

printout

Keystone MacCentral Macintosh Users Group ❖ <http://www.keystonemac.com>

Aurora 3D Text & Logo Maker, buying camera cards, and VPN.

Tom Bank will demonstrate Aurora 3D Text & Logo Maker. We have a video on buying camera cards, and Dennis McMahon will demonstrate VPN.

Aurora 3D Text & Logo Maker allows users to compose and arrange strikingly beautiful and impressive 3D Graphics, high quality text and logos.

It provides hundreds of style options, many user-friendly operations such as: reflections, mixing, deformation textures. User can apply various texture effects such as metal, glass, plastic and, while always maintaining impressive 3D effects.

A VPN (Virtual Private Network) is a private network that uses a public network (usually the Internet) to connect remote sites or users together. Normal internet connections are liable to eavesdropping. By using VPN all of your internet communications are encrypted and secured from eavesdropping. Obviously this is "a really good thing" for businesses. It's possible that home users could benefit from setting up a VPN network. ☑

Meet us at

Bethany Village Retirement Center

Education Room

5225 Wilson Lane, Mechanicsburg, PA 17055

Tuesday, March 17, 2015 6:30 p.m.

Attendance is free and open to all interested persons.

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Keystone MacCentral is a not-for-profit group of Macintosh enthusiasts who generally meet the third Tuesday of every month to exchange information, participate in question-and-answer sessions, view product demonstrations, and obtain resource materials that will help them get the most out of their computer systems. Meetings are free and open to the public. The *Keystone MacCentral printout* is the official newsletter of Keystone MacCentral and an independent publication not affiliated or otherwise associated with or sponsored or sanctioned by any for-profit organization, including Apple Inc. Copyright © 2015, Keystone MacCentral, 310 Somerset Drive, Shiresmanstown, PA 17011.

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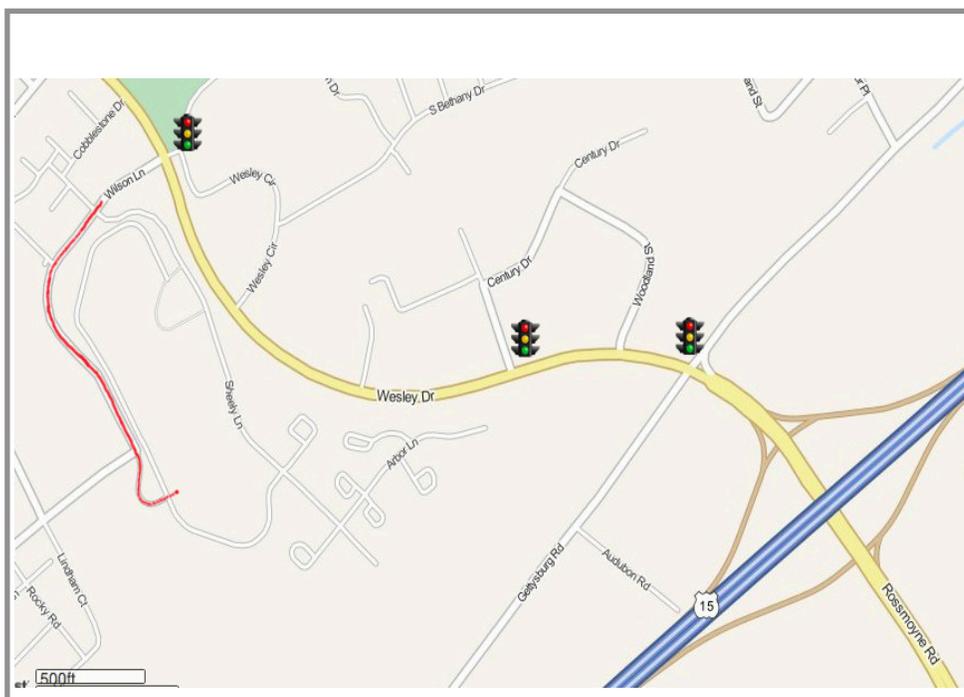
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FCC Goes All-In on Net Neutrality

After a decade of trying to regulate the Internet lightly, the U.S. Federal Communications Commission (FCC) is moving to reclassify Internet service providers (ISPs) as common carriers. What does this mean for companies whose livelihoods depend on the Internet and — more importantly — for American Internet users?

The FCC has announced its [plan to preserve “net neutrality,”](#) and it’s a doozy: the agency plans to reclassify ISPs as common carriers — like phone companies — to ensure that all legal Internet traffic is treated with equal, best-effort priority. At the same time, the FCC is promising to set aside provisions that enable the agency to set rates, impose fees, and require ISPs to share key portions of their networks with competitors.

The latest rules come after a decade of failed attempts by the FCC to regulate the Internet with a light hand for fear of burdening a new, rapidly growing, and increasingly important segment of the American economy. However, the FCC’s previous efforts were challenged in court — and ultimately defeated — by telecommunications providers Comcast and Verizon, who argued that the FCC’s “open Internet” rules exceeded its legal authority. The result has been that no legal framework has ensured net neutrality, leaving ISPs free to block or throttle traffic they don’t like, and pursue controversial business relationships like paid-prioritization deals with Netflix.

No more. This time around, the FCC has brought out its big gun, proposing to reclassify ISPs from lightly regulated “information services” to full-blown “telecommunications services.” The classification change removes ambiguity about the FCC’s legal authority and brings the broadband industry under a broad range of regulatory powers, some of which admittedly date back over 80 years. Moreover, the FCC’s new rules would also apply to mobile Internet — which today handles [over half of all Internet traffic worldwide](#) — as well as interconnection points between networks and “edge providers” like Google, Facebook, and Amazon that provide content and services but don’t sell Internet service.

New Rules — We can’t see the new rules yet: they total 332 pages and will apparently be available to the public only after the commission votes on them on 26 February 2015. (How’s that for government transparency?) However, these are the main points:

- ISPs may not block, degrade, or limit any lawful Internet content or service. Similarly, ISPs may not create “fast lanes” or engage in paid prioritization deals that grant preferential treatment to selected lawful Internet traffic. These restrictions preserve the central key aspects of net neutrality or the “Open Internet.”

- In a new move, open Internet requirements wouldn’t apply to just fixed-line Internet providers like telephone and cable companies, but also to mobile Internet, interconnection points, and so-called edge providers. These segments had been exempt from previous net neutrality rules. ISPs could still charge companies like Netflix, Cogent, and Level 3 for access to their networks, but the deals would only be allowed if the FCC finds them “just and reasonable” under Title II. However, content delivery networks (like Akamai) that try to optimize how data gets to individual users would still have free rein in charging their clients.

- ISPs may engage in “reasonable” network management — which could include blocking apps, capping data, or limiting performance — so long as they disclose the practice and it’s not done for their commercial benefit.

- ISPs will continue to be held to transparency requirements to provide accurate information about their services to consumers. Transparency rules aren’t new — they survived Verizon’s most recent court challenge — but the FCC says they’ll be augmented under the new rules.

