apple Remote Desktop

What Is Apple Remote Desktop?

Apple Remote Desktop gives you the ability to remotely control and manage Macintosh desktops. It's your complete solution for remote desktop access, remote assistance, system management, and software distribution. You can use Apple Remote Desktop to

- use documents and applications when away from your office
- provide help and remote assistance for users when they encounter problems
- interact with users by sending text messages, observing and controlling their screens, and sharing their screens with other client users
- manage client computers and maintain their software

With Apple Remote Desktop software, you can access your office computer, documents, and applications while away from the office. Used in a classroom, Apple Remote Desktop enhances the learning experience and allows teachers to monitor and control students' computers. And in corporate environments it's the ideal solution for managing remote systems, reducing administration costs, and increasing productivity.

System Requirements for Apple Remote Desktop

Administrator computers

- Mac OS X v10.1 or later
- 128 megabytes (MB) of random-access memory (RAM)
- Mac OS Extended (HFS+) formatted hard disk
- Ethernet

Client computers

- Mac OS 8.1 through Mac OS 9.2 or later, and Mac OS X v10.1
- 12 MB of RAM
- Ethernet or AirPort network connection

File servers (for scheduled operations)

- Mac OS X Server v10.1 or later, or AppleShare IP 6

Setting Up Apple Remote Desktop on Client Computers

To set up Apple Remote Desktop, you install the client software on the client computers you plan to administer. Then, you set access privileges to client computers.

Install the Client Software

Use the client software Installer on your Apple Remote Desktop CD to install the client software on the computers you plan to use with Apple Remote Desktop. For Mac OS X computers, you need the name and password of a user with administrative privileges on the computer. Follow the onscreen instructions.

Set Access Privileges to Client Computers That Use Mac OS X

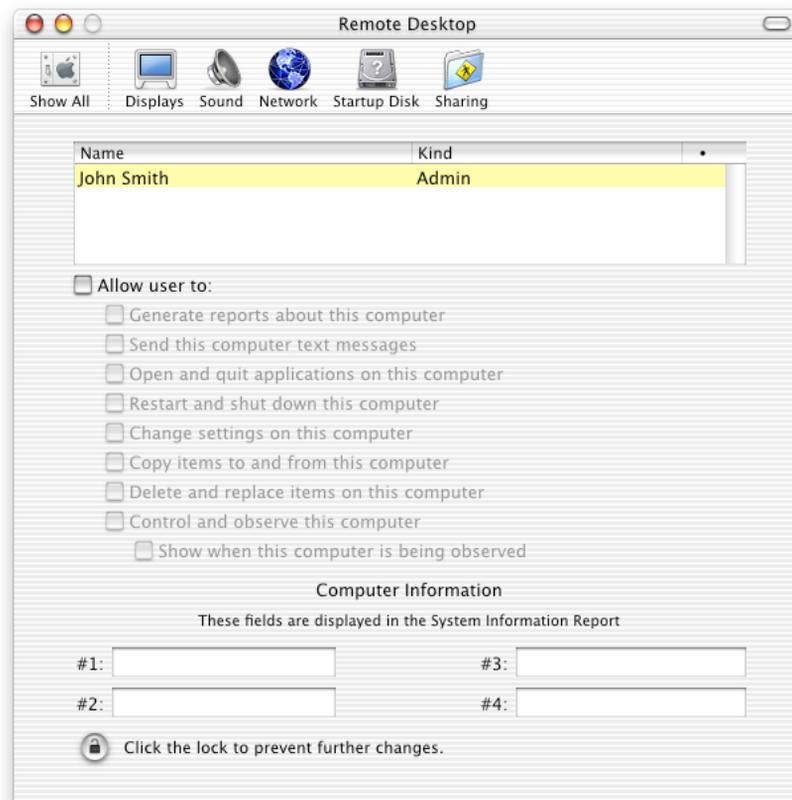
Follow the steps in this section to set access privileges for each client computer that uses Mac OS X.

To make changes on a Mac OS X client, you must have the name and password of a user with administrative privileges on the computer.

To change privileges on each computer, follow these steps:

- 1 On the client computer, open System Preferences and click Apple Remote Desktop. If necessary, enter the user name and password of a user with administrative privileges on that computer.

The following window appears:



- 2 Make the changes you want to the access privileges. Your changes take effect immediately. See “Access Privilege Settings” on page 9 for more information.
- 3 If you want, enter information in any or all of the four Computer Info fields. This information appears in Apple Remote Desktop System Information reports. For example, you can enter an inventory number for the computer, a serial number, or a user’s name and telephone number.

