



# MAC FACTS

from

## Mac Help Desk

SUPPORT, SALES, TRAINING & SERVICE

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### *A Message from Dru*

The Spring holiday season is upon us. Happy Passover and Easter to all who celebrate. For those Romans amongst us - "Beware the Ides of March!"



Welcomed these new folks in February - Sherry Krajczar (from the Philippines!), Campbell Marketing, Nell Carvell, Lisa Adelle Design Studio, Terry Patch, FPS, Kindra Guffey, Anita Moton, Bob Delancey, Robin Barnes, Mary Baker, Errol Candy, Computer Repair Inc., Jason Miller, Jennifer Mangan, Jennifer Howell, Stuart Wilk, and Susan Mason.



For those who missed the Mac Mania show on WBAP last Sunday...there's always Sunday the 28th of March. 7 - 9 pm. But in the meantime, you can download the archive from the Cyber Line site at <http://www.cyber-line.com>. Thanks to all the Mac Help Desk client/frinds who called in...even those from Seagoville. :-)



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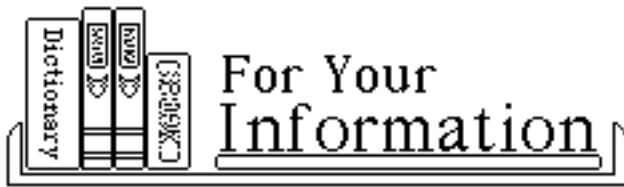
For those of you in the printing, graphics or related industries, check out the ROI (Return On Investment) article on the 'Files, Facts, and Links' page at the Mac Help Desk Web site (<http://www.machelpdesk.com/page6a.html>). One of the best arguments for converting to and/or staying with the Mac platform.



Also on the 'Files, Facts, and Links' page is *Harmony*. - If you're an AOL client, who sometimes experiences the fun of not being able to read your e-mail (MIME documents), then you need to download this program



Fun Web site of the month - Do you like fonts? Can't get enough? Need to find that 'perfect' typeface? Then look no further than Mac Fontaholics Anonymous. Check them out at: <http://www.flash.net/~fontahol/>



## “The Dog Ate My Hard Drive” - Tips and Tricks For An Effective Backup Plan That Will Keep You Out Of Trouble!

by Todd Stauffer

### **Implement Your Backup Plan**

Here's a true story: While working in the science department at my alma mater after graduation, a major outage occurred on the administration's server computer (an Intel-compatible PC) during a fairly stormy weekend. Perhaps due to a lightning hit or some similar electric shock issue, the main hard drive in the server went completely dead. The data on it, barring an incredibly expensive excavation, was irretrievable.

Of course, we had a backup. The system administrator had diligently run a tape backup program weekly on the server over the past year since its installation, and the process was going strong. A cartridge of all our data existed. This was not just a tragedy, but an opportunity; our system administrator, the consummate professional, had done the right thing and was likely going to impress the dean and high-ranking academics. Foresight had won over chance.

Actually, chance had another card up its sleeve. As it turns out, the tape cartridge that the system administrator had used for the most recent backup (about four days old) was bad. He couldn't get any data from it. To make matters worse, he had done something that isn't exactly recommended -he'd used that same cartridge for all his backups in the department for the last nine months. That's nine whole months.

Hard drives can (and eventually will) go bad. It's an engineering fact - they're mechanical devices with a limited life span. But tape and other backup devices can also go bad. In our science department, anything that wasn't saved on individual hard drives was forcibly reverted to files and folders that had been backed up nine months prior to that time. Entire projects, budgets, file entries and papers were lost. There was a backup plan in place, but it wasn't a terribly good one. Instead, it only provided a false sense of security.

DriverSavers is a company that's renowned for its ability to revive destroyed drives. If you're ever in a situation where you have to get data off a drive that's been waterlogged, burned, dropped, run over, or exposed to any other fury of nature, contact Drivesavers and see what they can do. A bullet-proof backup plan is a lot cheaper, though.

