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# PCWorld

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Don't buy a new PC until you've checked out these lab test results p. 87

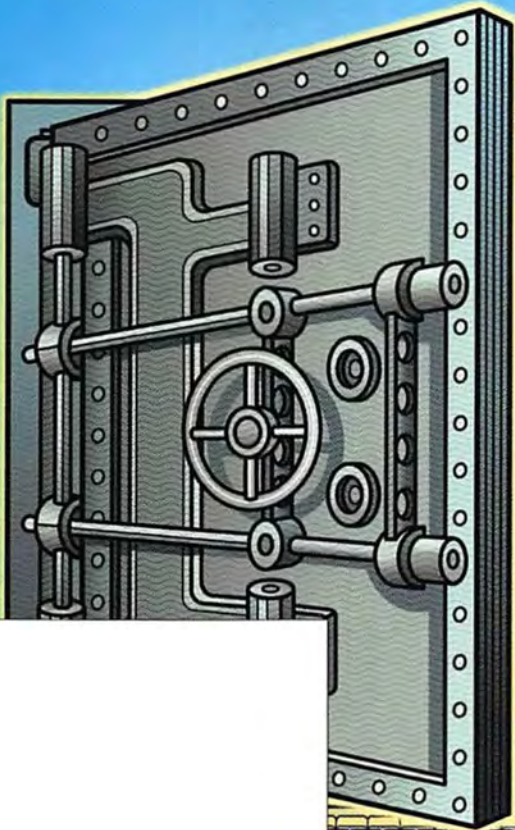


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awesome add-ons  
& undocumented  
workarounds for  
Windows, Office,  
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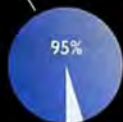
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## When Friends Ask You for Tech Support

CALL IT AN occupational hazard. People are constantly asking me to fix their computers. My kids' godmother, my Scrabble buddies, my next-door neighbor, even my wife: Everyone seems to have a problem. It really ups the ante when it's your father-in-law on the phone, asking you why all his documents have mysteriously disappeared—this from a man who, no matter how many times I explain it to him, still can't grasp the distinction between the Internet and AOL.

Usually, the problems I'm asked to help overcome are pretty standard and involve a software glitch. There's no sound playing during a YouTube video, a weird error message keeps popping up, or the machine "just stopped working."

Fortunately for me (and my nonpaying "clients"), I know my way around a mouse and have seen my share of PC problems. Plus, I don't scare easily.

### Gummed-Up Muddle

But here's what amazes me. Based on my observations, most people's Windows computers are a gummed-up muddle. A mess. An absolute shambles.

Icons are blinking, demanding attention; folders and shortcuts are strewn across the desktop higgledy-piggledy; the toolbar has disappeared; and files appear to be handled in accordance with the Little Bo Peep school of organization. And that's just at first glance.

To make things worse, the systems are riddled with viruses and spyware, there's no protection (the AV program, if it ever existed, has expired), and the browser is two generations behind the times.

Now, I work with tech-savvy folks and

Many PC users make do with mysterious Windows maladies, unexplained error messages, and barely functional software.

interact regularly with *PCWorld* readers, and I've come to expect awareness of basic PC hygiene and a fairly sophisticated level of computing expertise.

So the first time I saw a friend's desktop in complete disarray, I assumed I was dealing with an exception—a careless soul who had somehow neglected his digital duties. The second time... well, doubts started to creep in. (And

next to our Wi-Fi network for the umpteenth time, "What do people do who aren't married to a *PCWorld* editor?")

### Self-Help for Tech Users

Well, some of them read *PCWorld*, including (I can only assume) anyone currently poring over these words. So to start with, pat yourself on the back for your exquisite taste. You exhibit a

desire to get more out of your everyday technology, and that's a laudable goal.

As for the specifics of troubleshooting a wayward PC when your Uncle Phineas comes a-calling, the issue you hold in your hands may not have all the answers, but it does contain Patrick Miller's ultra-handly "Super Software Secrets" (page 66), which could help establish your credentials as a wizard with Windows, Office,



iTunes, the major browsers, and more.

Miller, a staff editor in charge of our magazine's *Here's How* section, knows a great software tip when he sees one. His challenge in creating "Super Software Secrets" was to strike a balance between presenting tried-and-true shortcuts (ones the PC pros among you may already know) and more obscure material that is still supremely useful.

No matter your level of expertise, you're bound to come away with some tips that—I guarantee—will make your computing life easier. Now if only my father-in-law or, ahem, my wife, would just read the issue... ●

Steve Fox is editorial director of *PCWorld*.

not to cast aspersions on my otherwise meticulous wife, but her desktop could qualify as a federal Superfund site.)

Now, after multiple rescue missions, I've reached the inescapable conclusion that owning and using a Windows PC is a bewildering, messy experience for much of the world. Sometimes it works; sometimes it doesn't.

Typical PC users, it seems, expect the barest minimum of functionality from their machines. As long as Word, maybe Excel, and a browser launch when clicked on, they can get by. Beyond that, there's not much they believe they can do to improve their lot. As my wife put it recently, after I'd gotten her seemingly unresponsive laptop to con-

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June's in-depth look at the Apple iPad ("iPad vs. Everything Else") generated lively debate. Many readers said they were skeptical about it and dismissed it as a half-baked offering, while a few celebrated it as something different and innovative. Add your two cents' worth at [find.pcworld.com/70158](http://find.pcworld.com/70158).

## The iPad Debate

As an in-home content consumption device, the iPad ["iPad vs. Everything Else," June] could be a valid niche product. For me, however, it's too big to compete with pocketable devices and too limited to compete with regular PCs. Ultimately, I would see the iPad as a competitor to e-readers.

*davep1, PCWorld.com forums*

In comparing the iPad to a PC, your reviewer says, "But the iPad is something new, useful, and important—and you shouldn't dismiss it until you've tried it."

Important for what? As far as not dismissing it until I've tried it, I'd concede that point, but I'm not about to chalk up 500 or more of my dollars for something that may be able to do most of everything, only not very well.

*wyveryx, PCWorld.com forums*

There's a reason why Steve Jobs is rich and one of the most influential people on the planet while people like [author Harry] McCracken aren't. The iPad doesn't have any "shortcomings"—it's exactly what Steve Jobs envisioned it to be, exactly what its users need it to be, and exactly what Apple's long-term strategy wants it to be. It isn't any of

the devices that the article compared it to—and it's not supposed to be.

*JohnKantor, PCWorld.com forums*

"The iPad does have the potential to do for magazines and newspapers what the iPod did for music." Wow! Your review is the first one I have read that says this. I have been saying the same thing—only differently.

Magazines are to articles as music albums are to singles. And I predict that the iPad will do to magazines what the iPod did to music albums.

*SteveWilson, PCWorld.com forums*

After having one in my hand for a solid 20 minutes, I can say without a doubt that it fails as an e-reader. It *does* show fingerprints, it *does* show massive glare, and it *is* heavier [than other e-readers].

*waldojim, PCWorld.com forums*

## Digital Health-Care Records

Your article "Health-Care Records Enter the Digital Age" [*Consumer Watch*, June] missed the most important reason for electronic records. Every medical record for an individual should be in one place, in one format, and readily accessible to every health-care provider.

Anything less is worthless. I'm a re-

tired senior citizen who moved many times during my working career. It would have been beneficial to have had my family's records in electronic form. New schools could have verified immunizations, for example. And my records (I am a cancer survivor) would have been available to the new physicians.