Set Access Privileges to Client Computers That Use Mac OS 8.1 through 9.2

To change access privileges on each client computer that uses Mac OS 8.1 through 9.2:

- 1 On the client computer, locate and open the Remote Desktop Security application and enter the password (the default password is xyzyz — you should change this password to something else right away).

The following window appears:



- 2 Make changes to the access privileges and password. Your changes take effect immediately. You can use the New button to define up to five sets of administrator privileges, each with its own password. This way you can give different administrators different privileges to the client computer. See “Access Privilege Settings” on page 9 for more information.

- 3 If you want, click Change Info and enter information about the computer.

This information appears in Apple Remote Desktop System Information reports. For example, you can enter an inventory number for the computer, a serial number, or a user's name and telephone number.

After you are finished, you can delete the Remote Desktop Security application from the client computer as an extra security measure. You may need to install it later if you want to make more changes.

Access Privilege Settings

Access privileges allow an Apple Remote Desktop administrator to add computers to a list of computers and then interact with them. If no access privileges are allowed on a client computer, that computer cannot be used with Apple Remote Desktop.

The recommended access privileges for a client computer depend on how it's used.

- If the computer is used in a public area—for example, in a computer lab—you may want to allow administrators full access privileges.
- If the computer is used by one person, you may not want to give administrators full access privileges. Also, you may want the user to take responsibility for creating passwords and setting the access privileges for the computer.

Select	To allow administrators to
Allow user/administrator to	Select any other privileges. (If you select only this box, the administrator can see the client computer in the Computer Status window and include it in Network Performance reports.)
Generate reports	Create reports and record software changes using the Schedule command in the Server menu.
Send text messages	<i>Use these Interact menu commands:</i> Send Text Message and Text Chat.
Open and quit applications	<i>Use these Manage menu commands:</i> Open Selected, Open Application, Open Item, and Quit Application.
Restart and shut down	<i>Use these Manage menu commands:</i> Sleep, Wake Up, Restart, and Shut Down (if Energy Saver is installed on the client computer).
Change settings	<i>Use the Manage menu command:</i> Rename Computer. You can also use the “Verify and repair hard disks” option of the Schedule command in the Server menu.

Select	To allow administrators to
Copy items	<i>Use these Manage menu commands:</i> Copy Items and Copy Hard Disk. You can also use the “Copy items” option of the Schedule command in the Server menu.
Delete and replace items	<i>Use these Manage menu commands:</i> Delete Selected, and Empty Trash.
Control and observe	<i>Use these Interact menu commands:</i> Observe, Control, and Share Screen.

Setting Up Apple Remote Desktop on Administrator Computers

To set up Apple Remote Desktop on administrator computers, you install the software on the computer you plan to use to administer remote computers. Then, you open the application and create a main list of computers.

Step 1: Install the Apple Remote Desktop software

Use the Installer on your Apple Remote Desktop CD to install Apple Remote Desktop on the administrator computer. You need the name and password of a user with administrative privileges on the computer. Follow the onscreen instructions.

Step 2: Open the Apple Remote Desktop application

Once the client computer software is installed and set up, open the Apple Remote Desktop application on the administrator computer.

Step 3: Create a main list of computers by adding at least one computer to the list

Make sure you’ve installed and set up computers with the Apple Remote Desktop client software before trying to add them to a list.

Select a computer’s name, then click Add.

If you’ve added computers with dynamic TCP/IP addresses (which change over time), you are asked to enter a range of addresses. Apple Remote Desktop will search the range of addresses you enter each time you choose the list in the Computer Status window.

Important If computers on your network have dynamic TCP/IP addresses, do not put computers that get their addresses from different DHCP servers in the same computer list.

For more help adding computers to a list, see Apple Remote Desktop Help.

Using Apple Remote Desktop With Computers in an AirPort Wireless Network

Using Apple Remote Desktop to observe or control client computers connected through an AirPort wireless network can sometimes result in impaired performance or cause communication errors to appear in the Computer Status window.

To get the best performance from Apple Remote Desktop with computers in an AirPort wireless network:

- Make sure that all AirPort Base Stations and all Apple Remote Desktop client computers have the latest versions of Apple Remote Desktop software, AirPort software, and the Mac OS installed.
- Display shared screens in black and white rather than in color. Choose Preferences from the Apple Remote Desktop menu and select “Black & White.”
- Don’t connect the Apple Remote Desktop administrative computer to the network via AirPort. Connect it directly to the Ethernet network to which your AirPort Base Station is connected.
- Configure your AirPort Base Station with a station density of High and increase the multicast rate to 11 Mbps using the AirPort Admin Utility. Using these AirPort Base Station density and multicast rate settings limits the range of each AirPort Base Station’s network and decreases the distance that a client can be from that Base Station to less than 50 meters.
- Don’t use NAT (network address translation) for the AirPort-connected computers if the Administrator’s computer is off the AirPort network.

