The Tekserve Mac FAQ

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12th Edition

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Introduction

The first Tekserve Mac FAQ was published in 1998 with 25 pages covering floppy disk drive repairs, SCSI woes, and Apple bombs. Over the last 15 years, the technology has changed, but most of our basic advice hasn't. We're still teaching customers how to back up their computers (page 41), what to do if liquid is spilled on their portable Macs (page 20), and how to troubleshoot slow applications (page 35). Although these are timeless lessons of computer ownership, we'll be the first to admit that computers have gotten a lot more complicated since we started.

Our advice for Mac users has grown tremendously, as we've expanded to serve the thousands of customers who visit us every week. With over 200 employees, we have specialists in every field, from Pro Tools to iPad accessories, and a huge knowledge base. In 1998, our 128kbps ISDN connection was something to brag about. Today, the Internet is the first resource we check when something goes wrong with our gadgets.

In the interest of saving more than a few trees, only the first part of our advice has been printed here. Everything else is available on our website at *tekserve.com/faq*. There, you'll find hundreds of additional questions about getting the most out of your Mac, iPhone, iPad, or iPod's battery, sharing files with Windows users, printer troubleshooting, avoiding spam, recognizing viruses, and much more. You can also download the previous eleven editions, with our advice for earlier operating systems (from Mac OS 8 to Mac OS X 10.7) and older machines.

This print edition covers the basics of caring for your Mac and how to troubleshoot anything that would prevent you from going online to find an answer at *tekserve.com/faq*.

If you're a new Mac user, or need a refresher, start with "**The Basics**" (page 3). Next, try "**Where Do I Go For Help?**" (page 12) and "**When Should I Bring my Computer to Tekserve?**" (page 14).

The next few sections deal with problems you may encounter, starting with the most critical ("**I Can't Start My Mac**," page 21), the simply serious ("**Crashes, Freezes and Kernel Panics**," page 31), and the just frustrating ("**Annoyances**," page 34). Our section on "Intel vs. PowerPC" will explain why old applications won't run on new Macs, and vice versa.

Next, we cover a few major Mac ownership tasks with "**Get Ahead By Backing Up**" (page 41), "**Upgrading and Reinstalling Mac OS X**" (page 59), and "**Passwords**" (page 65).

Finally, we cover the last two topics that might prevent you from accessing our FAQ online with "**A Full Hard Drive is an Unhappy Hard Drive**" (page 71), "**Getting Online and AirPort**" (page 75) and a look at "**iCloud**" (page 83).

We cover the most common questions from new and experienced Mac users, but you might have one to add to future versions of this guide. If you think the answer to your question might be useful to other Mac users, please send your suggestion to faq@tekserve.com.

The Basics

I just got a Mac, what should I write down about it?

It can be useful to have this information handy when buying accessories for your Mac or troubleshooting it later. If you choose to record your passwords here, make sure to keep this book in a safe place.

My Mac hardware		
Questions	**Answers**	**Notes**
What kind of Mac do I have?		For example, a 13″ MacBook Pro or 27″ iMac
How much memory (RAM) is installed in my Mac?		For example, 4 GB of RAM
What kind of processor(s) does my Mac have?		For example, 2.4GHz Intel Core i5
How large is my Mac's hard drive?		For example, 500 GB
My Mac's serial number is:		Check your sales receipt
When was my Mac purchased?		Check your sales receipt

My Mac OS X Software and My Apple ID		
Questions	**Answers**	**Notes**
What version of Mac OS X do I have installed currently?		Select "About This Mac" from the Apple (apple) menu
In Mac OS X, my account name is:		If you don't know, choose "System Preferences" from the Apple (apple) menu, then choose *Accounts* or *Users & Groups*

My Mac OS X login password is:		Keep this in a safe place if you record your password here
If my account is not an admin account, which account is an admin and what is its password?		Fill this in only if you aren't using an administrator account; usually you will be the admin if you're the owner of the computer
Does this account use FileVault?	__ Yes __ No	If you don't know, check the *Security* pane in System Preferences
My master password for this computer (if set) is:		To see if a master password has been set, check the *Security* pane in System Preferences
My Apple ID name is:		An Apple ID is used to purchase items from the iTunes and Mac App stores
My Apple ID password is:		Keep this in a safe place if you record your password here
Do I use Time Machine to back up my computer?	__ Yes __ No	Open "System Preferences" and check *Time Machine*

My Internet Connection (optional)		
Questions	**Answers**	**Notes**
Who is my Internet Service Provider (ISP)?		Such as Time Warner, Comcast, RoadRunner, EarthLink, Verizon...
What is my ISP's support phone number?		
What is my ISP's support website?		
If I have an account with my ISP (to connect to the Internet), what is the user name and password:		This is common with DSL and dial-up accounts
What type of equipment do I use to connect to the Internet via my ISP?		For example, do you use a modem/router provided by your ISP? Do you use a third-party router or cable modem? Do you use an Apple AirPort base station? Do you connect wirelessly, via Ethernet, or both?
If I usually connect wirelessly to a password-protected network, what is the wireless network's name and password?		

I don't know what any of these computery words mean!

Learning a few techie words will help you understand how to read instructions on using your Mac in this book.

Operating System – The operating system is the software that runs your computer, and it comes with your Mac (unlike applications, which you can add later). Apple computers use an operating system called Mac OS X. The OS X operating systems have a version number and a cat nickname. You can check which one your Mac has by going to the Apple (🍎) menu in the upper-left corner of your screen and choosing "About This Mac."

- Mac OS X 10.5 Leopard – released in October 2007 (if you're running this operating system or an earlier one, download the earlier edition of the Mac FAQ from *tekserve.com/faq*)
- Mac OS X 10.6 Snow Leopard – released in August 2009
- Mac OS X 10.7 Lion – released in July 2011
- OS X 10.8 Mountain Lion – released July 2012 (the "Mac" part of the name was officially dropped in this version)

Apps or Applications – These are the programs (aka software) that allow you do things on your Mac. Microsoft Office, iTunes, and Safari are all examples of applications.

Memory or Random Access Memory (RAM) – Your memory (RAM) is temporary storage that your computer uses to store information that you're actively using. Think of RAM as your countertop in the kitchen and your files and applications as food. The more space you have on your countertop, the more food you can work with at one time. If you have more RAM, you can mix dough (word process) while you prepare appetizers (watch an online video). This

is useful when you like to work with multiple applications and files open at once. If you get the rainbow beach ball often, you may need more RAM.

Hard Drive (HD) – Your hard drive is like your refrigerator. Your files (food) stay in there until you're ready to work with them on the counter top (RAM). The larger your hard drive is, the more files you can store.

Solid State Drive (SSD) – While serving the same purpose as the Hard Drive mentioned above, SSDs have the advantage of being much faster, as well as having no moving parts – meaning it is less likely to suffer a physical failure. The only downside is that they tend to be more expensive, and the amount of storage is smaller. But those gaps are closing rapidly, and most new Mac portables include an SSD by default.

Drag and Drop – This is the action of selecting a file, holding down your mouse button or trackpad, and dropping it in another location. Try this first if you can't figure out how to move a file into or out of an application. For example, you can drag a photo on top of the iPhoto icon in your Dock to add it to your iPhoto library.

Dock – This is the bar of application icons found (by default) at the bottom of your screen. You can add and remove applications from the dock by dragging and dropping them. If you don't see it anywhere on your screen you can usually bring it back by moving your mouse cursor to the bottom of the screen or one of the edges and hovering there for a moment; it should pop up.

System Preferences – This is where all computer-wide options are located, such as changing your desktop picture and managing printers. You access it by choosing "System

Preferences" from the Apple (🍎) menu in the upper-left corner of your screen.

Gestures – This is how Apple refers to how you move your fingers on the trackpad to scroll, rotate, or secondary (right) click/tap. Select "System Preferences" from the Apple (🍎) menu and then choose the *Trackpad* panel to learn the gestures available on your Mac.

Spotlight – This is the built-in search tool for your Mac. Think of it like Google search for your files. Press Command-Space bar to activate the Spotlight search bar. Or you can click on the magnifying glass in the upper-right corner of your screen.

Finder – The Finder allows you to access everything on your Mac. When you are looking at files and folders in a window, that window is called a Finder window. You can access the Finder at any time by clicking on your desktop or selecting the first icon in your dock (a blue smiling face).

Command ⌘, Control ^, and Option ⌥ Keys – These keys are in the lower corners of your keyboard. They are used in combination with other keys to execute a variety of functions and keyboard shortcuts. If you're not sure where to find them, visit *tekserve.com/faq/keys* for pictures. Hold down Control and click with your mouse/trackpad to do the equivalent of right-clicking on a Mac (we call it secondary click, because we're cool like that).

Time Machine – This is Apple's data backup application, included with new Macs. It will back up your files, music, photos, etc., to an external hard drive in case your Mac is ever lost, damaged, or malfunctions. See our chapter on "Getting Ahead by Backing Up" (page 41) to learn all about it.

Folders and Slashes (File Paths) - We use the forward-slash character "/" as shorthand to indicate folders on your Mac. This notation is called a "path" in Mac OS X. Each word between slashes is a folder name. Start in any Finder window, then open each folder in order. For example, for *Macintosh HD/Users/YourName/Documents*, you would open your startup disk (typically named Macintosh HD), next double-click Users, then your User folder (typically with your name and a house icon), and then the folder Documents.

How do I install applications on my Mac?

There are three different methods used to install applications on your Mac. The newest method is to use Apple's App Store. We'd appreciate if you'd search for the application you'd like to buy at *tekserve.com* and select Buy Now to launch the App Store. From there you can select, purchase, and install Applications on your Mac with just a few clicks.

The second most popular method is to download the application from the software manufacturer's website. We keep a list of common applications we recommend to most Mac users at *tekserve.com/faq/appstoinstall*. Another good site to start your search is *download.com*. Once you've downloaded the application, double-click the file that has been placed in *YourName(Home Folder)/Downloads*. This will usually place a temporary disk image (typically a rectangular icon) on your desktop. Double-click the disk image on your desktop to get started. Inside, you'll find the application's icon. Drag and drop that icon to your *Applications* folder. That's it! You've installed the software. Drag the icon from your Applications folder to your Dock if you want easy access to launch it often. Once you've copied the application to your Mac, you can eject the disk image on your desktop by dragging it to the trash.

Occasionally, once you've followed the directions above, you won't be able to drag the application's icon to your Applications folder. Double-click it instead. It should run an installer that will place the application in the appropriate spot on your computer.

The last method is to buy a boxed copy of the software with an application installer disc (or discs) online or from a store like Tekserve. The disc will contain the application itself or an installer application, just like the disk image method mentioned above.

How can I maximize my portable Mac's battery life?

When you plug in a new portable computer or a new battery for the first time, you should fully charge the battery. Also, run *Software Update* from the Apple (🍎) menu to install any battery performance updates that Apple may have released for your computer. To properly maintain the battery, it's important to keep the electrons moving occasionally. Apple does not recommend leaving your portable plugged in all the time. Once a month, you should run down your battery all the way, and then charge it fully. A common misconception is that you should completely drain and recharge your battery as frequently as possible. While this was true of the older Nickel-Cadmium (NiCad) batteries, it is no longer the case with the newer Lithium-Ion (Li-ion) batteries. The life of a battery is directly affected by how often you unplug your computer, run it on battery power, then plug it back in to charge up again. This is called a "discharge cycle." After you've hit a certain number of discharge cycles, your battery is officially considered depleted, and you can't expect it to last as long as it did when it was new – but, as current batteries are rated to last about 1,000 discharge cycles, you may end up replacing your computer before you need to replace its battery.

Macs work best in the same temperatures humans like, from 50° to 95°F. Storing your Mac in temperatures less than –13° or higher than 113°F can damage the battery; so don't leave your Mac in a hot car. For tips on how to use your portable computer on battery power for longer, see *tekserve.com/faq/maxbattery*.

Although the newest Apple batteries are designed to last up to 5 years, your battery's performance may vary. Tekserve can replace your battery at anytime or sell you an external battery for use between charges.

Where Do I Go for Help?

What about Apple's own support?

Consumer Reports consistently rates Apple as having the best support in the business. One place you can see that is on their website, *apple.com/support*. There is a wealth of good and accessible information, and you can drill pretty deep. (But they know to start simple.)

What if the Apple website didn't help?

Most new Apple products come with a one-year hardware warranty and 90 days of free telephone support. AppleCare for computers and displays extends the phone support and hardware coverage to three years from the purchase date. AppleCare may also be purchased for iPods, which will extend the coverage to two years from the date of purchase of the iPod. For iPhones and iPads, you may purchase AppleCare+, which, unlike standard AppleCare, includes up to two instances of accidental damage (with a deductible) for two years from the date of purchase of the device.

If you are entitled to phone support, call (800) APL-CARE, aka (800) 275-2273.

How do I check my Apple warranty or AppleCare coverage?

If you are running OS 10.7 Lion or later, click on the Apple (🍎) in the upper-left corner of your Mac, choose "About This Mac" and then the *More Info...* button. In the resulting window, select Service from the tabs on the upper right. Click the arrow next to "Check my service and support coverage status" to send your serial number to Apple and view your warranty status.

Otherwise, visit *apple.com/support/oss/* with your product's serial number. If you aren't sure how to find your serial number, visit *tekserve.com/faq/1349*.

