



Mac OS X Mobility

Unprecedented simplicity and freedom for the mobile lifestyle.

Features

Simple setup

- Instant-on availability when waking from sleep
- Automatic networking—no configuration
- Wired and wireless network connectivity
- Built-in VPN client for maximum security and compatibility
- File server connections maintained through sleep, wake, and location change
- Offline access to iDisk
- Automatic network printer discovery
- Plug-and-play convenience with USB, FireWire, and Bluetooth devices
- Synchronization with PDAs, mobile phones, and multiple Macintosh computers using iSync

Staying in touch

- Audio, video, and text messaging with iChat
- Built-in fax send and receive

Security

- Encrypted home directories with FileVault
- Password-protected login, screen saver, and wake from sleep
- Secure file deletion

Managing mobility

- Offline authentication of network-based user accounts
- Centrally managed system preferences

Mac OS X version 10.3 “Panther” keeps you connected to your work no matter where you go, allowing you to move effortlessly between networks and keep your communications and documents secure. Panther makes it easy to connect to wired and wireless networks. It provides built-in communications so you can send email, send a fax, chat, or conduct a live, full-screen video conference—even over a wireless connection. It interoperates seamlessly with a variety of portable digital devices so you can print, capture images, synchronize with PDAs, and even connect to the Internet using a mobile phone. It also includes technologies to let you connect to private networks securely, and share files using Mac, Windows, and UNIX servers. And while it’s doing all that, Mac OS X Panther is able to keep your communications and documents safe and secure so you’re free to compute and communicate wherever your travels take you.

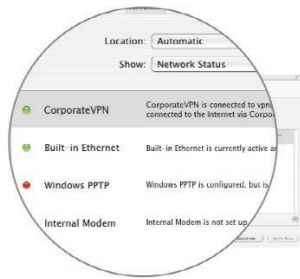
Simple Setup in Any Location

Mac OS X allows you to pack up and get on the road quickly and get started again just as fast. You’ll notice this immediately the first time you use an iBook or PowerBook computer. There’s no complicated cleanup or shutdown procedure, and you can leave your documents open and applications running. To get started again, just open your iBook or PowerBook. Even before you fully open the lid, the screen lights up, network connections are reestablished, and the computer is up and running as though it never went to sleep. Your desktop will be just as you left it, so you can pick up right where you left off.

Mac OS X was designed with advanced power management techniques that conserve power while delivering optimum performance. These features include instant-on availability, no need to shut down, and high performance with extended battery life.

Automatic Networking

If there’s one mobility feature that sets Mac OS X apart from the crowd, it’s automatic networking. Apple has simplified the once complicated configuration process to the point that connecting to the Internet takes a single step: Plug the network cable into the computer or wake the computer in proximity of a wireless network. Mac OS X selects the appropriate port, senses the network, obtains a TCP/IP address, negotiates with the appropriate servers, and gets you on the network instantly.¹



Automatic networking

Panther automatically detects all available networks and selects the fastest one.

AirPort and AirPort Extreme

Both AirPort and AirPort Extreme are based on the industry-standard IEEE 802.11 specification. AirPort is based on 802.11b and transfers data at up to 11 Mbps, while AirPort Extreme is based on the cutting-edge 802.11g standard, which is compatible with 802.11b and 802.11g products and transfers data at up to 54 Mbps.²



Creating a Wi-Fi network

It's easy to create your own wireless "hot spot." All you need is an Internet connection (dial-up, Ethernet, DSL, or cable modem) and an AirPort Extreme Base Station. You can even configure your AirPort-enabled Macintosh to act as a base station, allowing other computers to access the Internet through its Internet connection.

Now you can take your laptop from home to work and back, to school, to the library, or even to the local café, and connect to the Internet in seconds. If you're in a location that offers more than one network (such as wired and wireless networks), Mac OS X detects them and selects the fastest one. If the selected network becomes unavailable, Mac OS X detects it and switches to the next-fastest available network—all in an instant and all automatically—so you never have to stop working. No other operating system matches the simplicity of automatic networking in Mac OS X Panther. It offers state-of-the-art usability and complete compatibility with the Internet so you can roam freely and connect easily, anytime, anywhere.