Creating Reports

You can create reports about computers to check their software and hardware, check for performance problems, and check the administrator access privileges.

For instructions on creating a report, see Apple Remote Desktop Help.

Types of Reports

Software Version report: Compares version numbers of up to ten applications on client computers to the same software on the administrator computer. Ideal for verifying that all client computers have the correct version of an application installed.

Software Difference report: Compares applications and fonts on a group of computers to those on any other computer and reports differences. Ideal for auditing applications on all the client computers on your network and for tracking down software incompatibilities.

Software Search report: Determines if an item is on a computer by checking the following kinds of information about the item: size, kind, label, version, Info window comments, date created or modified, location, file type, and creator (the application that created the file). Ideal for finding applications or documents that have been misplaced.

System Information report: Checks a variety of hardware and system settings, allowing you to diagnose problems and determine a computer's compatibility with various Apple Remote Desktop features (for more on the System Information report, see "Using the System Information Report" on page 13).

Hard Disk report: Shows information about a computer's mounted hard disks, including disk name, total disk space, amount of free space in MB, percentage of space free, format, disk driver, driver version, whether the disk is the startup disk, and if it is removable.

Disk Verification report: Examines the directory structure of Mac OS Standard, Mac OS Extended, and UFS-formatted disks. You can then repair disk problems that are found. Depending on the number of disks and files being checked at once, this report may take a few minutes to complete.

Network Performance report: Provides a way to evaluate the performance and reliability of the network (see "Evaluating the Network Performance Report" on page 12).

Administrator Access report: Reports the administrator access privileges set on a client computer. (You use the Apple Remote Desktop pane of System Preferences or the Remote Desktop Security application to change computer privileges.)

Evaluating the Network Performance Report

This report reveals problems such as a computer that is improperly connected to the network.

To check network performance, Apple Remote Desktop sends packets of information to the client computers you select and measures how long it takes for the packets to return. If a packet does not return from a client within a specified time, Apple Remote Desktop counts the packet as lost.

Use these guidelines to evaluate the results of the Network Performance report:

- If the number of routers seems incorrect, there may be a problem with your network.
- If the maximum time it takes for a packet to return from a particular computer (Max. Time) is significantly greater than that for other computers in the same area of your network, there may be a problem with that computer.

Note: The number of routers between computers can affect the time packets take to return. Compare times for computers in the same area of the network or with the same number of intervening routers.

- If one computer shows a large number of lost packets, there may be a problem with the network connection to that computer or with that computer's hardware or software.

- If several computers in the same area of the network show a large number of lost packets, there may be a network connection problem or a problem with an intervening router or bridge.

Using the System Information Report

You can choose any of the following types of information to display in the System Information report:

Option	Information displayed
2nd Monitor Setting	The resolution setting for the second monitor (if present)
2nd Monitor Size	The width and height in pixels of the second monitor (if present)
AppleTalk Network #	Number from 0 to 65535 that identifies the computer's AppleTalk network
AppleTalk Node #	Number from 0 to 254 that identifies the computer on an AppleTalk network
AppleTalk Version ¹	Version of AppleTalk installed on the computer
AppleTalk Zone ¹	Name of the computer's AppleTalk zone
Built-in Memory	Amount of random-access memory (RAM) in the computer
Bus Clock Speed	Speed at which the computer's processor can access memory (available only on PowerPC™-based computers)
Cache Size ¹	Amount of cache memory in the computer
Ethernet Address	Hardware address of the Ethernet controller
Failed Admin Validations	Number of times someone has attempted to access the computer using an invalid password
File Sharing ¹	Whether personal file sharing is turned on
Free Disk Space	Amount of free space on hard disks connected to the computer
Hardware Vendor ¹	Company that manufactured the computer
Keyboard Connected ¹	Whether a keyboard is connected
Monitor Setting	Resolution setting for the main monitor
Monitor Size	Width and height in pixels of the main monitor
Mouse Connected ¹	Whether a mouse is connected