### **What to back up**

You don't have to back up everything on your hard drive. After all, in most cases (especially those where you've legally bought and licensed your software) you won't need to back up applications, because you have the originally floppy disks or CD-ROMs. You also may not need to back up the System Folder, because you have your Mac OS CD handy and you could, in a pinch, reinstall the operating system.

So what do you need to back up? Of course, you should consider backing up absolutely everything on your hard drive(s) or network. But if you just can't spare the space, here's what you should make a point of backing up:

\*Documents. Anything you create using your hands and your brain should be backed up. Likewise, back up anything anyone else has created that's saved on your hard drive. You don't want to have to recreate the documents if you lose your main hard drive.

\*Upgrades and updates. You'll likely download upgrades and updates to your existing software programs at times when you find something new on the manufacturer's Web site. Make a point of quickly dragging those files to a handy Zip or SyJet cartridge while you're busy installing them. This includes new extensions, control panels, and fonts you install in the System Folder.

\*Bookmarks. If you use your Web browser extensively, make a point of backing up the Bookmarks file that's in that browser's folder in the Preferences folder, which is located in the System Folder.

\*E-mail. If you're like me, you like to keep your old e-mail. It allows you to root around for an old phone number, keep a paper trail of communications, and dig up that Web address someone sent you once. I keep hundreds of megabytes of e-mail saved, and I back it up (and archive it) regularly so I don't miss a beat.

\*Preferences. It won't kill you to lose these, but you might want to back up the preference files for your favorite applications -especially if you've got them set just right. Preferences are in the Preferences folder in the System Folder.

\*Saved Games. Do you want to start over on level one? I thought not.

## **How to back up**

Two different backup terms get bandied about often and deserve definitions. Not everyone uses these terms as strictly defined as I'm suggesting here, but it's how I'll try to use the terms in this book:

\*Backing up. By this I mean copying files currently on your Mac or your network to another type of media on a regular basis, according to a predefined system that rotates the backup media over a fixed period of time. Backups are created using either a mirroring system (where an exact copy of your folders and documents is copied to the backup media) or an incremental system (where only folders and documents that have changed since the last backup session are copied to the backup media).

\*Archiving. In this case, I'm talking about copying files from your hard drive or network to another media, with the intention of deleting the files from your hard drive and storing the archival media in a safe place. This is useful for holding onto older files that you no longer need on a day-to-day basis, but may need down the road.

Obviously, both have their place. But the single most common error in backing up data is what I described happened in my alma mater's science department - archiving when one means to back up. A lot of programs that call themselves backup programs will perform something very convenient for you -incremental backups. They'll only update files that have changed since the last time you archived. This is a great feature but, by itself, is neither archiving nor a complete backup system.

### **Evangelista tip: Self-extracting System Folder**

It's true that the most important files to back up on your Mac are data files, as you can't recreate them without hours of work once they're gone. And, if you're into economy back-ups, you can usually skip things like applications and the System Folder. They can be reinstalled from disks and installation CD-ROMs.

But backing up those files, too, really isn't such a bad idea, especially if there's a decent chance that your Mac could get messed up -whether it's on public display, used in a lab setting, or if you tend to install a bunch of beta software. System administrator Rich Barron (from both the CSU Fullerton -Art Department and Santa Ana College in Southern California) has a great tip -use the self-extracting archive option in the programs StuffIt Lite or StuffIt Deluxe to create an archive that can open itself on most any Mac in your organization, resulting in a ready-made System Folder:

"I do a normal install on the Mac. I run it through its paces in all the programs and work out all the glitches I catch. Next I take the System Folder and make a duplicate that I compress and turn into a self-extracting archive (.sea) so it is not dependent on its 'mother' program to help it uncompress. I also make a very stripped-down version (few extensions, no fonts, few control panels, and so on) of the same System Folder. The remaining software is also compressed program by program in the same .sea format."

