

Website: <http://www.miniapples.org>

Forums: <http://miniapples.7.forumer.com>

Email: miniapples@mac.com

From the Editor:

This has been an interesting month for Apple users. Apple has announced iCloud, iOS 5, and Lion. This issue of the newsletter has three iCloud articles and one on Lion. There has also been an update to Mac OS X 10.6.8 released within the last week. Apparently hardware releases are being held until Lion is released in July. Interesting that it can be downloaded from the App Store for \$29.00. Not so interesting if you have dial-up or a slow internet connection.

One of these days summer will start and then we can all escape to the air-conditioned comfort of our living rooms. In the meantime we'll just have to make do with cool temperatures. Our granddaughter especially enjoys this since she can visit the playground and swing for hours.

Tom Ostertag, Publications Director

Meeting Calendar

At the right is a list of mini'app'les meetings for July 2011. The information was compiled as this newsletter was being assembled and is subject to change. As always, confirm the Special Interest Group (SIG) date, time, and location with the SIG Leader or the mini'app'les website: www.miniapples.org.

| Meeting Calendar – July 2011 | | | |
|------------------------------|---------|---------|---------------------------|
| Thursday | July 7 | 7:00 pm | Mac Applications SIG |
| Tuesday | July 12 | 7:00 pm | iOS SIG |
| Wednesday | July 13 | 7:00 pm | VectorWorks SIG* |
| Thursday | July 21 | 7:00 am | Macintosh Consultants SIG |
| Monday | July 25 | 6:30 pm | Mac Q&A SIG |
| Thursday | July 28 | 6:30 | FileMaker Pro SIG |

| Meeting Locations and Leaders | | |
|-------------------------------|--|-------------------------------|
| Meeting | Location | Leader |
| Mac Applications SIG | Eden Prairie Library, 565 Prairie Center Dr, Eden Prairie | Tim Drenk, 952-479-0891 |
| Macintosh Consultants SIG | Good Day Café, 5410 Wayzata Blvd., Golden Valley | Bob Demeules, 763-559-1124 |
| iOS SIG | Southdale Library, 7001 York Ave., S., Edina, MN | Joel Gerdeen, 763-607-0906 |
| VectorWorks SIG* | CJR Office, 4441 Claremore Dr., Edina | Charles Radloff, 952-941-1667 |
| Mac Q&A SIG | Merriam Park Library, 1831 Marshall Ave., St. Paul, | Chuck Hauge, 612.963.5064 |
| FileMaker Pro SIG | Erik's Bike Shop Corporate, 9201 Penn Ave S. #1, Bloomington | Steve Wilmes, (651)458-1513 |

* This SIG is NOT sponsored by mini'app'les; the listing is provided as a service to members.

TABLE OF CONTENTS

| | |
|---|----|
| BOD Meeting Minutes • June 14, 2011 | 2 |
| MacApps SIG Meeting Report – June 2, 2011 | 3 |
| Mac Q&A SIG Meeting Night | 4 |
| iCloud Rolls In, Extended Forecast Calls for Disruption | 4 |
| MobileMe-to-iCloud Transition Messaging Provokes Confusion..... | 7 |
| Of iCloud, Dropbox, and Elastic Computing: A Cloud Primer | 8 |
| Apple User Group Bulletin - June 15, 2011 | 13 |
| Lion Details Revealed with Shipping Date and Price..... | 13 |
| Hot Links Of The Month: | 16 |
| Members Helping Members | 17 |
| Mini'app'les Membership Application and Renewal Form | 18 |
| Benefits of mini'app'les Membership | 18 |
| Board of Directors | 19 |

BOD Meeting Minutes • June 14, 2011

Submitted by [Joel Gerdeen](#)

In attendance: Tim Drenk, Joel Gerdeen, Bob Demeules, Dave Lundin

Absent: Tom Ostertag, Bruce Thompson, Les Anderson, Kevin Stryzik, Jeff Berg

Other Attendees: None

Agenda: See Directors' Reports and Old and New Business below.

Minutes: The minutes for the April 11, 2010, BOD meeting were approved electronically and published on forumer.com by Joel Gerdeen on April 22.

Directors' Reports

Treasurer Dave Lundin report: Thanks to Dave Lundin for his past service. Bob Demeules is taking over after the recent election. All bills are paid. A written report was presented. Insurance costs were high and not all necessary. Switched to State Farm & saved about \$195 for the year.

President Tim Drenk report: See below.



Vice President Jeff Berg report: Jeff joined the group after moving from Boston last year. This was his first BOD meeting though he could not make it.

Secretary Joel Gerdeen's report: Published last report on April 22.

Publications Director Tom Ostertag's report: Absent.

SIG Director Kevin Stryzik's report: Problem with Foundation opening doors for OSX SIG has been resolved. Minor conflict with Twins games which is nearby.

Membership Director Les Anderson's report: Eight members renewed over the last two months.

Past President Bruce Thompson's report: Absent.

Old Business

Mac Main Meeting - We confirmed the plan for a joint meeting of the main SIGs (OSX, iOS, Mac Apps & Q&A) for Thursday, Sept 15. During Sept, these SIGs will not meet separately though the Filemaker and VectorWorks SIGs will meet as normal. The location remains to be determined and additional promotion will be used to get the members out and recruit new members.

New webmaster Recruitment - Jeff Berg volunteered to manage the group's web site hosted on bluehost.com.

Revisiting SWOT analysis - We did not have time to review the SWOT analysis conducted in the Fall of 2009. SWOT is a strategic planning method used to evaluate the Strengths, Weaknesses, Opportunities, and Threats. At the last meeting, we decided to add discounts that the group received to the newsletter if timely.

New Business

Election Results - The assigned ballot counters reported the election results which were reported in the June newsletter to all members. Only 14 members voted so half of the voters were probably on the BOD running for election.

Next meeting: Scheduled for August 8, 2011 at the Southdale Library at 7:00 pm. All club members are welcome to attend.

The meeting ended at 7:55 pm

iOS SIG Meeting • 14 June 2011

by [Joel Gerdeen](#)

The iOS SIG meeting to be held on Tuesday, May 10 was cancelled due to my last minute health problems. This SIG focuses on iOS devices such as iPhones, iPad and iPod Touches. The planned agenda was to discuss iOS 5 and iCloud; most of the information can be found on Apple's web site, www.apple.com.



The next meeting is planned for Tuesday, July 12 at 6:30 PM at the Southdale Library Public Conference meeting room. The meeting will cover the planned iOS 5 and iCloud announcements made at WWDC

and general questions. For those interested, the meeting will continue at Bakers Square afterwards.

MacApps SIG Meeting Report – June 2, 2011

By [Tim Drenk](#)

We covered the various browsers available for the Mac OS and numerous add-ons/extensions.