Option	Information displayed
Network Type ¹	Type of network hardware to which the computer is connected, such as Ethernet or AirPort
Open Transport Version ¹	Version of Open Transport installed on the computer
Play and Record	Whether the computer can play and record sounds at the same time
Printer Name ¹	Name of printer selected
Printer Type ¹	Type of printer selected
Printer Version ¹	Version of printer software installed on the computer
Processor	Type of processor
Processor Clock Speed	Speed of the computer's microprocessor (available only on PowerPC-based computers)
RAM Disk Size ¹	Amount of RAM used by the RAM disk
System SW Memory ¹	Amount of RAM used by the system software
System SW Version	Version number of the system software
TCP/IP Address	TCP/IP address of the computer
TCP/IP Version ¹	Version of TCP/IP software installed on the computer
Total Disk Space	Total space on the hard disks connected to the computer
Trash Size	Combined size of the items currently in the Trash
TV Tuner ¹	Whether the computer has a TV tuner
Video Digitizer	Whether the computer has a video digitizer
Virtual Memory ¹	Virtual memory setting in the Memory control panel
Computer Info #1-4	Text in the Computer Info fields in the Apple Remote Desktop pane of System Preferences or the Remote Desktop Security application

¹ Does not apply to client computers with Mac OS X installed.

Using Report Windows to Work With Computers

After you've created a report, you can use it to select computers and then do any of the following:

- create other reports
- manage computers
- interact with users
- schedule server commands

To create new computer lists from a report window:

- Select computers in the report window and click the New List button.

To delete an item from a computer:

- Select the item in any software report window and click the Delete button.

Apple Remote Desktop Strategies and Tips

Demonstrating Software

You can use Apple Remote Desktop to demonstrate software to users in several ways:

- You can display your screen, or the screen of another computer, on the screen of every computer in the lab by using the Share Screen command.
- You can use the Control command to demonstrate a task, then have the user repeat what you did or complete the task.
- You can use Text Chat to send text messages and coach a user through a procedure.

You can also use the Lock Screen command to prevent users from working while you address the group.

You can observe users' activities by using the Observe command—for example, to check how users are doing or even to test a student's ability to use an application.

Preparing a Computer Lab Between Classes

Apple Remote Desktop can help you accomplish a number of routine tasks that restore computers in a lab to their original state:

- Check for files created during previous classes that you want to delete from computers. To do this, create a Software Difference report to compare the computers to your disk or to a disk you set up as a standard. Use the Delete button or the Delete Selected command to delete the unnecessary files from the report window.
- Empty the Trash on all computers using the Empty Trash command in the Manage menu.
- Quit any open applications using the Logout command in the Manage menu.

- Restart computers by using the Restart command in the Manage menu.
- Open applications and documents by using the Open Selected, Open Item, or Open Application command in the Manage menu.
- Lock the computer screens until you're ready for the class to begin working by using the Lock Screen command in the Interact menu.

Getting the Best Performance

To get the best performance when using the Share Screen, Observe, and Control commands:

- Use fewer colors and a lower screen resolution on the screen you're sharing.
- Share screens only on local networks. If you share a screen with a computer connected across a router, screen changes happen more slowly.
- Organize computers using Apple Remote Desktop into small groups.

Solving Problems With Apple Remote Desktop

Interpreting Status Messages

The Computer Status window shows a message next to each computer in the current list. Usually the message shows the name of the active application on the computer, but other messages may appear.

If the message is dimmed, another administrator is managing the computer.

Message	Description
Access Denied	The password for the computer is no longer valid. Use the Computers command in the Setup menu to remove the computer from the list and add it again using the new password.
AVP: Channel XX	Apple Video Player is displaying a TV channel on the computer.
Controlled by: Name	The computer is being controlled by the administrator named. You can send commands to the computer when the other administrator is finished controlling the computer.

Message	Description
Screen: Name	The screen of the computer named is being displayed on this computer.
--Unavailable--	<p>Apple Remote Desktop cannot communicate with the computer for one of the following reasons: the computer is turned off; the Apple Remote Desktop software has been removed; there is a problem with the computer's network connection; the computer has been moved to a different zone or subnet in the network; the computer's name has changed; the computer's TCP/IP address has changed.</p> <p>Try the following procedures to fix the problems:</p> <ul style="list-style-type: none"> ■ On computers that use Mac OS 8.1 through 9.2 make sure the Apple Remote Desktop Startup extension is installed. (If not, a message appears when you open the program.) ■ If the computer's name has changed, remove the computer from the list, then add it again. ■ If the computer remains unavailable, try restarting it.

