Apple Remote Desktop

# Administrator's Guide

Includes setup instructions and
solutions for managing client
computers remotely

# Contents

# Using 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

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

With Apple Remote Desktop software, you can access your office computer, documents, and applications while you're away from the office. Used in a classroom, Apple Remote Desktop enhances the learning experience and allows teachers to monitor and control students' computers. 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

- eMac, iMac, iBook, Power Mac G3 or G4, or PowerBook G3 or G4 computer
- Mac OS X versions 10.1.5 and 10.2.3 or later
- Mac OS Extended (HFS+) formatted hard disk
- Ethernet (recommended) or AirPort network connection

### Client computers

- eMac, iMac, iBook, Power Mac G3 or G4, PowerBook G3 or G4 computer, PowerPC based Macintosh, or Xserve
- Mac OS 8.1 through Mac OS 9.2 or later (Mac OS 8.6 or 9.2.2 recommended) and Mac OS X versions 10.1.5 and 10.2.3 or later.
- Ethernet or AirPort network connection

**File servers (for scheduled operations)**

■ Mac OS X Server version 10.1 or later, or AppleShare IP 6

**NetBoot and Network Install**

■ Mac OS X Server with NetBoot and Network Install services enabled

## Setting Up Apple Remote Desktop on Client Computers

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

### Installing 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.

**Important** If you need to use languages other than English, make certain the language script in use on the client computer matches the language script in use on the administrator computer. For example, if you use Japanese on the administrator computer, all client computers you plan to monitor using Apple Remote Desktop from the administrator computer must also use Japanese.

### Upgrading Existing Client Software

For Mac OS X computers using Apple Remote Desktop client software version 1.1, you can use the Remote Desktop Client Update feature to update client software automatically. When you open the administrator software, modify a computer list, or switch to a different computer list, the application scans for updatable clients. If any are found, the application will prompt you to perform the update. If you want to prevent the application from searching for updatable clients, choose Preferences from the Remote Desktop menu and deselect "Scan for remote desktop client updates."

### Setting Access Privileges for Client Computers That Use Mac OS X

You activate Apple Remote Desktop on a Mac OS X computer and set access privileges to the computer by using the Apple Remote Desktop pane of the computer's System Preferences. You set access privileges separately for each user account on the computer. Follow the steps in this section to set access privileges on 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.

**2**  To activate the Apple Remote Desktop client, make sure to select "Start Apple Remote Desktop client at system startup."

**3**  Select the checkbox of each user account that you want enabled for Apple Remote Desktop.
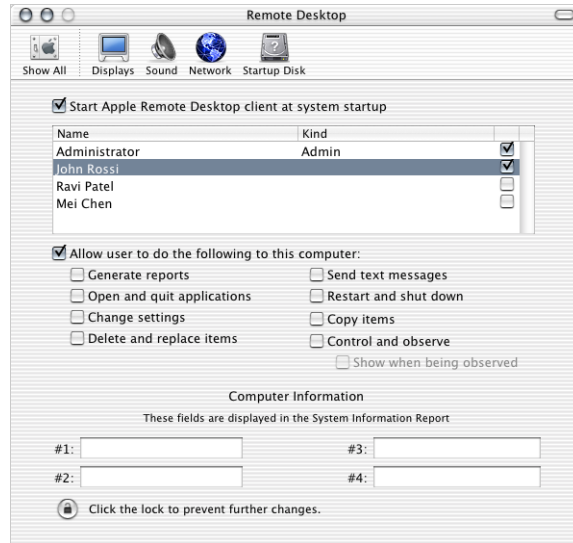


**4**  Highlight a listed user whose access privileges you want to change, and then make the changes you want to the access privileges. Your changes take effect immediately.

See "About Access Privilege Settings" on page 9 for more information.

**5**  If you wish, enter information in any or all of the four Computer Information 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.

**6**  Repeat steps 4 and 5 for additional listed users whose access privileges you want to change.

**7**  If you changed the setting of "Start Apple Remote Desktop client at system startup," you must restart the client computer for the change to take effect.

## Setting Access Privileges for Client Computers That Use Mac OS 8.1 Through 9.2

After you install the client software on a Mac OS 8 or 9 computer, you can choose Remote Desktop access privileges.