We need all companies that want to make and sell electronic records to set up a common format. If we can have USB standards for hardware, and if OpenOffice can convert a Microsoft Office document, why can't we have program standards for electronic medical records? We need some vision and leadership from the software industry.

*Dave Lynch, Leesburg, Florida*

Your readers should keep some other, related issues in mind. First, an electronic health record (EHR) is different from an electronic medical record (EMR). The former is maintained largely by the individual, while the latter is maintained by health-care professionals. A key reason why health-care pro-

As consumers and lovers of technology, I think we're in for a period of development in personal computing such as we haven't seen in a very long time [re: "iPad vs. Everything Else," June].

*42n81, PCWorld.com forums*

viders distrust the EHR is that they can't rely on the accuracy of the data.

Also, one barrier to wide adoption of EMRs, besides cost, is the lack of data standards. Until widespread agreement exists on data-coding structures and standards, a potential for error exists.

Finally, data security is a major concern. While it is possible to believe that those who capture and store the medical data will not use it inappropriately, many users have been fooled into >>

believing their data was private until it wasn't. All too often, hacked data—from "secure" credit card numbers to personal information—gets exploited.

EMRs and EHRs will likely be important in future efforts to improve medical care delivery at a more reasonable cost. But overcoming the remaining obstacles will take some hard work.

*Michael Martin, Eatonton, Georgia*

## GPS From Sprint

In the June *PCWorld* [the "Server-Based Navigation" section of "Many Ways to Find Your Way"], you missed pointing out an advantage of Sprint's navigation services: They're free. While AT&T and Verizon might still charge \$10 a month, I have for years enjoyed unlimited use of Sprint Navigation (TeleNav) in my unlimited data plan on various devices, including a Palm Pre and a BlackBerry.

*Frank Harris, San Francisco*

## Useful Sites?

Most of the sites you mentioned [in "52 Incredibly Useful Sites," June] seem useless. One that I like but that you didn't include is OurGroceries.com, which is a grocery-list-in-the-cloud site that syncs with multiple smartphones. Now *that* is an everyday useful site.

*TN77, PCWorld.com forums*

From this list, I've used, and recommend, LogMeIn (to have free remote access to my desktop and the cameras in my house—I have a baby). I've not had a good experience with Meebo (and I've tried at least five times).

*Marcio Candiani, Belo Horizonte, Brazil*

## Beware of the Cloud

In June's "52 Incredibly Useful Sites," you recommend using an online "cloud" password manager, Passpack. While this may be a reputable site, I

disagree wholeheartedly with the entire concept of storing crucial private information online. To me, it seems incredibly dangerous to put my passwords and user IDs on any Internet site. Even with good intentions, if such a site were compromised or attacked, all my passwords would be open to misuse.

In fact, this is my biggest issue with the whole idea of cloud computing. Placing critical information on a server somewhere in the ether where the user (me) does not control its use, security, and availability is one of the most troubling trends in computing today.

*Tom Fleming, Sarasota, Florida*

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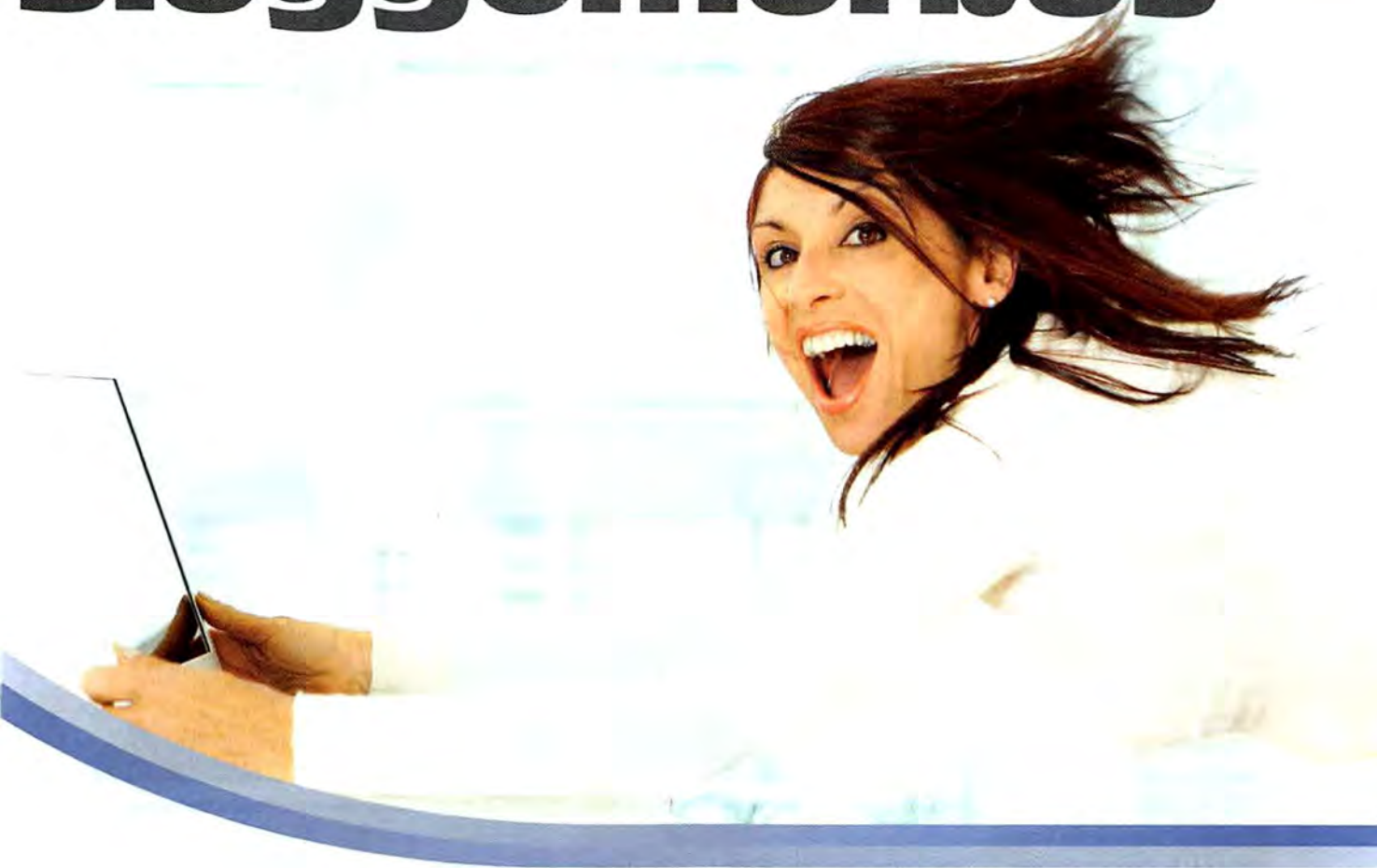
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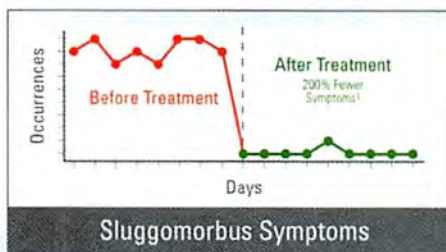
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# Good-bye Sluggomorbus



## Hello SuperSpeed USB



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**WARNING:** SuperSpeed USB could result in: disbelief, awe, spontaneous celebration, shock, speechlessness and arriving on time to presentations.