Wireless

For the ultimate mobile experience, combine Mac OS X with Apple's AirPort Extreme wireless technology.² AirPort Extreme is based on the 54-Mbps IEEE 802.11g standard and is compatible with IEEE 802.11b (referred to as Wi-Fi), so it works with a variety of computers and devices, including PCs. AirPort connects computers together for sharing files and printers or connecting to the Internet, similar to a wired Ethernet network but without the cables. You can also connect to the Internet through wireless "hot spots" available in many cafés, hotels, campuses, airports, office buildings, and other public areas.

Mac OS X automatic networking connects you instantly when you move in range of an AirPort network. If more than one wireless network is in range, you can join a specific network simply by selecting its name from the list of available networks in the AirPort menu or the Internet Connect application. There's no need to log out, shut down, or restart the computer.

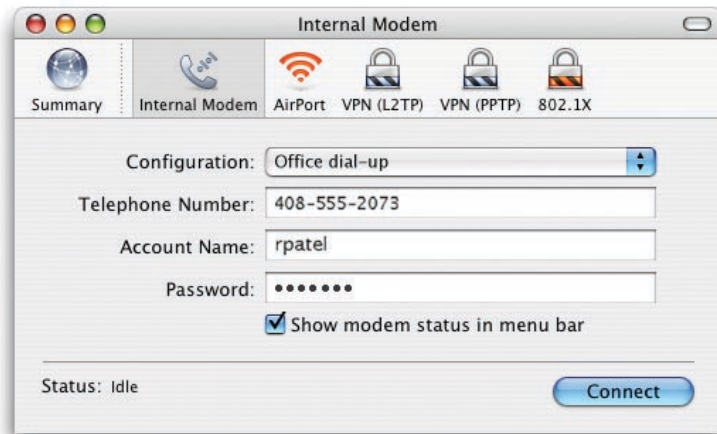


Broadband

Mac OS X also makes it easy to access high-speed broadband network connections through Ethernet. Ethernet is used for connecting to the Internet via local area networks (LANs), Digital Subscriber Line (DSL) modems, and cable modems. Many Internet service providers support the Dynamic Host Configuration Protocol (DHCP), so getting connected is as simple as plugging in an Ethernet cable. If your ISP requires specific settings, you can easily enter them in the Network pane of System Preferences. Mac OS X can save any number of locations, so you can connect from different locations without having to configure your computer each time. When you make a change to your network settings—either manually or automatically—it takes effect right away. You don't have to quit applications, shut down, or restart the computer.

Dial-up

When you're traveling, often the only way to get on the Internet is through a telephone line. With Mac OS X, it's easy to connect using a modem and the Internet Connect application. Just enter the local phone number of the ISP, enter your user name and password, and click Connect. You can save the settings for any number of ISPs or locations, so you can connect again later just by selecting the name from your list.



Bluetooth

Bluetooth is an open industry standard that's simple, secure, versatile, and reliable, and is perfectly suited for mobility. Bluetooth is the wireless equivalent of USB, replacing physical cables between digital devices with a wireless connection. It has a range of 30 feet, and unlike infrared (IrDA) devices, Bluetooth devices are omnidirectional, so there is no need to point them toward each other.

Bluetooth mobile phone

Mac OS X provides another interesting option for connecting to the Internet: a Bluetooth mobile phone. In cases where Internet connections or even phone lines are unavailable, Bluetooth enables you to turn your mobile phone into a modem and dial an ISP or data network (such as GPRS) provided by your wireless operator. Because Bluetooth is wireless, you don't even have to take your phone out of your pocket, briefcase, or backpack, as long as it's powered on and in range of your computer.