- ISPs may offer private-networking services that don’t use the public Internet (like voice service over cable), but they’re subject to transparency requirements and cannot be used to create de facto “fast lanes” or undermine net neutrality.

- ISPs will be subject to Title II provisions enabling the FCC to guard against “unjust and unreasonable” practices, hear consumer complaints, ensure “fair access” to poles and conduits, protect access for people with disabilities, and protect consumer privacy.

- The FCC can ignore (or “forbear”) aspects of Title II it feels aren’t in the public interest. ISPs will not be subject to Title II provisions that would enable the FCC to regulate rates or require broadband providers to contribute to the Universal Service fund. The new rules also won’t apply any new taxes or fees to broadband, and ISPs will not be required to “unbundle” the last mile of connectivity to homes and businesses for competitors to use.

What It Means — “Open Internet” doesn’t mean “free Internet.” The new rules won’t make your Internet service any cheaper, nor will they eliminate bandwidth caps, or get rid of those annoying slowdowns when all your neighbors start binge-watching streaming video.

Instead, it means that ISPs won’t be able to set up sweetheart deals with their preferred business partners to deliver content and services to their customers. Comcast wouldn’t be allowed to (say) favor Bing search services over Google if Microsoft throws extra money at them, nor could it slow

down Netflix to make its own video-on-demand services look better in comparison. Similarly, if a hot new startup comes along — think the next WhatsApp, SnapChat, Etsy, Tumblr, or Pinterest — it doesn't have to worry about ISPs blocking or slowing down its traffic because they don't like it or because its business competes with an ISP's services. As long as apps or services are legal and not damaging, ISPs would have to treat them the same as anyone else.

Savvy Politics — If you've been following the net neutrality debate over the last year, you've realized that the FCC's new proposal is much closer to what President Obama called for (see "[President Obama Weighs In on Net Neutrality](#)," 14 November 2014) than the approach FCC Chairman Tom Wheeler previously proposed (see "[FCC Moves Ahead with Internet 'Fast Lanes'](#)," 16 May 2014). Wheeler had previously worked as a lobbyist for the cable industry, and was widely expected to make a third attempt to regulate broadband without reclassifying ISPs as common carriers — although he consistently left that option on the table (see "[FCC Hopes Third Time Is the Charm for Net Neutrality Rules](#)," 20 February 2014).

Why the change of heart? One factor was the decidedly negative reception Chairman Wheeler's "fast lanes" plan received from all quarters. However, Obama's move seems to have played a role too. Although the FCC is an independent agency and the President cannot mandate FCC policies, Obama's public call for ISPs to be reclassified under Title II seems to have put Chairman Wheeler in a box.

The FCC has five voting members: Chairman Wheeler and four commissioners. Commission membership is non-partisan, but it's widely known two commissioners are Democrats (Clyburn and Rosenworcel) and two are Republicans (Pai and O'Reilly). Here's the catch: only the Democratic commissioners (halfheartedly) voted for Wheeler's "fast lane" approach. By openly declaring support for reclassifying ISPs as common carriers, Obama gave those Democratic commissioners grounds to stand firm on net neutrality. If Wheeler pushed ahead with "fast lanes," he would likely be shot down four-to-one. But if Wheeler went with Title II reclassification, he was virtually guaranteed two votes in his favor.

The Chairman of the House Committee on Oversight and Government Reform has [announced an investigation](#) (PDF link) to determine if President Obama exerted undue influence on the FCC's decision-making process.

Reception — Response to the proposed net neutrality rules has been predictable. Organizations like the [Free Press](#) and the [Electronic Frontier Foundation](#) have voiced support, while industry groups like the Information Technology and Innovation Foundation [have come out](#)

[against it](#). Almost all have noted the devil will be in the details and — since the commission has not published the proposed rules — right now only the FCC itself knows the full details.

ISPs, not surprisingly, are against being reclassified as common carriers, arguing it will dampen investment and unnecessarily restrain them from creating new business models. Verizon CFO Fran Shammo recently [characterized reclassification under Title II](#) (PDF link) as "an extremely risky path" that would cause the company to "completely change the way we view our investments in our networks."

From the point of view of multi-billion-dollar businesses, the FCC's promise of forbearance — that it won't set rate caps, impose new fees, or force ISPs to open up their last mile of connectivity — rings hollow. Just as the FCC doesn't have to go through any formal proceedings to grant forbearance, it doesn't have to go through any proceedings to take it away again. Investors might be understandably wary of betting big on businesses whose regulations can turn on a dime — and who knows what future FCC chairpersons or presidential administrations will bring.

What Happens Now? — The FCC has tentatively scheduled a vote on the new net neutrality rules for 26 February 2015. If the new rules pass, they will be published in the [Federal Register](#), and anyone with a problem has 30 days to file a Petition for Reconsideration. But we're down to brass tacks: this is the end of the FCC's rule-making process and there won't be another months-long public comment period. The FCC could make adjustments on the basis of petitions, but the agency isn't even obligated to respond to them.

Assuming the FCC passes the new rules, the telecom industry will eventually sue: the question is when, and on what grounds. If you'd like an early preview of possible arguments, AT&T may have already [posted some on its public policy blog](#).

Congress could also get involved. Unlike the President, Congress can tell the FCC what to do. Republicans have been circulating a [draft bill](#) that would add a "Title X" to the Communications Act that would authorize the FCC to regulate an open Internet without reclassifying ISPs under Title II. However, it's not likely to go anywhere soon: although Republicans have a majority in Congress, they don't currently have numbers to override a Presidential veto. But who knows what the next administration may bring.

In the meantime, treating ISPs as common carriers looks like it's going to be the law of the land. At least for a little while. ☹

Net Neutrality Controversy Overshadows U.S. Broadband Woes

After a year of nail-biting anticipation over the fate of net neutrality in the United States, the Federal Communications Commission (FCC) surprised and delighted the technorati by revealing plans to reclassify Internet service providers as common carriers (see [“FCC Goes All-In on Net Neutrality,”](#) 7 February 2015).

Well, put the cork back in your champagne, Sparky, because we haven't won anything yet. These new regulations may be great, but they do nothing to bring broadband to those who need it and leave telecoms more than enough power to crush competitors and control your experience.

While guaranteed equal access to all online services is important, that guarantee is almost meaningless when many Americans don't have connections sufficient to access those services in the first place, or are severely limited by data usage caps.

Life in the Slow Lane — I'm a relatively lucky guy in terms of Internet access. Despite living in a tiny, isolated town in rural Tennessee, I have a Comcast Business line with guaranteed speeds of 50 Mbps down and 10 Mbps up, and no data usage caps.

However, I don't have to travel far to find friends who aren't as lucky. Outside of the small Comcast service area around here, the only choice is our local phone company, [North Central Telephone Cooperative](#) (NCTC), whose DSL speeds can be abysmally slow.