# Forward

## 4G's Speed Short of Hype

We tested Sprint's 4G network in the Pacific Northwest. It was faster than 3G, but not nearly swift enough to spark a mobile revolution.

BY MARK SULLIVAN

"WITH 4G FROM Sprint, I can download files up to ten times faster than 3G," boasts a business-casual guy in Sprint's TV commercials. "I can have a crystal-clear video-conference with my clients while working offsite."

Sounds great, right? But when I tested Sprint's new EVO 4G phone in the Pacific Northwest, one of the first areas of the country to have 4G coverage, I didn't see anything like that kind of speed.

### Reality vs. Hype

Sprint says that the EVO 4G phone will connect with average download speeds of between 3 megabits per second and 6 mbps, and that EVO 4G users could see bursts of up to 10 mbps. In my tests, the EVO usually connected at around 2 mbps,



PCWORLD SENIOR EDITOR Mark Sullivan tested Sprint's EVO 4G smartphone in the Pacific Northwest.

and in my two days of use, the EVO never broke the 3-mbps mark. And I never encountered 10-mbps bursts.

In my tests of Qik, the videoconferencing app that comes preinstalled on the EVO 4G, live video streams that I shot on the phone showed up at the Qik site only after delays of 5, 10, or even 20 seconds. Such delays in a real videoconference would be intolerable.

The average 4G speeds that I saw with the EVO are actually slower than the best speeds of advanced 3G networks such as AT&T's HSPA 7.2 network and T-Mobile's rapidly spreading HSPA+ 3G system. In our earlier testing of 3G networks ([find.pcworld.com/70265](http://find.pcworld.com/70265)), the T-Mobile network in Manhattan turned in average download speeds of 3 mbps, and AT&T's HSPA network in Baltimore, Bos-

ton, and New York delivered burst speeds surpassing 4 mbps. To be fair, I also did some speed testing with a laptop connected through a Sprint Overdrive modem, and the best speeds I got with that setup—as much as 4970 kbps in one spot in Portland—exceeded any 3G performance we've seen.

These results don't mean that 4G isn't a step forward. The EVO phone's average

For a video review of the HTC-built EVO 4G smartphone, browse to [find.pcworld.com/70268](http://find.pcworld.com/70268). And for a look at what 4G broadband could mean for business, go to [find.pcworld.com/70267](http://find.pcworld.com/70267).

download speed from my tests was 1969 kbps. Using the laptop, the average was 2505 kbps. Both numbers are significantly higher than the best results for a network as a whole in our 3G study, where the winner was AT&T with an average download speed of 1410 kbps, as measured using a laptop with a wireless modem.

### Network in Progress

A Sprint spokesperson said my test results aren't surprising since the company is still building out its 4G network. "I think we've been really transparent about what 4G coverage means today, and the type of experience our customers will see," says Stephanie Vinge-Walsh.

"Sprint 4G isn't everywhere, and it's not at its peak of performance yet. But with Sprint and Clearwire's spectrum assets across the country, we have reason to be more confident than any other carrier in what we will be able to offer in terms of 4G speed, dependability, and overall experience when markets are fully rolled out," Vinge-Walsh says.

The EVO is the first U.S. phone built (by HTC) to run on 4G. I tried it in six cities where Clearwire, Sprint's partner, has its 4G WiMax network: Tacoma, Seattle, Snohomish, and Bellingham in Washington; and Portland and Salem in Oregon.

My tests of mobile apps running on 4G were not scientific. I simply tracked the EVO 4G's performance on various 4G networks over two days of driving around, comparing the results with

those of other networks and devices I've tested in the past. With wireless networks, performance depends on such factors as buildings and other nearby obstructions, the weather, and the number of other users on the network at the time of the test.

Before testing, I had to get the EVO to connect to the 4G network. That was difficult in some places. At Seattle's Space Needle and Lake Union, for instance, I had trouble keeping the EVO



**THE QIK VIDEOCONFERENCING app comes preinstalled on the EVO 4G, but its video streams had significant delays in our tests.**

handset connected to the 4G network consistently. And sometimes the phone, after lapsing into 3G mode, could not reconnect with 4G.

At one spot in Salem, I couldn't connect the EVO to the 4G network even after doing some fiddling with the phone's settings. At another Salem location, I succeeded in connecting the EVO to 4G, but only after walking around a parking lot, turning the phone's 4G radio on and off.

### Straining the Network

Besides raw download and upload speed trials, I also tested apps I thought might put a strain on the network.

In addition to the Qik tests, I used a high-quality YouTube Web video to test video downlink performance. I also tried Layar, a location-based service that superimposes various kinds of data over the real-world image that you see through a smartphone's camera.

My Qik videoconferencing tries were consistently poor in every location. Since I couldn't test videoconferencing with another EVO on the 4G network, I created a

eo was watchable, but had varying amounts of pixelation and jitter, especially in scenes with lots of motion. In the worst cases, the video and audio were out of sync.

The best-performing app in my tests was the aforementioned Layar. In Seattle, Layar immediately detected and displayed information on numerous restaurants in my testing areas. I could also detect and display the tweets of nearby Twitter users, but usually not their profile pictures. Some locations had a bit of a delay before basic data showed, but otherwise the app came through.

### Some Good News

At times, the 4G speeds really were impressive. When I used the Sprint Overdrive mobile hotspot to connect to the WiMax network in Portland, the average download speed was 4.45 mbps, and the average upload speed was almost 800 kbps. The improved performance of the YouTube high-quality video I watched on my laptop showed what a difference such speeds can make.

In my tests, Sprint's 4G service in the Pacific Northwest certainly proved faster than 3G, but only marginally faster—not enough to make possible a new set of "killer apps." As Sprint builds more 4G towers, that performance may well improve. But for now, it seems likely that the 4G-connected smartphone will simply give the mobile apps you already use a step up in performance.

**Note:** For reviews of 4G modems and other devices, plus the EVO 4G, go to page 42.

## Hands On With Apple's Impressive iPhone 4

THE APPLE IPHONE 4 is everything a new piece of technology should be: innovative, attractive, and ahead of its competition. Previous iPhone upgrades seem inconsequential by comparison.

Shipping by the time you read this, the new phone is \$199 for the 16GB model and \$299 for the 32GB one (in white or black).

### Premium Look, Display

Whereas the iPhone 3GS looks and feels plasticky, the iPhone 4 is svelte and has a premium feel. It's noticeably slimmer than the iPhone 3GS, measuring 0.37 inch deep versus the 3GS's 0.48 inch, and slightly narrower. Its weight is 4.8 ounces.

The overall design screams elegance—from the rounded up-and-down volume buttons that replace the 3GS's plastic volume rocker to the power/sleep button up top. The face and back have glass that is specially treated to withstand scratches and oily fingers, according to Apple. The side edging is stainless steel, and doubles as the device's three cellular and wireless antennas.

Like its predecessor, the iPhone 4 has a 3.5-inch display, but the resolution is doubled to 960 by 640 pixels, which is the highest available on a phone to date.

That display truly makes a difference. Whereas the iPhone 3GS's text—in menus, in apps, or on Web pages—appears thick, fuzzy, and undefined, the iPhone 4's text is razor-sharp, due to its new "Retina display"

The new iPhone bolsters the device's imaging and display capabilities and adds features such as multitasking and a front-facing camera.

(so named because its pixel count is more than the human retina can process).

To me, the difference is like that between a standard-definition 480p DVD and a high-def 1080p Blu-ray Disc, and is similarly striking.