We looked at eight browsers, some rather briefly, and add-ons/extensions for Safari and Firefox. The browsers were

- Safari (www.apple.com/safari)
- Firefox (www.mozilla.com)
- Chrome (chrome.google.com)
- Chromium (www.freesmug.org/chromium)
- Camino (www.caminobrowser.org)
- OmniWeb (www.omnigroup.com/omniweb)
- Opera (www.opera.com)
- iCab (www.icab.de)

Every browser has an engine that is used to display the web page. While there is a large number of browsers available, there are not as many engines. Safari, Chrome, Chromium, OmniWeb, and iCab all use the WebKit Engine. Firefox and Camino use the Gecko engine. Opera uses its own Presto engine. Internet Explorer, just for comparison sake, uses Microsoft's Trident engine.

The latest versions of Firefox, now at version 5, includes features such as Awesome Bar (searching from what we normally think of as the address bar) and Tab Groups (thumbnail images of tabs grouped graphically). Version 5 now includes a privacy option to "tell web sites I do not want to be tracked."

Chrome offers Google's Safe Browsing feature, an Omnibox (same idea as FireFox's Awesome Bar), and a built-in Flash Player. The advantage of Chrome's Flash Player is that it is shutdown when Chrome is quit. The stand-alone Flash Player that other browsers use keeps running and using memory even after all browsers have been quit. Some people

have completely removed Flash from their Macs and use Chrome if Flash is required.

Chromium uses the same source code as Chrome, but removes Google's branding, auto-updating, and opt-in tracking. Camino is designed to be more closely integrated with Mac OS look and feel and uses the Mac's Keychain. OmniWeb features side visual tabs. Opera has tab stacking and mouse gestures. And iCab has the distinction of being the only browser that is not free, it's \$20.

Now with extensions, you can customize your browser of choice (unless you use OmniWeb and iCab) with features that you find useful. We looked at a number of Safari extensions (most, if not all, can be found at extensions.apple.com) such as Glims, LinkThing, Adblock, YouTube5, ClickToFlash, HoverZoom, TabLinks, and Better Facebook. For Firefox, we looked at Adblock Plus, BetterPrivacy, CookieCuller, FlashBlock, NoScript, and TabMix Plus. Most extensions have similar counterparts for Chrome.

The July meeting will occur on Thursday, July 7th, at the Eden Prairie Library at 7:00 pm. We will be covering Bento 4, FileMaker's personal database program, and how it can help you organize and keep track of a wide variety of information.

Mac Q&A SIG Meeting Night

by [Chuck Hauge](#)

As I am working full-time now again, I have found that Monday evenings are not working out very well; a lot happens over the weekend, and we often have to clear it up by working late hours Monday night. Looking at the schedule for the Merriam Park Library, it is open Tuesday and Wednesday until 8 pm. I will check the library's schedule and try for one of these two days in the fourth week of the month. I will let everyone know when I have more info, so keep checking the mini'app'les website for updates.

iCloud Rolls In, Extended Forecast Calls for Disruption

by [Jeff Carlson](#)

Before today's Worldwide Developers Conference keynote, we knew Apple was going to announce a new [iCloud](#) service that would likely augment or replace MobileMe. Now, we can see that iCloud isn't just a new feature; it's a new platform for interacting with our data on various Apple devices that may even make us forget that we ever needed to "sync" the machines.



The iCloud storm won't roll in until Apple releases iOS 5 in the fall (roughly September to November), but at least one element, iTunes in the Cloud, is operating now. iCloud will be a free service, and it replaces MobileMe (more on that transition below). A *beta* of iCloud is available to developers today so they can start to prepare apps to work with the service.

For those unfamiliar with recent buzzwords, "the cloud" is a shorthand way of referring to data and services provided by online sites, rather than by your computer, smartphone, or tablet. [Dropbox](#), for example, stores your files on Amazon S3 and then copies them to the devices on which you have Dropbox software installed (or on which you have apps that can access that data). We'll have an extensive explanation of what "the cloud" means in an upcoming article.

Although the same principle applies to iCloud, the way Apple is implementing the service promises to dramatically change how you interact with your data. Instead of dragging your iPhone, iPad, or iPod Touch back to a Mac or PC to copy songs or documents between devices, everything is copied to iCloud and duplicated on all your devices. Photos appear automatically, whether they were saved into iPhoto or captured using an iPhone camera; changes in a Pages document on your Mac appear when you

open the document in Pages on your iPad. As Steve Jobs repeatedly stated, “you don’t have to learn anything” in order to take advantage of iCloud.

Apple announced several components that make up iCloud: working with music in iTunes and a new paid iTunes Match service; working with data such as calendars, contacts, email, apps, books, and miscellaneous data backups; storing and sharing photos; and sharing documents among devices.

iTunes in the Cloud -- People with large iTunes music libraries have often needed to make a choice when syncing to an iOS device with a limited amount of storage: which albums and playlists to include? If you want to listen to a song you didn’t sync, you’re sunk. With the [iTunes in the Cloud](#) feature, all music you’ve purchased from the iTunes Store is available for immediate download.

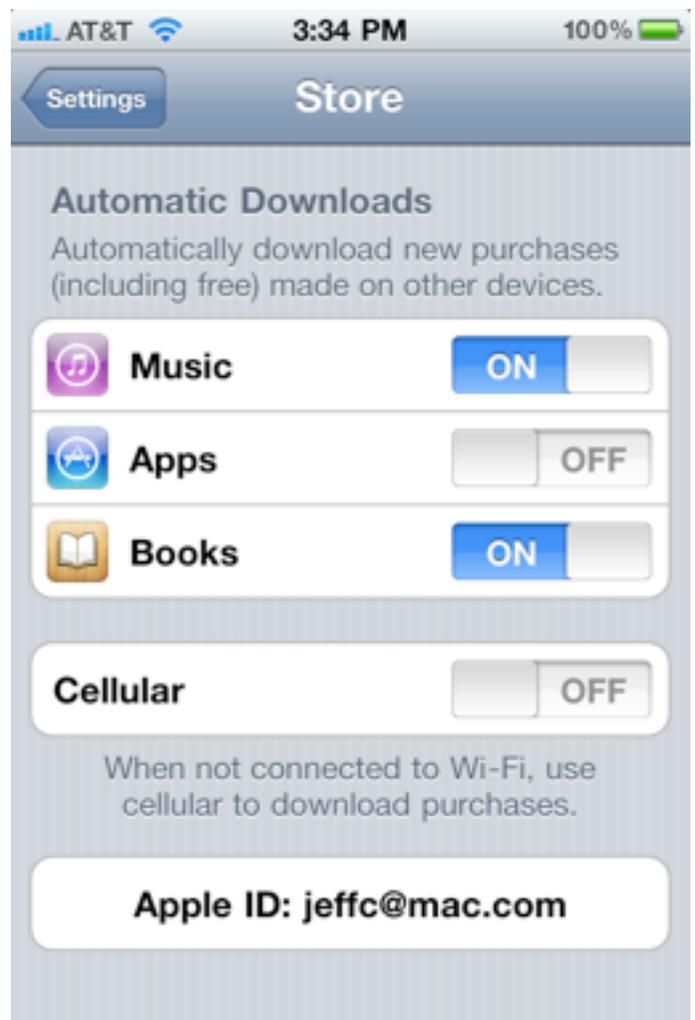


In fact, you can test it out right now. Open the iTunes app on an iOS device, and tap the Purchased button at the bottom of the screen. Tap the Not On This iPhone (or iPad, or iPod touch) button to view a list of artists, and then tap an artist name to view albums or songs you own but that aren’t currently on the

device. To download the songs, tap the iCloud download button.