Virtual Private Network (VPN)

In today's Internet-connected world, secure communication is more important than ever—and in many cases, a requirement. The most popular method for securely connecting to your network from the public Internet is through a Virtual Private Network, or VPN. This allows you to gain access to restricted resources such as file servers, printers, databases, and websites from anywhere you can connect to the Internet. VPN works by creating a "tunnel" between your computer and the network you're connected to; all the data sent through this tunnel is encrypted, providing a high level of security. Because the data is encrypted, you can connect to your school or corporate network securely using a traditional ISP.



SecureID

RSA offers several types of SecureID hardware tokens that generate random numbers to be used with your VPN password for additional security.

Panther includes a universal VPN client with RSA SecureID support built into Internet Connect, so you have everything you need to establish a secure connection. The VPN client supports L2TP over IPsec (Layer 2 Tunneling Protocol over Internet Security Protocol) and PPTP (Point-to-Point Tunneling Protocol), which make Apple's VPN client compatible with most VPN servers, including those from Microsoft and Cisco. If your organization uses a secure ID server, RSA SecureID hardware tokens can be used in combination with the VPN client. The SecureID token provides a randomly generated passcode number that must be entered along with the VPN password—a great option for those who require extremely robust security. In either case, you can save the settings for each VPN server you routinely use as a “location,” so you can reconnect without having to reconfigure your system.

Network authentication with 802.1X

A popular alternative to VPN for securing networks—especially wireless networks—is IEEE 802.1X. Network managers often implement this protocol to allow only people who have been authenticated to access services on a wired or wireless network. The 802.1X protocol is popular because it allows a single, universal 802.1X client application to use a variety of authentication methods. Internet Connect includes a universal 802.1X client that supports all of the popular authentication protocols, including LEAP (Lightweight Extensible Authentication Protocol), PEAP (Protected Extensible Authentication Protocol), TLS (Transport Layer Security), and TTLS (Tunneled Transport Layer Security).



Connecting to Servers

Built-in file and printer sharing

Mac OS X Panther includes client software to connect to Mac, UNIX, and Windows file and print servers over wired and wireless networks using standard protocols such as TCP/IP, LPR, AFP, NFS, and SMB/CIFS. Connecting your Macintosh to a file server is simple. Panther features a Network icon in every Finder window, allowing you to browse the network for file servers the same way you browse your hard drive for files. To log in to a server, just double-click its icon and enter your user name and password. After you are authenticated, you can open documents and applications on the server or drag them to and from the server to move files and make copies. To print to a server print queue or shared printer using Panther, simply select the printer's name from the shared printer list in the Print dialog or use the Printer Setup Utility.

Apple makes it easy to share files over a network even when a file server isn't available. With Mac OS X and Rendezvous (described below), you can share files easily, even without a file server, because Mac OS X includes built-in file and printer sharing software. A single click in the Sharing pane of System Preferences activates the appropriate file, web, or printer sharing service on your Macintosh. It takes only a few seconds for these services to start, so others can access them almost immediately.



Rendezvous

Rendezvous enables Macintosh computers to dynamically discover available network services without any configuration.



Rendezvous: Zero-configuration networking

Thanks to an Apple-invented technology named Rendezvous, “zero configuration” networking is now a reality. Rendezvous works with today's most popular network technologies, including wired and wireless networks, and uses the standard IP networking protocol—the same protocol that the Internet itself uses. With Rendezvous, the Macintosh can dynamically allocate addresses without a DHCP server, translate between names and IP addresses without a DNS server, and locate services—like file and printer sharing—without a directory server.

Rendezvous makes a variety of Mac OS X networking services easy to use. The Personal File Sharing feature uses Rendezvous to tell other users on the network that you have files available. For example, in a meeting room with PowerBook computers, simply waking your PowerBook from sleep can create an instant network via Ethernet or Wi-Fi connections, linking your computer with the others in the room. Users on the new network can see your computer and access the files you've made available through Personal File Sharing. iChat uses Rendezvous to create a buddy list of friends and colleagues on your local network without having to know their Instant Messenger (IM) screen names. In addition, iChat uses Rendezvous to announce your presence to other iChat users on the network. The Printer Setup Utility uses Rendezvous to discover Rendezvous-enabled printers on a network, so when you connect your computer to the network, it automatically discovers the available printers. You can also share your printer on the network and, without any configuration, it appears in the Printer Setup Utility of all the users on the network, so they can add it to their list of preferred printers.