I expect the display will make reading a more pleasurable

e-reader. iBooks retains the structure, appearance, and function it has on the iPad; and with the new OS's ability to sync the iPad, desktop, and iPhone, users can move seamlessly among devices.

iBooks also gains new features. You can now create notes and bookmarks, and

iPhone 4 gains a bevy of capabilities. One of them—multitasking—feels long overdue, but it works.

You quickly double-tap on the home button to pull up a pane that shows which apps are open, and then swipe horizontally through the apps that the iPhone 4 has retained in either a running or suspended state.

When you find the app you want, you click on the icon. The app will resume its activity, and, if written to take advantage of this new feature, it will pick up precisely where you left off.

### Comparative Tests

In side-by-side tests I did with an iPhone 3GS (running iPhone OS 3.1) and the iPhone 4, I navigated between the Safari Web browser and the Photos app and back again to Safari, and then back again to Photos.

**iPhone 4:** On the iPhone 4, iOS 4 jumped quickly and smoothly between the apps, with virtually no pause or hesitation. I left a fully drawn Web page in Safari to go to Photos, navigated to a folder in Photos, and then to a picture in that folder. When I popped back to Safari, I resumed at the fully drawn Web page, and when I returned to Photos, I was looking at the same photo I'd left.

**iPhone 3GS:** That same exercise on the iPhone 3GS was far more cumbersome. To change apps, I had to press the home button to exit Safari. I then went into the Photos app and found my image in its album. To go



surable experience (though, clearly, limits will remain given the device's inherently modest screen size).

### iBooks Goes Mobile

The high-res display, coupled with the addition of iBooks on the iPhone 4 (and with iOS 4 upgrades), makes the iPhone a more relevant



THE IPHONE 4'S Retina display (left) is much sharper and clearer than those of earlier iPhones.

see those notes, bookmarks, and highlights in the table of contents. But the major new feature is native support for PDFs. You can add PDFs via e-mail or Safari, and they can sync back to iTunes and to other Apple devices such as the iPad or iPod Touch.

### A PC in Miniature

The iPhone 4 uses Apple's A4 CPU, the same processor powering the Apple iPad. And it runs the newly renamed iOS 4 operating system (which the iPad will also use, starting in the fall).

As part of iOS 4, the

back to Safari, I pushed the home button to return to the home screen and then clicked on Safari. And so on.

Equally as elegant as multitasking is Apple's implementation of Folders, an increasingly necessary addition. To add icons into a folder, you simply drag one icon on top of the other to create the folder; the folder automatically gets the name of the category those apps share. You can pack up to 12 apps in a single folder; you can add up to 2160 apps total.

### Camera Boost

The iPhone 4 brings much-desired camera and video recording advances, as well. The primary camera on the back improves to 5 megapixels (from 3), while retaining the same pixel size. The camera also gains an LED flash, a backlit sensor, and an integrated 5X zoom. You can shoot in high-def, at 720p and 30 frames per second; plus, its video function gains the tap-to-focus feature.

At Apple's demo, I wasn't able to fully test another addition, the front-facing camera, but it will be integral to Apple's FaceTime videophone application for communicating between two iPhone 4 handsets.

### iPhone: Upgrade?

This handset appears to be a must-have for anyone with an original iPhone or iPhone 3G (the former won't get the iOS 4 update at all; the latter won't support some of its features). And people who have an iPhone 3GS will find this a worthy upgrade, too.

—Melissa J. Perenson

## Search Giant Is Headed for Your TV

GOOGLE HAS ENTERED a partnership with Intel and Sony to create Google TV, the company recently announced. As explained at its unveiling, Google TV is an ambitious attempt to bake Google's Android software into TVs, Blu-ray players, and a Google set-top box called Buddy Box.

The plan is clearly a challenge to devices and services like Apple TV, the Boxee Box, and TiVo—and to some extent, to cable itself. The goal is to fuse the Web with TV sets in a way that other Internet-connected televisions have not. That is, Google TV is an open platform free of the restrictions on other Internet TV sets and powered by hardware that can handle Flash.

Google TV will be available in set-top boxes and televisions this fall, according to the announcement, with Sony and Logitech as hardware partners.

### The Features

For now, let's look at the key features of Google TV.

**A merger of the Web and subscription TV:** Google wants to avoid a sharp distinction between Web content and traditional television from cable or satellite. When you search for a show using Google TV, you will see options for regular television and the Web; picking the latter will take you to a screen that lists all online episodes and sources, including Amazon, Hulu, and Netflix (in effect, this brings search results to your TV).

At the same time, you will always be able to jump back into live TV programming with the press of a button.

**Flash support:** The obvious application for Flash is Web video, but Google promises that Flash support will let Google TV users play games such as Farmville and enjoy streaming-music Websites such as Pandora. Google hasn't yet demonstrated those items, though, so we'll

the television over Wi-Fi. Also, if you're watching a video on the phone, you can send that video to the TV.

**Android app support:** Besides tapping the Web for content, Google TV will work with any Android app that doesn't use phone features. In its demo, Google showed only one example—Pandora—but we can hope that games and other media will be adapted to perform



have to wait to see whether they work as promised.

(You can watch an introductory video and sign up for progress updates on the service at [google.com/tv](http://google.com/tv).)

**One remote:** Demonstrators used big keyboards to navigate Google TV, and stressed that only one input device will be necessary. It's not clear what the actual remote controls will look like, but I'll bet that Logitech and Sony will each be bringing out their own designs.

**Android phones:** Google TV will have a couple of features specifically for Android phone owners. Instead of typing in television search queries, you can dictate them into the phone; your request then transmits to

smoothly on the big screen.

**Hardware:** Televisions equipped with Google TV technology will have ethernet and Wi-Fi capabilities. Reportedly, one-click DVR recording will be available on boxes from the Dish satellite network.

So far, we have no word on pricing or specific products, though Sony says it plans to offer Google TV on some of its Bravia television sets as well as on its Blu-ray players.

But you won't necessarily have to buy a new TV set: Google says that people who want to add Google TV to their present sets will be able to buy the aforementioned Buddy Box device to bring the service to any TV.

—Jared Newman

## Dell's Streak Tablet Coming This Summer

IN LATE MAY, Dell revealed launch plans for its Android-based Dell Streak handheld tablet, and it confirmed that the device will receive an upgrade to the Flash-capable Android 2.2 operating system later this year.

The Streak was expected to launch in the United Kingdom by the time you read this and in the United States later this summer, but Dell didn't give specific launch dates for either country, or any pricing or U.S. carrier details (for 3G access).

Dell introduced the Streak in January at the Consumer Electronics Show; specs for

the device have since come out through either official company statements or periodic leaks to gadget blogs.

### Flash Is on the Way

The Dell Streak will have a 5-inch WVGA touchscreen, Qualcomm's 1GHz Snapdragon processor, 2GB of internal storage, support for external SD storage (a maximum of 32GB), a 5-megapixel camera with an LED flash, and a front-facing camera for video chat. Aside from 3G, the Streak will also have 802.11b/g Wi-Fi and Bluetooth 2.1 connectivity.

At launch, the Streak will



**DELL'S STREAK TABLET** will have Google Maps for navigation.

be running Android 1.6 (Donut), but the device will receive an over-the-air upgrade to the new Flash-capable Android 2.2 (Froyo) later this year, a Dell spokesperson confirmed. The mini tablet will also come preloaded with Facebook, Twitter, and YouTube apps, plus Google Maps offering free turn-by-turn navigation.