A while back, I was at a friend's house well out of town. We were discussing how to replace a broken iPhone screen, and I mentioned that the tool he needed could be found on Amazon. It took several minutes to bring up Amazon's site — and even then it didn't load fully — a shocking reminder of how awful American broadband can be. Being able to access all Web sites at equal speeds is meaningless if they're all equally bad.

My friend told me that he was paying around \$80 a month for that DSL connection and the required phone line, after taxes and fees. It was supposed to offer a 512 Kbps download speed, but he said it was generally about 23 Kbps — slower than my 1998 dial-up connection. Happily, he was recently given the opportunity to upgrade to a much better connection, which I'll get to in a bit.

After that experience, I started wondering how many other Americans were stuck with slow connections. According to Akamai's latest [State of the Internet report](#) from Q3 2014, the average American's download speed is 11.5 Mbps. If you go by the [FCC's more optimistic numbers](#), it's closer

to 18 Mbps. However, averages can be misleading, since the range includes connections as slow as my friend's and as fast as the 1 Gbps service available in some parts of the country. (If you're wondering about the median, the FCC lists a median American download speed of 18.43 Mbps in 2013, but for some reason, the FCC excludes connections of 4 Mbps or less from that calculation.)

I wouldn't have to travel far to find gigabit download speeds. In 2010, the city of Chattanooga here in Tennessee began offering [municipal broadband at 1 Gbps](#). It's touted as the fastest in the Western hemisphere, and it costs only \$69.99 per month (my Comcast Business line is about \$100 per month). Soon, my friends in Nashville will be receiving similar service when [Google Fiber](#) rolls out there.

Chattanooga's fiber network has made it something of a [boom town](#) for tech, attracting an Amazon distribution center, Volkswagen's North American headquarters, Claris Networks, Co.Lab, EDOps, and Lamp Post Group. While many may think of Tennessee as a hillbilly flyover state (when they think of it at all), once you look past the pickup trucks, camouflage, cowboy boots, and shotguns, we have our own little Silicon Valley growing right here in the south.

Good governance has had a profound impact on Tennessee's economy, but don't be fooled — our legislature is rife with embarrassing stupidity. I could write a tome about my state's missteps, but one particularly stands out: the State of Tennessee has placed [tight restrictions](#) on municipal broadband and has prevented Chattanooga from expanding its network to neighboring areas. Tennessee isn't alone in this: it's one of 20 states that has enacted such restrictions, usually lobbied for by major telecom companies, and usually voted for by “business-friendly” interests.

This isn't entirely a partisan situation. The Center for Public Integrity documents how [big telecom has sand-bagged broadband in Tennessee](#) and other states, and profiles Tennessee State Senator Janice Bowling, who has fought AT&T to expand municipal broadband. She said, “I believe in capitalism and the free market. But when they won't come in, then Tennesseans have an obligation to do it themselves.”

To the FCC's credit (with a push from the Obama administration), it's working on [proposals to nullify broadband restrictions in Tennessee and North Carolina](#). But these proposals will surely be met with resistance within the FCC, and from Congress, the states, and the telecom

firms. And the question of whether a federal agency can override a state legislature is up for debate.

But government proposals and even money can't always solve the broadband gap. Let's circle back to my neck of the woods, where the local telco, NCTC, was **awarded \$50 million** by the federal government under the Broadband Infrastructure Investment Program, part of the American Reinvestment & Recovery Act. The purpose of this money was to build a high-speed fiber-optic network throughout NCTC's service area.

This is the service that my friend was just able to sign up for. But it may not be what you think. Here are NCTC's **fiber broadband Internet speeds and prices**. If you're drinking a beverage, I suggest that you swallow and carefully place the cup down on a coaster first:

- 4 Mbps for \$39.95 per month
- 6 Mbps for \$47.95 per month
- 12 Mbps for \$59.95 per month
- 30 Mbps for \$69.95 per month (vs. Chattanooga's 1 Gbps)
- 50 Mbps for \$99.95 per month
- 100 Mbps for \$199.95 per month

Mind you, these prices apply only if you also subscribe to old-fashioned landline service. These speeds and prices are not what most people would think of when they think of fiber Internet — perhaps the fiber in question is hemp instead of glass. In fact, the FCC wouldn't even consider half of these speeds **to be broadband**.

Don't get me wrong, this service represents a huge improvement for the rural citizens of my community. My friend is thrilled with his 12 Mbps connection (for which he pays about \$130 per month, after the required landline, taxes, and fees). It gives people like him access to services most of us take for granted, but it's a far cry from what's happening in Chattanooga, where subscribers get 1 Gbps for what 30 Mbps costs from NCTC.

Indeed, broadband penetration in the United States is paltry, according to Akamai. The good news is that 73 percent of Americans have a connection with a download speed of more than 4 Mbps. But the number of Americans with speeds over 10 Mbps drops significantly to 39 percent. Also notable is the percentage of Americans with download speeds of 15 Mbps or higher, the throughput considered sufficient for 4K video: that figure is only 19 percent. While 4K video seems luxurious in 2015, that level of bandwidth will undoubtedly be necessary for next-generation online services — imagine having a connection that couldn't properly stream 1080p video today. Worldwide, the United States **doesn't even break into the top 20 countries** in terms of broadband penetration.

Maybe the questionable Internet access of rural America doesn't concern you. Perhaps you're one of the lucky few

to have access to Google Fiber or Verizon FiOS. Or maybe you're like me and live in a town or city with sufficient broadband access for the services you need.

But this issue affects us all. As the gap between the rich and poor widens, so does the broadband gap. Imagine how your life would be different if you didn't have fast access to Google, Wikipedia, Amazon, and Netflix, among many others. Or even worse, imagine how much of a disadvantage your children would be at without these resources.

If you live in a city, as more and more Americans do, you may not think of your fellow citizens in the country, but many of those people are the ones that grow your food, raise your meat, bottle your water, assemble your cars, and build much of what you use every day. As automation takes more and more American jobs, the Internet will be even more vital in providing opportunities to these people. Can we afford to leave them behind?

I'm a living example of this. Without fast, reliable Internet, I'd probably be flipping burgers or filing papers somewhere. Not that there's anything wrong with these jobs, but how long before they're automated out of existence as well? Broadband was my key to economic opportunity.

But even if broadband access isn't a pressing issue for you, there's another threat on the horizon that you won't be able to ignore: data usage caps.

A Tip of the Cap — Even under the strict yoke of Title II, the FCC has offered a loophole to help Comcast and its ilk make online video services like Netflix unpalatable: data usage caps.

If your home broadband connection doesn't already have a data cap, you may roll your eyes and think that I'm Chicken Little. But trust me, **data caps are coming** sooner than you think. And if the FCC's net neutrality proposal passes, expect them even sooner.

Until recently, I used a residential Internet connection from Comcast that had a data cap. In this part of the country, Comcast has been testing data caps of 300 GB per month, charging an additional \$10 for each additional 50 GB used.

On the surface, this seems entirely fair. After all, you pay for how much water, gas, and electricity you use. But I'm willing to bet that you have more Internet-connected devices in your house than water taps, and unless you have a leak, those taps don't just start spraying water by themselves. Likewise, most electric devices have been refined to use as little power as possible, or can at least be turned off with a switch.