Apple couldn't help, or said it was a "third-party" issue. Now what?

If it is a "third-party" issue, try to contact the manufacturer or publisher of the item or check their website. If that doesn't help, we always recommend Google. Type the whole question into the Google search box. If you're getting an error message, type in the first line of the error message. Just keep in mind that while the top results from your search are usually worth checking out, you may well run into some "fixes" that won't resolve your specific issue. As with anything on the Internet, be cautious when changing application and system settings, and make sure your data is backed up first.

Does Tekserve offer telephone support?

We haven't found a way to provide great phone support to individuals, so we don't offer it. We're sorry. If you call,

we're probably going to tell you to bring it in for us to check it out in person. You can also find answers to more questions at *tekserve.com/faq*.

Tekserve Managed Services offers our business customers instant access to our professional technical support staff by phone, email, and the web. Please call (212) 381-6300 for more information.

How do I get someone to come to my office or home to help me with the problem?

Tekserve offers on-site Professional Services for trouble-shooting and setup. Pricing ranges from $90 to $250 per hour. Call us at (212) 381-6300 to get a quote or book an appointment.

My Mac just died, and I need a computer ASAP!

Tekserve not only repairs Apple computers, we rent and sell them too. Whatever you need, we'll keep you working with a low-cost rental or by transferring your information to a new Mac. You may reach our rentals department at *rentals@tekserve.com*, or by calling (212) 929-3645 ext. 476.

When Should I Bring My Computer to Tekserve?

Most repairs fall into one of two categories:

SOFTWARE REPAIRS

Software repairs are required when an application, data, or your operating system is having a problem. For example,

you can't open a file, or an application keeps crashing (quitting unexpectedly). These repairs are usually not covered under warranty and can often be solved at home. Try calling AppleCare at (800) 275-2273 if you've purchased it for your computer, or try checking Tekserve's support database at *tekserve.com/faq* to solve your problem first. If the problem is with a specific application, check the manufacturer's website for software updates or support. If those resources can't solve your problem, back up your computer and bring it into Tekserve. Or you may also call our Professional Services group to schedule a Tekserve engineer to visit you.

HARDWARE REPAIRS

If your computer is having an electrical, mechanical, or physical problem, we can get it up and running again (or advise you if it might be time to move on to a new one). If the computer and its problem are covered by Apple Warranty, an Apple Repair Extension, or AppleCare, then Apple will cover the cost of the repair at Tekserve. If your computer is out-of-warranty or was accidentally damaged, we will give you a free estimate for the best solution. We'll do our best to get you in and out in 30 to 45 minutes. It can take longer after 5 p.m. and on weekends.

Insider Tip: Wait times are shortest when it rains or snows.

What should I do before I bring my computer in for repair?

1. Make notes about the problem(s) you are having. When a problem occurs, write a note with the time, what you were doing on the computer, and exactly what happened (error messages, odd sounds, shut down, etc.). If you can, it might help to take a picture of your com-

puter's screen. You can save a screen shot to your Mac's desktop by pressing Command-Shift-3.

2. Back up your computer (if you can). If you are unable to back up your computer, Tekserve can usually do so for an additional charge. Many failures and repairs don't affect the hard drive or your data, but without a backup you will not be able to access your data until the repair is completed. See "How to Create a Bootable Clone Backup" (page 48) for details.

3. (Optional) If your computer's password is confidential, change it. We will need to know your administrative password, so you may want to temporarily change it. See "Can I reset my login password?" (page 70) for instructions.

4. Bring your power adapter with your portable computer, Apple display, or Mac mini. We don't need any cables for other desktop Macs. Unless the problem you are experiencing is related to the mouse or keyboard, you don't need to bring those with you.

How do I avoid activation problems with iTunes, Adobe Creative Suite, or Final Draft after the repair?

Before major repairs, you should deactivate any applications that required online activation when you installed them. If you forget, you may have to contact the software manufacturer to reset your activations.

iTunes Store: Under the *Store* menu choose *Deauthorize This Computer*. After the repair, choose *Authorize This Computer* to play your iTunes Store purchases again. You can authorize up to five different computers at a time. If you forgot to deauthorize your computer before the re-

pair, you can reset your authorizations once a year. See *tekserve.com/faq/1420* for details.

Adobe Creative Suite 2 or later: Go to the *Help* menu within the application to deactivate any Adobe software that you have installed. Call Adobe at (800) 833-6687 if you have problems.

Final Draft: While connected to the Internet, choose *Deactivate* from the *Help* menu. Call (818) 789-6281 if you have problems.

Do I need to make an appointment?

We know you can't predict when you might need help, so there are no service appointments you have to book in advance. Please come on by; we are open seven days a week. We suggest that you come at least half-an-hour before our closing time. We do close (or shorten our hours) on a few holidays; you can check *tekserve.com/hours* for store hours and directions.

How much do you charge for an estimate?

We will do an initial evaluation and give you an estimate for free. Of course, it is an *estimate*. A technician may need to revise the estimate when they get inside the Mac. Sometimes the repair turns out to cost less than we first estimated.

Spills and accidental damage are the main reasons for having to give a revised estimate on a repair. So, if we take apart your portable, and the liquid sensors have been triggered, or we see the electrolytic corrosion, we'll have to call you back and give you a new estimate.

How long will the repair take?

We understand being without your Mac can be tough, so we strive to complete certain repairs and upgrades within an hour whenever possible. If we are replacing a functioning hard drive with a larger one and transferring the data (or installing a new drive with no data transfer), we can often do it in 24 hours (on weekdays). Otherwise, the standard turnaround time for most repairs is three business days. We offer flat-rate computer rentals during a Tekserve repair. For a list of available machines and pricing, please visit *tekserve.com/rentals*.

What if I can't back up my data (files)?

Many failures and repairs don't affect the hard drive or the data, although you will not be able to access your data until the repair is done. If you were unable to back up the Mac yourself and need the data while we are fixing the computer (or just feel better having a backup), we can help. One of the services we offer is to remove the hard drive from a broken computer and back up the data, usually to an external hard drive.

What if the data is very important but Tekserve can't back up the computer?

Sometimes the problem is the hard drive itself, or the directory structures that allow data to be read from the drive. If you want the data on the computer, but there is a problem with the hard drive or the hard drive's directory, we can perform a data recovery. We charge a flat rate, based on the size of the drive. If we fail to recover the data, even after many hours of effort, we will not charge you anything (unless you asked for rush service).

What if Tekserve can't recover my data?

If we were unable to recover your data, we have partnered with other companies that complement our data recovery options. We'll advise you as to the best course to take based on your individual circumstances.

My peripheral device isn't working (printer, scanner, external hard drive, etc.). Can Tekserve help?

If it's a hard drive that's not working, and the data is important, you may want to bring it to us right away. We can test whether the hard drive's enclosure or the hard drive itself has failed for a fee. (The testing fee can then be applied towards a new hard drive enclosure or data recovery services if you choose either.)

Printer problems, just like computer problems, fall into one of two categories: software or hardware. If you have recently updated software on your computer and find your printer is no longer working, you may need to update the printer's driver. These drivers are made available freely on the manufacturers' websites. Look for a section labeled "Drivers" or "Downloads" and you'll be able to find them for your model.

For hardware issues with printers, please contact the manufacturer to inquire about service or replacement options. As printers have become more complex, they have also become less repairable, and very few places now offer printer repair. (Tekserve, for example, does not offer printer repair services.) Keep in mind that if your printer is inexpensive (less than $300), it is very likely that purchasing a new unit will be far more economical (not to mention easier) than trying to have it repaired.

My whole computer network is down. Can Tekserve help?

Yes, please call our Professional Services group at (212) 381-6300 to arrange an on-site visit.

Can I set up a corporate account to simplify service?

Yes, please talk to your Tekserve salesperson, call us at (212) 381-6300, or email *sales@tekserve.com*.

Spills

I just spilled beer/tea/cough syrup on my keyboard (well, my cat threw up on it).

On a portable computer, immediately do the following things:

- Shut down the computer and unplug the power cord.
- Remove the computer's battery (if you can).
- Disconnect any peripherals (printers, iPods, scanners, cameras, etc.).
- Lay the computer upside down on paper towels to get as much liquid as possible to drip out.
- Note what was spilled on your computer.
- Bring the Mac into Tekserve as soon as possible.

Do not try to turn it back on. Liquids can help electrical current move about the components of your Mac in destructive ways. Don't shake the computer (this will only spread the liquid around). Finally, don't use a hair dryer on it (even at a low setting a hair dryer will damage sensitive compo-

nents). Liquid and spill damage is not covered by warranty or AppleCare (but may be covered by accidental damage insurance, home owners/renter insurance policies, and some credit cards). You can learn more about Tekserve's spill cleaning service at *tekserve.com/faq/spill*.

If you've spilled on a desktop computer's keyboard, shut down the computer, unplug the keyboard, and turn it upside down. Wait a day or two for it to dry. It may be okay at that point. If not, buy a new keyboard. (Former *BYTE* columnist Jerry Pournelle says to take it in the shower with you and rinse it thoroughly and then dry it for a few days – but he also believes in *Star Wars* missile defenses.) New Apple USB keyboards start at around $49 and other brands are available at Tekserve for less.

I Can't Start My Mac

What if my computer won't wake from sleep?

Macintosh portable computers may go into "deep sleep" mode and appear completely dead. Wake them up by momentarily pressing the power button (only press briefly, don't keep it held down).

I press the power button, and nothing happens.

More often than we want to admit, the problem is something simple. Make sure the computer's power cable is plugged in, your keyboard and monitor are plugged in, your power strip or UPS is switched on, and the circuit breaker hasn't been tripped. If your computer's battery was completely drained, let it charge for 15 minutes. An old tech support

joke ends with the punch line, “Of course I can’t read the manual – there’s a blackout.”

If you have a portable, reset the System Management Controller (see “How do I reset the System Management Controller?” page 29). If you are sure the power outlet is working, the computer’s power supply or logic board may have died. Bring in the computer for an evaluation.

I turn on my computer and it only shows a persistent gray screen, an Apple logo, spinning gear, spinning globe, prohibitory sign, or a folder with a flashing question mark.

1. First shut down your Mac. You may need to hold down the Mac’s power button for several seconds to turn it off.

2. Disconnect all external devices and Ethernet cables (except your mouse, keyboard, and monitor if applicable). If you are using a third-party mouse or keyboard, disconnect those too and plug in your original Apple peripherals if possible.

3. Now that your external stuff is disconnected, start the Mac and see if the external devices caused the problem. If so, reconnect them one at a time to see when the problem returns.

4. You can check that your computer is trying to boot from the correct drive. To do so, hold down the Option key immediately after you press the power button to turn your computer on, and then select the drive where your operating system is installed (usually “Macintosh HD”).

If these steps don’t resolve your problem, try performing a Safe Boot (detailed on page 28). If a Safe Boot doesn’t work, try resetting your PRAM/NVRAM (also on page 28).

Next, try "How do I repair my Mac's hard drive using Disk Utility?" (page 24). If none of those steps work, bring your computer in to our service department, and we'll gladly take a look at it for you..

I turn on my computer and hear a series of beeps, or I see the power LED blinking in a repeating pattern.

Every time you start your Mac, it performs some self-diagnostics. With these signals, the Mac is telling you that it failed to pass those diagnostics.

1. Turn everything off, and disconnect all external USB and FireWire devices (except your mouse, keyboard, and monitor, if applicable). Disconnect your Ethernet cable if you use one. If you are using a third-party mouse or keyboard, disconnect those too and plug in your original Apple peripherals if possible. Now that your external stuff is disconnected, start the Mac and see if the external devices caused the problem. If so, reconnect them one at a time to see when the problem returns.

2. A series of beeps can indicate a hardware problem, usually bad or incompatible memory (RAM). On some computers, the power LED will flash as many times as the beeps, plus one, repeating the sequence every five seconds. The current beep codes for most Macs are:

1 beep	No RAM installed
2 beeps	Incompatible RAM installed
3 beeps	RAM failed test
4 beeps	Problem with the boot ROM on the logic board
5 beeps	Processor is bad

3. If you recently added RAM to the computer, you may want to try removing it (if you are comfortable doing this and have the right antistatic equipment).

If you still get the sad Mac tones, your problems are more serious – memory, the logic board, the hard drive, or an add-on such as a PCI card. At this point, if you still have trouble, you should probably bring the computer in for service.

I turned on my computer and just see a little blinking prohibitory symbol (a "no smoking" sign without the cigarette), a flashing question mark, or a blinking folder and happy face.

This means your Mac can't find a disk with the proper software to start. While not a terribly common issue, you should first check that your computer is trying to boot from the correct drive; to do so, hold down the Option key immediately after you press the power button to turn your computer on, and then select the drive where your operating system is installed (usually "Macintosh HD"). Past that, there are a few things you can try, but these computers often wind up at Tekserve for data recovery. First, try to zap the PRAM/NVRAM with the instructions on page 28. If that doesn't work, see "How do I repair my Mac's hard drive using Disk Utility?" below. If none of those steps work, you will probably need to bring your computer in for repair.

How do I repair my Mac's hard drive using Disk Utility?

WARNING

In some instances, repair applications will make things worse. Please read the next section carefully.