When you purchase music on any device, you can choose to have it copied automatically to up to ten authorized devices. (To enable this feature, go to the Store preferences on an iOS device and turn on the Music option.) So far, this functionality is available only for music, not movies or television shows purchased at the iTunes Store.

[iTunes 10.3](#) adds this functionality to the Mac and Windows application, and, although Apple had not yet made the download available when this article was initially published, it’s now showing up in Software Update.



iTunes Match -- What about the music you purchased elsewhere or ripped from CD yourself? For a \$24.99 yearly fee, iTunes Match makes those songs available, too. iTunes uploads a list of songs in

your library (much as it does now for the iTunes Genius results) and matches them (probably using music fingerprinting) against Apple's collection of 18 million tracks. If you choose to download a track to a device where it doesn't appear, Apple provides a version at iTunes Plus quality (256 Kbps and free of DRM), even if your original copy was ripped at a lower quality.

Unlike similar cloud services by Amazon and Google, iTunes Match doesn't require you to upload your entire music library, only a list of tracks. If you wish, however, you *can* upload songs that don't match up, so you can download your rare bootleg recordings on the fly, too.

iTunes Match will arrive with the full iCloud set of features. It's unclear what happens if you let the yearly subscription expire; presumably your uploaded files are deleted and you no longer have access to matched songs on other devices (other than syncing them manually).

Data in the Cloud -- If you're already a MobileMe subscriber, you've long had a taste of cloud syncing with events, email, contacts, and iBooks titles. iCloud continues to make those bits of information available on all authorized devices over the air, but adds the capability to sync [other types of data](#).

As with iTunes in the Cloud, items purchased from the App Store can be downloaded to other devices, either manually or automatically; this feature is in beta and available now.

Things get more interesting for documents such as those created by Pages, Keynote, and Numbers (or any app, once developers have incorporated iCloud support). iCloud may finally deliver on the promise of iWork.com and allow us to ignore the horrible sync-through-iTunes approach for sharing documents among devices. As demonstrated at the keynote, making an edit to a document on an iPad incorporates that edit on other devices. So instead of syncing a file before leaving for the office, you can just open it on another device or computer and have the most recent version. That said, Apple gave no details that would imply that iCloud can be used for

collaboration between people, rather than for moving data between devices.

For general purpose data, iCloud provides off-site backup for important information stored on an iOS device using the Backup feature. iCloud automatically backs up purchased music, apps, and books; photos and video in the Camera Roll; device settings; app data; home screen and app organization; text and MMS messages; and ringtones. If you need to restore a device or purchase a new one, those items are downloaded from iCloud.

Photo Sync and Stream -- Part of iCloud is the new [Photo Stream](#), which looks like a life-enhancing option for anyone who's ever taken photos on an iPhone and wanted to work with them in iPhoto or display them on an iPad or those of us who have taken photos on a digital camera, found the time to upload them to iPhoto, but then failed to sync them to the iPhone. You likely know the drill.

With Photo Stream, when you add a photo to a device, perhaps by taking a photo with the Camera app on your iPhone or by adding photos to iPhoto on your Mac, Photo Stream automatically uploads the photos to iCloud's servers (using Wi-Fi or Ethernet) and then sends them down to all your other devices, including a second-generation Apple TV, the Photos app under iOS, iPhoto on a Mac, and the Pictures Library on a Windows PC. The Photo Stream on an iOS device stores only the most recent 1,000 photos (but storage on Macs and PCs is limited only by your own disk space). iCloud's servers will store a photo for 30 days. To keep photos on a device after that, move them into an album on the device.

What Happens to MobileMe? Steve Jobs made it clear that MobileMe is not long for this world, saying, "You might ask: Why should I believe them? They're the ones that brought me MobileMe." According to an [Apple KnowledgeBase article](#), current MobileMe subscribers can use the services until 30 June 2012. The extension has already been reflected if you look at your account details at me.com.

Existing me.com and mac.com email addresses will be retained, and Family Pack subscribers can

continue to create new family member accounts. However, it's no longer possible to create a new 60-day trial account or update an individual account to a Family Pack account. If you've purchased a boxed version of MobileMe but have not entered the registration code, you can [get a refund from Apple](#).

What's not yet clear is the fate of MobileMe services that don't directly fall under iCloud's shadow, such as Back to My Mac and Personal Domain. Apple's current information simply states, "When iCloud becomes available this fall, more details and instructions will be provided on how to make the move."

Cumulo Mactus -- We've long said that synchronization is hard to do well — just look at the troubled history of iSync and MobileMe, with their often-funky syncing results — but we have high hopes for iCloud. Clearly, Apple believes it has finally figured syncing out, and the company is betting big that iCloud can tie all of its devices together into a seamless, Apple-worthy experience for customers.

This article is copyright © 2011 [Jeff Carlson](#). TidBITS is copyright © 2011 TidBITS Publishing Inc. Reuse governed by [Creative Commons License](#).

MobileMe-to-iCloud Transition Messaging Provokes Confusion

by [Glenn Fleishman](#)

Plans for MobileMe never seem to go right. Its launch in mid-2008, as a transition from the previous .Mac service, was riddled with failures, data loss, and confusion (see "[MobileMe Fails to Launch Well, But Finally Launches](#)," 12 July 2008). Steve Jobs, according to [a recent Fortune report](#), berated the MobileMe team and then replaced the group's head during a meeting at that time.

And now we're partying like it's 2008 once again. Immediately on the heels of the Worldwide Developer Conference announcement of iCloud, iOS 5, and the ship date for Lion, Apple sent email to



MobileMe subscribers, theoretically explaining the situation. (For our initial coverage, see "What Happens to MobileMe" in "[iCloud Rolls In, Extended Forecast Calls for Disruption](#)," 6 June 2011.)

In short, Apple extended all current subscriptions through 30 June 2012 for free, and suspended signups for new customers. In a support article, Apple said more details would be available when [iCloud becomes available "this fall"](#) (the third quarter of 2011), but that leaves months of confusion. Why not answer questions more clearly now and avoid customer frustration and confusion? It's the Apple way, sometimes. Unfortunately, so much secrecy begets a culture in which clarity is the enemy of strategy.

The confusion was intensified by [a report in This Is My Next](#), the Engadget team's post-AOL project, in which Joshua Topolsky writes,

Let's be clear about what happens when iCloud goes live — according to what was described on stage at the event, and what I've confirmed with Apple PR — the service will effectively replace the current web offerings of MobileMe. That means that when the cutoff date of June 30, 2012 comes around for users, the web-based email client, calendar, contacts app, and other components of the web suite will cease to exist. You will no longer be able to log in and check your mail through a browser, change calendar events, or edit contacts.