Until you have a data cap, you have no idea how much data you truly use. My family probably relies on the Internet for roughly the same things you do: Web browsing, email, iTunes, Netflix, app downloads, operating system updates, and the like. We do not run Internet-facing servers, nor do we use BitTorrent.

Thanks to the data usage cap, our monthly bills from Comcast crept up over time. In February 2014, we used over 350 GB and were charged \$20 in data overages. By June, we'd exceeded 400 GB and our overages cost \$30. By November, it was \$40, meaning more than 450 GB of data. In December 2014, we were charged a whopping \$120 in overage fees, thanks to data usage somewhere over 850 GB — and no, I have no idea how we consumed that much data. Our last bill was a total of \$222.30 for Internet, a basic SD television package, and HBO.

That bill didn't crush us financially, but it could have hurt many less-fortunate families. Even still, our budget depends on somewhat predictable living expenses. An unexpected \$120 charge wasn't a good thing.

Part of the problem is that it can be difficult to track how much data your household uses every month. Some routers track this for you, but my AirPort Express doesn't. Comcast and some other ISPs offer data usage trackers, but who knows how many customers are aware of these or if they would identify a culprit in excessive data use. There are a number of Mac utilities that will track data usage, but they help only with a single machine, not the entire home.

But even if you can monitor your usage, that goes only so far. In my case, what could I have done? Turn off iCloud? Cancel Netflix and avoid YouTube? Stop backing up my Mac to the cloud? Those are some of the reasons I have broadband in the first place!

As a result of our huge bill, I switched to Comcast Business, which offers a predictable, flat monthly rate. On the downside, although Comcast Business uses the same lines as residential Comcast, it's a separate business unit. So if you sign up with Comcast Business, you have to cancel your residential Comcast Internet, which nullifies any bundle discounts you may have for cable TV or Internet phone. That gives you an opportunity to investigate Dish Network and DirecTV for your TV needs, and also gives you leverage with Comcast for negotiating lower prices for the previously bundled services. I ended up sticking with Comcast for TV and ended up paying less than I was before with a bundle. If you have no need for live TV, you can save even more (or investigate the new [Sling TV](#) service — see "[FunBITS: Sling TV Is Made for Cord Cutters](#)," 20 February 2015).

But will Comcast Business always run without caps? Will every customer have such easy access to it? No one knows.

Even if you don't tend to exceed your data cap, there's always a bit of stress whenever you watch Netflix or download a new version of OS X. It's hard to put a dollar amount on that, but it's a palpable tension that I'm glad is gone.

While I concede that data caps make sense for wireless Internet, where pesky physics limits the amount of available spectrum (I've noticed mobile service improving since caps were implemented), data caps make little sense on wired connections. The amount of data you consume is

determined by your download and upload throughputs. If telecoms are straining under the load, why do they keep offering faster packages? The whole thing stinks.

And even if data caps were a necessary evil, they should scale to your tier of service. For my 50 Mbps connection, a cap of between 500 GB and 1 TB would have been reasonable while still allowing me to actually use the connection speed I paid for. As it stands now, data caps are like airline baggage fees: most people will end up paying more for no improvement in service.

I worry that these data caps will become more widespread and more strict should the proposed net neutrality regulations stick. Without revenue streams from paid prioritization deals, bandwidth caps will become a safe way for ISPs to "innovate" (read "make more money"). And since most telecom companies also offer TV services, data usage caps may be the last way to squeeze out high-bandwidth competitors.

Being able to access everything on the Internet equally will be great, as long as data caps don't restrict us to accessing far less than before.

What to Do — As I've hopefully shown, while the FCC's net neutrality proposals might be good for the Internet, they are far from the end of its challenges.

Ultimately, net neutrality is trying to foster competition in the online service space, but equally important is competition in the online access industry. While regulation can be helpful, [regulatory capture](#), where regulatory bodies are taken over by the interests they're intended to regulate, is a real risk.

Regulatory capture may explain government regulations that have helped lead to this noncompetitive market. Many cities, by law, [make it almost impossible](#) for non-established players to break into the market.

Similar government regulations have often thwarted cities from providing their own broadband options, like the one in Chattanooga. 20 states have laws that [prevent municipal Internet](#), and the Obama administration is fighting to get those laws overturned.

I believe there is only one surefire way to make things better: vigorous, brutal, all-out competition. Less than 40 percent of Americans [even have a choice in broadband providers](#). To see what can happen when competition is fierce, read Kirk McElhearn's "[Free Disrupts Telecom Market in France](#)," (30 April 2012).

Municipal Internet is one of the keys to encouraging competition, especially in areas that aren't economically attractive to big telecom firms. Despite all the bluster, Comcast still offers Internet service in Chattanooga, just as UPS and FedEx compete with the United States Postal Service. Heck, companies have even figured out how to compete with municipal water: by bottling it. Competition is a beautiful thing, even if it comes from the government.

And frankly, if you can't compete with government, you have no business being in business.

Finally, there is one aspect of the FCC's Title II proposal that I'm particularly critical of: it doesn't require ISPs to unbundle services, which would make things even more competitive. That would require incumbents like AT&T to let competitors use their infrastructure (for a fee, of course).

On the surface, this seems unfair. But bear in mind that many of these companies were able to build up their infrastructure with no fear of competition thanks to an unfair, government-backed advantage. I think unbundling helps to undo the damage caused by government interference.

But even more to the point: there's a good chance that you own these lines.

What? Yes, it's true. Back in the roaring 1990s, under a program called the [National Infrastructure Initiative](#), \$200 billion of taxpayer money was distributed to telecoms (mostly companies that eventually merged into Verizon and AT&T) to build a nationwide high-speed network, capable of 45 Mbps in both directions.

Needless to say, this did not happen. We were collectively ripped off, with nothing to show for it two decades later except slow DSL service. To the companies that received those taxpayer dollars, I say: give it back or prepare to be boarded.

There's only one way we can gain real competition in the broadband market, and that's to be a bigger voice than the lobbyists. Let your state representatives, your national legislators, and the FCC know that you want true competition in the telecom market. After all, you paid for it. 🗑️

by Jason Snell

Initial Impressions of Photos for OS X Beta

On 5 February 2015, Apple released a [beta version of its new Photos for OS X app](#) to developers and select members of the press. Announced last year as a [replacement](#) for both of Apple's other existing photography apps, iPhoto and Aperture, Photos had originally been promised for early 2015 (see "[Apple Unveils iOS 8 and OS X Yosemite at WWDC](#)," 2 June 2014). With this release, we now know that it's coming this spring as a part of the OS X 10.10.3 update.

The prospect of moving photography apps is daunting, but even die-hard users of iPhoto and Aperture would probably admit that the old versions had become increasingly slow and wonky. Rather than rip them apart, Apple decided to start fresh, which may sound familiar to users of many other Apple apps, including Final Cut Pro and both the iLife and iWork suites.