**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 "xyzzy"—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. For more information, see "About Access Privilege Settings" on page 9.

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.

## About Access Privilege Settings

Access privileges allow an Apple Remote Desktop administrator to add computers to a list 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, such as 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 hardware and software reports using the Reports menu. |
| Send text messages | Use these Interact menu commands:  Send Text Message and Text Chat. |
| Open and quit applications | Use these Manage menu commands:  Open Selected, Open Application, Open Item, and Log Out. |
| Restart and shut down | Use these Manage menu commands:  Sleep, Wake Up, Restart, and Shut Down. This item must be enabled in order to use the Remote Desktop Client Update feature. |
| Change settings | Use these Manage menu commands:  Rename Computer and Set Network Startup. |
| Copy items | Use these Manage menu and Server menu commands:  Copy Items, Copy Hard Disk, Install Package, and Set Scheduled Copy. This item must be enabled in order to use the Remote Desktop Client Update feature. |

| Select | To allow administrators to |
| --- | --- |
| Delete and replace items | Use these Manage menu commands: Delete Selected, Copy Items, Install Package, and Empty Trash. |
| | This item must be enabled in order to use the Remote Desktop Client Update feature. |
| Control and observe | Use these Interact menu commands: Observe, Control, and Share Screen. |
| | This item must be enabled in order to use the Remote Desktop Client Update feature. |

## 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.

**To install Apple Remote Desktop on administrator computers:**

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.

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.

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 in the left list, click Add, and enter the requested authentication information for the selected computer. If you selected a Mac OS X computer, you enter the user name and password of a user that has been enabled for Apple Remote Desktop on that computer. If you select a Mac OS 8 or 9 computer, you enter an administrator password that was set in the Remote Desktop Security application on that computer.

To add computers from the left list, each computer must have a unique computer name.

You can also specify a range of IP addresses if necessary. Apple Remote Desktop will search the range of addresses for computers whose dynamic addresses have changed each time you choose the list from the popup menu in the Computer Status window.

The administrator computer may appear in the left list if the computer has more than one network interface enabled, such as an AirPort card and an Ethernet interface.

**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 Mac OS software 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, requiring client computers to be fewer than 50 meters from a base station.

## Using Remote Desktop With Firewall and NAT Routers

If you wish to use the Apple Remote Desktop application from behind a NAT router, you will need to set UDP port forwarding for port #3283 to your administration computer. If you wish to access a client computer that is behind a NAT router, you will need to set the router to forward UDP port #3283 to the client computer you wish to access.

*Note:*  You will be able to access only that client computer.

## Using Remote Desktop With Mac OS X Server

Apple Remote Desktop makes an excellent productivity partner for Mac OS X Server users. You can control a server interactively via the desktop, and when used in conjunction with server features such as NetBoot and Network Install, you can make the tasks of installing operating systems and applications or performing system upgrades on one or more clients more convenient.

It's simple to change startup settings for multiple computers. From one administrator computer in a computer lab, for example, you can use the Set Network Startup command in the Manage menu to set up any number of Mac OS X clients to start up from a NetBoot disk image, saving you the time and effort of configuring each client computer manually. For instructions on setting a network startup disk, see Apple Remote Desktop Help.

## Keeping Administration Computers More Secure

Remote Desktop can be quite a powerful tool for teaching, demonstrating, and performing maintenance tasks. For security, the administrator name and password used to access Remote Desktop cannot be stored in a keychain and must be typed each time you open the application. However, the login name and password for each client computer is always stored in the administrator's keychain, providing strongly encrypted storage for this sensitive data.

If you wish to further limit access to the administration application:

- Never give the administrator name or password to anyone.
- Quit the Remote Desktop application when you have finished using it. When you open it again, it will prompt you to enter the administrator name and password.
- If you want to leave the Remote Desktop application open, but need to be away from the computer, use Screen Effects settings in System Preferences to set up a password-protected screen saver and select a Hot Corner for instant activation.
- To disable or limit an administrator's access to a client, open System Preferences on the client computer and make changes to settings in the Remote Access preference pane.

## Using the Set Scheduled Copy Command

The Set Scheduled Copy command in Apple Remote Desktop lets you automate the task of copying files to a computer. For example, you can make sure a particular application or a specific set of fonts is always available on a client computer. The computer can check the server regularly (every night, for example) to make sure certain items on the computer's hard disk match items on the server. Then, the computer can download a new copy of the application if needed or remove extraneous fonts and download any fonts that are missing.