It should be noted that Dell's Streak announcement

had no mention of the rumored Dell Looking Glass, a 7-inch tablet computer with no front-facing camera. Rumored specs for the Looking Glass have included a 7-inch screen with 800-by-480 display resolution; 3G, 802.11 b/g/n Wi-Fi, and Bluetooth 3.0 connectivity; 4GB of RAM; a 1.3-megapixel camera; and an optional TV tuner.

—Ian Paul

## BETA WATCH

EDWARD N. ALBRO



### DataInherit: Digital Safe Deposit Box

If you're of a certain age, you may have started thinking about disposing of your physical possessions after your death. But what about your digital legacy? Will your loved ones be able to access your online accounts and to reach your important documents? DataInherit, a Swiss company, lets you store passwords and files securely with the promise that once you shuffle off this mortal coil, your survivors will get access. It's an important consideration, but the prices are steep: as much as \$16.50 a month for 25GB of storage. Try a free Password Safe account to start with. [datainherit.com](http://datainherit.com)

### Flavors.me: All You

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### Longform.org: A Cure for Internet ADD

Recent studies indicate that using the Internet degrades our ability to concentrate. And Web journalism, where anything over six paragraphs is considered an opus, hasn't helped. Longform.org counterbalances the Internet's penchant for brevity. The site's two editors find and post interesting, deeply researched, and long feature stories daily—and make them easy to read via Instapaper, a service that strips out ads and other distractions and delivers the text to iPhones, iPads, and other mobile devices. [longform.org](http://longform.org)



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## First Budget 3D Graphics Card for Desktops

NVIDIA HAS LAUNCHED an inexpensive graphics card, the GeForce GTX 465, that may bring 3D movies to PCs.

The graphics card is targeted at desktop machines and priced at \$279. The hardware is capable of decoding 3D Blu-ray content, which could enhance 3D movie playback on PCs, nVidia says.

In addition, the GTX 465 can enhance gaming through its hardware support for DirectX 11, a Microsoft technology that makes graphics in Windows 7 seem both smoother and more realistic, the company says.

The graphics card is the cheapest yet that uses nVidia's latest Fermi graphics processor microarchitecture. In March, nVidia announced the GTX 480 and GTX 470 chips, which are priced at \$499 and \$379, respectively.

Eager to bring 3D gaming and movie-watching to PCs, nVidia is working with system manufacturers, including gaming PC makers CyberPower and Digital Storm, to build 3D desktops. nVidia also sells 3D Vision glasses.

—Agam Shah



NVIDIA'S NEW GEFORCE GTX 465 graphics card may bring 3D to PCs.

## GEEKTECH

### New Processors Make Bows at Computex Expo

PROCESSORS MADE headlines at this year's Computex trade show in Taiwan. Here are some of the chips that likely will power your gadgets in the not-too-distant future.

(For a look at the best current CPUs, see "Chip Showdown" on page 87.)

#### Laptop/Tablet Chips

The iPad gave quite a jolt to the tablet market, and several chip makers are rushing to improve their mobile CPU and GPU offerings. Intel is working on a new "thermal technology concept" called Canoe Lake that will purportedly make for thinner laptops. Canoe Lake will work with Atom chips—which usually require fans to dissipate excess chip heat—and will allow for Atom dual cores in netbooks.

Intel is also expected to announce another chip for the portable market, the Moorestown version of Atom. Called Oak Trail, it's a miniaturized version of the Atom platform intended for smartphones. It should support 1080p video playback and HDMI, use about 50 percent less power than previous generations of the chip, and support full versions of Windows, not just Windows CE (scaled-down versions of processors often can't run heavier-weight operating systems).

We're hopeful that this family of chips means thinner, lighter, and more energy-efficient laptops not too far down the line.

How about GPUs? At Computex, nVidia announced 16 models of laptops from several manufacturers that sport its Optimus technology for switchable graphics cards. Optimus lets laptop GPUs switch on only when a PC is dealing with intensive 3D graphics and video (otherwise the system uses an integrated GPU), which should cut down on battery usage and heat in laptops that feature this technology.

#### Smartphone Chips

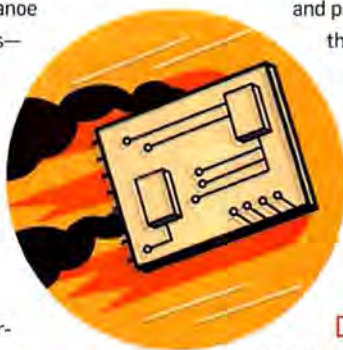
Qualcomm announced two new Snapdragon processors geared for smartphones, each with dual cores and running at up to 1.2GHz. The

Check out some of the new chips that were unveiled at the recent Computex trade show in Taipei.

MSM8260 and MSM8660 should up the processing power of smartphones that use these chips, allowing for playback of 1080p video and screen resolutions up to 1280 by 800 pixels.

Intel, meanwhile, expects the first smartphones running Moorestown to ship at the beginning of next year. Combining an Atom processor and a GPU in one package, the

Moorestown chips should draw less power and provide higher performance than rival processors. What does that mean for you? Playing World of Warcraft and watching Avatar in high-definition on your smartphone. Awesome? Yes. Excessive? Probably. Will you want it? Most definitely.



#### Desktop Chips

Running at 1.6GHz, a new dual-core x86 processor from Via promises high performance and low power consumption on a par with that of tiny low-power dual-core chips from AMD and Intel. Though its release date is uncertain (probably in the next six months), the forthcoming chip will be called the Via Nano DC.

AMD announced its upcoming Fusion processors but was reluctant to provide many details on these low-power chips, or even a photo, lest it fall into Intel's hands. (A high-resolution photo would reveal how many Fusion chips can be produced on a single wafer, according to Rick Bergman, senior vice president and general manager of AMD's product group.)

The take-home message from Computex is that chips for mobile and desktop systems are growing more powerful while using less energy. By early next year, you'll be able to game to your heart's content from the comfort of anywhere you and your smartphone may go.

—Alessandra Springmann ●

Visit the GeekTech blog at [go.pcworld.com/geektech](http://go.pcworld.com/geektech) for more hardware news and tips.

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### Acer Aspire One 532h

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- Intel® Atom™ Processor N450
- Three-cell battery

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  - Two 2.0W integrated speakers
  - 1GB<sup>1</sup> storage
  - CompactFlash®, Secure Digital card reader
  - Tilt adjustment
- (ET.FD0HP.001)



\$325

## Acer® Aspire® 5551

- Genuine Windows® 7 Home Premium
- Acer CineCrystal 15.6" display, 1366 x 768 resolution
- 4GB DDR3 SDRAM
- 500GB<sup>1</sup> hard drive
- Integrated Super-Multi drive
- 5-in-1 card reader
- 802.11b/g/n WLAN, gigabit LAN
- Integrated webcam
- One-year limited warranty<sup>2</sup>



### Acer Aspire 5551

- Genuine Windows® 7 Professional
- AMD Athlon™ II Dual-Core Processor P320 AS5551-2805 (LX.PWK02.122)

\$559

### Acer B243HL bmdrz

- 24" wide-screen TFT LCD
- White LED backlight
- 1920 x 1080 maximum resolution
- 8,000,000:1 dynamic contrast ratio
- 170°/160° horizontal/vertical viewing angles
- VGA, DVI (HDCP), four USB signal connectors
- 250 cd/m<sup>2</sup> brightness
- 5ms response time
- Two 2.0W integrated speakers
- Height, pivot, tilt and swivel adjustments (ET.FB3LP.002)