A Bridge to a New Land — When you launch Photos for the first time, the app will automatically upgrade your iPhoto library. (If it notices you have more than one library, it'll prompt you to choose which you'd like to upgrade.) After the import process, not only will all your photos and videos be present, but albums, folders, books, cards, calendars, and slideshows will also make the transition.

Imported iPhoto and Aperture libraries remain intact and usable, but it's a one-way import — the older app's libraries don't sync with the Photos app, so if you add a photo in one place it won't show up in the other. The Photos import process is friendly when it comes to disk space — it doesn't duplicate the photos it imports from iPhoto and Aperture, so you don't lose precious storage space.

Some aspects of iPhoto and Aperture won't make the move to the new app. Photos replaces star ratings with favorites (indicated by a heart icon). Star ratings and flags from iPhoto and Aperture (as well as color labels from Aperture) will be mapped into keywords and assigned to each photo, so you can still search for images containing that information.

Photos feels more like the Mac version of the iOS Photos app than either iPhoto or Aperture, at least when browsing your photo library. Zooming out (which you can also do with a pinch on the trackpad) presents you first with a series of short events defined by location. Zoom further out and you'll see larger spans of time and a list of locations. One more zoom and you're left with a giant wash of photos separated by year.

Underneath the Albums tab (or, alternatively, in the sidebar if you choose Show Sidebar from the View menu) you'll find your media organized in a few different ways. All the various media types supported by iOS cameras — panoramas, videos, and slo-mo videos — are segmented into their own smart albums. There's also an automatically generated Favorites album, an album containing your most recent set of imported media, and the familiar Faces tab that's been more or less brought straight over from iPhoto. Gone is the capability to show all photos by location on a map, but you can click any event in the Photos list to see a map containing the locations of all the photos from that particular event.

Photos in the Cloud — The banner feature of Photos is its integration with Apple's iCloud Photo Library service. You can (optionally) set Photos to automatically upload

your photos to Apple's iCloud servers, where they're backed up and accessible from iOS devices. (iOS device access will be included in iOS 8.2, an update that will presumably be delivered around the same time that Photos is released.)

When you sync Photos with iCloud, you have two options regarding photo storage: Download Originals to This Mac ensures that a full-quality original version of every file you have in iCloud will also be stored on your Mac; Optimize Mac Storage keeps full-resolution photos and videos in iCloud, though they might also be stored on your Mac "if you have enough space."

It remains to be seen exactly how Photos determines whether you have enough space, and whether it's just caching photos or if it truly makes a judgment about how much free space you have before deciding to hold onto your files. As someone with approximately 700 GB of family photos and a bunch of Macs with small flash-storage drives, I'm excited by the possibility that I can have access to my entire photo library on all of my Macs and iOS devices, even though they don't have enough space to hold the entire library.

Photos also integrates with all the photo-sharing features available on iOS. If you check the iCloud Photo Sharing box in the Photos app's iCloud preferences tab, you'll see the same shared albums that you see on your iPhone or iPad. And you can use the Share command to share media items with Flickr, Facebook, and Twitter.

Editing Options — Photos has a nice suite of photo-editing features. For people who don't want to spend time tweaking photos, there's a one-button enhance, an auto-crop feature that even straightens tilted images, and a set of Instagram-style filters that apply a whole slew of effects at once.

Those who want more control over their images will prefer the Adjustments section, which includes options for lightness, color, levels, white balance, sharpening and definition, noise reduction, vignetting, and black-and-white effects. Finally, there's a Retouch tool that lets you make very basic edits by clicking around and hoping that it does the right thing.

If you want to edit your photo in an external tool such as Photoshop, there appears to be no way to do that, at least in this beta, beyond dragging an image out, editing it, and then dragging it back in. Here's hoping Apple allows an external-editor feature or support for image-editing extensions of some sort in the future.

The Need for Speed — With every successive version of iPhoto Apple claimed that it was faster than ever before. Unfortunately, we all kept taking new photos, and our iPhoto libraries kept swelling, and iPhoto never seemed to keep up.

Never say never, but in my tests with a 5,450-image library, Photos seemed downright fast. Scrolling never lagged.

Zooming in and out was speedy. Here's hoping that continues to apply to libraries with tens of thousands of photos.

It's still a beta version meant only for developers — and it shows. I had problems importing one of my large iPhoto libraries, and the app crashed when I tried to import a few thousand photos from a folder. A few times, I opened the app to find the main Photos view completely empty, though all of my photos showed up when I clicked on All Photos. If you have access to the beta, I strongly recommend that you not entrust your primary photo library to it.

Fortunately, Apple has more than four months until its self-imposed deadline to iron out most of the wrinkles. But right now, Photos looks like a promising attempt to stitch together photo libraries across Apple's devices and on the cloud.

You may have noticed this is my first article for TidBITS since 1995, and it's also a good excuse to mention that I'm also diving into my first Take Control book, a Crash Course about Photos. So if you see any particularly cool features or have any significant concerns you'd like me to examine while writing it, let me know in the comments.

[Update: Over at Six Colors, I've written more about [Photos and hard links](#) and [answered a bunch of questions](#) from a variety of sources. -Jason]

[Jason Snell was lead editor at Macworld for more than a decade and has written about Apple and other tech companies for two decades. Now he writes at Six Colors. He's also the guy who runs The Incomparable podcast network, which is all about geeky pop culture, and hosts the Upgrade and Clockwise tech podcasts.] 🍌



How Likely Is an Apple Pen?

Steve Jobs once said, in reference to the iPad, “If you see a stylus, they blew it.” Some have cited that quote to dismiss [rumors that Apple is working on a stylus for the iPad](#).

Many of those commentators also missed the fact that Jobs also said, “In multitasking, if you see a task manager... they blew it,” even as he was announcing iOS 4 with a task manager. And then there are the other things that Jobs railed against — perhaps as misdirection — before Apple released just such a technology, including video on iPods, ebooks, and iTunes for Windows. But if you’re a TidBITS regular, you know that I’m just beating a dead horse in front of the choir.

While we at TidBITS don’t pay much attention to rumors, this one stands out for three reasons: Apple has the necessary technology, there is a business advantage in offering a stylus, and there are compelling benefits to Apple customers.

Let’s look at each of these. For the moment, I’ll assume that it will be called “Apple Pen,” which seems to fit Apple’s current naming conventions.

Where There’s Ink, There’s a Pen — Unlike many Apple rumors, there is a lot of evidence to suggest that Apple is investigating styluses.

Apple filed 11 stylus patent applications in 2014 alone: [10 through early December](#) and [one more](#) just before the end of the year.

Apple filing a patent isn’t necessarily evidence that the technology will ever see the light of day. Business Insider documents some of [Apple’s wilder patents](#), including virtual Mac keyboards, a 3D iPhone interface, a smart bicycle, touch-sensitive bezels, and even “shake to print.”