Interpreting Error Messages

If a message appears in red and begins with the word "Error" in the Status column in the Computer Status window, the last command you tried to use on a computer did not work.

Error messages remain in the Status column for about 45 seconds, or until you perform another command on the computer.

Message	Description
Applications Are Open	<p>You tried to erase a computer's hard disk when an application was open on the computer.</p> <p>Do one of the following:</p> <ul style="list-style-type: none"> ■ ask the user to quit all applications ■ use the Logout command in the Manage menu ■ use the Control command in the Interact menu and quit any open applications
Application Not Found	<p>You tried to open an application that isn't installed on the computer.</p> <p>Use the Copy Items command in the Manage menu to copy the application to the computer. (Make sure your licensing agreement allows you to copy the application.)</p>

Message	Description
Chatting With Another Admin	You tried to start a text chat with a user who is already using text chat with another administrator.
Command Failed	<p>The last command did not work, probably because certain applications are open on the computer.</p> <p>Do one of the following:</p> <ul style="list-style-type: none"> ■ ask the user to quit all applications ■ use the Logout command in the Manage menu ■ use the Control command in the Interact menu and quit any open applications <p>Try the command again. If the command still fails, try restarting the computer.</p>
Communication Error	<p>Apple Remote Desktop was unable to send the last command to the computer because the computer isn't operating properly or the network was busy.</p> <p>Create a Network Performance report that includes this computer and several computers near it to see if there are network problems. If the report shows all computers performing at the same level, try the command again.</p> <p>If the command fails again, try restarting the computer.</p> <p>If this problem occurs often, there may be a problem with your network.</p>
Disk Full	<p>The computer doesn't have enough disk space for the new items you tried to copy.</p> <p>To see how much disk space is available, create a System Information report.</p> <p>To delete items from the computer, create a Software Search report, or use the Control command in the Interact menu to delete unnecessary items.</p>
Disk Is Locked	You tried to copy an item to a disk that is locked, such as a CD-ROM disc.
File Transfer Error	<p>There was a problem transferring files. Restart the computer and try the command again.</p> <p>If the problem continues, create a Disk Verification report to check for and repair damage on the computer's hard disk.</p>

Message	Description
Generating Report	You tried to use a command on a computer that is creating a report. Wait until the report is finished and try again.
Item Exists	You tried to copy an item to a location on the computer that has an item with the same name. If you stop the Copy command, this message indicates which computers have the item. You can create a Software Search report to find out more about the item, then delete or replace it.
Item Not Found	You tried to open or delete an item that couldn't be found on the computer. Use the Copy Items command in the Manage menu to copy the item to the computer.
Item in Use	You tried to delete or replace an item that is open or in use by an application. Do one of the following: <ul style="list-style-type: none"> ■ ask the user to quit all applications ■ use the Logout command in the Manage menu ■ use the Control command in the Interact menu to quit any open applications If the command fails again, try restarting the computer.
Modal Dialog on Screen	A dialog box on the computer's screen must be closed before the command can be performed. Ask the user to close the dialog box, or use the Control command in the Interact menu to close the dialog box.
Apple Remote Desktop Open	Another administrator is using Apple Remote Desktop on a remote computer. Ask the administrator to quit Apple Remote Desktop.
Not Enough Memory	There isn't enough free RAM on the computer to complete the last command. Ask the user to quit all applications or use the Quit Applications command in the Manage menu.
Screen Is Locked	You tried to use a command on a computer with a locked screen. Unlock the screen using the Lock Screen command in the Interact menu, then try the command again.

Message	Description
Screen Sharing Active	Certain Apple Remote Desktop commands don't work on a computer that is using screen sharing. Choose Share Screen from the Interact menu to stop screen sharing on the computer.
Sleep Not Supported	The computer cannot use the Sleep command.
Slow Network Connection	Your network connection doesn't support sharing multiple screens. To use this feature, the computers must be connected to Ethernet or another network of similar performance.
Unable to Delete Item	The command to delete an item failed for an unknown reason. Use the Control command in the Interact menu to delete the item. If this doesn't work, create a Disk Verification report to check and repair the computer's hard disk.

Where to Find More Information About Apple Remote Desktop

For additional information related to Apple Remote Desktop, try these resources.

- You'll find more information in the Apple Remote Desktop Read Me file and on the Apple Remote Desktop Web site:
www.apple.com/remotedesktop
- The AppleCare Web site provides several information resources, including the Knowledge Base. The Knowledge Base is a database of technical articles about product issues, usage, and implementation.
www.apple.com/support