If your Mac won't start up normally, you can start up your Mac using the built-in recovery partition introduced in OS

10.7 Lion. Once your Mac is off, hold down Command-R immediately after you press the power button to access it. If this doesn't work, try using the instructions above with the gray system install DVD that came with your Mac.

1. Wait for the installer disc or recovery partition to finish loading. We are not going to install the system now; we are starting up this way so we can run Disk Utility.

2. A Mac OS X Utilities window should appear, select *Disk Utility.*

WARNING

Don't click Erase – that will wipe out everything on your drive.

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3. If you see your startup disk on the left side of the Disk Utility window, you can try to repair it using Disk Utility. Select your startup volume by name, and then click *Repair Disk*.

4. When finished, quit Disk Utility, look in the *Apple* (apple) menu, and choose *Startup Disk*. For either system, if you see your disk in the list, select it, and click the *Restart* button. If you still get a blinking icon, you might need to reinstall your system.

If your hard disk or volume didn't show up in Disk Utility, you can try using an application like DiskWarrior.

Can I make things worse by doing repairs with TechTool, Disk Utility, DiskWarrior, or similar utilities?

Unfortunately, yes. In most instances, these applications are good tools that help solve problems. But "repairing" certain problems can leave you worse off than before – in some cases, even destroy a disk from which a professional could

easily have recovered data. Basically, when your drive's directory is scrambled, anything that writes to the disk has the potential to do harm. Running TechTool Pro and some other utilities can actually write over the directory that it's fixing, so occasionally it does damage.

Running a data recovery utility such as Data Rescue should be fine, if you copy the recovered files to a different drive. If you recover the files onto the same damaged drive, you will be overwriting other data you may wish to recover, compounding existing directory damage and making things worse. A few utilities offer to save an "Undo" file so that you can go backward, but we've seen them crash in the middle of a repair, and the Undo file itself was corrupted or incomplete.

You can also use DiskWarrior to recreate a disk directory, but don't rush to write the new directory to the disk. Instead, click the Preview button on DiskWarrior's last screen to mount the volume using the rebuilt directory and copy your files to another drive. Check the files thoroughly before you write the new directory or reformat the original drive.

If you are thoroughly backed up, you can use any repair utility with confidence. If you are not backed up and your files are essential to you, consider getting professional help. We're not trying to scare you into always hiring us – we're trying to scare you into always making lots of backups!

When I start up my Mac it stays on a blue screen for hours and never shows me the desktop.

We've listed some of the best bets on the next page.

1. If you use an Ethernet cable, unplug it and restart. If the Mac starts up, you should carefully check your network preferences for incorrect information.

2. Unplug any external devices from your system and restart.

3. Check for old and incompatible third-party startup items, preference panes, and login items. Perform a Safe Boot (see the next question), and look in the following places for items you may have previously installed.

Drag the suspects to the desktop to disable them. If you are unsure, it is best to leave the item in place.

ABOUT FOLDERS

Read the section on file paths on page 10 if you're not sure how to navigate to these items.

Preference Panes	*Macintosh HD/Library/ PreferencePanes* *Macintosh HD/Users/YourName/ Library/ PreferencePanes*
Startup Items	*Macintosh HD/Library/StartupItems* *Macintosh HD/Library/Launch Agents* *Macintosh HD/Library/LaunchDemons* *Macintosh HD/Users/YourName/ Library/ Launch Agents*
Login Items	Open *System Preferences*, click *Accounts* or *Users & Groups,* then *Login Items*

If you're running Lion, see "How do I access the Library folder?" (page 38).

What is a "Safe Boot" and how do I use it if my Mac isn't properly starting up?

Some applications start as soon as your Mac starts. On rare occasions, these may cause incompatibilities. We mostly see this issue after a system update. If your Mac has trouble starting up, you can use Safe Boot to disable these additions and load only Apple-required extensions.

Make sure your Mac is shut down and then press the power button. After you hear the startup tone, immediately hold down the Shift key. If you're using OS X 10.6.8 or earlier, you'll see the note "Safe Boot" on your screen. Starting up this way can take several minutes, so you must be patient.

Not all functions are available in Safe Mode. To return to normal, restart without holding down any keys.

How do I reset the PRAM/NVRAM?

Your Mac stores certain settings like your screen resolution and startup disk location in special memory called PRAM on PowerPC Macs and NVRAM on Intel Macs. If you're experiencing difficulty starting up your Mac, resetting the PRAM/NVRAM may help.

1. Shut down the Mac.
2. Locate these keys on the keyboard: Command, Option, P, and R.
3. Press the power button on your Mac.
4. Before the gray screen appears, hold down Command-Option-P-R simultaneously.
5. Keep holding those keys down until you hear the startup sound chime two or three times.

How do I reset the System Management Controller (SMC)?

The System Management Controller (SMC) is used to control fans, heat sensors, and startup. On earlier PowerPC-based Macs this is called the Power Management Unit (PMU). You should not arbitrarily reset the SMC. However, you may need to reset your SMC if you encounter one of the following symptoms.

- Computer does not turn on when power button is pressed.
- Portable computer does not sleep or wake correctly when lid is opened or closed.
- Fans run on high when the Mac is not warm.
- Battery is not charging when it should be.
- Yellow and green indicator light on portable Mac's power adapter behaves incorrectly.
- Display or keyboard backlight adjustment does not work properly. By default, your screen brightness should change depending on the brightness of the light around you (unless you've turned that feature off in Display preferences).
- System is running unusually slow even when not under heavy use.

Before resetting the SMC, try these troubleshooting steps first.

1. If any of your applications are not responding (frozen), press Command-Option-Escape to force quit them.

2. Put your Mac to sleep by going to the Apple (🍎) menu in the upper-left corner and choosing “Sleep.” Then wake up the Mac after it has gone to sleep by pressing the space bar.

3. Shut down your Mac by choosing “Shut Down” from the Apple (🍎) menu.

If you are experiencing issues with your power adapter or battery, try this:

1. Unplug the power adapter from the Mac and then the wall power outlet for a moment.

2. Shut down the Mac normally. If you can remove your computer’s battery, which is not necessarily the case on all Apple portables, do so and then reinsert it. Restart your Mac.

If you are still having problems with your Mac, here’s how to reset the SMC on different Macs. Search apple.com/support for “reset SMC” to get the latest info with pictures. If you have a G4 or G5 Mac, search for “reset PMU” for instructions.

INTEL IMAC, MAC MINI, OR MAC PRO

If it’s on, turn it off. Disconnect all peripherals and the power cord. Keep it unplugged for at least 15 seconds. Then plug it back in and restart.

ANY PORTABLE INTEL MAC WITH A BATTERY YOU CAN REMOVE

If it’s on, turn it off. Disconnect the power adapter and remove the battery. Press and hold the power button for five seconds, and then release. Reconnect the battery and power adapter, and then restart.

ANY PORTABLE MAC WITH A BATTERY YOU CANNOT REMOVE

If it's on, turn it off. Connect the power adapter to a working power source and your Mac. On the built-in keyboard, press the (left side) Shift-Control-Option keys along with the power button at the same time. (You must use the keys on the left side of the keyboard.) Wait 5 seconds and press the power button to start the Mac.

Crashes, Freezes, and Kernel Panics

My mouse and keyboard stopped working.

It may seem like your computer froze, but quite often it's the mouse or keyboard that stopped responding. If your mouse is plugged into a keyboard or hub, try connecting the mouse directly to the Mac and restarting. If you use a wireless mouse or keyboard, you may need to recharge or replace the batteries. If your wireless mouse or keyboard uses Bluetooth to connect to your Mac, make sure you have Bluetooth turned on in your *System Preferences* and try to reconnect to the device.

NOTE

It is fine to plug in USB and FireWire devices when the computer is on. However, storage devices such as flash disks or hard drives should always be ejected (drag the icon to the Trash, which will turn into an eject icon) before you disconnect them.

My number keys aren't working.

You may have accidentally activated "mouse keys" in the *Universal Access* preference pane. Open *System Preferences*, then *Universal Access*, then the *Mouse* tab, and turn off "Mouse Keys."

My Mac froze up. Now what?

If it's a desktop Mac, first check if the mouse or keyboard got disconnected. If you're using a wireless keyboard or mouse, the batteries may have died or your Bluetooth may be off. We like to check that the caps lock key lights up when we press it. If that works, then your keyboard is working; perhaps your mouse has a bad connection. Sometimes just unplugging and re-plugging the mouse will cause the Mac to "wake up." If you're sure your mouse and keyboard are working, then you can force the application that froze to quit.

Pressing Command-Option-Escape will let you force quit any application (the one that froze). You'll see a window that lets you select which application to quit. When you force an application to quit, you lose all unsaved work in that application, but other open applications remain open and usable.

If these suggestions don't work, you may have lost all your work since you last saved. Restart by holding down the power button for a few seconds or press these three buttons together: Command-Control-Power Button.

My screen says, "You need to restart your computer" in English, French, German, and Japanese, and now nothing responds.

That's called a kernel panic. The kernel is the innermost level of the system software, responsible for controlling hardware like drives, video, networking, and memory. When the kernel receives instructions it doesn't expect, it may "panic" and freeze the computer. Your only recourse is to reboot your computer by holding down the power button until it shuts off or even pulling the power cable in extreme circumstances.

Kernel panics should be very rare. If they are frequent or repeatable, you need to do some troubleshooting. It helps if you can record the time and date of each kernel panic. Note what the computer was doing at the time (starting up, shutting down, performing a certain action). Try to figure out if the kernel panic is intermittent or happens predictably when you do certain things. Finally, test if your external devices are causing the issues by disconnecting as many external devices as possible. Finally, you can follow Apple's extensive troubleshooting instructions here: *tekserve.com/faq/3742*.

Kernel panics can also indicate a bad RAM (memory) chip that needs replacing. Tekserve provides a lifetime warranty on all RAM that we sell. Bring in your Mac (not just the RAM) and we'll test and swap the RAM if necessary.

If none of that works, you may have more serious hardware problems, such as a bad logic board or processor. Bring in your Mac for evaluation.

Annoyances

My trackpad (or mouse cursor) is jumping around.

Brushing a second finger against the trackpad can cause this. Make sure you are only using one fingertip at a time to navigate the trackpad. Trackpads also respond to the capacitance of your finger and are affected by moisture. Try washing and drying your hands. You may also try cleaning your trackpad.

Recent portables feature a new trackpad that can recognize two or more fingers as a command for scrolling, zooming, and more. You may accidentally activate scrolling if you rest or hover additional fingers too close to the trackpad. To learn the finger gestures that your Mac recognizes, go to the "Trackpad" section of your System Preferences and watch the helpful demonstration videos.

My computer takes several minutes to start up.

Upgrading your Mac with a SSD hard drive can dramatically decrease your startup time. See *tekserve.com/faq/ssd* for a video demonstration and more information.

If your computer pauses when the gray Apple appears, it is trying to repair the hard drive's directory. This usually occurs when the computer wasn't shut down properly. If this occurs regularly, read the question "Why does directory damage occur?" (page 42).

Make sure your Ethernet cable has a good connection, or try unplugging it entirely. Mac OS X doesn't need a network, but if one is present, it needs to be working properly.

You may also have a problem with the disks, internal or external, connected to your Mac. Disconnect external drives,

eject CDs, and try again. If the problem persists, it's a great time to back up your data. Then you can try Disk Utility (covered in the "I Can't Start My Mac" section, page 21). It's even possible that you could have a hardware problem at this point.

My applications run really slowly.

The attractive interface of OS X comes at a price – every drop shadow, translucent menu, and spinning rainbow requires processing speed and memory (RAM) to run. We've also noticed that since OS X is so good at multitasking, users tend to run many applications at the same time. That, too, requires more memory.

You will probably never see an error in Mac OS X complaining that your Mac is out of RAM memory. Instead, your system will begin using more and more of your hard drive as temporary RAM storage. This is called "paging out," and it slows down your Mac considerably. To see for yourself, open Activity Monitor from *Applications/Utilities*. This shows every process running on your Mac and their usage of the CPU, memory, and virtual memory. At the bottom of the main window, select "System Memory." Check that the number of "Page outs" isn't growing quickly over time. Read *tekserve.com/faq/1342* for more details.

Here are some things to try to speed things up again:

1. Check the Dock frequently to see what is running (indicated by a small light under or next to the application's icon), and quit the applications you aren't using. Remember that closing an application's window does not quit the application. To quit, click the application's icon in the Dock, open the application menu (named *Word*, *iTunes*, *Safari*, etc.) and choose *Quit Word* (*Quit iTunes*, *Quit Safari*, etc.). You can also hold down the applica-

tion's icon in the Dock for a few seconds, and choose *Quit* in the small menu that pops up.

2. Always keep at least 10 GB of the storage space on your hard drive free. Too little empty space on your startup hard drive will slow a system to a snail's pace. (Most computers only have one hard drive, which is your start-up drive.) To check your disk space, click once on the icon of your startup disk on your desktop. If you don't see the hard disk icon, choose *Finder > Preferences*, click *General* and then select *Hard Disks*. Once you've selected your hard disk, press Command-I (for "Get Info"). Disk space used and available is shown under "General". You may need to click the triangle next to "General" to reveal the information.

3. Open Activity Monitor from *Applications/Utilities*, and select the column header labeled "% CPU." The application or process using most of your system will be listed first. (Note: "mdimport" is the process to add data to Spotlight and "WindowServer" manages your Mac's graphical interface.) It's better to quit bloated applications normally than use the *Quit Process* button you see here. If you don't recognize the process, search for it online to figure out what it is. Quitting processes can cause you to lose unsaved work and make your Mac perform strangely.