Also, bear in mind that every major tech company either files or buys patents for as many technologies as it possibly can. This is mostly for legal reasons, both to make it more difficult for competitors to develop new products and to defend against patent litigation. Patent trolls — companies that hold and defend patents but make nothing (but trouble) — have sparked a [patent arms race](#).

But it’s interesting that Apple has such a [voluminous collection of stylus patents](#), dating back well before 2014. The company has long been interested in the technology, though no one outside Apple knows if it will ever leave the lab again.

Again? Yes, in case you’ve forgotten, Apple has been in the stylus game longer than almost any other tech company,

with a little device called the Newton that debuted in 1993 (for the history of that influential failure, see Michael Cohen’s [“Newton: The Greatest Flop of All Time,”](#) 9 August 2013).

While the early Newton’s handwriting recognition was the butt of many [jokes](#) (“Eat up Martha,” “egg freckles”), it improved rapidly, though not quickly enough to salvage its reputation.

But that refined technology made its way into Mac OS X 10.2 Jaguar, in the form of Inkwell, later rebranded as Ink. It still exists to this day in 10.10 Yosemite, although the preference pane is hidden unless a supported device is connected. [Rumors of its death](#) have been greatly exaggerated.

The bottom line is that if Apple wanted to release some sort of digital stylus, it has all the tools and resources to do so.

Finally, we have the source of the [latest rumor](#): Ming-Chi Kuo of KGI Securities. Kuo has a [sterling reputation](#) for his Apple predictions, thanks to his sources within Asian suppliers. His [previous predictions](#) included larger iPhones, the gold iPhone 5s, and the iPhone 5c replacing the iPhone 5.

Despite some accurate insights, Kuo is only about as accurate as a coin flip, according to an [analysis of his 2013 predictions by TUAW](#). His most recent miss was claiming that the Apple Watch [would arrive in March 2015](#) (he was a month too soon, see [“Big iPhones Mean a Big Q1 2015 for Apple; Apple Watch Date Revealed,”](#) 27 January 2015).

It’s also important to note that Kuo’s best reports include citations of his Asian supplier sources, something that wasn’t included with his stylus prediction.

Going beyond Kuo’s somewhat overstated record, I think the best evidence of an Apple Pen is the solid business case for it.

The Business Case — When the Apple Watch debuts in April 2015, Apple will be offering devices with screen sizes from 1.5 inches up to 27 inches. If you count the Apple TV, you can have an Apple device with any size screen you can buy.

Where does Apple go from here? Outside of an iDoor or an Apple Car, the only apparent way to expand is horizontally, into accessories. The Apple Watch is a clue, as it will initially be an iPhone accessory. Another clue is in Apple’s purchase of headphone designer Beats Electronics ([“Apple Buys Beats for \\$3 Billion,”](#) 28 May 2014).

Apple aficionados have a certain affection for writing implements. Myke Hurley, a popular Apple podcaster, even has a show dedicated to them: [The Pen Addict](#). Many prominent figures in the Apple community are in love with the [Field Notes](#) brand of pocket notebooks, including Daring Fireball's [John Gruber](#) and The Loop's [Jim Dalrymple](#).

A well-designed pen is as much a work of industrial art as any existing Apple product, and a pen can be just as much of a fashion statement as a watch. Of course, for someone to want to carry a stylus all the time, it would help to do double duty as a normal pen that could write on paper.

See where I'm going with this? I bet Jony Ive would jump at the chance to design a pen again — he has already [designed two](#). And I bet Apple retail chief Angela Ahrendts would love to sell an Apple Pen. By all reports, she's gearing the Apple Store up to be a chain that sells small, high-end products like watches — a perfect niche for a high-end writing implement.

Just imagine the upsell opportunities! Like a watch, a pen can be developed from a variety of materials. Apple could offer the Apple Pen in aluminum, stainless steel, or gold, just like the Apple Watch. Since Apple went out of its way to develop a new gold alloy, you had better believe it will find new uses for it.

Plus, styluses are already a proven product category. Apple even sells a few already, including the [FiftyThree Pencil](#) and the [Livescribe 3 Smartpen Pro Edition](#). The Pencil has been so well-received that FiftyThree is [betting the company on it](#).

These products share a key disadvantage: they each work in only a single app. Less-sophisticated, more universal styluses often have squishy tips designed to work with capacitive touchscreens. These squishy tips can be frustrating to use, like trying to draw with an eraser. Some styluses have firm tips, like the [Studio Neat Cosmonaut](#), and are reportedly easier to use, but still suffer from other issues.

Here we have a perfect formula for an Apple product: a proven market category filled with flawed products. Apple is known as an innovator, but the company is better described as a renovator. Apple didn't invent the personal computer, MP3 player, smartphone, tablet, or smartwatch, it made them better. It's sort of like [the old BASF ad](#): "Here at Apple, we don't invent the gizmos you buy. We make the gizmos you buy better."

Apple has even more impetus to introduce an Apple Pen: slowing iPad sales. Rumors of an Apple Pen have often been presented alongside rumors of a larger iPad Pro. While a full analysis of an iPad Pro would require another article, it makes sense. Check out the [latest iPad ad](#).

What do we see? Musicians, woodworkers, mechanics, designers, photographers, and other professionals. Apple has been aiming the iPad at the professional market for a few years now. Plus, Tim Cook keeps talking about the

iPad's penetration into Fortune 500 companies in Apple's quarterly earnings calls.

I'm certain that an iPad Pro would sell. I still hear from people who have fallen for my Mavericks/iPad mashup joke for April Fools Day last year (see "[Install and Run OS X 10.9 Mavericks on the iPad Air](#)," 1 April 2014). It even fooled a couple of pundits. That just shows how hungry people are for a more functional iPad.

A larger screen "canvas" makes more sense in light of a stylus — giving artists, designers, and writers more room to work. While I doubt that Apple is quaking in fear of the Microsoft Surface tablet, it has proven popular with a market Apple covets: artists. When Mike "Gabe" Krahulik of Penny Arcade [extolled the virtues of the Surface Pro's pressure-sensitive stylus for artists](#), that had to have stung some higher-ups at Apple.

The Apple Pen would likely be a niche device, so expect to pay a premium. I wouldn't be surprised to see it cost at least \$100. Luxurious gold models could retail for more (I could see these taking off with executives who favor the iPad).

For professionals looking for accurate input on their iPads, the premium would be worth it, as Apple could offer benefits no other vendor can.

What We Could Expect from an Apple Pen — Beyond possibly being among the best ink-on-paper writing implements anyone has ever used, the main advantage Apple could offer with the Apple Pen would be functionality throughout iOS, with any app. It could offer the precision and pressure-sensitivity of FiftyThree's Pencil without being tied to a single app.

Naturally, the Apple Pen would connect via Bluetooth 4.0, but how would you charge it? Perhaps via a Lightning connector, or it could use a version of the Apple Watch's inductive charging, sharing a similar adapter. Apple might even include a handsome desk charger, reminiscent of traditional pen holders.