\$299

### Acer V233H AJbd

- 23" wide-screen TFT LCD
- EPEAT® Silver rating
- 1920 x 1080 maximum resolution
- 80000:1 dynamic contrast ratio
- 160°/160° horizontal/vertical viewing angles
- VGA, DVI (HDCP) signal connectors
- 300 cd/m<sup>2</sup> brightness
- 5ms response time
- Tilt adjustment (ET.VV3HP.A01)



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## Acer® Aspire® X3910

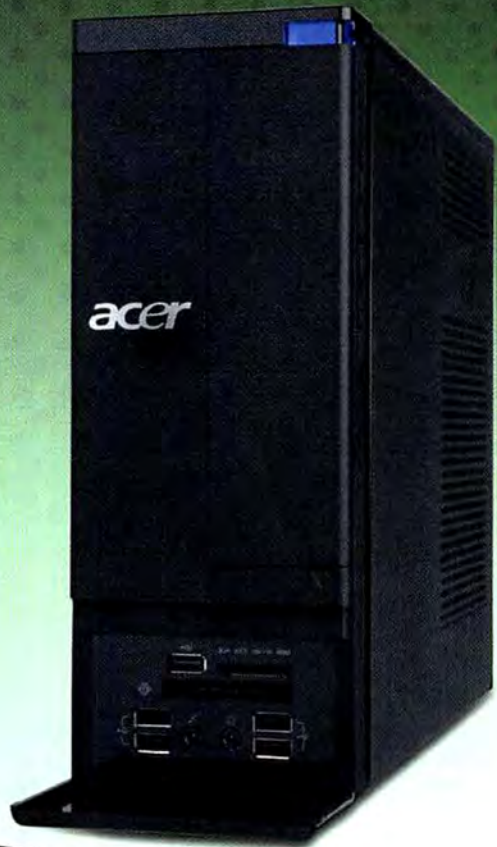
- Genuine Windows® 7 Home Premium
- 4GB DDR3 SDRAM
- 640GB<sup>1</sup> SATA hard drive
- Super-Multi drive
- Multi-in-one card reader
- 802.11b/g/n WLAN, gigabit LAN
- USB keyboard and mouse
- 3.9" W x 14.6" D x 10.4" H
- One-year limited warranty<sup>2</sup>

Compact PC

### Acer Aspire X3910

- Genuine Windows® 7 Home Premium
  - Intel® Pentium® Processor E6600
- AX3910-U2032 (PT.SED02.004)

\$499



## Acer S243HL bmii

- 24" wide-screen TFT LCD
  - White LED backlight
  - 1920 x 1080 maximum resolution
  - 8,000,000:1 dynamic contrast ratio
  - 170°/160° horizontal/vertical viewing angles
  - VGA, two HDMI™ (HDCP) signal connectors
  - 250 cd/m<sup>2</sup> brightness
  - 2ms gray-to-gray response time
  - One 2.0W integrated speaker
  - Tilt adjustment
- (ET.FS3LP.001)



\$299

## Acer P5271

- DLP® 3D-ready professional projector<sup>3</sup>
  - XGA (1024 x 768) native resolution
  - 4,000-hour lamp life (economy mode)
  - 3100 ANSI lumens (standard mode)
  - 3000:1 contrast ratio
  - 2X digital zoom
- (EY.J8701.008)



\$899



## Acer® Veriton® X498G

- Genuine Windows® 7 Professional
- Downgrade right to Windows® XP Professional<sup>3</sup>
- Super-Multi drive
- Gigabit LAN
- PS/2®-style keyboard and optical mouse
- 4.0" W x 15.6" D x 10.5" H
- Three-year limited warranty<sup>2</sup> with limited on-site service during first year<sup>7</sup>

EPEAT®  
Silver Rating

### Acer Veriton X498G

- Genuine Windows® 7 Professional
  - Intel® Core™ i5-650 Processor
  - 4GB DDR3 SDRAM
  - 500GB<sup>1</sup> SATA hard drive
- VX498G-Ui5650C (PS.VAW03.002)

\$699

### Acer Veriton X498G

- Genuine Windows® 7 Professional
  - Intel® Core™ i3-540 Processor
  - 2GB DDR3 SDRAM
  - 320GB<sup>1</sup> SATA hard drive
- VX498G-Ui3540C (PS.VAW03.001)

\$599



### Acer T230H bmidh

- 23" wide-screen TFT LCD
- Touch-screen capable<sup>6</sup>
- 1920 x 1080 maximum resolution
- 80000:1 dynamic contrast ratio
- 160°/160° horizontal/vertical viewing angles
- VGA, DVI (HDCP), HDMI™ signal connectors
- 300 cd/m<sup>2</sup> brightness
- 2ms gray-to-gray response time
- One 1.5W integrated speaker
- Height, tilt and swivel adjustments (ET.VT0HP.001)

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## Acer® TravelMate® 4740

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- Downgrade right to Windows® XP Professional<sup>3</sup>
- 14.0" display, 1366 x 768 resolution
- 2GB DDR3 1066 SDRAM
- 250GB<sup>1</sup> hard drive
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- Intel® Core™ i3-350M Processor  
TM4740-5261 (LX.TVQ03.079)

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The Acer notebooks and netbooks featured in this insert come with a one-year standard limited warranty.<sup>2</sup> For extra protection and peace of mind, consider the Total Protection Upgrade, which covers the cost of a replacement unit if, as determined by Acer, your covered notebook or netbook cannot be repaired. On-site service is available, too, for TravelMate notebooks.<sup>7</sup>

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concurrently with limited warranty and limited warranty extension.)  
\$199

**2-Year Extension of Limited Warranty + 3-Year Limited On-Site Service (146.AD362.001)**  
for TravelMate Notebooks with 1-Year Limited Warranty (On-site service runs concurrently with  
limited warranty and limited warranty extension.)  
\$149

**2-Year Extension of Limited Warranty + 3-Year Limited On-Site Service +  
3-Year Total Protection Upgrade (146.AD362.002)**  
for TravelMate Notebooks with 1-Year Limited Warranty (On-site service and Total Protection  
Upgrade run concurrently with limited warranty and limited warranty extension.)  
\$299

<sup>1</sup> When referring to storage capacity, GB stands for one billion bytes. Some utilities may indicate varying storage capacities. Total user-accessible capacity may vary depending on operating environments.

<sup>2</sup> For a free copy of the standard limited warranty end-users should see a reseller where Acer products are sold or write to Acer America Corporation, Warranty Department, P.O. Box 6137, Temple, TX 76503.

<sup>3</sup> The alternate operating system can be installed in place of, not in addition to, the pre-loaded operating system.

<sup>4</sup> Six-cell, 4400mAh lithium ion battery, up to 8.0 hours life depending on configuration and usage.

<sup>5</sup> 3D content, 3D glasses and an appropriately equipped PC are also required to display 3D images.

<sup>6</sup> Touch-screen capability requires appropriate software installed on the PC connected to the display. This software does not come with the display.

<sup>7</sup> On-site service applies to the continental U.S. and Canada only and may not be available in all locations. In those areas where on-site service is provided, a technician will be dispatched, if necessary, following efforts to resolve the problem by telephone support.

# Consumer Watch

## Strategies for Selling Your Old Tech Equipment

BY PATRICK MILLER

IT'S NOT YOUR fault that manufacturers continually create faster processors, slicker smartphones, and bigger TVs. For instance, in all probability you didn't write letters to companies, demanding that they invent a high-definition camcorder that would fit in your pocket. But at this point, the inescapable facts are that someone made 'em and now you want 'em.