4. Add more Memory (RAM) to your system. For OS X 10.7 & 10.8, we recommend a minimum of 4 GB. If you are doing any graphic design or video work, 8 GB of RAM is recommended. If you bring your Mac to Tekserve, we'll help you decide how much RAM you need, and we'll install it for you while you wait. Tekserve RAM is guaranteed for life.

5. Revise your expectations. A three-year-old iMac will never be as snappy as the latest Quad-core Intel Core i7 processor.

The date on my computer keeps going back to 1-1-1904, or 8-27-1956, or 1969, or 1970.

On some portable models, serious crashes can sometimes cause the clock to reset. The crashing may be a sign of a problem, but the clock changing is normal. If a portable computer's battery is completely discharged, the clock may also reset.

My computer was just repaired and now I can't play files I purchased on iTunes.

Log in to your account by clicking on your email address in the iTunes store (or click the *Sign In* button). Under the Store menu choose *Authorize This Computer*. You can authorize up to five different computers to play your iTunes purchases. Don't worry if you forgot to deauthorize your computer before the repair. You can reset your authorizations once a year. See *tekserve.com/faq/1420* for details.

I can't mount any disk images, or I can't move applications in the Applications folder, or I get errors in iPhoto.

Your hard disk drive's permissions may need to be repaired. Open *Disk Utility* from *Applications/Utilities*. Select the name of your startup disk, and click *Repair Disk Permissions*.

What does Repair Disk Permissions do?

Every file, folder, and application on your hard drive has associated "permissions" that specify which users can read, write, or run that file. For example, you can set up your computer so that your cat can't delete your dog's files.

These complex permissions can become confused or corrupt, and even administrators can be prevented from opening applications.

When your system is first installed, and every time you install an application or update through an Apple Installer, a "receipt" is left on your system. This receipt (in *Macintosh HD/Library/Receipts*) lists what files were installed, where, and what the permissions were supposed to be. Applications that were installed by dragging the application directly to the *Applications* folder or using a non-Apple installer do not leave receipts.

The Repair Disk Permissions function reads all these receipts and attempts to reset the files on your disk to match their state at installation. This can be quite useful.

How do I access the Library folder?

In Lion and later, the *Macintosh HD/Users/YourName/Library* folder is hidden. To access it, click on your desktop, select *Go* from the menu bar, and hold down the *option* key. The Library folder will appear so long as you keep the *option* key held down.

Intel vs. PowerPC

What do you mean I can't run (insert application here) on my new computer?

It's probably because your previous Mac or operating system is old enough that the current Macs just aren't compatible with your old software anymore. Your processor is the brain that makes all the parts of your computer talk to each other – from the hard drive to the keyboard and every-

thing in between. For several years, Macs ran on PowerPC processors, designated by the letters G3, G4, and G5. After the G5 generation, Apple abandoned PowerPC for Intel processors – the ones used in traditional PCs. All new Macs released from 2006 and on use Intel processors. This was actually a very smart move, as these processors are powerful, efficient, and produce less heat. Unfortunately, all of this good was dampened by the fact that software that was written for PowerPC processors couldn't natively run on an Intel computer. It's as if the PowerPC processors spoke Ancient Greek, and Intel spoke English, so Apple had to come up with a way to translate applications written on the old platform to work on the new one. They called this translation program "Rosetta," and it ran in the background, silently doing its work for several years, through Mac OS X versions 10.4 (Tiger), 10.5 (Leopard), and 10.6 (Snow Leopard).

With the introduction of 10.7 (Lion), Apple abandoned Rosetta without really telling anyone. This frustrated lots of people when they suddenly found out that they needed to buy and learn an entirely new application after they'd happily been using applications like AppleWorks or Quicken for years. Most software developers have made new versions of their applications that work with the new processors and updated operating system, but this might require making a significant version jump in both interface and price (especially in the case of software like Adobe Creative Suite). Despite the annoyance, this actually works in your favor because the new versions of the applications will usually run faster because they won't have to run through the Rosetta translation process, and often offer new, exciting features. This leads us to the related question...

What do you mean I can't run (insert application here) on my *old* computer?

If you're still using an old PowerBook or iMac, you've probably run into a problem where you've wanted to install a new application, or do an update for your web browser or iTunes, and you've been told you can't because it won't work on your computer. This may well be because your Mac has a PowerPC processor, like an iBook G4 or an iMac G5, and programmers simply aren't writing software that's compatible with them anymore. There is nothing like Rosetta that translates Intel applications to run on PowerPC, and while your computer has had a good, long life, it's time to seriously consider upgrading to a new Intel Mac so that you can take advantage of the new features in OS X, like iCloud integration (see "iCloud," page 83), and new applications that you can download directly from the Apple App Store.

If I get a new Mac, does that mean I need to get rid of my old one?

Not necessarily. It's not such a bad idea to have two computers, in case one of them has to come into Tekserve for a repair or upgrade, and you're going to be without it for a couple of hours or days. Chances are your old computer can still be used to do basic web browsing and emailing to tide you over until you get your other computer back. Just like with your data, it's never a bad idea to have a backup. There are also lots of people who have repurposed their old Macs to be file servers, or hooked them up to their TV or stereo to be media centers – so if you feel the urge to tinker around, you'll find lots of tutorials online!

What if I want to get rid of my old/broken computer?

You have a couple of options, but the most important thing is to make sure that you don't just throw it away in the trash.

Unfortunately, there are some chemicals involved in the manufacture of the internal components in your computer that need to be disposed of responsibly. You can bring your old or broken Mac into Tekserve, and we'll not only send it to be recycled, but we can also help you trade it in towards a new computer! You might also want to consider donating it to a family member or a non-profit organization; just because it's not a cutting-edge computer doesn't mean that someone can't use it!

Get Ahead by Backing Up

In this section we'll cover the basics of data backup, how to choose a backup strategy, how to back up before a repair, and how to use Time Machine.

THE BASICS OF DATA BACKUP

What is a backup?

A backup is a copy of your files on another storage device (external hard drive, flash drive, or even an online account).

Why should I back up?

Despite all the advances in modern technology, a single fact remains true: sooner or later, everything breaks. Even the most reliable computer can fail or experience data corruption. Computers can be left in taxis, dropped, or damaged in fires. You could accidentally delete your baby pictures. A warranty may cover failure of computer hardware, but there is no warranty protection for the operating system, applications, data loss, or corruption. While there are many causes of software and hardware problems, the solution is simple. Back it up!

We recommend making two, or even three, backups of precious files. We also suggest keeping at least one copy at a different location in case of fire or theft. It is a disturbing fact to face, but sooner or later, you are guaranteed to lose data. Protect yourself before it happens.

What makes hard drives prone to failure?

The most common causes of hard drive failure are:

- Mechanical failure of the drive caused by being dropped, bumped while in use, manufacturer defect, or even simple day-to-day wear and tear.
- Data corruption or directory damage caused by forgetting to eject disks before unplugging or powering them down, computer crashes, power loss, or plain bad luck.
- Environmental disasters like fires, floods, power surges, or extreme heat and humidity.

Drive technology is improving all the time – they have "loading ramps" and "Sudden Motion Sensors" and "Perpendicular Recording" and other new features. Newer SSD disk drives don't have mechanical problems but are still susceptible to data corruption. Every day, they figure out how to cram more data into less space, so while they are making the drives smarter and safer, they are also making the data denser and more fragile. Backups are the safety net that can turn a disaster into no big deal.

Why does directory damage occur? Is it my fault, and can I prevent it?

The computer's operating system (OS) is responsible for reading and writing data to your drives. Besides writing the actual data, the OS has to update the indices that keep track of which file is where, like a table of contents for your

data. If the computer crashes, loses power, or experiences another problem, it's possible that a file is written properly, but its index gets corrupted.

There are a few precautions you can take. It's best to not move a computer while the drive is spinning. Ideally, you would put a portable computer to sleep before moving it (this is unnecessary if you have a SSD drive). When you are finished with an external hard drive or USB flash drive, you should always eject the disk by dragging it to the Dock's Trash icon (which will change to an eject symbol) before disconnecting that external drive. Or select the drive and hold down Command-E. Properly ejecting disks makes sure that their directories are properly updated before you disconnect them. If you are shutting down the computer, the system automatically ejects all disks when shutting down. Finally, if your computer starts to shut off, crash erratically, or you think you've lost data, you should quickly find and solve the cause of those failures. Little problems can grow into big problems.

What should I back up my data onto?

Hard Drive – For incremental backups, such as those done via Time Machine, we recommend an external hard drive at least twice the capacity of your internal drive. To determine what size backup drive you need, highlight your hard drive and press Command-I to see your hard drive's capacity. If you don't see the hard disk icon, choose Preferences from the Finder menu, click General, and then select Hard Disks. If your Mac has a Thunderbolt port, we recommend purchasing a drive with that interface because your data will transfer very quickly – and then, in descending order of speed, we recommend USB 3.0, FireWire 800, and USB 2.0. You can also use an Apple Time Capsule (a wireless router with a hard drive inside) to incrementally back up

several computers in your home or small business. You may want a second hard drive that you use every three to six months to take another full backup off-site – to your office or a friend's house. That drive only needs to match the size of your main drive. Remember that if you use Time Machine, especially with an Apple Time Capsule, your AppleCare will cover full phone support for both setup and restore.

Internet Remote Backups – We use and recommend CrashPlan. Their unlimited family plan for as little as $6 per month (as of January 2012) is a great deal to remotely back up all the computers in your family. It can back up data on connected external drives too. We consider this a secondary backup because it will be very slow if you have to recover everything (although there's an option for them to mail you a hard drive with your data if necessary). Depending on the speed of your Internet connection, it might take a few months (*yes, really!*) to complete your first backup, but it happens completely in the background and won't affect your computer usage. Once the initial backup is done, it will usually keep up daily as you add or change files. Weekly emails will tell you the status of your backups.

Extra Backup for Our Most Important Current and Reference Files – We save files to USB flash drives, and we mail files between two online services like iCloud and Gmail (thereby saving a copy in both places). We also use Dropbox to sync our most important and frequently used files and reference items between multiple computers and portable devices, creating an online backup in the process. (Did I mention that we wear both a belt and suspenders?)

Both CrashPlan and DropBox have the added feature that, in a pinch, you can grab a file through any web browser on nearly any device in the world. Of course, that means you

should use a very serious and unique password for these services, and enable two-factor authentication if offered.

Apple's iCloud service is not currently a backup solution for Macs, but it's ideal for backing up your iPhone and iPad.

NOT ONLY COMPUTERS NEED BACKING UP...

We recommend backing up all your digital devices with valuable data. Your iPod, iPad, and iPhone should already be backed up to your Mac or iCloud (sync them frequently). If you don't have an iPhone, sit down with your cell phone tonight and enter all your contacts into into the Contacts app on your Mac (aka Address Book). You can also check with your cell phone provider to see if they offer an online contact backup or a way to connect your cell phone to your computer.

HOW TO CHOOSE A BACK UP STRATEGY

Here are the three methods of backing up data. Choose a style that suits your needs and an external hard drive to go with it. Time Machine, included with OS X 10.5 Leopard and later, is a great primary backup solution for most people. We strongly recommend using two of the methods below on two separate storage devices and keeping one backup in a separate location.

Simple Copy Backups are the simplest and quickest method but we don't recommend them because it's just too easy to miss something important, and inevitably you will miss the one thing you actually need. Just drag and copy your most important files to a USB thumb drive or an external hard drive. (You can't drag your computer's entire hard drive to an external hard drive because it will create an alias to the drive instead of copying it.) Drag your entire user folder (*Macintosh HD/Users/YourName*) to grab the most

important files. This folder's icon often looks like a house. You don't need any special software to do this.

Pros: This is the least expensive data backup method. External drives and USB thumb drives are easy to store off-site.

Cons: You may miss something important and you may forget to do it regularly.

Again, while we don't recommend this method, if you are backing up your files by hand, make sure to copy the following folders:

Data	Location
Music, movies, or applications that you have downloaded	Keep and back up all the original files that you download (especially if you paid for them).
Address Book or Contacts data	*Macintosh HD/Users/YourName/Library/Application Support/AddressBook*
iCal or Calendar data	*Macintosh HD/Users/YourName/Library/Calendars*
Mail data	*Macintosh HD/Users/YourName/Library/Mail*
Safari bookmarks	*Macintosh HD/Users/YourName/Library/Safari*
Firefox bookmarks	*Macintosh HD/Users/YourName/Library/Application Support/Firefox/Profile*

If you're running Lion, see "How do I access the Library folder?" (page 38).

Complete Bootable Clones are an exact copy of everything on your computer, created using special software. Your

Mac has invisible files that you cannot backup by hand. A bootable clone ensures that you have a copy of absolutely everything on your computer just in case. We've had good experiences with SuperDuper! for making bootable clones. Read our step-by-step instructions under "How to Create a Bootable Clone Backup" (page 48) to set one up.

Pros: If you lose all your data to a thief or a hard drive crash, this backup is the fastest way to restore all your files and applications. A bootable clone can also be used to troubleshoot your Mac (especially useful if you've lost your system installation disc). Finally, a bootable clone can allow you to keep working if your Mac has to go in for a repair. You can use the bootable clone with any similar Mac and continue using your applications and files.