Apple has made Rendezvous an open standard so that other vendors can use it as well. Popular printer manufacturers such as Epson, HP, and Lexmark are now integrating Rendezvous in their printers. Mac OS X can discover and connect to these printers as soon as they're attached to the network.

Persistent connections

File sharing was originally intended for use in environments where the client and server were well known and always connected to the network. This is not the case today, with mobile computers that connect and disconnect to the network numerous times throughout the day, each time forcing the user to reauthenticate to the same servers.

Mac OS X Panther radically simplifies this tedious process by maintaining a persistent connection to file servers through sleep/wake cycles, even when the computer is disconnected and reconnected to the network.

This is particularly convenient when you've closed your files but forget to log out from a server before moving out of range or disconnecting from the network. Panther handles file server disconnections gracefully so your system won't crash or hang, and it remembers each of the servers you were connected to. The next time you connect to the network, Panther reauthenticates each of the file server sessions in the background so you can access them again and continue working interrupted.

Connecting to Devices

Mac OS X Panther enables you to connect to an unprecedented variety of digital devices. Using its state-of-the-art technologies and built-in software drivers, you'll be able to do more with your digital devices, easier and faster, than with any other operating system.

Bluetooth

Bluetooth allows you to connect digital devices to your computer wirelessly so you can transfer data, synchronize information, and extend the functionality of your computer. For example, using Bluetooth and the Address Book application, you can send text messages that will appear on the recipient's mobile phone. You can use iSync to synchronize your contact list between your mobile phone, PDA, and Macintosh, and you can use Bluetooth to transfer files between two computers.

Many mobile computer users connect an external keyboard and mouse to their laptop at the office, while using the built-in keyboard and mouse at home or on the road. Using Bluetooth, there are no cables to connect and no clutter to get in the way. Unlike infrared, there's no need for an external "pod" to receive a signal, nor is it directional, so you'll never lose the signal because you oriented the mouse or keyboard the wrong way. Apple offers a Bluetooth wireless keyboard and mouse that are perfect for mobile users; you can use them in place of or as a complement to the keyboard and trackpad built into your iBook or PowerBook.



USB and FireWire devices can be powered through the same cable that connects them to your iBook or PowerBook. You can use them anywhere—there's no need to carry a separate power cord or work near an AC outlet.

USB and FireWire

USB (Universal Serial Bus) and FireWire (IEEE 1394) deliver plug-and-play simplicity and compatibility with all the most popular digital devices, including cameras, DV camcorders, scanners, printers, keyboards, mice, PDAs, and external hard drives. USB and FireWire offer extremely high performance (up to 11 Mbps for USB 1.1 and 480 Mbps for USB 2.0; up to 800 Mbps for FireWire) and allow the computer to sense the devices when they're attached. Mac OS X includes the software and drivers for these devices, so you can start using them as soon as you plug them in. You can connect and disconnect devices at any time, without giving a thought to stopping your work, logging out, shutting down, or restarting your computer. This is especially valuable for mobile computer users who are continually on the move and appreciate the ability to set up and break down their work area at a moment's notice.

To help you make the most of your digital devices, every Macintosh includes Apple's award-winning multimedia applications—iTunes for managing music, iPhoto for organizing and sharing digital photography, iMovie for editing digital video, and iDVD for creating DVDs—that work together seamlessly. These applications work with your favorite digital devices over USB and FireWire, maximizing their usefulness and making them more enjoyable.

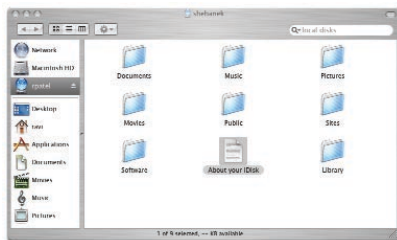


Dual displays can be useful in the office as well as on the road. You can extend your onscreen workspace by attaching a large external display to your PowerBook.