You might also find that the program ShrinkWrap, from Aladdin Systems, is a useful way to create System folder backups; instead of self-extracting archives, you can create disk images that you can double-click and mount on the desktop, causing them to act exactly like large floppy disks that you can then install or copy files from.

Use the Zip disk as a Startup disk (cmd-Option-Shift-Del keys can be used together to skip the internal hard drive and boot off an external system disk), and then copy the compressed System Folder to the newly formatted (or otherwise repaired) hard drive. Double-click to decompress the System Folder, and then restart. You should have a new system, ready to let you get some work done.

If you just continue to mirror the changes you make on your hard drive onto a single backup cartridge, you can't use that cartridge to retrieve a document that became corrupted or was inadvertently deleted a few weeks ago, as you could if you created an archival tape or cartridge, and then stored it away. At the same time, incrementally copying updated files to the same cartridge

isn't a proper backup system, either, because a flaw in the cartridge itself negates any advantage to performing the backup.

In a serious backup situation, you need a generational approach to copying your data from your hard drive(s) or network to the backup media. Depending on your level of paranoia you can introduce as many generations as you want into the equation. The bottom line is you always need to have more than one backup to choose from at a given moment.

Note: Aladdin Systems seems to offer a lot of software entries in this category, but I've got another one to discuss. Although it's not technically a backup utility, you may find FlashBack to be convenient for archiving different versions of the same document, allowing you to move backward through your document's different saves to find a version you like more. Other utilities, like Michael Kamprath's Super Save will actually save each keystroke you make in text documents, enabling you to pour back through them to recreate documents if necessary. (It helps to be a great typist, naturally.)

## **A generational system**

Here's how a three-generation backup system would work. You start with three different cartridges. One Monday, mirror your hard drive or network to the first cartridge. On Wednesday, mirror your hard drive to the second cartridge. On Friday, mirror the drive to the third cartridge. Now, a good idea would be to drop the Monday cartridge out of the rotation and store it away (offsite, in a fireproof casing, in a safe deposit box, and so on). You might do this once a week or once a month, depending on how many cartridges you feel safe using.

Next, with a new cartridge, mirror your drives on Monday. When Wednesday rolls around, do your mirroring on the Wednesday cartridge; on Friday, mirror over the Friday cartridge. And so on. ( Note that these Wednesday and Friday backups could be incremental, too, but for the sake of this example they're all fresh, complete mirroring backups.)

Notice what you're doing here. Every other business day, you have a fresh new backup. If the network fails on Thursday, you can back up using the Wednesday cartridge -if the Wednesday cartridge is no good, you can try the Monday cartridge. Plus, you've got an extra little bonus -those archival cartridges that slipped out of the rotation. If suddenly you find a corrupt or virus-infected file, then you have the option of fishing through your archives for a copy that wasn't corrupted, even if the corruption happened weeks ago.

Note: Obviously, if you're not backing up incredibly important business files or an entire network, you might be able to get away with backing up once or twice a week. But seriously consider being vigilant about backing up, even if it's only a home system. Your Quicken data or salary spreadsheet can change a lot in few weeks, and I guarantee you'll appreciate having that data backed up if you ever run into trouble. At the very least, home users should set a weekly or semi-weekly alarm to remind them to backup to a removable cartridge drive. Just remember to use a fresh cartridge every few weeks and use the old one as an

archive.

## **A software approach**

If you're a system administrator or in a similar position of responsibility, your first order of business should be to think seriously about your backup issues. You will probably also want to grab some software to help you out. Retrospect, from Dantz Corp , is among the most popular for Mac users and networks. For other levels of users, Dantz offers Disk Fit Pro and Disk Fit Direct, for backing up the individual Macs of professional and personal users, respectively. Disk Fit Direct tends to be bundled with removable media drives - check the product material if this interests you.

If you feel you'd like to work up to professional-level software, or if you'd like to give something a bit cheaper a try, you might look into a shareware solution. Be aware that the shareware author may not offer any guarantees about the usefulness or accuracy of the software. ( Then again, most big companies don't either.) You can try some of the downloadable options. One I've found useful is called Drag 'n' Back.