I'd like to see an Apple Pen come with a removable, replaceable tip, which would create an accessory market around the pen. Apple and its partners could offer tips for fine work, broad strokes, and even brushes. Calligraphy tips would be a must, given that Steve Jobs studied calligraphy [like a monk, with a monk](#).

Speaking of calligraphy, I think it's a given that the Apple Pen would offer handwriting recognition in iOS. But to be truly unique, it needs more than that; it wouldn't be an Apple product without an innovation that sets it apart.

The most obvious way Apple could innovate here is to include a form of the Apple Watch's Taptic Engine to provide haptic feedback. The Taptic Engine could hypothetically emulate the feel of pen on paper or a brush smearing through paint on a canvas. If Apple could pull that off, the Apple Pen would be irresistible to artists.

Another possibility I pondered was Apple including a Bluetooth microphone in the Apple Pen to act as a remote control for Siri. But I think this would risk taking some of the air out of the Apple Watch. While Apple isn't afraid to cannibalize its products, I doubt it wants to do so to a brand-new one.

How would you carry the Apple Pen? The traditional solution is a slot in the device to hold a stylus. I can't see Jony Ive doing this; for one thing, it would bulk up the incredibly thin iPad. A magnetic attachment of some sort, like Apple's Smart Cover, seems more likely. I can imagine a pen machined to provide a perfect fit with the iPad's edges. But if it's going to get the attention Apple would want, you'd need to put it in your pocket like you do any other pen.

What could Apple do to entice regular, non-professional users to pick up an Apple Pen and/or an iPad Pro? Amateur Apple analyst and infrequent podcaster [Zac Cichy](#) offered a couple of ideas.

The first is easier input for Asian languages, which would surely be a big hit in the coveted Chinese market. Especially since much of written Chinese (and a good portion of Japanese) consists of thousands of logograms, with each representing a single word or concept. If an Apple Pen could ease the input of these characters, that could be a major accessibility win for billions of people.

The second one is staring us all right in the face: communicating via sketches. Sketch is one of Apple's [much-touted features of Apple Watch](#), and will enable you to communicate with friends and loved ones via simple, animated drawings. I think it's a safe bet that this feature will spread to Apple's other platforms, and what better way to do so than with a pen?

Fashionable, artistic, practical, and profitable. That's Apple in a nutshell. That's why I think we'll see an Apple Pen one day. 🍷

by Michael E. Cohen

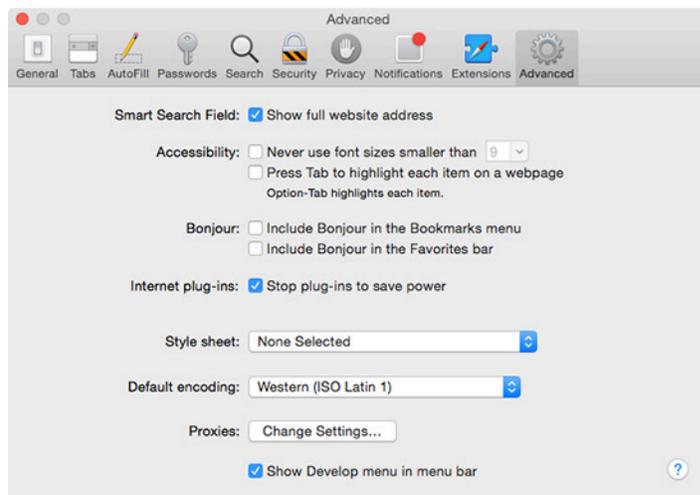
Four Little-Known Safari Tricks

Many of my Mac-using colleagues use Web browsers other than Apple's Safari, and I would be the last person to tell them they are wrong to do so. But I like to use OS X's default browser, not only because it familiarizes me with the Web-browsing experiences of many millions of other Mac users, but also because it encourages me to explore the software to see all that it has to offer. And Safari has a lot to offer once you know where to look. Here are some less-than-obvious tricks and techniques I've picked up in my explorations that can help solve problems and answer common questions.

What's the Address? — When Safari 8.0 debuted alongside OS X 10.10 Yosemite, many reviewers were disappointed, if not aghast, that its integrated "smart" address and search field displayed only the top-level domain name for the current page instead of the full URL. For example, if you go to any page on our Web site, the address field shows only tidbits.com. That's not a huge deal, because a single click in the address field reveals and selects the complete URL, making it easy to copy for later pasting. And for many users, showing only the truncated name is a good thing, since hiding the long and often obscure strings that follow the top-level site address makes it easier to see if you are at the site you intended. But it is disappointing if you're old school and like to see exactly where you are on the Web.



For such advanced users, the solution is simple: take a quick trip to Safari > Preferences > Advanced and select the very first checkbox — Show Full Website Address — to relieve the pain.

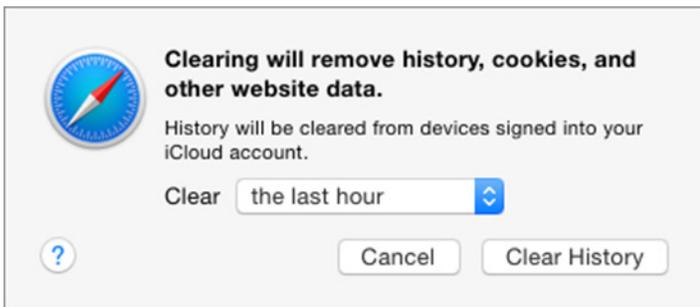


(Quick tip: As long as you're turning on full addresses, click the checkbox at the bottom of the preference pane to show the Develop menu in the menu bar. This menu, full of commands to delight the hearts of Web developers, comes in handy even if you aren't a Web developer, as you'll see shortly.)

Total (Un)Recall — Safari 8 brought us the Private Window feature (File > New Private Window), which, when you browse in one, enables you to go to various sites without having Safari store the history of those visits. This keeps anyone else using your Mac from easily seeing where you have been. Private windows can come in handy if, say, you are shopping for an anniversary present for your spouse. It's a fine feature, but it requires you to think ahead; it won't do you any good if, while using Safari's normal non-private windows you happen upon, and then

impulsively buy, a great gift for your spouse. Also, when private browsing is active, the sites you visit won't recognize you, meaning that you have to manually log in to make purchases. When shopping, private browsing may be private, but it's also inconvenient.

Here's what will do you some good in those cases: after you finish shopping (or whatever else you were doing) choose Safari > Clear History and Website Data. This produces a dialog that lets you clean up your history after the fact, with a useful pop-up menu that lets you decide just how much history you want Safari to forget. The default is to clear the last hour's worth of browsing, but you can clear the history for the entire day, this day and the previous day, or all history! (Of course that risks running afoul of an updated version of Santayana's dictum, that those who clear all history are condemned to repeat it.)



Bypass Flash — Adobe's Flash, as has been well documented over the years, can present security and performance problems, so much so that many users prefer to run their Macs without installing Flash at all. In fact, Flash isn't even available for Apple's iOS devices. On your Mac, it's often not available even when it is installed, if the version of Flash that you have happens to be a version that has known security issues: Apple, looking out for your best interests, blocks you from using it. Instead, you see a "Flash out-of-date" warning.