Cons: A clone is out of date almost as soon as it is made. You need to remember to periodically update the backup. This method also only backs up the current versions of your files – if you accidently deleted a file three months ago, you won't find it on your backup.

Incremental Backups make an initial full copy, then incrementally and automatically copy changes. Old files, even ones you have deleted, are kept around for a while. Time Machine automatically backs up your entire hard drive every hour. In rare cases, if one backup increment becomes corrupted (incorrect) you may not be able to restore files created after that point, which is why you should test your incremental backup periodically by trying to restore files. See *"How do I start using Time Machine?"* (page 52) to get started.

Pros: Automatically backs up your work in progress, so you don't need to think about it. Recovery of an individual file is quick and easy.

Cons: Requires lots of disk space to keep around so many versions of the same files. If you need to restore all your files at once, it can take a while.

How often should I back up?

The answer to this question really depends on how often you use your computer. Think about what you did with your Mac in the last 24 hours, the last few days, the last week, and the last month. If you would be unhappy losing data created within the last 24 hours, you should back up at least once a day. If you wouldn't start to sweat unless you lost at least two weeks of data, you should back up once a week. Time Machine will create backups for every hour of the last 24 hours, every day of the last month, and every week past that until your backup disk is full.

The important thing is to *remember* to back up. Either use software that automatically schedules itself to back up frequently, or put reminders in your calendar.

Why should I make multiple backups?

Most people don't test their backup until their computer fails and they need the data. Often we see them find out (too late) that there was an error that made their only backup unreadable, and they have lost all their files even though they thought they were backing up.

Additionally, we recommend keeping a second backup in a different location (work, safety deposit box, friend's house) in case your computer is in a flood or fire, or if your backup drive is stolen along with your computer.

HOW TO CREATE A BOOTABLE CLONE BACKUP

We recommend making a bootable clone backup before any repair if you can. In most cases, you can continue to

use your applications and data normally with any similar Mac during the repair. You can rent a Mac from Tekserve if you don't have a spare. Follow the instructions on pages 48 to 52 to set up, create, and test your first bootable clone backup.

You'll Need:

1. 1 to 5 hours (about 30 minutes of setup and hours of waiting, depending on how much data you have on your hard drive). It's usually easiest to set it up to run overnight.

2. An empty external hard drive at least as large as your computer's internal hard drive. If your computer has FireWire ports, get a FireWire external hard drive, if your computer only has USB, get a USB external hard drive. Stop by, or call us to order one and have it delivered.

3. SuperDuper! from *shirt-pocket.com*. This shareware application is around $30, but you can use it for free to create your first bootable clone.

For Users with Windows installed via Boot Camp

If you have Windows installed on a separate hard drive partition using Boot Camp, these methods won't back up the Windows partition of your computer. You need to back up any files, applications, or settings from Windows separately. We recommend that you use a separate external hard drive for backing up Windows, as most utilities will require the drive to be formatted for Windows exclusively.

A. Reformat and partition a new drive for backup (bootable clone or Time Machine).

Depending on the type of external hard drive you purchase, it may not be formatted properly to work with your Mac.

The easiest thing to do is to reformat any external drive before you use it.

WARNING

Formatting the drive will erase any data on the drive. Make sure you back up any data on it you want to keep before proceeding.

1. Connect the external hard drive to your Mac with the FireWire or USB cable (if you have both, use FireWire). Some hard drives need to be plugged into a power outlet or have an "on" switch hidden somewhere. Your Mac may offer to use the hard drive to back up with Time Machine immediately; choose *Don't Use* for now.

2. Open Disk Utility from *Applications/Utilities*.

3. You should see the external hard drive listed in the left pane of Disk Utility. It will be listed twice. Once with the capacity of the drive and its technical name, and then, indented below, you'll see the drive's name as it appears on your desktop. Select the first listing for your drive with its capacity and technical name. Then select the *Partition* pane from the options in the upper-center area.

4. In the pop-up menu under "Volume Scheme" or "Partition Layout" choose *One Partition* and then name it in the "Name" field.

5. From the Format pop-up box, choose *Mac OS Extended (Journaled)*.

6. Click *Apply* and then, after reading the confirmation dialog, click *Partition*.

B. Create the bootable clone backup.

Download and install SuperDuper! from *shirt-pocket.com*. It's free to create your first bootable clone without activating it (but well worth the $30 if you plan to continue using it).

1. Select your computer's internal hard drive (usually *Macintosh HD*) in the left drop down menu labeled "Copy."

2. Select your newly created backup hard drive in the right drop down menu labeled "to."

3. Start the backup by pressing *Copy Now*. You may be prompted to enter your user login password before continuing.

The first backup should take several hours – be patient.

C. Test the bootable clone backup. (Also how to start up your Mac from an external hard drive.)

1. Connect the external hard drive to your computer. Restart your computer and hold down the Option key as the computer restarts.

2. A gray screen with two (or more) hard drives will appear. Select your backup drive and press Return.

3. The computer will then start up from your backup drive instead of its regular internal hard drive. This usually takes longer than starting up normally.

4. Once booted from the external hard drive, open a few files and applications to make sure everything is working. It's normal if these actions take a little longer than you're used to. If everything looks good, you're done!

Shut down your computer, unplug the backup drive, and put the drive in a safe place.

Don't leave the clone connected to your Mac, since this can get confusing very quickly!

TIME MACHINE

How do I start using Time Machine?

You will need a Mac running OS X 10.5 Leopard or later, and an external hard drive or Time Capsule to use Time Machine. (You can also use an additional internal hard drive on a Mac Pro or a networked drive, but an external hard drive is simple and portable.) The capacity of your external hard drive determines how far back Time Machine will keep data backups for you. We generally recommend an external hard drive twice the size of your computer's hard drive.

First, you'll want to follow the instructions under how to "Reformat and partition a new drive for backup" (page 49). Then, with the drive plugged into your computer, go to your *System Preferences* and select the *Time Machine* icon. There you can turn Time Machine on and select your external hard drive as the backup disk. The first Time Machine backup will usually take hours, so you may want to set it up to run overnight. You can continue to work on your computer while the backup runs.

Time Machine will continue making automatic backups for every hour of the last 24 hours, every day of the last month, and every week past that until your backup disk is full. Just plug in the drive whenever you want Time Machine to work. You can tell it is working by looking at the spinning "counter-clockwise" icon in the menu bar. Remember to safely eject the drive before you unplug it because the last thing you want to do is corrupt your backup!

If you do not want an hourly backup, then you can turn Time Machine off in System Preferences and manually tell it when to backup by selecting its icon in the menu bar and choosing *Backup Now*. If you choose to do this, you are responsible for remembering to backup on your own (and it's easy to forget).

How do I restore individual files from a Time Machine backup?

This is the fun part. The fastest way to recover a missing item is to use Time Machine together with Spotlight.

1. Open a Finder window and type a word or phrase from the missing file into the search field in the upper-right corner. You may want to focus the search by selecting a search location (where the file was located) or adding search parameters by pressing the *plus (+)* button.

2. Open Time Machine (from the Dock or *Applications* folder.)

3. Use the arrows and the timeline along the right side of your screen to browse through the Time Machine backups. Your search is performed in every window.

4. When you find the item you want to restore, select it, and click *Restore*. You can then choose to replace the current file with the restored backup or keep both files.

If you don't know what the file you are looking for is called or what terms to search for (i.e. a photo stored in your iPhoto library), you can still restore it with Time Machine. Open the Apple application that the file used to appear in, and then launch Time Machine. You can then browse backwards through time and see how your files appeared in

iPhoto, iTunes, Mail, etc. When you find the missing item, click *Restore*.

How do I restore my entire user account (all my personal files) using Time Machine?

If you want to restore your personal files but not the operating system, you can use Migration Assistant.

1. While connected to the Internet, run *Software Update* from the Apple (🍎) menu in the upper-left corner of your screen. Install everything available and restart your computer if required.
2. Connect the external hard drive with the Time Machine backup to your computer.
3. Open Migration Assistant from *Applications/Utilities*. Enter your administrative password if required.
4. Under the migration method choices, choose *From a Time Machine backup or other disk.*
5. Select the external hard drive containing the previous Time Machine backups (it may take some time to scan the disk).
6. Choose which *User Accounts* you would like to restore.

How do I restore my entire system using Time Machine?

WARNING

Restoring your entire system will erase all existing data, so make sure to back up any new data. If you excluded your Applications or System folder from Time Machine backups, you should restore user accounts instead.

1. Connect your Time Machine backup disk to your computer.

2. Insert the Mac OS X Install disc and double-click the install Mac OS X icon. (If your computer does not have an operating system installed, you'll need to start up the computer from the disc by holding C while you turn on the computer.) Alternatively, if you're running Lion, you can restart your Mac while holding down Command-R to boot into the Recovery partition (without the disc).

3. Once the Installer or Utilities menu loads (you may need to select a language first) choose *Restore System from Time Machine Backup* from the *Utilities* menu or window.

4. In the "Restore Your System" dialog box, click *Continue*. Then select your Time Machine backup drive.

5. Select the Time Machine backup you want to restore (usually the most recent one).

6. Follow the onscreen instructions.

Time Machine will perform a full backup of your system after it finishes the restore. This is normal and won't delete your older backups (unless you've run out of space on your backup drive).

What should I do when my Time Machine backup drive fills up?

As your backup drive fills up, Time Machine will delete older backups to make room for new ones. Launch Time Machine and check how many weeks you are able to browse through. If you don't mind losing the older data, then you don't need to do anything. If you want to save the older files, you'll need to connect a new backup disk. After you connect the new disk, open Time Machine preferences and click *Change*

Disk to choose it as your new Time Machine backup disk. You'll be able to access your older backups anytime by connecting your old backup disk. We recommend storing the old backup disk in another location in case of a disaster.

Time Machine fills up my backup drive too fast. What can I do?

If your external hard drive is at least twice as large as the amount of data you are backing up, you should be able to get through at least a month of backups. If you can't, there are a few very specific types of files that may be causing your problems and need to be excluded. You can exclude items from future backups to save space. Open Time Machine preferences and click *Options*. Then click the *plus (+)* sign to add items that you don't want backed up. Make sure you have a separate backup plan for anything you exclude.

An incremental backup works by storing all the files you've added or deleted since the last backup. This works well with small individual files because each file is stored separately. This works very poorly with applications, like Entourage, that use one large database file to store all your information. (This was fixed in the 2011 version of Outlook for Mac.) With an application such as Entourage, every time you receive an email, it changes the database file. Time Machine treats the changed database as a new file and backs up the entire database file. If you have a large email database, this can fill up your backup drive pretty fast. You can exclude database files, but make sure to set up another backup plan for any files you exclude.

If you edit a lot of large files (1GB+), you can end up filling up a backup drive pretty quickly. This is because every time you edit a large file, Time Machine will save the new version

as a separate file. You may want to exclude some files or use a different backup solution.

If you run Windows with Parallels or VMWare, your computer stores a large disk image of the entire operating system installation. This file changes every time you do anything in Windows and will fill up your Time Machine drive fast. You'll want to exclude the disk image from Time Machine backups and use Parallels or VMWare's snapshot feature to back up your Windows installations separately. If you use Parallels, exclude the file ending in .hdd from *Macintosh HD/users/YourName/Documents/Parallels/virtual machine name*. If you use VMWare, exclude the file ending in .vmwarevm from *Macintosh HD/users/YourName/Documents/Virtual Machines*.

When I try to backup with Time Machine it fails immediately or after copying some of the data.

Most likely your external hard drive isn't formatted properly. Follow the instructions under how to "Reformat and partition a new drive for backup" (page 49).

I use FileVault and Time Machine doesn't seem to work.

In OS X 10.5 & 10.6, Time Machine only backs up user data protected by FileVault when you log out. (This was fixed in 10.7 Lion.) You also won't be able to explore your past backups in the cool time travel window. So if you only plan to use Time Machine to restore your entire system, and you don't mind logging out to backup, then you're OK. If not, you'll want to upgrade to Lion or choose another backup solution.

I am getting Time Machine errors!

First make sure your software is up-to-date by choosing *Software Update* from the Apple (🍎) menu. If you're using a Time Capsule, make sure to install any AirPort firmware updates. If that doesn't resolve your issue, check out the Tekserve FAQ online (*tekserve.com/faq*) for resolutions to specific Time Machine error messages.

ONLINE BACKUP

Today, more and more people are acknowledging the need for an off-site backup – in the event of fire, theft, or natural disaster. Online backup has emerged as a potential solution that allows you to access your files from anywhere you can get online. Apple's iCloud service allows you to backup iPhone/iPad application data, plus certain iTunes files, but isn't a complete backup solution.

Customers tell us they've had good experiences using CrashPlan, which offers unlimited backup storage space for all your home computers at around $120 per year (works with Windows & Linux as well). Dropbox is another popular choice, offering 2 GB of online storage space for free, and more for a monthly fee. You can access your stored files through any web browser or through the Dropbox application.

Remember that backing up over an Internet connection is much slower than transferring files to an external hard drive. 100 GB of data could take a month to backup online, but after the initial backup, updates are much faster. If you have a lot of large files or a slow Internet connection, an external hard drive will make a better primary backup. It's also much faster to restore your entire system from an external hard drive than downloading all your files from the Internet. Once you do get all your files uploaded, you'll have

an updated off-site backup that you can access around the world.