Drag'n'Back offers two options that you'll find on the pro-level software, too -the ability to update incrementally and the ability to update using an archival system.

## **Incremental updates**

In fact, most backup programs offer the ability to update incrementally. Remember, incremental updates add only the files that have changed since the last time the data was mirrored to the cartridge in question. It's okay to use this feature as long as you continue to swap cartridges in a generational pattern. Consider the following scenario (which assumes you've already been backing up for at least a week):

1. You do a full backup to a new cartridge on Monday the 6th (of a particular month).
2. You change an important file on Tuesday.
3. On Wednesday the 8th, you do an incremental backup to the Wednesday cartridge. This cartridge was last updated on Wednesday the 1st, so the changed file (on Tuesday the 7th) is noted and backed up.
4. On Friday the 10th, you do an incremental backup to the Friday cartridge. The change has occurred since last Friday (the 3rd), so it is noted and backed up here as well.

Now, if you have pulled the cartridge used on Monday and replaced it with a new one for the next Monday, you'll have an old copy of the file (the one that was recorded on the 6th), and two new copies of the program (on the 8th and the 10th). Both bases are covered -if a user needs the older copy of the file, you have it. If they lose the newer version, you've got that, too. If you're the system administrator for a large network, eventually you'll be a hero.

Caution: Don't get too cocky, though. Remember one last warning. Test your media regularly, especially if you're using it over and over again. Even those Wednesday and Friday cartridges (or whatever days you ultimately settle on) should be checked every few weeks to see if they can really be used to restore data. If you do run into trouble and need to restore data, you'll be glad you've tested your updates recently.

## **Evangelista and Expert tips: Thou shalt back up**

As you might imagine, Evangelistas and experts alike have plenty of horror stories resulting in lapses in their backup routines. Here's a quick look at some of the best of those, including some times for quick and better backups -plus the requisite scare tactics to get you to promise yourself that you'll implement a backup plan:

"Obviously, you'll want to back up your data regularly, but why back up corrupted files? Just before doing a backup, run your diagnostic tools, such as Tech Tool Pro or Norton Utilities for a bootable disk. Repair all broken files, and then do your backup. That way, you'll know that you have a clean backup." -Win Stiles

"I Lost My Entire Thesis...and it was due two hours ago!" Losing an important document is a common complaint among McGill students and faculty. As Murphy's Law would have it, the likelihood of losing a paper is directly proportional to the importance it bears to the author and inversely proportional to the number of backup copies the user has made."

"Here are several points to keep in mind: Hard disk drives are typically warranted for a maximum of five years. It's not a matter of if they fail, but when they fail."

"Each time your computer hangs, freezes, or crashes, there's a good chance that at least one file on your computer is slightly corrupted, and an even better chance that it's one of the files that you were just working on."

"Accidents happen, like saving another document with the same filename or inadvertently putting your file in the trash. Why tempt fate? You only have so much time to waste on recovering your thesis when it was due two hours ago. Why not do your best to prevent the situation from ever happening? It's not difficult and it only takes minutes to do. The Golden Rule: Always have a backup of your work. Consider the effort of backing up versus the effort of retyping or rewriting your entire thesis when it was due two hours ago."  
-James A. Connolly, McGill University Computing Centre  
Caution

"Backing up doesn't need to be complicated. With at least two physical hard drives, you can back up just the data partition to the other drive. That way if one drive dies, you've still got the data on the other. It won't help if your house burns down, but the backup

tape on your shelf wouldn't help then either." - Marc Zeedar

Want some more expert advice on backing up? Craig Issacs from Dantz Corporation (the same folks that make Retrospect and Disk Fit) has a few choice tips for people putting together their backup plans. He tells me his one hope is that you will be encouraged to create a backup of your data before attempting any upgrade or fix. Here are his top tips:

**Automate your backups.** Get a backup device that holds about twice as much as your hard disk so you can schedule backups for times when you're not there.