We have a query into Apple PR ourselves to find out whether Topolsky is characterizing that correctly. If so, this will be a big loss. If you lack access to a Mac or iOS device with which you sync mail, calendar events, and contacts, you'll be cut off from your data.

Topolsky's claims seem to be contradicted by other reports, such as one about Apple testing freshly written iCloud-based Web apps on its intranet. MacRumors just posted a screen capture of an iCloud invitation to a calendar that one of its readers appears to have generated using an iOS 5 beta.

Regardless of the future status of Web apps, a number of questions surround other current MobileMe-related services:

- **New iOS Buyers:** If I buy an iPhone today and want over-the-air sync, can I purchase a MobileMe subscription? I don't know what people are being told in AT&T, Verizon Wireless, and Apple stores. It would seem peculiar that the service you need for sync among computers and multiple iOS devices is simply unavailable for new customers for a period of months. Perhaps it's quietly being given away?
- **Storage Amounts:** iCloud will include 5 GB of free storage across all media (excluding purchased iTunes Store items, which don't count) with the apparent option (shown in iOS 5 betas) of upgrading to more storage. MobileMe included 20 GB of storage in the \$100-per-year subscription. We don't know what final pricing will be nor how much storage you can purchase.
- **iDisk:** Where will our iDisk files go? Will public files still be reachable? Will we have to archive everything or will it be moved automatically into the new system? And what if we have more than 5 GB of data and haven't paid for upgraded storage? On 30 June 2012, does it all disappear? (Dropbox, SugarSync, and similar services can pick up the slack, but it will still be a jarring change.)
- **Gallery:** iCloud includes Photo Stream as a conduit for photos passing among iOS devices and computers. But what of all the stored albums in MobileMe Gallery? The iCloud service as described doesn't mimic this feature, which is a popular method of sharing photos both with the world at large and with private groups.
- **iWeb Hosted Sites and Personal Domain:** As with MobileMe Gallery, iCloud doesn't seem to have an analog to MobileMe's iWeb integration, nor the option to alias a domain name you own to match up with a MobileMe-hosted site. What will happen to existing Web sites hosted on MobileMe?
- **Back to My Mac:** Back to My Mac relies on several pieces of MobileMe infrastructure unrelated to any of the public elements of the service — such as wide-area, dynamic DNS

— to create secure tunnels among machines registered to the same MobileMe account. This could easily be migrated to iCloud, as Back to My Mac has no interface beyond a Start/Stop button in the MobileMe preference pane.

- **Find My iPhone:** As with Back to My Mac, the data used by Find My iPhone could easily be moved over to iCloud and associated with an Apple ID rather than a MobileMe login. (Apple started supporting Apple ID-based accounts for Find My iPhone last year when it made the service free to all iOS 4 users for all their devices.)

This is the list we've come up with so far. What other questions do you have about using MobileMe before the release of iCloud? And what other concerns do you have for those MobileMe-hosted data and services that Apple hasn't yet discussed?

Copyright © 2011 [Glenn Fleishman](#). TidBITS is copyright © 2011 TidBITS Publishing Inc. Reuse governed by [Creative Commons License](#).

Of iCloud, Dropbox, and Elastic Computing: A Cloud Primer

by [Rich Mogull](#)

Apple has finally unveiled its long-rumored iCloud service, and these days it seems like you can't swing a mouse without running into "the cloud" — a nebulous term that sometimes seems to represent anything that runs anywhere on the Internet.

In reality, there is an actual definition for cloud computing, and it turns out to be the single most disruptive technology to hit data centers since the mainframe. Combine cloud computing with the equally transformative growth in mobile computing and we find ourselves traveling through a technological thunderstorm that may have an impact as substantial as the Internet itself.

Forming the Cloud -- The term "cloud computing" has been floating around for many years, but started to take a more precise form in 2006 after Amazon opened up its Elastic Compute Cloud (EC2) service,

an extension of Amazon Web Services. EC2 allows customers to “rent” computers in Amazon’s data centers. You aren’t renting an actual dedicated computer, but a virtual machine that boots and runs for however long you need on whatever host machine Amazon has where there’s enough free computing capacity, memory, and storage.

EC2 is an extension of technologies that Amazon developed to optimize the resources in its data center. Running dedicated computers for dedicated functions is horribly inefficient. You have to build systems to handle the largest possible spike in demand, or else your application will fail when the load increases too much. Just ask anyone whose site has crashed under high traffic after being linked to by Daring Fireball.

For some scenarios, such as a large retail Web site that can’t afford to fail during pre-holiday shopping spikes, you might have to plan enormous capacity that’s rarely used, and unevenly distributed, since that capacity needs to be available on each individual system that comprises the entire service. For example, every single database server will need extra capacity to handle spikes, plus you’ll need extra, dedicated, database systems for when things get really bad.

EC2 (and Amazon’s internal platform) addresses this problem by collecting all the hardware into a pool of processors and memory that runs “hypervisors” instead of normal operating systems. Also known as a “virtual machine manager,” a hypervisor is the software that enables virtualization. Operating systems like Windows, Linux, and Mac OS X run on top of the hypervisor, which divvies out processor time or cores, and allots storage and memory to each virtual machine. Virtualization enables you to run a database server and application server on the same platform, in separate, isolated, virtual machines. They may or may not be on the same physical server, but you don’t care whether they are or not. (TidBITS went virtual last year when we had problems with our primary Xserve. Read “TidBITS’s Emergency Brain Transplant,” 24 August 2010.)

As powerful as virtualization is, it’s still inefficient. You can’t escape planning for capacity on each virtual server, as we’ve learned (some recent outages of the TidBITS and Take Control Web sites have been related to needing to tweak Apache and MySQL settings to handle unexpected load). While it is sometimes possible to do nifty things like move a running virtual machine to larger hardware without shutting it down, there’s still a lot of manual management involved. This is where the magic of the cloud comes in. With cloud computing all the resources are pooled together and a “cloud controller” orchestrates provisioning and utilization of the pools on demand.

Here’s how it works. If you need a database server of a particular size, you request one from the cloud controller, telling it things like how much memory and storage you need and what operating system you want. You can even ask it for an “image,” a pre-configured virtual machine with all the applications you need that lets you avoid having to install everything from scratch. The cloud controller chooses a physical server with the capacity to handle your request (it may be running all sorts of other virtual machines as well) and tells it to load and instantiate your requested image from storage. The controller is smart, and places the virtual machines to use the available capacity most efficiently.

Better yet, instead of having a bunch of extra virtual servers running to handle spikes in demand, the cloud controller can rapidly spin up extra virtual machines as needed (automatically, based on pre-set rules), then shut them down when demand drops. If you’re running a bunch of different applications in your data center (the typical large business runs hundreds of applications on thousands of servers), the odds are low everything will be in high demand at the same time, and thus the cloud controller orchestrates everything to use your resources most efficiently.