Upgrading and Reinstalling Mac OS X

How do I upgrade or reinstall Mac OS X?

This article is for users who are upgrading their operating system to the newest version, as well as users who need to reinstall their operating system. If you are reinstalling the same operating system that you currently have on your computer, you can skip to step three.

NOTE

You cannot install an operating system that is older than the one that came on your computer originally. For example, if your Mac came with Mac OS X 10.7 Lion, you cannot downgrade to 10.6 Snow Leopard.

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1. **Check the system requirements.** Every operating system has minimum requirements that your computer must meet. Check the product's description to see if your computer has the right operating system, enough memory (RAM), hard drive space, and a compatible processor. Read *tekserve.com/faq/oscomp* for step-by-step instructions on checking if your Mac is compatible. Even if your computer meets the requirements, you may not be happy with the performance – we find that installing the latest operating system on a Mac that's more than four years old can result in a slow user experience.

2. **Check your current software and accessories.** Some software will work with a new operating system and some will need to be upgraded to continue working. Go to the website of your software manufacturer to see if an upgrade is necessary to run on the latest operating system. Some software manufacturers may charge for updates and some older software may not be available for a new operating system at all. For example, older PowerPC and Classic applications will not work after you upgrade to Lion. Read *tekserve.com/faq/ossoft* to get an overview of your incompatible software and replacements for popular applications. You also need to check for new drivers for your printers, scanners, and any other third-party devices you plan to continue using.

3. **Backup your entire computer.** Although many operating system upgrades go off without a hitch, it is better to be safe than sorry. We suggest using a backup application and external hard drive to create a complete bootable clone of your hard drive. That way you have absolutely everything from your computer in case a file is lost, gets corrupted, or the install fails. If you value your data, back it up before you continue. (See "How to Create a Bootable Clone Backup," page 48.)

4. **Clean house.** Take a few moments to organize any files you have laying around, delete unnecessary items, and empty your Trash. Disconnect any external hard drives or peripherals. You should only have a power cord, mouse, keyboard, monitor, and Internet connected at this point.

5. **Update.** While connected to the Internet, go to the *Apple* (🍎) menu in the upper-left corner of your screen and choose *Software Update*. Install all the Apple updates available and restart your computer. (This is to make

sure that you have the latest Apple Firmware updates for your computer.) This is also the best time to update your third-party software. Open your important applications and look for "Check for Updates" in the menu. Make sure to also check for updates of preference panes you've installed, menu extras, Mail plug-ins, and browser extensions (if none of those sound familiar you may not have any).

6. **(Optional) Repair Your Disk.** Just to be safe, now is a great time to repair your hard disk using Disk Utility. Sometimes small errors turn into big errors after a system upgrade. Read "How do I repair my Mac's hard drive using Disk Utility?" (page 24) to avoid any problems.

7. **Get the Installer.** Starting with OS X 10.7 Lion, the installer now comes directly from the Mac App Store. Go to *tekserve.com/faq/installos* to be redirected to the latest version of the installer. Depending on your Internet connection speed, it may take a while for this to download. After it finishes downloading, an installation icon will appear in your dock; click it to get started.

8. **Stuff nobody reads.** The Installer will display instructions; read them, and click the Continue button. Then, you will have to agree to the software terms and conditions. The Installer will scan your computer and ask you to select your hard drive (usually Macintosh HD).

9. **Let the games begin.** Hit Install to be on your way towards a new operating system. Make sure your computer is plugged into an outlet and let it do the work. Your computer may restart once or twice during the process – don't worry, installations can take quite a while.

10. **Update again.** Once you restart with the newly installed OS X, you'll want to do another update. While connected

to the Internet, go to the *Apple* (🍎) menu in the upper-left corner of your screen and choose *Software Update*. Install all the updates available and restart your computer if required. Then check *Software Update* again until you've installed them all.

I'm upgrading to a new Macintosh, how do I copy my files over?

When you first start up the new Mac, the Setup Assistant will offer to transfer your old files from your old Mac. If both computers have FireWire or Thunderbolt, you just need a FireWire or Thunderbolt cable to connect them. You can use an Ethernet cable or wireless network to migrate files, as long as both computers are running Mac OS X Tiger 10.4.11 or later. (Unfortunately, the wireless network is the slowest method, so you'll need to be patient.) The last option is to connect your Time Machine backup disk from the old computer to the new one. For detailed instructions on all these methods, go to *tekserve.com/faq/4889*.

After your files finish transferring and your Mac restarts, you'll want to install updates to most of your software. Printers, scanners, and other peripherals may require installing updated drivers from the manufacturer's website.

We offer a setup service if you are buying a new computer from Tekserve. You can also transfer files after you've already set up your new Mac by launching Migration Assistant (in the *Applications/Utilities* folder).

After a data transfer or clean installation, how do I get my files and applications working again?

If you were able to use Apple's Setup or Migration Assistant (above), this doesn't apply to you. If you were forced to do

a “clean” install to solve serious problems, you may need to do this. This could also be useful after some data recoveries.

NOTE

This is a complex operation and prone to error, which can leave your computer in a dysfunctional state and compromise your data. We highly recommend making separate external backups of both your “new” system and your transferred data before attempting to integrate them. Unless you tend toward geekiness, we strongly suggest getting professional help with this.

The challenge is to get your old working software back without bringing back old problems. Here are some hints:

- Make a backup of your new, working system before you begin bringing back old software. Or keep a system installer disc handy if you’re starting with a fresh operating system.
- Copy as little as possible. We highly recommend reinstalling all applications from original discs or downloads rather than trying to copy them over. To reinstall software from the Mac App Store, launch it from *Applications*. Then click the *Purchased* tab to reinstall your software.
- Move only a few files at a time. Test after each move, so you can isolate any problems that may arise.
- Before you replace an existing file with your saved copy, think carefully. In all likelihood you should keep the newer, fresh copy, avoiding possible corruption.

You won't need to move all your folders into your new system. Here are a few of our favorites:

- If possible, use *Import* under the *File* menu in applications such as Mail, iPhoto, and iTunes to get your old data into your current system.
- Most of your preferences live in *Macintosh HD/Users/YourName/Library*. Copy those over first. This will include Mail and bookmarks. If you're running Lion or later, see "How do I access the Library folder?" (page 38).
- Some applications store important preferences in either *Macintosh HD/Library/Preferences* or in *Macintosh HD/Library/Application Support*, so move these as well.
- Additions to System Preferences are often in *Macintosh HD/Library/PreferencePanes.* These are frequently incompatible with new versions of the operating system, so now is a great time to check *download.com* or the Mac App store for updates. You should not move these, but rather reinstall from original or updated installers.
- Applications infrequently put invisible but important applications in *Macintosh HD/Library/StartupItems*. This is uncommon enough that you may not have this folder at all. But again, we suggest reinstalling all applications from their original discs or downloads, not trying to copy them over. So don't copy these either!

We strongly caution against copying kernel extensions or anything else from your old *Macintosh HD/System* folder, since they may not be recognized by the new system and could get you in big trouble.

Passwords

Why do we need passwords?

It's really no different than locking your doors. Your house has no idea whether it is you who is trying to enter, or someone who shouldn't be there. Your computer, your email, and your bank website similarly don't know who is trying to access them. Your password is the key. It tells the data that you are trying to access, "Hi, it's me, and I can prove it." Your password is something only you – and no one else – will know (at least, that's the idea).

As we move more and more into the cloud, it has become exponentially more important that we use good passwords. In the old days, all our files sat on our computers in our living room, and it took an actual break-in to be compromised. Those days are long gone. Our data is now a click away from any computer in the world. A weak password is the equivalent of placing the key under your mat and announcing your week-long vacation on the front page of the New York Times. To exist in the Internet age, good passwords are a necessity.

What makes a password "good"?

Here is an example of a bad password: "password." Here is another: "12345." Believe it or not, those are two of the most common passwords on the Internet. Commonly used passwords, real words, or repeating numbers or patterns are the worst possible passwords because they are so common and so easy to spot that they can be guessed in a matter of seconds (if it even takes that long).

Good passwords meet all of the following requirements:

- Use both upper- and lowercase letters, as well as at least one number and one symbol
- At least 8 characters in length (but the more the better)
- Do not contain dictionary words, names of people or places, or numeric patterns
- Are unique, and not reused on more than one account

The first three requirements help create a password that cannot be easily guessed. This includes guessing via what is known as a "brute force" attack. Applying brute force to crack a password means trying every single possible combination of letters, numbers, and symbols to find the one that works. With a good, long, random password, this can mean it would take more time than the life of the solar system for this to happen (one can assume this by that point, it no longer matters).

No matter how well you protect your passwords, the unfortunate fact is that the people on the other end may not be as careful. This is why you should never reuse a password. If one of your accounts is breached and the password becomes known, this will limit the damage. There have been many cases of company databases being leaked onto the Internet, and user passwords being exposed. If you use the same password everywhere, someone merely needs to look you up in one of these leaked databases, and can then log in to everything from your email to your bank account.

How am I supposed to remember my passwords?

You can't, and that is sort of the point. If your passwords are easy enough for you to remember all of them, then they are probably too easy (or you are using only one). This is

where password managers come in. You may not realize it, but you already have one on your Mac – it's called Keychain Access. You can find it in *Applications/Utilities*.

The primary function of Keychain Access is to remember passwords you have entered into other applications. For example, when you set up Mail, you will give it your email address and password. From then on, Mail will not ask you for that password again. This is because it has been entered into your login keychain. The login keychain uses the same password as your user account, so when you log in to your computer, it automatically becomes available for applications to use.

Additionally, Keychain Access will allow you to enter passwords by hand that can then be accessed later. Simply click on the plus (+) symbol at the bottom of the window. You can even create additional keychains by going to *File>New Keychain*. This keychain can have a different password from your login keychain, meaning it will need to be entered separately to unlock.

Even better, Keychain Access has a built-in strong password generator. It's hard to come up with good passwords, so let the software do it for you. I generated the following using Keychain Access:

LmcS\pAzANHP;q1nft?D

No one is going to be able to guess that. Keychain Access will give you a strength indicator to show you how strong the password it has generated is. You can control the randomness, as well as the length.

IMPORTANT

In addition to your login keychain, you should see two others. One called *System*, and the other *System Roots*. These are important keychains for your computer to have, and we recommend that you do not alter them.

An even more powerful password manager used by many at Tekserve is 1Password (*agilebits.com*). 1Password is similar to Keychain Access, but goes much further. In addition to passwords, 1Password can also store credit cards, bank accounts, and software licenses. It also includes plugins for most popular web browsers, which allow you to automatically enter in your username and password on websites with a single click.

Finally, 1Password is cross-platform. There are versions of it for Mac, Windows, iPhone, iPad, and Android. 1Password can sync your information between all these versions, meaning that you have access to your passwords on all your devices.

The advantage to using a password manager is that you no longer need to remember your passwords, or even know what they are to begin with. Remember that long random password above? You would never remember that after using it a single time. The point is to remember your master password, which can unlock all of the others. It's way less for you to juggle in your head, while making sure your passwords are strong.

What happens if I forget a password?

First of all, don't panic. It has happened to all of us at one point or another. In most cases, there are ways to recover a lost password by providing some additional information.

The first place to look for possible password recovery is the Keychain Access application we were just talking about. Use the search box in the upper right to look for the name of the website or service for which you have forgotten the password. If you get a result, double-click the entry, and a new window will open. Check the box that reads "Show password." You will now be asked to provide your login password (see below). Then click allow, and your password will be revealed to you.

If Keychain Access does not have your password, it is likely still possible to reset it through the company that hosts the account. Most online services that require passwords will have a link (which usually says "Forgot password?") on the login screen that will start the process of either recovering or resetting the password. This will typically involve either answering security questions, or emailing a link to the email address you have on file.

What is my login password and why do I need it?

Your login password is the password for your user account on your Mac. Your user account is what identifies you on your system. Macs allow multiple users on the same computer. Each user has their own login name and password. This way, there only needs to be one copy of the operating system and the applications, but everyone's files stay separate.

When you first turn your Mac on, you will be asked to create an account. The name for the account is usually your own name. You will then be asked to create a password. This will be your login password. This password is very important. You will need it to unlock items in your Keychain (see above), to install or update software, and to change

security settings, among other things. This is one of the passwords that you will want to be able to remember.

Can I reset my login password?

Yes, at least in most cases. Apple allows you to reset the password to your computer using your Apple ID. For this to work you must (a) have already associated your Apple ID with the account on your computer (if you have logged into iCloud, you probably have), and (b) remember your Apple ID password. At the login screen for your Mac, after three incorrect password attempts, you will be offered the ability to reset the password using your Apple ID.

An alternate method is to reset your user password using the recovery partition. First, shut down your Mac. Then boot up while holding down Command-R. This will boot you into the recovery partition. From the menu bar, select *Utilities>Terminal*. Type in the following exactly as it appears below:

```
resetpassword
```

Then press return. Select your user account, and enter the new password. Then reboot. This will gain you access to your account. Do note, however, that this will not reset the password on your login keychain. You will need to create a new one, and unless you can remember the original password, all information in the old keychain will be lost.