Unfortunately, the piles of old gadgets accumulating in your desk drawer and closet are beginning to make you feel just a little bit guilty; and of course you can't always afford to lay down more cash to gratify your need for the newest, shiniest stuff. Don't worry—we'll walk you through what you can sell and where to sell it so you can turn your tech antiques into 2010's latest and greatest. (For a greatly expanded version of this story, see [find.pcworld.com/70212](http://find.pcworld.com/70212).)

### Deciding What to Sell

Before you start listing your unwanted stuff on eBay, sort out which items are worth the investment of time required to sell them. Laptops are prime candidates for resale, though the price they fetch will depend heavily on their age and on how much they cost when brand-new. Higher-end business or professional laptops can be compelling buys, even if they're two or three years old—especially if they have a current operating system and decent specs. On the other hand, older netbooks and low-cost all-purpose laptops are likely to have a tough time competing against the low-end lineup of new models.

Desktop PCs are similar to laptops in their selling profile: Models that were midrange to high-end three years ago can sell for a price roughly equivalent to a current low-end to average model, but budget desktop PCs are harder to resell.

### Choosing a Suitable Place to Sell Your Gear

Where you sell used tech items can be as important as how much they're worth. Though eBay and Craigslist remain the obvious go-to sites, you have a few other online options to consider before you start creating that auction listing.

The smoothest tech transaction I've ever experienced happened through Facebook: A friend of mine posted a used Dell desktop on his profile for \$200, which I was more than happy to take off his hands.

Since he was local, my friend had no problem responding to my questions before the sale, delivering the PC to my house, and dropping off some extra S-Video cables when the ones he originally sold me didn't work; he even offered to refund my money if I wasn't happy with the system after a week of playing with it. Meanwhile, my buddy avoided having to box and ship the PC, and having to pay eBay and PayPal fees.

Selling on eBay and Craigslist takes longer than you might expect, and the hassle of managing and shipping multiple eBay auctions—or of setting up times and places for a series of Craigslist customer meetups—often isn't worth it. This is especially true for older items that may not sell right away.

To reduce the time and effort you spend on each sale, consider using one of a handful of Websites cropping up that >>

Need some extra cash to buy the latest and greatest equipment? Here's how to turn your old tech toys into some brand-new gear.



ILLUSTRATION: ADAM MCCAULEY

PCWORLD.COM

For tips on how to remove all of your data and other content from a PC or laptop hard drive prior to reselling the system, see our video "How to Completely Erase a Hard Drive" ([find.pcworld.com/70253](http://find.pcworld.com/70253)).



## SKEPTICAL SHOPPER GINNY MIES

### Enhanced Advertising in Augmented Reality

HAVE YOU EVER found yourself in an unfamiliar city with no clue about where to go and what to see? What if

you could just hold up your phone, snap pictures of your surroundings, and discover interesting local restaurants and landmarks? With augmented-reality apps, you can do just that. But advertisers are jumping on the trend as well, so the same application that reveals intriguing potential destinations might also bombard you with ads for nearby fast-food chains. Can augmented reality actually be useful for consumers, or is it simply another way for corporations to get a hand in your wallet?

Augmented reality is a technology that couples physical reality with computer-generated imagery. You see it on TV all the time. One simple example is the first-down lines that sports networks display during broadcasts of football

games. Augmented reality isn't limited to location-based applications, however; a number of games, browsers, Wikipedia-based apps, Twitter clients, and the like use the same technology.

#### Brightkite Gets Noisy

One very popular augmented-reality app is Brightkite. Marketed as a "real time social discovery network," Brightkite lets users "check in" at restaurants, bars, and other public places and then see who is in the area and who has been there before. Back in December 2008, the application started showing advertisements for nearby businesses in its augmented-reality view.

When they launched, the ads were fairly unobtrusive, appearing at the bottom of your phone's display. Now, however, giant logos for Starbucks and McDonald's invade your screen if you're close to one of

Augmented-reality mobile applications can seem incredibly cool—until they become cluttered with sales pitches.

those chains' outlets. And if you click on the logo, you get additional information about the retailer and the various products it carries. I think that these advertisements violate what Brightkite said its mission was—social networking. Does anyone make friends based on whether or not they dine at McDonald's?

If you frequently use Google Maps and Google Street View, you may have noticed that local businesses are now highlighted when you're getting directions. This is

helpful, I suppose, if you need to

stop for a gift on your way to a party or need a caffeine boost before a big job interview. For the most part, however, they're pretty distracting, especially when you're trying to navigate through an unfamiliar area.

And the assault doesn't stop at pop-up advertisements:

For example, a blank billboard in San Francisco's Union Square can become an ad for Levi's when the photo previews on your phone. Using GPS, advertisers can pinpoint various locations for ad campaigns and implement a digital overlay when the user snaps a picture.

It's an interesting concept, like many other augmented-reality apps, but it's also problematic. If the advertisements overwhelm everything else, consumers are going to get burned out on these apps very quickly. Rather than creating more logo clutter for consumers, the advertising partners should offer app users special deals or discounts on their products. To "augment" means to supplement or make greater, but a virtual world overloaded with marketing messages isn't exactly better than the real thing.



serve as brokers for sales of used tech.

Sites such as BuyMyTronics.com and Gazelle ([www.gazelle.com](http://www.gazelle.com)) will let you get instant price quotes on (most of) your used stuff. Just go to the site, select your devices from the menu, and fill out a few additional details such as each item's condition and any included equipment (manuals, cables, and so on), and you'll get an estimate for each one.

If you decide to okay the sale, the company will send you a shipping container to send the device to its office. Depending on the company's assessment, you'll get a check for the estimated amount or for less; if the service decides that it doesn't want to buy the item, it will offer to recycle it for free.

Of course, what BuyMyTronics and Gazelle offer in convenience, they take back in price. My verdict: For expensive items like PCs, use the bigger selling sites; the massive price difference may justify the extra trouble. For gadgets that you just want to get rid of, sites like Gazelle can help you clear out your tech drawer with minimal fuss.

#### When to Sell Your Stuff

Once you've figured out what you can sell and how you want to sell it, the next decision you need to make is when to pull the trigger. This is particularly important for PCs: Selling before a big announcement of the next-generation gear could translate into a difference of as much as 10 to 20 percent of the selling price—in the space of a day or two.

If you know from the outset that you'll want to resell a piece of tech gear, buy an extended warranty on it. Such warranties are great for driving up the resale price of a used PC; after all, a PC with a manufacturer's warranty on it is worth more than that same PC without.

Buyers are also more likely to want a used PC with a manufacturer's warranty because buying a used PC online is like buying a used car online: You don't even get a test drive, much less a check-up with a mechanic. If you purchase a lemon and the seller vanishes, you might still be able to get a usable PC out of it.



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## ON YOUR SIDE

MARLA MIYASHIRO



I BOUGHT A KDS K-24MDWB monitor from Newegg in March 2008. Newegg and KDS both listed the monitor as having a three-year parts and labor warranty. When the monitor wouldn't power on, I contacted KDS, and it said it wouldn't warrant the monitor because I didn't purchase it from ASI, the exclusive distributor for KDS monitors in North America. Neither the Newegg site nor the KDS site said I had to buy the monitor from ASI for the warranty to be valid. Can you do anything to help me?