Thus our data center moves from being a bunch of independently running servers, all with extra capacity and spare servers to handle burst loads, into a pool of shared hardware (the cloud) where servers

spin up and down as needed. This is known as a “compute cloud,” and we also have “storage clouds” designed to combine all the hard drives into storage pools. If Amazon needs more capacity, its technicians only have to add dumb hardware, load up some software to connect that hardware to the company’s cloud, and let the cloud controller figure out how to best use it. That’s key — the whole point is that you don’t have to configure everything specially for each individual application or service.

Now, I’ve simplified things a bit, but this is pretty much how a cloud infrastructure works. Amazon had to build it themselves with custom software, but these days there are both commercial cloud infrastructure platforms (like VMware) and open-source options (like OpenStack and Eucalyptus).

Going Public -- Amazon still faced a problem. Although it was much more efficiently using its resources for its core business, the company still needed enough spare hardware capacity to handle major increases in activity, like the holiday shopping season. All this hardware would sit around waiting to be used, with the hypervisors twiddling their virtual thumbs.

Amazon realized that others might find it useful to rent this spare capacity; perhaps for developing new applications (instead of buying extra internal servers), or even for permanent purposes. So the firm launched Amazon EC2 and enabled anyone with a credit card and some technical knowledge to run their own virtual systems in Amazon’s cloud. Amazon also released Amazon S3, a storage service that works on its own or with EC2, as well as Amazon RDS, a relational database service, and other offerings so abstract that only information technologists can love them.

This raised an interesting problem. Now all sorts of people may run all sorts of applications on the same infrastructure, but they don’t want their neighbors poking at their servers. Amazon thus included features to isolate customers from one another. Although you can connect all your virtual services to each other, they are walled off from everyone else.

The first version of EC2 was pretty limited, but these days it runs lots of different things, including popular Web applications like Evite, large enterprise applications, and even individual blogs. All these customers pay based not on a fixed rate, but based on what they use, much as your power bill is based on how much power you use. This is called “utility computing” since you draw on computing resources like any other public utility. For example, my company runs a VPN server on EC2 so we have encrypted connections when using wireless Internet connections in coffee shops. That virtual VPN server costs us about the same as a cup of coffee — black coffee, not a latte — every month.

Although EC2 was a pioneer, there are now many other cloud computing service firms, such as Rackspace (which hosts TidBITS) and Hosting.com.

Building a Platform -- What I just described is known as “Infrastructure-as-a-Service” (often abbreviated to IaaS), where you consume raw computing infrastructure over the Internet (or build it yourself internally), but there’s a lot more to the cloud. What if you want to run a custom application and don’t want to bother with things like virtual machines?

To address this need, a service model known as “Platform-as-a-Service” (often abbreviated to PaaS) emerged. Platform-as-a-Service is a strange collection that includes things like over-the-Internet databases, building in features from Google (like Maps) into your application by connecting them to Google’s service, and even running complete applications like blogs or custom Java applications.

Let’s focus on the blog example for a moment. Traditionally, you would run your blog on either a shared host, with limits on the resources you can use, or maybe a dedicated host or virtual private server you have to configure yourself. With Platform-as-a-Service, and a supported blog platform, you completely ignore the capacity problem. Most Platform-as-a-Service runs on Infrastructure-as-a-Service, and the Platform-as-a-Service controller simply grabs the resources it needs to meet your demands. You are totally abstracted from things like

processors, memory, and operating systems; you simply run your application on a supported platform which grows and shrinks as needed. Examples of Platform-as-a-Service include Microsoft's Windows Azure (for running .NET-based applications) and Amazon's Elastic Beanstalk (which supports Java applications for Apache Tomcat).

Thus you have an elastic application that uses only the resources you need. Of course, since you're billed based on what you use, you have to be prepared for a serious bill if your site suddenly increases in popularity.

Cloud Software -- What if you want to skip all the low level stuff and just pay to use an application? This is called "Software-as-a-Service" (abbreviated to SaaS) and was around long before Amazon EC2. If you use a webmail service like Gmail, an online calendar such as Yahoo Calendar, or advanced application like Salesforce, those are examples of Software-as-a-Service. You still share resources with other customers, and your pieces are walled off from everyone else, but instead of building anything, you consume a complete application, pay for what you use, and never worry about the raw resources.

But as we'll see in a moment, just because something is Software-as-a-Service doesn't mean it's an example of cloud computing.

Defining the Cloud -- What I've just described — Infrastructure-as-a-Service, Platform-as-a-Service, and Software-as-a-Service — are the service models for cloud computing. They are the different major buckets of services you can consume. I also talked about the two main deployment models: a private cloud that you run internally, and the public cloud, like Amazon Web Services and Rackspace. Other deployment models include a hybrid cloud, where you connect your internal resources to an external cloud for extra capacity, and a community cloud, where related groups like government agencies share a dedicated cloud.

While there are many different definitions for cloud computing out there, one of the most accepted comes from the U.S. National Institute for Standards and Technology. NIST breaks its definition of the cloud

(PDF link) into three main pieces: essential characteristics, service models, and deployment models.

We've covered the service and delivery models of cloud computing, and a few of the essential characteristics (elasticity, measured service, and resource pooling). Two additional characteristics are on-demand self-service (no need for someone to set things up for you manually) and broad network access (otherwise, it's hard to connect to your cloud).

This is where definitions get a little tricky. Technically speaking, not everything we call "cloud" really is "cloud." For example, many Software-as-a-Service providers still run on traditional infrastructure and must manually add resources to handle increased demand. Their services lack elasticity. Another example is blog hosting services — most set a fixed number of blogs on a particular server, capping the resources of each, and all without using virtualization. When they do use virtualization, it is still a static virtual machine not managed by a cloud controller. Contrast this with the resource pooling I described earlier.

Just because an application or service is on the Internet doesn't mean it's using cloud computing.

Other services, like Dropbox, cross these definitional lines. Dropbox has a Web interface that functions like Software-as-a-Service (since it allows you to access your files, and download older versions of them, for instance), but Dropbox also supports APIs that enable programmers to use it as a Platform-as-a-Service. Finally, when you put a file in your Dropbox folder and it's mirrored to the cloud, Dropbox is functioning a bit like Infrastructure-as-a-Service. It's all quite confusing, and as a user, all I care about is that my files magically appear on all my computers.

The Power of the Cloud -- Here is where the real power and magic of cloud computing comes into play. From a bunch of random hardware sitting in a data center to cross-Internet distributed applications, we now have a massive, global, pool of resources we

consume on demand, as needed, and pay for like our power bills.

Combine this with broad network access and mobile computing, and the Internet as we've known it — email, file transfer, browsing the Web — starts to seem a bit passé, as do our personal computers, much as we may love them. All our files become accessible wherever we are, whenever we want. Our to-do lists and calendars magically sync to any device we want. We manage our blogs from our phones, and never worry about our sites crashing if we're Fireballed.