If you use FileVault:

If you use Apple's whole disk encryption utility known as FileVault, these reset procedures will not work. The only way to unlock a FileVault protected Mac if you have forgotten your login password is to use the FileVault decryption key that was generated when you turned FileVault on. If

you have lost this key, you may be able to get it from Apple. During the FileVault setup, you were given an option to upload the key to Apple. If you chose to do this, you may call AppleCare, prove your identity to them, and they will give you the key. If you opted not to upload the key and cannot find it, then, unfortunately, you are out of options. The entire point of FileVault is to prevent access by someone who does not have your password or key.

A Full Hard Drive Is an Unhappy Hard Drive

I just got a message that my "startup disk is almost full." What does that mean?

Think of your hard drive as a file cabinet. If you jam-pack your file cabinets, it creates clutter and crowding, which can make reaching in to grab the correct file a slower task.

"Startup disk is almost full" means that you are running out of space on your hard drive, and it's making your Mac run slowly. Macs usually only have one hard disk drive, and that is the startup drive.

To see how much space you have left on your internal hard drive, select its icon on your desktop. (If you don't see the hard disk icon, choose *Finder > Preferences*, click *General* and then select *Hard Disks*.) Then go to the *File* menu and choose *Get Info*. The info window will show your hard drive's capacity and available gigabytes. We recommend that you leave about 10 GB of your hard drive free for daily use.

If you have less than 10 GB of your hard drive's capacity remaining, you have a few choices:

- Remove extra applications and data from your hard drive (see instructions under the next questions).
- Purchase external hard drive(s) to provide additional storage space for your files.
- Have Tekserve upgrade your computer to a larger internal hard drive (usually completed in one business day). If you have a Mac Pro, Tekserve can add additional internal hard drives to your computer while you wait (unless you already have the maximum number of hard drives installed).
- *Check in iTunes>Preferences>Devices to see if you have any out-of-date backups of iOS devices, and remove the ones you don't need. You probably only want the two most recent backups of each device.*

How do I remove extra files from my hard drive?

Take your time and be careful to only delete what you intend to. Do not move or rename files that you didn't create. Mac OS X needs a lot of special files in special places, and it put them there already. Leave them be.

IMPORTANT

Before you begin deleting files on your computer, it is extremely important to make a backup of the machine's current state. This way, if you delete something by accident, or things stop working as a result, you can still recover back to where you were before.

If you have files that you don't use frequently, you can transfer them to an external hard drive. For important files, you should back them up using two separate devices. After you've confirmed that the files are working from an external drive, you can delete them from your hard drive. Remember that moving files to the Trash doesn't make more room – you also have to choose *Empty Trash* from the *Finder* menu.

If you use iPhoto, you should check the trash of your iPhoto library. Deleting a photo in iPhoto moves it to the iPhoto trash, which is only emptied into the main computer's trash when you select *Empty Trash* from the *iPhoto* menu.

If you have a very large iTunes library you may want to get an external drive to store it and free up space on your internal hard drive. Check out *tekserve.com/faq/itunesexternal* for instructions on how to do this.

An easy way to figure out what takes up the most space on your drive is to use shareware applications like WhatSize or GrandPerspective. They examine all the files on your computer and let you see which are the largest. These applications will show you many system files that your Mac hides from you (for good reasons). *Don't move or delete any files that you didn't create.*

How do I remove extra applications from my hard drive?

Make sure you have the original installation discs and registration codes for any applications you may want to run again. Applications you've purchased from the App Store will theoretically be available for download again if you need them, but there are no guarantees that Apple will carry that software title forever. Once you've confirmed that you have everything you need to run that application again, you can uninstall it.

Some applications have an uninstall utility, which is usually located in the *Applications* folder or in the original installation disk image (DMG file) you downloaded when you installed the application. Applications that don't come with their own uninstall utility will need to be removed manually. Drag the application's icon from the *Applications* folder to the *Trash*. There will be small support files and any files you created using the application left over. If there are preference files, support files, or a cache that the application has created, these will not be removed by deleting the application. You can check the application's website for uninstall instructions, or use the utility AppZapper (*appzapper.com*) to streamline the process.

Target Disk Mode

How do I use Target Disk Mode?

Target disk mode allows a Mac to mimic an external drive so you can access its data through another Mac. Use this technique to quickly transfer data between Macs or back up data from an ailing Mac. First, connect two Macs with a FireWire or Thunderbolt cable. Make sure that your computer is connected to a power source, and then hold down the T key while you start the Mac you want to transfer data from. The computer should enter a special target disk mode, indicated by a disk icon on the screen. It will show up as an external hard drive on your other Mac, and you'll be able to access its data. You can drag and drop files to and from the Mac. You can also run data recovery or repair applications on a drive this way if your computer won't start up. Just remember to eject the disk by dragging its icon to

the Trash when you're done. Then press the power button to shut down the Mac and disconnect the cable.

Getting Online and AirPort

There are plenty of things you can do on your Mac, but now it's time to start thinking outside the box. There is a whole wide world out there just waiting for you to explore – whether it's looking for old friends, playing video games with people from around the world, or looking at family photos. Let's face it, you want to get online... but how?

The Internet is a great thing, but it is not free. You need to pay for access. You need an Internet service provider (ISP).

What are my options to connect to the Internet?

There are several ways to get connected to the Internet:

- At Home: A high-speed connection is available in most homes through your ISP, typically a telephone or cable provider. This is called broadband cable or DSL.
- In Town & Traveling: You can use a wireless hotspot. These can be found in airports, most libraries, and coffee shops. The word "Wi-Fi" is usually posted on the door of the establishment or on the menu to let you know it is available.
- At Work: You can usually connect at work, but you may need permission from your IT person. Also, double-check the acceptable Internet usage policy at your office.
- Anywhere: A cellular hotspot will allow you to get online in most places. Some cell phones and iPads can provide Internet access to your Mac (called tethering or Wi-Fi

hotspot). Your Mac can then use the cell phone's wireless data connection and data plan. Tekserve can help set you up with a Verizon iPhone or iPad and show you how to use the hotspot feature.

What are my options for Internet service providers (ISPs)?

Most people use their cable TV or telephone company for Internet service. These companies tend to offer reduced rates when you subscribe to both of the services through them. The main thing to remember is that there is usually a monthly fee associated with any (or all) choices. Most of these services are "wired" access and require a piece of equipment (e.g., a modem) in your home from that company. This modem is then connected to your computer using the built-in Ethernet port on your Mac. Time Warner now charges a monthly rental fee for that modem, Tekserve can sell you one for well under $100. Some ISPs will give you a Wi-Fi router at no extra charge (although they're usually not nearly as fast or easy to manage as an Apple AirPort or Time Capsule). See "How do I create a home wireless network?" (page 80). Some new fancy apartment buildings in New York City have their own ISP or even provide Wi-Fi in every apartment.

You should compare both the price and the speed when selecting a service. In comparing speeds, look at both the download and upload speed. Download speed matters for watching HD movies and downloading large files. Upload speed is usually much slower, which may be a factor if you do large file transfers or backups over the Internet. FiOS is almost always the fastest option if it's available in your area, followed by cable, with DSL usually the slowest option (but fast enough for many of us). Internet service via satellite is common in rural areas, but it suffers from latency

(the time it takes your request to go up 23,000 miles and back down again, which can add a second or two delay to every click, making it unappealing for gamers, but fine for streaming movies).

How do I connect my Mac to a Cable modem?

Most companies will come in and set this up for you the first time, but you may need these instructions to connect a new Mac later. If these instructions don't work, you'll have to ask your Internet provider if they require you to enter a specific IP address, subnet mask, router address, and/or DNS server addresses to connect.

1. Start by turning off all the computers connected to the cable modem. Cycle the power on your cable modem by turning it off for a few minutes and then turning it back on. Make sure an Ethernet cable is securely connected between your Mac and the cable modem.

2. Wait for the modem to connect to the Internet (as indicated by its flashing lights) and then turn your computer(s) back on. Try to open a website now. If it works, you're good to go – if not, keep reading.

3. Open your *System Preferences* and select the *Network* pane. Select your *Ethernet* port from the left bar.

4. In the *Configure* pop-up box choose Using DHCP if you receive your IP address automatically. Choose *Manually* if your service provider gave you a specific IP address, DNS server, or search domain to use. Enter those items into the so-named fields.

5. Click *Apply*.

If these steps don't work for you, you'll have to contact your Internet service provider's technical support.

How do I connect my Mac to a DSL modem?

Most companies will come in and set this up for you the first time, but you may need these instructions to connect a new Mac later. In order to connect to a DSL modem directly, you'll need to know the user account and password for that DSL account. Some DSL providers also require a certain Domain Name Server (DNS) address(es) and/or a static IP address to be entered. Most providers will give you a software setup CD that will help you do this, but here's how to generally connect to any DSL modem that uses PPPoE (Verizon, AT&T, and some others):

1. Verify that your computer is connected to the modem securely with an Ethernet cable.

2. Turn off your DSL modem and computer for a minute. Restart the DSL modem and make sure it connects to the Internet based on its status lights. Then turn on your computer.

3. Open your *System Preferences* and select the *Network* pane.

4. Click the plus (+) sign in the lower-left corner. Choose PPPoE from the Interface pop-up, select *Ethernet* from the second pop-up menu, and then name your connection. Click *Create*.

5. Type in your account name and password in the appropriate fields. If you want all users of your computer to use this connection, select the checkbox labeled *Remember this password*.

6. If your Internet service provider gave you a static IP address, you'll need to do some additional steps. Click the *Advanced* button. Then click the *TCP/IP* tab and choose

Manually from the Configure IPv4 pop-up menu. Enter the static IP address in the IPv4 Address field.

7. If your Internet service provider requires a domain name server address(es) to be entered, follow these steps. Click the *Advanced* button. Select the DNS tab and click the *plus (+)* button in the lower-left corner to add the address(es). Click *OK*.

8. Click *Apply*. If you aren't automatically connected, there is one more step. You may need to click the *Connect* button near the area where you entered your username and password in the *Network Preferences*.

If these steps don't work for you, you'll have to contact your Internet service provider's technical support.

How safe is a DSL or a cable modem?

With the DSL and cable modems, your computer is always connected to the Internet. With some cable modems, other users in your neighborhood may be able to access your shared files or networked printers. You should turn off file sharing and web sharing, or at least set complex passwords. You can turn on Mac OS X's software firewall in the Security Preference pane, but that doesn't solve all problems. Depending on the importance and secrecy of your files, you may want to get a hardware firewall. An AirPort Base Station provides some firewall functions, such as network address translation (NAT). If you are not using AirPort, a router provides these services (and more) while allowing you to share a single cable or DSL connection among multiple computers.

How do I create a home wireless network?

Once you have a wired Internet connection established with your ISP, you'll need to connect a wireless base station like an AirPort Extreme or Time Capsule. To configure your wireless base station, please refer to the user manual for instructions or to the manufacturer's website. Once you have your wireless network configured at home, all you have to do is connect your Mac to it.

How do I connect my Mac to a wireless network?

Look in the upper-right corner of your Mac's menu bar, click your AirPort status menu (it looks like a fan or multiple curved lines/arches) and select the wireless network you have created. If prompted, enter the password for your wireless network. Select the checkbox *Remember this network* to have your Mac automatically join your home wireless network. If you have set your Wi-Fi network to be "hidden," select "Join Other Network..." and enter the name of the hidden Wi-Fi network in the dialog box.

When I go to select a wireless network, the AirPort (Wi-Fi) menu always says it's "scanning" or "looking for networks".

Don't worry, this is normal. Every time you access the menu to select a network, your Mac rescans to check if any new networks are available.

How can I ask my Mac to prefer a certain AirPort (Wi-Fi) network or forget one?

You can tell it that certain networks are friendly and need to be connected to when you are in their proximity. You can set up a list of "preferred networks" by opening your *System Preferences*. Select the *Network* icon and then

select *AirPort* or *Wi-Fi* from the left bar. Click on the Advanced button, which can be found in the lower right. On the AirPort or Wi-Fi tab you can drag your preferred networks to the top of the list. If you no longer want your Mac to connect to a network automatically, select it from the list and press the *minus (–)* button.

My AirPort reception is very inconsistent and sometimes drops out.

This is a very common issue, especially with people who live in apartments in NYC. You may be experiencing interference from wireless phones, other wireless networks in your building, or even your neighborhood. Home networks use radio frequencies, and most wireless base stations default to the same channel or two. You can manually adjust your base station's frequency, and this may help with your reception problem.

If you're using an Apple wireless base station, open *AirPort Utility* from *Applications/Utilities*. Select your base station on the left and choose *Manual Setup*. Choose the *Wireless* tab and pick a new number from the *Channel* pop-up menu. If you want to be more scientific and check which channels are being used near you, download iStumbler (*istumbler.com*; donation requested). If you have a third-party wireless base station (made by anyone else but Apple), you will probably need to configure the base station through your web browser; refer to the manual for your particular device.

If that doesn't help, try to place your base station higher up and away from microwave ovens, cordless phones, and fluorescent lamps, all of which can provide local interference. *If your apartment is very large (e.g., your computer or Apple TV is more than 50 feet from the base station) or has*

very thick, old walls, you may need to add a second AirPort device to extend your Wi-Fi network.

Are AirPort/Wi-Fi/wireless networks secure?