External displays and projectors

With an iBook or PowerBook, it's easy to attach a second display. These computers support video mirroring, so you can display the same information on an external display or projector that's being displayed on the built-in screen. The display resolution, refresh rate, and other video settings are automatically sensed and adjusted when an external display is attached. For those who require absolutely precise imaging and color, or need to make the best of poorly lit environments and uncalibrated projectors, Mac OS X includes a display calibration utility that enables you to optimize video output to improve the appearance of your presentation.

Another option for PowerBook computers called "dual display" allows you to use the built-in PowerBook display and an external display as though they were a single, larger display. You can spread out multiple windows and open large windows that span both displays, making it easier to edit, compare, copy, and paste between two or more documents and applications. With Apple's Keynote presentation software, you can use dual display mode to preview an upcoming slide while the audience is viewing the current slide.



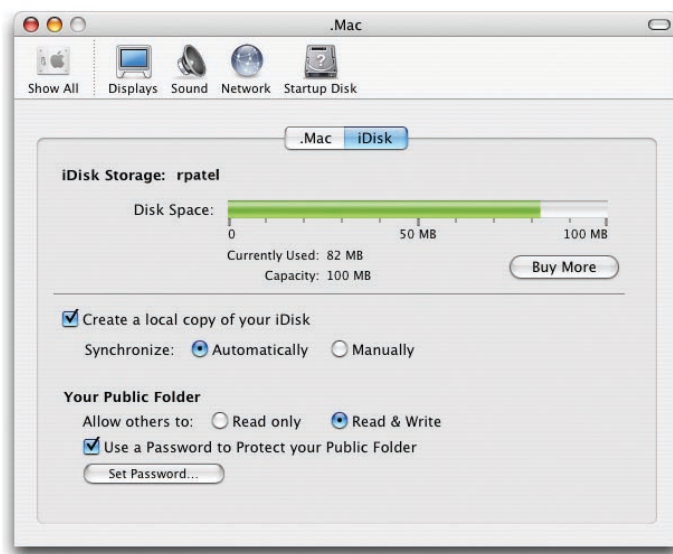
Folders on your iDisk similar to those in your computer's home directory make it easy to organize and find your files. There's even a Public folder that you can use to share documents with others. iDisk is always available, 24 hours a day, 7 days a week.

Taking Your Work with You

iDisk

Every iBook or PowerBook user can take advantage of iDisk. iDisk is a secure file server hosted on the Internet by Apple for .Mac members that is available 24 hours a day, 7 days a week from anywhere in the world. Apple backs up iDisk each night, so data stored on it is safe and secure. Each user's iDisk volume is 100MB in size, and you can purchase more space if you need it. You can store anything you want on iDisk, including documents, images, music, and applications.

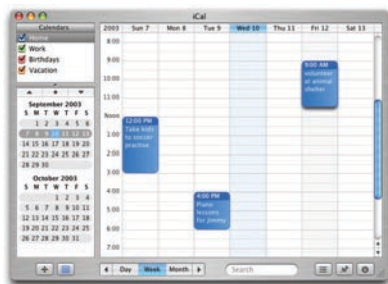
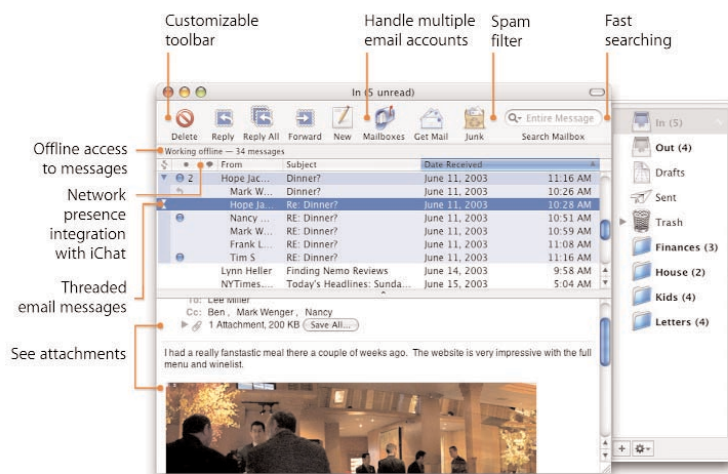
iDisk is a perfect choice for mobile computer users because it provides a secure, easily accessible place to store or share important documents while you're on the road. Mac OS X Panther saves a copy of your iDisk on your computer, so you can access it even when you're not connected to the Internet. The copy on your hard drive automatically synchronizes with iDisk on the remote server each time you connect to the Internet.