When you schedule an automated task, information about the scheduled event is saved on the remote computer. At the appointed time, the Remote Desktop client software on that computer activates and initiates the file transfer. For more instructions about using the Set Scheduled Copy command, see Apple Remote Desktop Help.

*Note:* Before using Apple Remote Desktop to copy files from your administrator computer to a client computer that uses Mac OS X, set the permissions for the files you want to copy as you want them to be on the client.

## Copying Items to Mac OS X Clients

Remote Desktop makes it easy to update items (other than the system software) on one or more Mac OS X client computers. You may want to start by creating a disk image containing the Mac OS X applications and items you want to copy. Alternatively, you can copy files from any local disk, such as a hard disk, CD, disk partition, or other disk.

*Note:* If a client computer is asleep when you attempt to copy items, Remote Desktop will try to wake the client before issuing a copy command. If a message appears and the copy does not proceed, you should use Apple Remote Desktop to wake the target computer, and then attempt the copy again. For instructions on waking a client computer, see Apple Remote Desktop Help.

When you use Copy Hard Disk, all non-system folders on the target computer are erased. Files and folders on the disk containing system software are not erased (this includes the System folder, the main Library folder, and invisible items). Applications and other folders at the root level of the administrator computer's hard disk are copied to the target computer. However, the Users folder is not copied because a new Users folder is created the next time someone logs in.

**Important**  You cannot use the Copy Hard Disk feature to copy Mac OS X system software to client computers.

**To copy items to Mac OS X clients:**

1  Make sure the disk image, CD, or other disk containing the items you want to copy is mounted on the desktop of your administrator computer.

2  Open Apple Remote Desktop and select one or more computers to which you want to copy items.

3  Choose Copy Hard Disk from the Manage menu.

4  Select the disk you wish to copy.

5  Click Copy.

Other Remote Desktop features, such as reports and the ability to drag and drop items you wish to copy, can make the task of updating remote computers more efficient. For more instructions about using copying features, see Apple Remote Desktop Help.

## Copying Items to Mac OS 9 Clients

You can update items on a Mac OS 9 client computer's hard disk, including the system software, using Apple Remote Desktop. You may want to start by creating a disk image containing the Mac OS 9 applications and items you want to copy. Alternatively, you can copy files from any local disk, such as a hard disk, CD, disk partition, or other disk.

*Note:* If a client computer is asleep when you attempt to copy items, Remote Desktop will try to wake the client before issuing the command. If a message appears and the copy does not proceed, you should use Apple Remote Desktop to wake the target computer, and then attempt the copy again.

### To copy items to Mac OS 9 clients:

1 Make sure the disk image, CD, or other disk containing the items you want to copy is mounted on the desktop of your administrator computer, then open Apple Remote Desktop.

2 Select the Mac OS 9 computer to which you want to copy items.

3 Choose Copy Hard Disk from the Manage menu.

4 Select the disk containing Mac OS 9 files and folders you wish to copy.

5 Select Copy System Folder or "Copy other items" (you can select both if you wish).

If you copy the System Folder, the client computer will restart when copying is complete.

For more instructions about using copying features, see Apple Remote Desktop Help.

## Installing Items on Remote Clients

You can install new software behind the scenes by copying installer packages (.pkg or .mpkg files) to one or more remote Mac OS X clients. Remote Desktop copies the package to the location you choose, runs the installer with no visible window or user interaction required, and then erases the installer files upon completion.

The client computers must use Mac OS X version 10.2 or later, and Remote Desktop allows only one package to be copied at a time. However, an administrator with access to Apple developer tools can use the PackageMaker application to create a metapackage that contains several installers to be run in sequence. More information about making and using a metapackage is available through the Apple Developer Connection website:

developer.apple.com/techpubs/macosx/Essentials/SystemOverview/InstallIntegrate/Installers.html

**To copy and install software using a package file:**

1   Open Remote Desktop.

2   Select one or more computers in the computer status window.

3   Choose Install Package from the Manage menu.

4   Select a .pkg or .mpkg file, and click Install.

During installation, a progress bar appears on the administrator's screen. No progress bars appear on the client computer. The package copied to a remote computer is deleted if an error occurs during installation. However, a failed installation may leave behind other files created by the installer.