And for those of you who run servers? You can tie together all your spare hardware and software into a shared pool and pull out what you need. Or provision your virtual servers in the cloud, manage them from your iPad, and grow and shrink them with the changing tides of Internet traffic. Automatically. Paying for only the computing, memory, and storage capacity you use.

And our Internet applications can connect to and draw on services from nearly anywhere. Run your database on Microsoft Azure, pull your maps from Google, and have a visitor log in using his or her Facebook ID. The Internet starts looking less like a bunch of isolated sites, and more like one big interconnected series of services that can be combined in all sorts of interesting ways.

It's as if the entire Internet becomes one big resource pool that we can access from any computer or smartphone.

iCloud and the Cloud -- Apple's MobileMe service currently offers an interesting mix of Software-as-a-Service (email, calendar, galleries, contacts) and Platform-as-a-Service (syncing, iDisk). While I don't know if MobileMe's back-end infrastructure really is a cloud platform, it meets most of the characteristics of cloud computing on the surface.

But what about the just-announced iCloud? iCloud appears to be a mixture of Software-as-a-Service, Platform-as-a-Service, and Infrastructure-as-a-Service all rolled up into a whole that will support both Mac OS X and iOS.

The Web interface we now use as MobileMe is clearly Software-as-a-Service, although Apple didn't say if it would continue with iCloud. There will almost certainly be some Web-based access to aspects of iCloud.

The developer APIs to integrate iCloud capabilities into apps mean iCloud also serves as a platform. This flavor of Platform-as-a-Service is closer to something like the Google APIs than Amazon's Elastic Beanstalk, but still well within our definition of a cloud Platform-as-a-Service. iCloud enables outside developers to use Apple's data center as a platform to expand their own applications.

iCloud even treads on the edge of Infrastructure-as-a-Service by providing users with raw storage that's fully integrated into their mobile and desktop operating systems.

While it's possible that Apple built all of this without using cloud technologies in their data centers, from the consumer perspective, iCloud certainly meets most, if not all, of our essential cloud characteristics. It's elastic, uses resource pooling, supports broad network access, and is fully self-serviced. It isn't exactly metered, relying more on service tiers (where you'll be able to buy more storage, for instance), but that's easier for most consumers to deal with anyway (which is why we buy blocks of minutes on our cell phones instead of paying by the call).

iCloud is also an entirely new way of building out our desktop and mobile computing platforms. Thanks to its connections with Mac OS X and iOS, iCloud may turn out to be one of the most significant developments in the history of consumer operating systems and devices. It's integrated into Apple's operating systems, tying together all of our disparate endpoints. No more worrying about moving files between computers. No more hassles manually configuring new systems. No more losing all of your family photos when your hard drive crashes. Your computers and mobile devices stop being the center of your digital life, and become replaceable endpoints to a far larger platform. iCloud won't provide all these features or address all these

problems out of the gate, but it's clearly headed down that path.

All of a sudden my Macs and iOS devices look less like a bunch of independent platforms and more like parts of a larger whole. It's not magic, but as Arthur C. Clarke said, any sufficiently advanced technology — and cloud computing distinctly qualifies — is indistinguishable from magic.

Copyright © 2011 [Rich Mogull](#). This article is copyright © 2011, TidBITS is copyright © 2011 TidBITS Publishing Inc. Reuse governed by [Creative Commons License](#).

Apple User Group Bulletin - June 15, 2011

Recent Highlights from the Apple User Group Resources website:

<http://appleusergroupresources.com>

- Supporting Local Film Production: SF Cutters
- Pyers Presents: Spotlight Special Edition for WWDC 2011
- North Coast MUG: MCE Returns in October
- Maker Faire: O'Reilly Spotlights Creativity
- KansasFest: 22 Years of Fun and Technology
- FCPUG: Second Annual London SuperMeet
- Cambria Macintosh User Group: Extensive List of Mac Links
- WoowooMac: A Good Resource for Groups and Users
- Offers for User Group Leaders and Members including:

- Special Offer – IDAPT Universal Chargers: 20% Discount
- Special Offer – The Innovative Audioglove: 50% Off Clearance Sale
- Special Offer – Hand-e-holder for iPad: 20% Discount
- Special Offer – Dolly Drive: 20% Off the Time Machine in the Cloud
- Special Offer for Leaders – The Fadigear Audioglove: Demonstration Offer

Watch for more exciting offers in the next few weeks. All offers and codes are on one page:

http://appleusergroupresources.com/?page_id=653

The current password for vendor offers is:

ugvendor

Lion Details Revealed with Shipping Date and Price

by *TidBITS Staff*

We already knew quite a bit about what made Mac OS X 10.7 Lion tick from previous, sometimes relatively exhaustive descriptions from Apple (see “[Apple Offers a Glimpse of Mac OS X Lion](#),” 20 October 2010, and “[Apple Reveals More about Mac OS X Lion](#),” 24 February 2011). During its Worldwide Developer Conference keynote, however, Apple provided a bit more information on stage, and posted a list of [250 features it describes as new to Lion](#).

Lion isn't just borrowing from iOS as part of the Mac OS X refresh. It's also providing a skin that can hide the most confusing parts of a desktop operating system from either users who don't want to learn one or those who cannot master it. We all know people in both categories.

Let's take a look at the known and previously undisclosed features in Lion. We'll try to avoid focusing on the same ground we covered in those earlier articles, but this will be a recap on some features.

For Whom and When -- Lion may boast 250 new features, but Apple highlighted a handful in a few important categories relevant to snagging new Mac buyers and improving the overall experience for veteran Mac users. Phil Schiller said that there are 54 million active Mac users worldwide, which gives Apple a huge audience to tap.

(To be fair, some of those 250 “new” features are already available in some form in Snow Leopard. For instance, FaceTime counts for seven features, and the Mac App Store counts for four. And Apple is pushing it a little to count things like the capability

to cancel an incoming AirDrop transfer as a “feature.”)

Mac sales are skewed heavily towards laptops, with 73 percent of Macs sold now in that form factor, Schiller said in his presentation. Those laptop Mac owners will already have gesture-friendly trackpads, while desktop owners can purchase a Magic Trackpad to take full advantage of new features.

Lion will ship in July for the low, low price of \$29.99, the same as Snow Leopard, which was considered more of an update to Leopard than a full-fledged new operating system version. Before Snow Leopard, Apple charged \$129 for new OS releases. You don't pay any more to run Lion on as many computers as you want, so long as they share the same iTunes Store account. This is a huge change, as Apple used to charge extra for a five-machine family pack.

Unlike all previous releases, Apple currently says that Lion will be available only as a download from the Mac App Store. We can't quite believe that's true, and we'll be looking into it more soon. Apple also said that Lion Server [would be available as an add-on through the store](#), costing \$49.99.