iDisk includes a Public folder so you can make selected files available to others and allow others to leave files for you. Anyone can access your Public folder using a web browser; optional password protection lets you control who can see your files. Because the iDisk server is always available, your colleagues can access your shared files at any time.

Mail

Mac OS X Panther includes an email client named Mail that is compatible with standard Post Office Protocol (POP) and Internet Message Access Protocol (IMAP) mail servers and with Microsoft Exchange mail servers. Using either POP or IMAP, you can choose to download your mail messages so they're available when you disconnect from the network. You can read and respond to messages while offline, where they'll be placed in a queue to be delivered automatically the next time you connect to the network.



iCal

iCal is a scheduling application provided with Mac OS X that lets you manage multiple calendars simultaneously. You can create separate calendars for school, work, holidays, birthdays, reminders, and more, and show, hide, and overlay them in different combinations to check your availability or resolve scheduling conflicts. iCal supports the iCalendar open standard so it can exchange calendar information with other applications and devices, including computers, iPod, and mobile phones.

Mail supports multiple email accounts, making it easy to send and receive all of your mail at one time in one application. You can exchange fully formatted or text-only messages and include attachments that can be accessed using Macintosh, Windows, and UNIX mail clients. A built-in junk mail filter ensures that you spend time managing only important messages. Mail is integrated with the Mac OS X Address Book, which serves as a central contact manager for other Mac OS X applications as well. With Address Book, names and addresses won't get lost, and you never have to enter the same information twice.

iSync

If you use a mobile phone, PDA, or iPod, you'll want to keep the information on these devices consistent and up to date with the information on your computer. This is easy to do using iSync, which automates the tedious process of keeping your contacts, calendars, and other data synchronized.



When you subscribe to Apple's .Mac service, you can also synchronize your iCal, Address Book, and even Safari bookmark data on multiple Macintosh computers, so the information on your computer at the office will always be in sync with the information on your iBook or PowerBook.

Staying in Touch



iChat AV

In Panther, Mail and Address Book work seamlessly with iChat AV. You can start a chat by clicking an address card in Address Book, and you can see if a friend is available to chat while reading an email from her. You can even drag an address from Address Book into iChat AV to add someone to your buddy list.

iChat AV

Panther includes iChat AV, a personal audio and video conferencing application for keeping in touch with friends, family, and colleagues around the world. iChat AV features high-quality, full-screen video; crystal-clear, full-duplex audio; a familiar, easy-to-use interface; and setup that requires absolutely no configuration. If you and your buddy are both using iChat and have Apple iSight or compatible FireWire cameras attached to your computers, you can communicate via a video conference complete with full-motion video and live audio instead of—or in addition to—a text or audio-only chat. The audio is full duplex, so you can both talk at the same time, and video can be scaled to any size, including full screen. Video preview and picture-in-picture features let you see what your colleague is seeing before or during your conversation.

iChat AV video conferencing is intended for broadband networks but also works over AirPort wireless (Wi-Fi) connections. Just imagine chatting with your family, friends, and colleagues wirelessly via the Internet while sitting at an airport, café, or hotel!



iChat AV is also great for text chats. Any number of members can participate in a text chat at the same time; the only requirement is iChat AV or AIM 4.0 or later.