*Note:*   Client computers are not restarted automatically after an installation is complete. If restarting is necessary, use the Reboot command to restart selected computers after using the Install Package feature.

## Using Different Types of Installers

The Install Package feature only works with installers that use the .pkg or .mpkg file formats.

To use Remote Desktop to automate installations that use other file formats, first use the Copy Items command to distribute the installer to client computers, and then use the Open Application command to open the installer on each client computer. You can then control the screen of each client computer and complete the installation process interactively.

## 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 about 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 17).

**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 the disk is removable.

**Disk Verification report:**  Examines the directory structure of Mac OS Standard or Mac OS Extended 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. This report collects information from Mac OS 8 and Mac OS 9 clients only.

**Network Performance report:**  Provides a way to evaluate the performance and reliability of the network, as described next in "Evaluating the Network Performance Report."

**Administrator Access report:**  Reports the administrator access privileges set on a client computer. (You use the Apple Remote Desktop pane of System Preferences on Mac OS X clients or the Remote Desktop Security application on Mac OS 9 clients to change computer privileges.)

### Evaluating the Network Performance Report

The Network Performance 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 |
| 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 |
| 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 |

| Option | Information displayed |
|---|---|
| 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 |
| 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 automated copying

**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.

## Strategies and Tips for Apple Remote Desktop

Following are some tips you may find helpful while using Apple Remote Desktop. For more information on the tips, see Apple Remote Desktop Help.

### 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, and 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 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. The observation window can be resized, and in small windows, you can automatically pan and scan across the screen using the mouse. If you observe multiple users, you can display up to four user screens at a time in a single window. If more than four user screens are being observed, Remote Desktop automatically refreshes and cycles through the screens for you every few seconds.

### 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:

- Reduce the use of animation on remote computers. For example, you can simplify Dock preference settings by turning off animation, automatic hiding and showing, and magnification effects.
- Use fewer colors and a lower screen resolution on the screen you're sharing.
- Use a sold color for the desktop of 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 you're administering using Apple Remote Desktop into small groups, and close the administrator software when not in use. This helps reduce the number of status queries, thus reducing network traffic.
- Consider using switches instead of hubs to improve performance.

## 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, or the current user of the client computer is not set up correctly for Apple Remote Desktop. Try the following:<br><br>■ Make sure the user who is currently logged in on the client computer is enabled for Apple Remote Desktop and has sufficient remote access privileges.<br><br>■ Choose Computers from 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.<br><br>You can send commands to the computer when the other administrator has finished controlling the computer. |
| Copying Items | Items are being copied from the administrator computer to the client computer, or vice versa. |
| Deleting Items | Items on the client computer are being deleted. |
| Generating Report | The administrator application is gathering information about the client computer and creating a report. |
| Installing Package | A package file has been opened on the client computer and installation is in progress. |
| Locked Screen | The client's computer screen is locked and cannot be accessed by users. |
| Login Window | No one is currently logged in on the client computer. |
| --Old Version: 1.0--<br><br>--Old Version: 1.0.1--<br><br>--Old Version: 1.1 *-- | The client computer uses an older version of the Remote Desktop software and cannot be managed until it is updated. Apple Remote Desktop recognizes clients that require an update. If an asterisk (*) appears next to the version information in the Status column, the Remote Desktop Client Update feature can be used for that client. For more information, see "Upgrading Existing Client Software" on page 6. |
| Running Scheduled Task | A scheduled task is in progress on the client. |

| Message | Description |
| --- | --- |
| Screen: Name | The screen of the computer named is being displayed on this computer. |
| Screensaver Engine (Mac OS X) or ScreenSaver Active (Mac OS 9) | A screensaver is active on the client computer. |
| Sleeping | The client computer is asleep. Use the Wake Up command in the Manage menu. |
| --Unavailable-- | 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. |

**Try the following procedures to fix the problems:**

- On computers that use Mac OS 8.1 through 9.2, make sure the Remote Desktop Startup extension is installed in the System Folder. If it is not, a message appears when you open the Remote Desktop Security application.

- If the computer's name has changed or the computer has a new static TCP/IP address, remove the computer from the list, then add it again.