Don't Worry, Be Appy -- Multi-touch gestures, full-screen apps, Mission Control, and Launchpad are all aimed at bringing the iOS experience into Lion. Gestures existed in previous Mac OS X releases, but Lion adds momentum-based scrolling, multi-touch tap, and pinching for zoom and expansion.



Full-screen mode requires apps to be rewritten. Scrollbars disappear and the screen becomes

immersive, as with the larger screen of an iPad. Apple has already rewritten many of its apps to take advantage of the full-screen approach, including Safari, Mail, iCal, Preview, Photo Booth, iPhoto, iMovie, and iTunes.

Mission Control is essentially a mashup of Spaces and Exposé, providing an overview of everything going on with your desktop apps and windows. This may be too much for some users who want simplicity, but it might also answer the question of “where did I leave my car keys” when you have a million windows and programs open.



Launchpad, finally, is an application launcher that displays all your apps like the home screen in iOS; you single-click to launch one. Launchpad eliminates having to explain to people why you have to double-click to perform an action. Of course, your (fill in your relative here) will still double-click in Launchpad; we hope Apple has taken that into account.

Get Back -- A second group of features is clearly aimed at both new users, who won't know anything different, and those grizzled veterans who have lost documents far too often. Resume, Auto Save, and Versions combine to let you quit (or crash) and relaunch software without making you reopen your in-progress files, and it does this all while never requiring you to remember to save and back up work in progress. This is much how BBEdit has worked in the background for us for years, and similar features can be found in Adobe InDesign as well.

Resume simply stores an application's state, so that when you return to a program, it is precisely as you

left it; Apple has encouraged iOS developers to support resuming since the release of iOS 4. After you restart your Mac, Lion will also bring you back exactly to the state you left it, unless you chose a “clean start.”

Auto Save and Versions enable you to avoid saving and managing versions of files manually. Auto Save saves continuously as you work, while allowing you to undo changes and, if necessary, revert to the state of the document when it was last opened. Versions stores a new snapshot every hour, and provides a Time Machine-like view of past versions, which you can compare to the current one and from which you can even copy and paste.

Developers will need to support these features explicitly, which means that we’ll start having two types of software — those that require us to save manually, and those that don’t. That could prove confusing.

Drag and Fling -- File sharing is always a pain, no matter how you go about it, especially for users who aren’t used to company networks. The closest solution we’ve seen to ease file transfers for Macs on the same local network is the third-party application [DropCopy](#), which creates a kind of virtual hole on the Desktop into which you can drop a file to send it to another Mac. AirDrop offers a similar feature for Lion users, but is relatively limited.

With AirDrop, you click an icon in a Finder window’s sidebar, and your machine and all others with AirDrop enabled appear. You then drag a file onto another computer’s icon, and a secure transfer is initiated, with the other person having to click to accept the file. Lion can use the sender’s Apple ID, if they’ve associated that with their Mac OS X account (a new option in Lion), to authenticate that person to the recipient.

AirDrop requires Wi-Fi, and not just any Wi-Fi. You’ll need a Mac with a relatively recent Wi-Fi chipset, although we have yet to find out which models qualify. We’ll repeat this, because colleagues have been flabbergasted when told that Ethernet won’t work. Wi-Fi is required for AirDrop.

Apple uses a special peer-to-peer Wi-Fi mode, so that you don’t need to be connected to a Wi-Fi network to make AirDrop work. It’s much more like Bluetooth file transfers, though without any setup required.

Other Features of Note -- Mail also receives a nice upgrade with a new interface allowing two- or three-column views, borrowing a bit from Mail on the iPad. A conversation view like Gmail has sported for years places related messages into threads, while automatically removing quoted content that’s repeated from other messages in the same conversation. Mail has a host of other improvements, too.

Apple didn’t mention FileVault 2 in the keynote, but it’s a significant security enhancement providing full-disk encryption. Without a startup password, your drive looks like it contains random junk data. You can turn on FileVault 2 without reformatting or reinstalling a disk. It also allows a secure wipe, in which the encryption key is destroyed, rendering the data irrecoverable, followed by a laborious overwrite of the actual data on the drive for additional security in the unlikely event the NSA is after you.

While Snow Leopard added Wake on Demand to let certain kinds of remote network requests — like screen sharing — poke a stick into the side of Mac OS X over Ethernet and Wi-Fi (models from 2007 and later) to wake it up, Lion adds a new option. Low-power wake will allow file sharing, backup, and other operations (like iTunes Home Sharing with an Apple TV 2) without activating attached monitors or USB devices. (Please do not poke actual snow leopards or lions with sticks.)

Among other screen sharing improvements is the capability to have something akin to Fast User Switching for remote access. If you want to control the screen of a computer you’re away from, you can now log in using an account other than the active one, allowing a current user of that remote machine to continue on his or her merry way while your session runs under another account in the background.

Time Machine now gains local snapshots, which will let it continue to run and make backups on your Mac when you're away from the drive or network on which you normally use the backup feature. These backups are then available while disconnected from the regular system, and appear in a combined view when you're back on the network or plugged into the drive.

Hear Me Roar -- There's a lot to process here, both new and old. Lion presents a number of new ways of thinking about Mac OS X, and the more we learn about it, the more subtlety we see in how new Mac users will approach the platform afresh.

More interesting will be in seeing how existing Mac users take to Lion's new features — many people may find that they aren't in need of new ways of working, even if those new approaches are better for new users or those accustomed only to iOS. But as always, it will be hard to resist the siren song of certain features, even if not all of them are equally compelling.

This article is copyright © 2011 [TidBITS Staff](#) TidBITS is copyright © 2011 TidBITS Publishing Inc. Reuse governed by [Creative Commons License](#).

Hot Links Of The Month:

Compiled by [Tom Ostertag](#)

Apple, Inc.

[Apple Introduces iCloud](#) | *Apple*

Mac Software

[Apple Previews iOS 5](#) | *Apple*

[Mac OS X Lion Available in July from Mac App Store](#) | *Apple*

[iWork Now Available For iPhone and iPod touch Users](#) | *Apple*



[Facebook app for iPad reportedly coming in weeks](#) | *AppleInsider*

[Quicken Might Work Under Lion Thanks To Embedded Rosetta Libraries](#) | *Cult Of Mac*

[Burn The Mac App Store Version of OS X Lion to a DVD \[Mac OS X Lion\]](#) | *Gizmodo*

Mac Hardware

[Apple May Freeze New Mac Introductions Until Release Of Mac OS X Lion](#) | *AppleInsider*

[Apple Announces New iMac](#) | *Apple*

[iMac \(Mid 2011\)](#) | *Low End Mac*

iPad

[The Week's Best iPad Apps \[Video\]](#) | *Gizmodo*

iPod/iPhone/iTunes

[Home Screen Web Apps Get a Javascript Nitro Boost In iOS 5](#) | *Cult Of Mac*

[The Heart Healthy iPhone \[Video\]](#) | *Gizmodo*

[iOS 5 finally brings Nitro JavaScript speed to home screen Web apps](#) | *Infinite Loop*