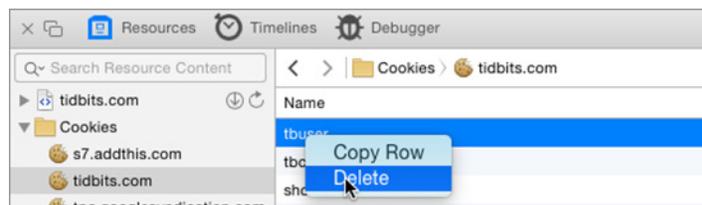


However, you can often bypass Flash completely and still have a satisfactory browsing experience, at least when it comes to streaming video in Flash format. That's because many Web sites provide non-Flash versions of their pages for users of mobile devices like iPhones and iPads. If you have activated the Develop menu (as I recommended above), and encounter a Flashy page, you can choose one of the iOS items on the Develop > User Agent sub-menu (for example, Safari iOS 8.1 — iPad). This command reloads the page, telling the site that you are on iOS. In many cases, you'll see the streaming content in HTML5 format instead. This doesn't always work: I've found that many local TV stations tend to serve Flash video only on their sites, because doing so enables them to tack ads onto the beginning of their videos. If this trick fails, try the site in

Google Chrome, which encapsulates an always-updated version of Flash.

Check Your Cookies — Finally, if you are concerned about cookies — those bits of information that nearly all Web sites store in your browser whenever you make a visit, and that may contain heaven-knows-what information about you and your visit — the Develop menu has another tasty treat for you: Develop > Show Web Inspector (Command-Option-I).

This command opens a pane at the bottom of the Safari window that shows you all sorts of geeky details about the page you are viewing. To see the ingredients of the cookies, click Resources at the top of the pane, then open up the Cookies item. In nearly all cases, the information stored in cookies is benign, and is simply recorded to make your next visit a little more convenient — for example, TidBITS uses cookies to help your browser remember that you are a logged-in TidBITS member so you don't have to log in every time you visit.



However, if you don't like what's in a cookie, you can easily toss it. Click the cookie in question, Control-click the data you want to expunge, and choose Delete from the contextual menu. Cookie crumbled!

Yes, Safari may not be a perfect Web browser, and other browsers, such as Chrome or Firefox, certainly have much to recommend them. However, beneath Safari's seemingly simple surface is a lot of advanced functionality that may surprise you. If you have abandoned it for something else, it might be worth a second look. 🗑️



February Software Review

Canon Printer Drivers 3.2

Feb 19, 2015 - 256.5 MB

System Requirements

- OS X Lion or later

This update installs the latest software for your Canon inkjet printer and scanner.

Epson Printer Drivers 3.0

Feb 19, 2015 - 1.19 GB

System Requirements

- OS X Yosemite 10.10 and later
- OS X Mavericks 10.9 and later
- OS X Mountain Lion 10.8 and later
- OS X Lion 10.7 and later

This update installs the latest software for your EPSON printer or scanner for OS X Yosemite, OS X Mavericks, OS X Mountain Lion, and OS X Lion. 🗑️



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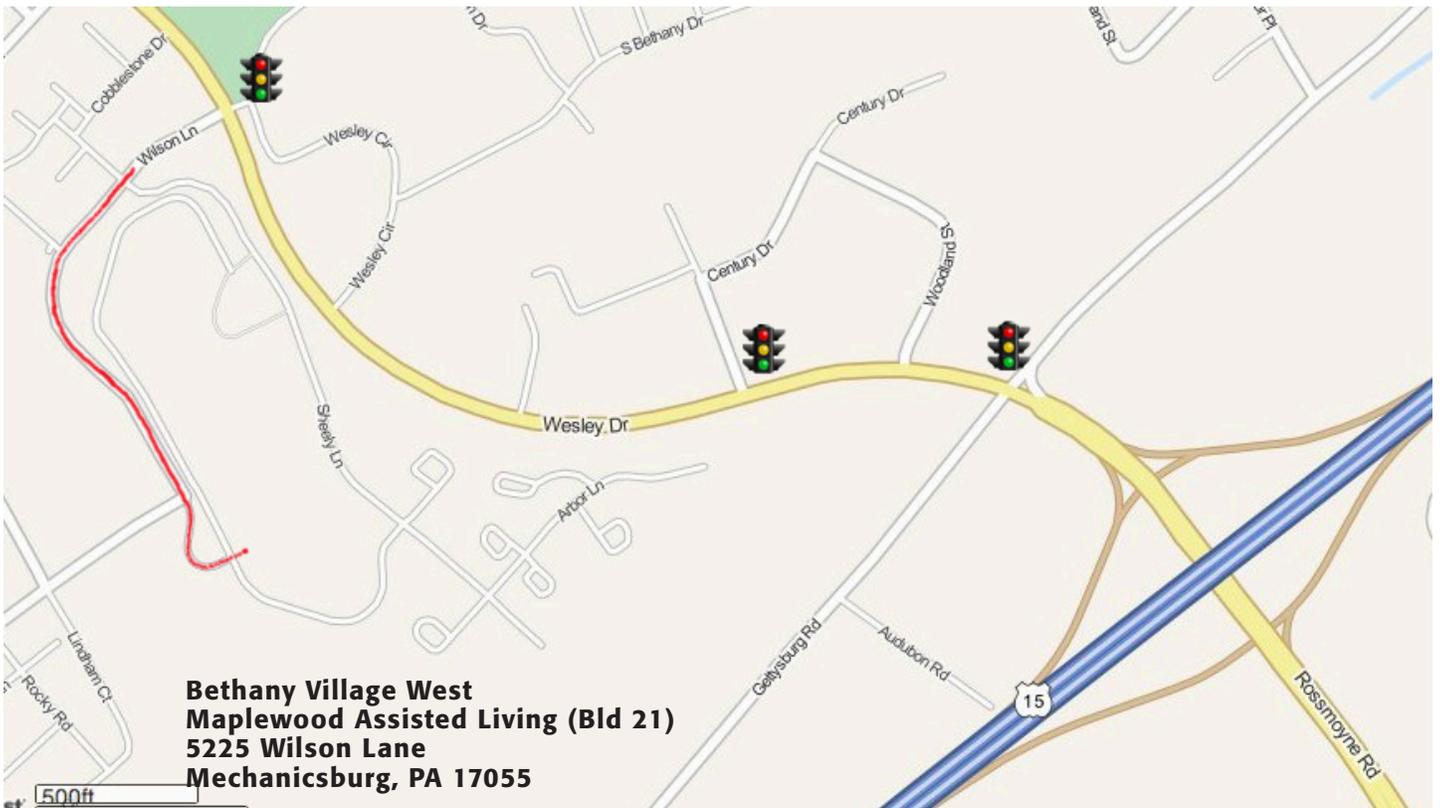
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If the doors are locked, press the "Intercom" button.
Tell them you are attending the Keystone MacCentral computer meeting.
We will be in the Education Training Room.