**Back up every hard disk.** Every hard disk contains critical data so don't just back up servers. And make sure you include portable computers.

**Back more than just documents.** Don't limit backups to just certain files - you'll inevitably need one that wasn't backed up. Good backup software only backs up files that are new or modified.

**Make several copies.** Make at least three different sets of your data. Even an old copy is better than no copy at all.

**Keep a backup set offsite.** You never know when a fire, flood, theft, or earthquake makes your offsite copy your only copy.

**Verify your backup.** You need confidence in your backups. Make sure your backup software has full read-back verification. And try restoring a few files yourself, just in case.

**Implement a network backup strategy.** If you're on a network, network backup software lets you share a storage device and ensures every Macintosh is backed up.

**Don't procrastinate.** Far too many new Dantz customers are people who recently lost data. Develop your backup plan now!

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## NEWSLINE

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**For those who say there's no software for the Mac -**

Apple Computer, Inc. today announced that 1,559 new Macintosh software titles have been introduced worldwide since iMac debuted on May 6, 1998, including 901 new localized titles announced in Japan. With Apple introducing innovative products such as iMac and its reinvented line of Power Macintosh G3s, many of the world's top software developers have been inspired to deliver new products for the Macintosh platform.



## **The Latest Apple Stats (2-28-99)**

Apple has achieved 5 straight profitable quarters (FQ1'98 \$47M, FQ2 '98 \$55M, FQ3 '98 \$101M, FQ4 '98 \$106M, FQ1 '99 \$152M)

Apple posted a FY '99 Q1 net profit of \$152M, or \$.95 EPS, compared to \$47M and \$.33 EPS in the year ago quarter

Apple's FY '99 Q1 revenue of \$1.7B was up 8% from the year ago quarter

Apple sold 944,000 units in FY '99 Q1, a huge gain over FY '98 Q1 total of 635,000

Apple sold over 519,000 iMac computers alone in FY '99 Q1, and has sold nearly 1,000,000 iMac systems since 8/14/98

Apple's overall unit growth was 49% year over year

Apple unit growth currently outpaces the industry average by 3x to 4x (variability results from different market tracking sources)

Apple currently has over \$2.6B in cash reserves and is generating over \$200M more per quarter

Apple's FY '99 Q1 gross margin of 28.2% was up from 22.4% in the year ago quarter

Apple exited FY '99 Q1 with only 2 days of inventory (\$25M), besting industry leading Dell's 7 days of inventory

45% of U.S. iMac purchasers are new to the Macintosh platform (first time buyers 32%, Windows "converts" 13%)

62% of Japanese iMac purchasers are new to the Macintosh platform (first time buyers 46%, Windows "converts" 16%)

iMac was the number 1 selling computer October December through retail and mail order channels (source: PC Data)

The Mac OS is one of only two high volume operating systems on the face of the planet

Over 12,000 3rd party products have been developed for the Macintosh

Over 1,600 new Macintosh software titles have shipped worldwide since the iMac was introduced last May

Apple's QuickTime multimedia technology is the de facto standard for both Macintosh and Windows

Over 25,000,000 Macintosh users have installed QuickTime on their systems

Over 50,000,000 Windows users have installed QuickTime on their systems

11,500 CDROM titles and hundreds of DVD titles have been authored with QuickTime

The G3 processor in every Power Macintosh is at least twice as fast as its Pentium II or III counterpart (Source: BYTEmark tests)

A Pentium II would have to run at 800MHz to equal the performance of a 400MHz G3 (Source: BYTEmark tests)

By tightly integrating hardware and system software Apple still delivers the easiest to setup and use personal computer

62% of creative professionals use Macintosh

76% of color publishing is done on Macintosh

72% of multimedia CD production is done on Macintosh

65% of digital video and multimedia production is done on Macintosh

64% of Internet Web site content is created on Macintosh

Overall 47% of HTML and Web publishing is done on Macintosh

Apple has a 52% installed base share of the U.S. K12 education market