[Unlocked iPhone 4 available in the US, but it will cost you](#) | *Infinite Loop*

Miscellaneous

[How to stay synced with iCloud](#) | *MacFixit*

[WoowoMac: A Good Resource for Groups and Users](#) | *Apple User Group Resources*

Members Helping Members

Need Help? Have a question the manual doesn't answer? Members Helping Members is a group of volunteers who have generously agreed to help. They are just a phone call or an email away. Please

call only during the appropriate times, and **only if you are a current mini'app'les member** and own the software in question.

| | |
|--|------|
| Apple II / IIGS Software & Hardware..... | NV |
| AppleWorks / ClarisWorks | 3, 4 |
| Classic Macs | NV |
| Cross-Platform File Transfer | 2, 3 |
| FileMaker Pro | NV |
| iMacs | NV |
| Intel-Based Macs | NV |
| iPhoto..... | 3 |
| iMovie..... | 6 |
| iWork..... | 4 |
| Mac OS Classic | 3 |

| | |
|-------------------------------------|------|
| Mac OS X..... | NV |
| Microsoft Excel | 2, 5 |
| Microsoft Word..... | 2, 5 |
| Networks..... | NV |
| New Users | 1 |
| PhotoShop | NV |
| QuarkXPress..... | 5 |
| Quicken..... | NV |
| QuickBooks and QuickBooks Pro | NV |
| VectorWorks | NV |

| | | | |
|-------------------|--------------|--|-----|
| 1. Les Anderson | 651-735-3953 | anderslc@usfamily.net | DEW |
| 2. Tom Ostertag | 651-488-9979 | tostertag@usfamily.net | DEW |
| 3. Bruce Thompson | 763-546-1088 | bthompson@macconnect.com | EW |
| 4. Pam Lienke | 651-457-6026 | plienke@aol.com | DEW |
| 5. Ron Heck | 651-774-9151 | ronheck@comcast.net | DEW |

D = Days, generally 9 a.m. to 5 p.m.

E = Evenings, generally 5 p.m. to 9 p.m.

W= Weekends, generally 1 p.m. to 9 p.m.

NV = No Volunteer

Please call at reasonable hours and ask if it is a convenient time for helping you. By the way, many of these volunteers can also be contacted on our forums. We appreciate your cooperation.

Mini'app'les needs more volunteers for Members Helping Members — If you are willing to be a Members Helping Members volunteer, please send an email message to Membership Director Les Anderson or contact him on our forums with your name, telephone number, contact hours, and the software and hardware areas you are willing to support.

Mini'app'les Membership Application and Renewal Form

Membership cost is \$15.00 for one year. To pay electronically using PayPal, visit the mini'app'les [website](#).

If you prefer to pay by check, use the form below. Please make your check payable to "mini'app'les".

Name: _____

Company (if mailed to): _____

Address: _____

City, State, Zip: _____

Phone # (home): _____

Phone # (work): _____

Phone # (cell): _____

Membership ID # (if renewal): _____

Email: _____

Your email address will NOT be sold, shared, or distributed. It will be used only for official mini'app'les business such as distribution of the newsletter and membership renewal reminders.

____ Check if this is a change of address notice

____ Check if you want to volunteer

____ Check if you want to be added to "Members Helping Members"

____ Check if you were referred by a club member (if so, please give member's name)

Please mail this application and your payment to:

mini'app'les

P.O. Box 796

Hopkins, MN 55343-0796

Thank you for your support!

Benefits of mini'app'les Membership

- Access to the mini'app'les online forums. Post questions and/or answers about issues, trouble shooting, products, buying and selling, special events, discounts, and news about Apple and the mini'app'les club.
- Access to our Members Helping Members network of professional and advanced users of Apple technologies. These members volunteer their time to help other members with software, hardware, and other Apple related issues.
- A variety of Mac Special Interest Groups (SIGs) that meet each month.
- Multi-SIG meetings and workshops to help members with computer problems. You can bring your equipment to these events and receive support from knowledgeable Mac users to help diagnose your problem(s).
- Participation in drawings for computer hardware, software, and other computer related materials.
- Discounts from vendors and manufacturers. Refer to the on-line forums for current offers.

mini'app'les

the minnesota apple computer users group, inc.

Introduction — This is the newsletter of mini'app'les, the Minnesota Apple Computer Users' Group Inc., a Minnesota non-profit club. The whole newsletter is copyrighted © by mini'app'les. Articles July be reproduced in other non-profit User Groups' publications except where specifically copyrighted by the author (permission to reproduce these articles must be given by the author). Please include the source when reprinting.

The mini'app'les Newsletter is an independent publication not affiliated, sponsored, or sanctioned by Apple, Inc. or any other computer manufacturer. The opinions, statements, positions, and views are those of the author(s) or newsletter staff and are not intended to represent the opinions, statements, positions, or views of Apple, Inc., or any other computer manufacturer. Instead of placing a trademark symbol at every occurrence of a trade-marked name, we state we are using the names only in an editorial manner, to the benefit of the trademark owner, with no intention of infringement of the trademark.

Questions — Members with technical questions should refer to the Members Helping Members section or bring their questions to an appropriate SIG meeting. Please direct other questions to an appropriate board member.

Dealers — Mini'app'les does not endorse specific dealers. The club promotes distribution of information that July help members identify best buys and service. The club itself does not participate in bulk purchases of media, software, hardware, and publications. Members July organize such activities on behalf of other members.

Submissions — We welcome contributions from our members. Perhaps you're using new software that you just can't live without. Maybe you have a new piece of hardware that you find extremely useful and of high quality. On the other hand, you might be struggling with problematic software or hardware. Why not share your experience with other members by writing a product review? Doing so July steer others towards quality products or help them avoid the problems you July be having.

Submissions must be received by the 15th day of each month to be included in the next month's newsletter. Please send contributions directly to our post office box (mini'app'les, PO Box 796, Hopkins MN 55343), or email them to miniapples@mac.com.

The deadline for material for the next newsletter is the fifteenth of the month. An article will be printed when space permits and, if in the opinion of the Newsletter Editor or Publications Director, it constitutes material suitable for publication.

This newsletter was produced using Apple's Pages word processor.

Board of Directors

| | |
|------------------------|--|
| President | Tim Drenk 952-479-0891 timdrenk@miniapples.org |
| Vice President | Jeff Berg 781-350-0598 jeff@purpleshark.com |
| Secretary | Joel Gerdeen 763-607-0906 jgerdeen@mac.com |
| Treasurer | Bob Demeules 763-559-1124 osx.sig@mac.com |
| Membership Director | Les Anderson 651-735-3953 anderslc@usfamily.net |
| Publications Director | Tom Ostertag 651-488-9979 tostertag@usfamily.net |
| SIG Director | Kevin Strysik 651-489-4691 strysik@mac.com |
| Director at Large | Bruce Thompson 763-546-1088 bthompson@macconnect.com |
| Membership Coordinator | Sandy Foderick sfoderick@mac.com |