To make chatting even easier, you can create a buddy list of your favorite people by adding them directly or selecting them from Address Book. Double-clicking an icon in the buddy list starts a chat. iChat AV displays your buddy's network "presence" so you'll know in advance if the person you want to contact is online and available. Each participant's text appears in a different font and color, based on your preferences, to make it easy to follow the discussion. You can send each other documents to discuss by dragging them onto the chat window. iChat AV can even save a transcript of the chat for later review. Mac OS X allows you to keep working in other applications while you're using iChat AV, so you can read mail, browse the web, create a spreadsheet, or edit a document, allowing you to be more productive while you stay in touch.



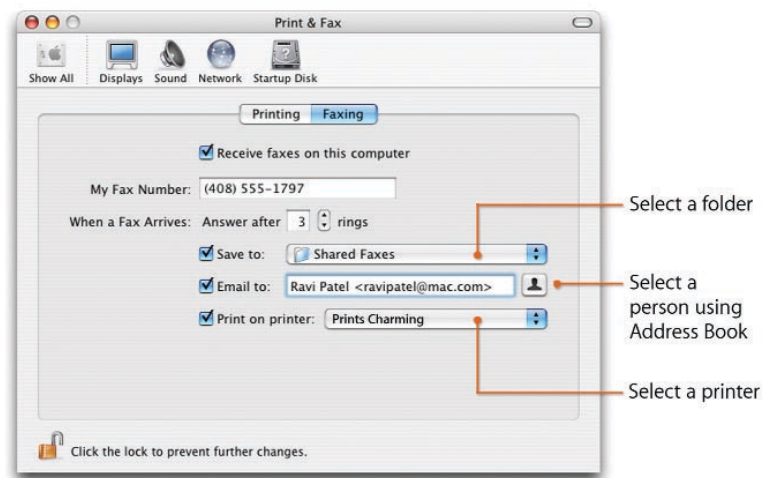
Easy-to-read faxes

Panther displays faxes using the Preview application. Preview converts faxes from black-and-white to grayscale and provides anti-aliasing, so faxes are often easier to read on your Macintosh than when printed by a fax machine.

Fax

Panther brings faxing into the digital realm by integrating Group 3 fax send and receive services into the operating system. Now any application that can print can send a fax, and you can enter a recipient's fax number on the fly or select a recipient from Address Book.

If you find that you often send faxes to the same people, you can save fax presets so faxing takes just a single click. You can configure Panther to receive faxes using the Print and Fax pane in System Preferences. Based on your selections, received faxes are saved as PDF files in a folder of your choice, sent to a printer, or forwarded to you in an email attachment. With these options, Panther neatly integrates the hard-copy world of faxes with the digital world of computers, making it simple and convenient to stay in touch and conduct business just as easily with those who use computers as with those who don't.



Unified authentication

Panther features a unified authentication architecture; you need to remember only one password to authenticate services such as login, screen saver, and wake from sleep.

Security

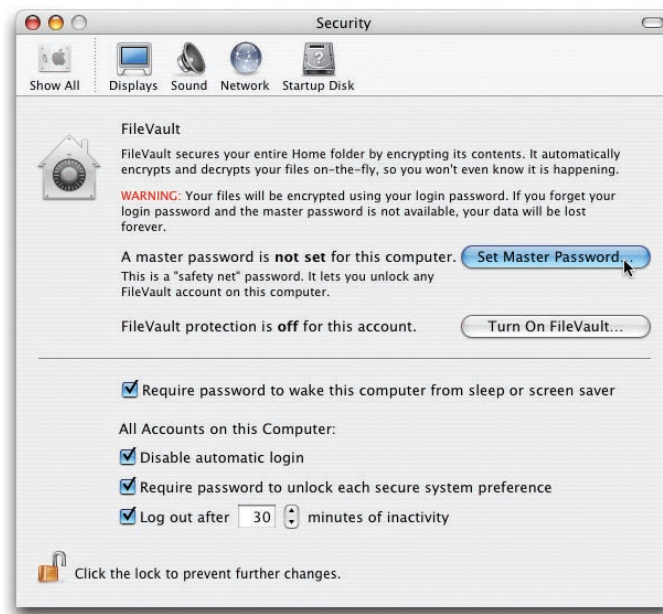
Authentication

Mac OS X Panther makes it easier than ever to keep your data and system secure. To prevent unauthorized access to the computer, Panther provides for password-protected login. When you create your account, you select a password or passphrase. Generally, the longer a password is, the more difficult it is to guess or break. With Panther, your password or passphrase can be up to 255 characters. If you're the only person using the computer, you can set it up for automatic login without requiring a password. This setting can later be changed in the Security pane of System Preferences.