- If the computer has a dynamic TCP/IP address, choose Computers from the Setup menu and make sure the range of TCP/IP addresses is set correctly.

- 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 |
| --- | --- |
| Access Denied | The selected computer does not accept the administrator name and password used. Try the following:<br><br>■ Make sure the user who is currently logged in on the client computer is enabled for Apple Remote Desktop and has sufficient remote access privileges.<br><br>■ Remove the computer from the list and add it again with the correct name and password. |
| Apple Remote Desktop Open | Another administrator is using Apple Remote Desktop on a remote computer. Ask the administrator to quit Apple Remote Desktop. |
| Applications Are Open | You tried to erase a computer's hard disk when an application was open on the computer.<br><br>Do one of the following:<br><br>■ Ask the user to quit all applications.<br><br>■ Use the Logout command in the Manage menu.<br><br>■ Use the Control command in the Interact menu and quit any open applications. |
| Application Not Found | You tried to open an application that isn't installed on the client computer.<br><br>Install the application on the client. You may be able to 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.) |
| 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 | The last command did not work, probably because certain applications are open on the client computer.<br><br>Do one of the following:<br><br>■ Ask the user to quit all applications.<br><br>■ Use the Logout command in the Manage menu.<br><br>■ Use the Control command in the Interact menu and quit all open applications.<br><br>Try the command again. If the command still fails, try restarting the client computer. |

| Message | Description |
| --- | --- |
| Command Not Authorized | You do not have privileges to use the selected command with the client computer. For a Mac OS X client, check the administrator privileges selected in the Remote Desktop preference pane on the client computer. For a Mac OS 8 or 9 client, check the privileges set in the Remote Desktop Security application. |
| Command Not Supported | You tried to use the Set Scheduled Copy command with a client computer that uses Mac OS X version 10.1.5 or earlier. Mac OS X clients must be using Mac OS X version 10.2 or later to use the Set Scheduled Copy command. |
| Communication Error | 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. |
| | 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. |
| | If the command fails again, try restarting the computer. |
| | If this problem occurs often, there may be a problem with your network. |
| Disk Full | The client computer doesn't have enough disk space for the new items you tried to copy. |
| | To see how much disk space is available, create a Hard Disk report. |
| | To delete items from the client computer, create a Software Difference, Search, or Version report and use the Delete Items command. To delete items individually, use the Control command in the Interact menu. |
| Disk Is Locked | You tried to copy an item to a disk that is locked, such as a CD-ROM disc. |
| File Transfer Error | There was a problem transferring files. Restart the client computer and try the command again. |
| | If the problem continues, create a Disk Verification report to check for and repair damage on the client computer's hard disk. |
| 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. |

| Message | Description |
|---------|-------------|
| 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, and then delete or replace it. |
| 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: |
| | ■ 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 all open applications. |
| | If the command fails again, try restarting the client computer. |
| 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. |
| Modal Dialog on Screen | A dialog on the client computer's screen must be closed before the command can be performed. |
| | Ask the user to close the dialog, or use the Control command in the Interact menu to close the dialog. |
| Not Enough Memory | There isn't enough free memory on the client computer to complete the last command. Do one of the following: |
| | ■ 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 all open applications. |
| 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. |
| Screen Sharing Active | Certain Apple Remote Desktop commands don't work on a client computer whose screen is being shared. |
| | Choose Share Screen from the Interact menu to stop screen sharing on the computer. |
| Sleep Not Supported | The computer cannot use the Sleep command. |

| Message | Description |
|---|---|
| Slow Network Connection | Your network connection isn't fast enough to support sharing multiple screens. |
| | To share multiple screens, 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

- Visit the Apple Remote Desktop Support website provides a database of technical articles about product issues, usage, and implementation.

  www.info.apple.com/usen/ard

- To provide feedback about Remote Desktop software, visit the feedback page.

  www.apple.com/feedback/remotedesktop.html

- For details about how to join the Apple Remote Desktop Mailing list, visit

  lists.apple.com/mailman/listinfo/remote-desktop

- You can also take part in online discussions via the Apple Remote Desktop Discussions Forum. To share information and learn from others, visit the website below and click Apple Remote Desktop in the Networking & Server Discussions section.

  discussions.info.apple.com