They're not the most secure network available. During the 1980s, my friend could listen in on wireless phone calls using a baby monitor. Just keep in mind when your data is traveling on a wire, an intruder would have to tap it – definitely possible, but a bit of a hassle. With AirPort, your data is a radio transmission, still not totally in the clear, but a whole lot more available to the world. If the information you transmit online is confidential, you should use an encrypted wireless network or another form of encryption. Secure HTTP sites (pages beginning with *https://* like banking websites and such) and Virtual Private Networks (VPNs) provide an extra layer of security, even if you're using an unencrypted wireless network.

You can encrypt your wireless network by following your router's instructions on password protecting your network. No wireless encryption standard is unbeatable, but the newer WPA encryption is much harder to beat than the older WEP (if your router offers both).

How can I stop others from using my AirPort wireless network?

Some of us "free information" types try to keep our wireless network open to help out passing travelers. However, a freeloader that downloads tons of files may slow down your connection speeds. Macs also make it really easy to connect between computers on the same network, so a freeloader could access your home computers if they can guess your user password.

Every wireless base station manufacturer uses a slightly different process. If you're using an Apple base station, open AirPort Utility from *Applications/Utilities* and select your device from the left side. Click *Manual* Setup, the *AirPort* icon, and then the *Wireless* tab. In the Wireless Security pop-up menu choose *WPA2 Personal*.

A thirteen-character password comprised of both letters and numbers is pretty secure and cross-platform compatible. In addition, current AirPort software will allow you to restrict access to your base station based on the MAC address (or "AirPort ID") of the AirPort cards you have in your computers. You can find the unique 12-character AirPort ID on the label of each AirPort card or in the Apple System Profiler. Or, you may choose to openly share your broadband Internet connection with friends and neighbors.

If you do choose to share your connection openly, make sure you've set up a good system password. Mac OS X makes it very easy to browse any files on the same network (if you know the other computer's username and password). So if your computer is named JohnDoe, your username is John, and your password is blank, read "Can I reset my login password?" (page 70). You can also prevent anyone from browsing your files over a network by turning off "File Sharing" in the *Sharing* pane of *System Preferences*.

iCloud

What is iCloud?

iCloud is a free web service from Apple that helps keep your multiple devices in sync. If you own a Mac, iPhone, iPad, iPod touch, or any combination of the above, iCloud

can help keep you up-to-date on each. It all works by syncing through the "cloud," which is a fancy name for a server. Instead of plugging in all of your devices to a central computer like a mad switchboard operator, the cloud now handles all of the syncing for you. Every time you make a change to something that is connected to iCloud, it immediately updates the data in the cloud. That data is then "pushed" (meaning you don't need to ask for it to sync, it does it on its own) to your other devices. And everything stays in sync. An example: I add a new phone number to my iPhone. That new number is synced to iCloud, and then pushed to my computer at home. So, before I even open my address book on my Mac, the new entry is there.

What happened to MobileMe/.Mac?

They became iCloud. This all started with a service called iTools. iTools became .Mac, which became MobileMe, which is now iCloud. The services and features have changed over the years, but if you have been a user of any of those services, you have been converted each step of the way to the new one.

What do I need to set up iCloud?

You need either a Mac running 10.7.2 or later, or an iOS device (iPhone, iPad, or iPod touch) running iOS 5 or later. While PCs can connect to an existing iCloud account using software you can download from Apple (*tekserve.com/faq/1455*), you cannot create a new iCloud account from a PC.

The most important piece of information you will need is an Apple ID. If you have owned Apple products before, you probably already have one. Your Apple ID is used to register your device, including registering AppleCare, purchasing from iTunes,or from the Apple Online Store. Quite

simply, your Apple ID is your email address. If you have an email ending in *@mac.com*, *@me.com*, or *@icloud.com*, than that is an Apple ID. Those email addresses are provided by Apple and are connected directly to the Apple ID system.

If you are unsure as to whether you have an Apple ID already, please visit *appleid.apple.com*. Here, you can enter your information to see if you are already registered in the system. You can also use this website to manage which email addresses can access your account, as well as change your password. If you are an iTunes user, open the iTunes Store and look for your email address – that is your Apple ID.

We highly recommend you take note of your Apple ID and have only one. If you create multiple Apple IDs, the purchases from those cannot be merged into a single account, and it can get very confusing where your data is. If you do have multiple IDs already, know that it is possible to use one for iCloud and a different one for iTunes. This can also be useful if you wish to share an iTunes account for purchases, but keep your iCloud data separate. Just be sure you know which account is which, and remember that everyone on that account has access to all previous purchases – every last one. You may also want to turn off Automatic Downloads in the iTunes Store settings, lest every app your spouse/partner/child downloads be transferred to your device as well.

What kind of files work with iCloud?

iCloud can sync contacts in your address book, events in your calendar, notes, reminders, and Safari bookmarks and tabs. You can also share photos you have taken with your other devices or other users with Photo Stream, locate a

lost device (including your Mac), or sync documents and data from supported applications.

That part about "supported applications" is important. You cannot just throw any file on your computer into iCloud. The software you are using to create it must support iCloud directly. For example, Apple's Keynote app can save directly to iCloud. This means that on any device where I am running Keynote and logged into iCloud, I can open and edit that document, and all the other devices will stay up-to-date. On the other hand, Microsoft PowerPoint, for example, does not support iCloud. There is no way to use iCloud to keep your PowerPoint presentations in sync (although you can use third-party services like Dropbox for that).

Does iCloud back up my Mac?

No. iCloud is not a backup solution for your Mac. While it can be used to recover some data in the event of a hard drive failure, only a small number of your files will be retrievable. Additionally, iCloud is primarily meant for syncing, not for recovering from data issues. This means that if the reason you are looking at your iCloud backup is to recover a file you have accidentally changed or deleted, iCloud will not be of any value to you. For Mac backups, we highly recommend you make a Time Machine or SuperDuper (*shirt-pocket.com*) backup (see page 49), and invest in a dedicated online backup solution such as CrashPlan (*crashplan.com*).

Does iCloud back up my iOS devices?

For iPhones, iPads and iPod touches, iCloud will backup the iOS device settings – including favorites, mail and calendar settings, home screen and app organization, messages, ringtones, visual voicemail, your camera roll, most saved passwords, and other preferences. This means that if you

lose or replace your iPhone or iPad (e.g., through a warranty swap at Tekserve under AppleCare+), you will be able to quickly make your replacement device look and work just like the old one. Check the iCloud preferences on your iOS devices to select which Apps back up their data and sync to iCloud.

Is there a limit to how much I can store in iCloud?

iCloud has a 5GB limit for free. If you discover you need additional storage, you can purchase up to 50GB from the iCloud panel in *System Preferences*. From here, you can also see what is using the space you have available in your account and delete anything you no longer need (but be sure about this, you cannot undo this action). Photos and videos in your iOS devices' Camera Rolls will eat up this 5GB the fastest. If you use iCloud Photo Stream to get all your photos onto your computer, and set iPhoto to automatically add those to your computer's iPhoto collection, you will see the most recent 1,000 photos in your Photo Stream (which doesn't count against the 5GB limit), and you can delete them from the Camera Roll, saving backup space.

Is there anything else it can do?

iTunes also takes advantage of iCloud. All of your past purchases (so long as Apple is still selling them) can be re-downloaded at any time. For music, you can go even further and sync your entire music library, even things you have not purchased from iTunes, using the iTunes Match service. This $25-per-year add-on to iCloud allows you to sync music and playlists over the Internet without needing to plug in and move any files by hand. Unlike your Mac, your iOS Devices can be backed up entirely to iCloud.

Where on my hard drive can I find iCloud?

I'm not telling. This is not because I don't think you can handle the information, but because hidden files are hidden for a reason. iCloud data should be accessed through the application that is using it. Making changes to iCloud data in other ways can result in problems (check out this blog post for an interesting tale of woe: *tuaw.com/2012/08/22/a-cautionary-tale-do-not-move-or-rename-your-icloud-folder*). Know that the data is there, which is why you can still access it even when offline, but unless you really know what you are doing, it is best to stay away from the iCloud folder on your Mac.

Tekserve: Make Stuff Happen

If you're in New York and need help with your Mac, iPhone, iPad, or iPod – or want to buy one of these or anything that works with them – please stop by. If you are outside New York City, you can shop online at *tekserve.com* or give us a call.

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New York, NY 10011

Phone: (212) 929-3645 · Toll-free Sales: (888) 929-3645

Fax: (212) 463-9280

help@tekserve.com · tekserve.com

What services does Tekserve offer?

Tekserve is an Apple Authorized Premium Service Provider – the highest level of recognition Apple offers to service providers who have surpassed their quality standards for repairs. With 40 certified technicians who perform over 25,000 repairs a year, we have the knowledge and tools to repair your devices right the first time. We perform warranty and AppleCare repairs on Macs and iPhones. Most iPhones are repaired or replaced while you wait. We also offer out-of-warranty repairs on Macs, iPads, iPhones, and iPods, but will consult before letting you spend hundreds of dollars to repair a device that's no longer worth that much. We can usually offer a free initial estimate on the spot when you bring the device in.

We recover data from computers and hard drives of all types, both Macs and PCs, as well as USB flash drives, memory cards, and other devices. Under our normal service, we only charge if we succeed in recovering your data. We offer hard drive and memory upgrades, frequently installed while you wait or same day. We also solve all sorts of software and related issues.

We can train you in the best use of your Apple devices and related software – in group classes or individual sessions. We can help you configure your devices, iCloud, backups, and more.

Our Professional Services group offers desk-side, network, and audio/video support. Tekserve Professional Services also has a team of engineers who specialize in designing and configuring everything from an Avid System to advanced networked storage solutions. We can assist you to configure, provision, and deploy ten or ten thousand iPads

or Macs in your organization, and then help you manage and control them going forward.

Does Tekserve sell Macs and other products, too?

Yes. In addition to our depth of technical talent, we have a strong team of systems consultants, account executives, and a huge inventory. We have a 25,000-square foot walk-in store and warehouse in New York's Chelsea neighborhood. We stock virtually every current Apple product, and thousands of related hardware, software and accessory items. We're also a Verizon Wireless dealer and can equip you or your business with iPhones, iPads and cellular hotspots, and help you manage and reduce costs on your cell phones. We don't sell everything – we sell products that we are comfortable recommending that meet your specific needs.

What makes Tekserve different?

We think what sets Tekserve apart is that we started out as a service provider, and we still lead with service. We have over 40 certified technicians, including several data recovery experts, and we maintain a very large inventory of parts. Our approach to sales is based on service – not just trying to move boxes, but also actually meeting the customer's needs. For instance, we offer turnkey Final Cut Pro, AVID, Adobe, and RED video editing systems with everything you need to plug in and start editing. For corporate purchasers, we can configure and ship computers to multiple locations, with your standard software install already loaded and asset tags in place.

Our motto – borrowed from an old Walker Evans photo – is "Honest Weights, Square Dealings." If you are ever dissat-

isfied in any way with our service, please let us know, and we'll try to make it right.

What if I just don't have time to wait for a repair?

If you need to keep working while you wait for your repair, let us know. We offer a wide variety of rental computers and can even help you transfer your data in some cases. For more information about rentals and how Tekserve can assist you, give us a call or check *tekserve.com/rentals.*

Do you offer corporate accounts?

Yes. First, we'd like to team you up with one of our corporate account executives, so you have a single point of contact. Please email business@tekserve.com to get connected. We also accept corporate credit cards and company checks (subject to approval).

Do you offer financing on new computers?

For corporate purchases from $2,500 up to millions of dollars, we offer leasing plans from Apple Commercial Credit and others. Please visit *tekserve.com/business/rentals-and-leasing* to apply for a business lease. All financing is subject to credit approval (and lots of other fine print).

Do you provide a messenger service to pick up and deliver stuff?

Forgot a cable? Need a new computer but don't want to carry it home? To have your purchases delivered same-day anywhere in NYC, call us or order online. If sending us computers to repair, we prefer that you use your own messenger service, but we can arrange to pick up and deliver (for an additional fee). If you send us stuff by messenger, please attach a note telling us who, what, when, where, and why. You'd be surprised at the mystery parcels we receive.

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Command Key Combinations

Function	Key Combination
Startup Manager	Option while starting up (Allows you to choose which volume to start-up from if you have more than one startup partition on your hard drive, a system disc, or recovery partition)
Start Up from Optical Disc	C while starting up (This tells the computer to start from a CD or DVD, like a system or utility disc, instead of the hard drive)
Target Disk Mode	T while starting up (This temporarily turns a Mac into an external drive that you can mount on the desktop of a second Mac to copy data or even run utilities. When you are done, eject the “disk” and press the power button on the Target Disk Mode Mac to shut it down.)
Ignore internal hard disk drive	Command-Option-Shift-Delete while starting up (some Macs ignore selected startup device)
Eject all removable media	Press and hold mouse button, while starting up (left button if you have more than one)
Safe boot	Shift key while starting up, (only loads essential extensions at boot and disables login (startup) items; try this if you just installed a new extension or driver and got a kernel panic)
Verbose Startup Mode	Command-V while starting up (shows what’s going on during startup)
Single User Startup Mode	Command-S while starting up (brings you to Unix style text prompt)
Zap NVRAM/ PRAM	Command-Option-P-R while starting up
Software reboot (lose all unsaved work)	Command-Control-Power button (to restart after a crash on some Macs)