To protect your data when you leave the computer running but unattended, you can set it to automatically log out, sleep, or run a screen saver that requires a password to reactivate the system. These options prevent someone from accessing your files from the keyboard or tampering with the computer's settings. To wake the computer from sleep or temporarily stop the screen saver, enter the same password used to log in to your home directory.

FileVault

To keep your files completely private, Panther includes FileVault. As its name implies, FileVault is a secure mechanism for protecting your home directory. It uses AES-128 (Advanced Encryption Standard with 128-bit key) to encrypt the contents of your home directory so that only you have access to it—even if your home directory is copied to another computer or hard drive. When you log in, the vault (your home directory) is opened. When you log out, the vault is locked again. FileVault operates “on the fly,” encrypting and decrypting files in the background as you open and close them. It operates so quickly that you won’t even notice it’s active, so it won’t interrupt your work or slow you down. FileVault, in combination with automatic logout and authenticated screen locking, makes it incredibly difficult for someone to break into your home directory even if they have access to your computer.



Before activating FileVault, you must create a Master Password. You’ll want to store your Master Password safely away from your computer or provide it only to a trusted system administrator for safekeeping. If you lose or forget your regular account password, using the Master Password is the only way to unlock FileVault and access your files. Without it, the contents of your home directory will be securely locked forever and you won’t be able to access the files again. FileVault is so secure that not even Apple will be able to help you unlock your encrypted home directory.

Managed Mobility

Automatic discovery of directory services

Mac OS X supports automatic discovery of directory-based configurations using DHCP. Mac systems on a network, even portables, can automatically discover their directory server and retrieve user, group, and computer configurations—with no user intervention required. After obtaining an IP address from the DHCP server, the computer contacts the LDAP network directory, which configures the client system and provides user account information, group settings, and managed system preferences.



Cached preferences

The innovative Workgroup Manager application in Mac OS X Server simplifies system administration by providing centralized, directory-based management of users, groups, and computers. System administrators can create standardized desktop configurations, set system preferences, establish password policies, and control access to hardware, software, and network resources. These settings are cached on client systems, so managed preferences and user privileges remain in effect on iBook and PowerBook computers even when they are disconnected from the network.

Cached authentication

Mac OS X Panther supports server-based authentication, including Kerberos and MSK (Microsoft Kerberos), which is used in Microsoft Active Directory. These credentials are cached on the Macintosh hard drive, so the computer can be accessed securely even when it's disconnected from the network. All centrally managed system, Finder, Internet, application, login, Dock, printer, Classic, and media preferences are maintained and remain active and enforced based on the user's authentication.

Mac OS X Version 10.3 "Panther": Power of UNIX, Simplicity of Macintosh

Mobility features in Mac OS X Panther allow you to connect instantly to a network to access the Internet, send email and chat, or conduct a live, full-screen video conference over a wireless connection. In addition, Mac OS X Panther offers more than 150 new features and innovations, including Exposé for instantly finding any window and a new Finder for easy access to everything you need. It's like having an all-new Mac.

For More Information

For more information about Mac OS X Panther, visit www.apple.com/macosx.

¹Internet access requires an Ethernet connection, dial-up line, or 802.11 wireless service and a compatible ISP; fees may apply.

²Wireless Internet access requires an AirPort Card or AirPort Extreme Card, AirPort Base Station or AirPort Extreme Base Station, and Internet access (fees may apply). Some ISPs are not currently compatible with AirPort and AirPort Extreme. Actual rates will vary based on range, connection rate, site conditions, size of network, and other factors. Range may vary with site conditions.