*Sherry Marshall, Oklahoma City*

**OYS responds:** When we contacted KDS about Marshall's problem, we were surprised to receive a response from an ASI representative. The rep explained that ASI provides warranty service for monitors, like Marshall's KDS model, that are manufactured by Proview.

Another ASI representative told us that the company should have honored Marshall's warranty. After we got involved, ASI agreed to repair Marshall's monitor; but when it couldn't obtain the needed parts, the company offered to replace the unit with a slightly larger one from a different brand. Marshall accepted the offer and now has a 25-inch Hanns-G monitor with a three-year warranty.

If a company denies you the service you're entitled to, don't give up. You may have to talk to a number of people before finding one who will help you, but your persistence should pay off. If you're buying from a third-party retailer (like Newegg or Amazon), make sure you understand whether the product's warranty policy is through the manufacturer or the seller before you make that purchase.

### Hard-Drive Headache

Pat Fanning of Aurora, Colorado, was unable to start up her Dell Inspiron 1420 laptop. During a tech support call, a Dell technician told her that the hard drive was damaged, so she ordered a new one (the machine was out of warranty). Fanning checked her order status regularly online, only to see the estimated arrival date pushed back repeatedly.

She called Dell numerous times, sent e-mail messages, and spoke with various customer service representatives, but all she was told was that the drive was "in



production"—for six months. Thoroughly frustrated, Fanning asked us for help.

After we contacted Dell, a company representative not only shipped Fanning the new hard drive at no cost but also refunded the support-call fee.

### HP Expands Battery Recall

Hewlett-Packard, in cooperation with the U.S. Consumer Product Safety Commission, is recalling about 54,000 lithium ion batteries used in assorted HP and Compaq laptop PCs (check out [www.hp.com/support/BatteryReplacement](http://www.hp.com/support/BatteryReplacement) for a list of models and battery bar codes). In May 2009, HP recalled 70,000 notebook PC batteries; since then, the company has received 38 additional reports of batteries that overheated and ruptured, resulting in 11 minor injuries and 31 instances of minor property damage.

HP and Compaq laptop owners should immediately remove the battery from their laptop and contact HP to determine whether the battery is included in this recall, even if it was previously checked. The company will send affected consumers a free replacement battery. For more information, call HP at 888/202-4320.



## AT&T Boosts Fees for Early Termination

AT&T HAS BOOSTED the fee that it charges customers who terminate their smartphone contracts prematurely.

The June 1 change increases the penalty for contract busting to \$325 (up from \$175) for both smartphones and mobile-broadband-enabled netbooks. At the same time, AT&T lowered the early-termination fee for less-advanced "feature phones"—including messaging and flip phones—from \$175 to \$150.

The altered fee structure will apply to new and renewing customers, but not to current AT&T subscribers.

Why the change? "We thought it was fair to have people who have less expensive phones, like feature phones and quick-messaging devices, to pay a lower early-termination fee. We also felt it was fair that people who have more expensive devices like smartphones should have a higher fee," AT&T spokesperson Mark Siegel told *PCWorld*.

The penalties are prorated. For instance, the standard \$150 fee declines by \$4 per month for each completed month of the 24-month contract. For smartphone users, the \$325 fee drops by \$10 per month for each completed month of their two-year plan.

Potential AT&T customers who dislike the higher early-termination fees are welcome to sign a month-to-month plan, Siegel says. Unfortunately, they will also have to pay the full \$599 sticker price for the iPhone 3GS.

—Jeff Bertolucci ●

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# Business Center

## Managing Smartphones in Your Business

BY TONY BRADLEY

SMARTPHONES HAVE EVOLVED from relatively simple mobile communications devices to robust palm-sized computing platforms that have transformed travel time from a loathsome efficiency drag to a productive part of any workday. Workers can now go more places with less downtime. But this benefit is offset somewhat by the burden they place on IT administrators to support them, and the security risks of carrying sensitive data on them.

A recent RingCentral survey shows how attached business professionals have become to their smartphones. An overwhelming 83 percent of those surveyed would give up their morning cup of coffee before their phone. Nearly 80 percent cite their smartphone as the phone they use most to conduct business. Clearly, businesses need to get control of this vital communications channel.

### The Challenges

In many companies—especially smaller ones—employees show up with their own smartphones in hand, and the IT department must determine how to effectively integrate this hodgepodge of BlackBerrys, Android devices, iPhones, and Windows Mobile handsets into the infrastructure.

Failure to do so means lost opportunity in streamlining important daily business functions such as scheduling and collaboration. It could also mean severe liability if sensitive customer or proprietary data escapes your control via a lost handset at the airport. But accounting for and delivering centralized services to all these phones is a very real challenge.

The productivity of mobile devices comes with security and support problems for small businesses. Here's how to take control.



If IT administrators have the right tools to monitor and maintain them, smartphones can be invaluable. Let's examine some of the applications available to manage smartphones.

**BlackBerry:** Research in Motion's BlackBerry Enterprise Server (BES) lets corporate IT departments control mobile messaging systems internally. But it's too complex and costly for a small business.

RIM has introduced a variation of BES for the small-business market—BlackBerry Enterprise Server Express (find [pcworld.com/70177](http://pcworld.com/70177)). A free download, it lets a small company deploy and manage up to 75 BlackBerry devices without additional software or user license fees.

On a dedicated server, BES Express can support up to 2000 BlackBerry smartphones. But it has some limitations: For example, it doesn't work with IBM Lotus, Novell, or Groupwise, and it can't interact with public instant messaging clients such as AIM or Google Talk.

**Windows Mobile:** Microsoft Exchange contains the basic capabilities IT administrators need to deploy and maintain Windows Mobile smartphones. Exchange ActiveSync policies provide IT administrators extensive control over the phones. ActiveSync can automatically provision Exchange e-mail access and let IT administrators control which apps can run on the smartphones.

For more robust control, smaller companies can use Microsoft System Center Mobile Device Manager (MDM) 2008 (find [pcworld.com/70178](http://pcworld.com/70178)) to manage Windows Mobile 6.1 and 6.5 devices. MDM provides mobile VPN functionality >>

ILLUSTRATION: MICK WIGGINS

PCWORLD.COM

More and more, companies are letting employees use their own smartphones for work. For a look at some of the issues involved, see "Who Should Own Your Smartphones?" ([find.pcworld.com/70176](http://find.pcworld.com/70176)).

for secure access to network-based resources and allows IT administrators to remotely wipe data from a smartphone that is lost or stolen.

**iPhone:** The iPhone has forced its way into the corporate culture, and Apple has developed the tools small businesses need to simplify and centralize management of the iPhone. Its iPhone Configuration Utility 2.0 ([find.pcworld.com/70179](http://find.pcworld.com/70179)) provides IT administrators with capable tools that permit them to set passcode policies and block iTunes Store access, for example.

**Android:** Though the Android platform is still nascent, it has the advantage of being an open-source OS. The downside of Android for business use is that tools and applications for centrally deploying and managing Android devices are scarce. If your company uses Google Apps Premier Edition to manage e-mail and calendar services, however, Android can be a great option.

## Herding the Cats

Such OS-specific options still leave the challenge, for small businesses, of managing a diverse portfolio of employee-owned smartphones that span platforms.

The safest bet is to identify which of your users actually need mobile access and give them a business handset that you tightly control. That way, if it gets lost, you can wipe it remotely and keep damage to a minimum. Forbidding users from accessing e-mail and other internal resources from their smartphones, unless their job duties require it, may also be good policy.

Or consider a third-party cross-platform approach such as Good Mobile Control, from Good for Enterprise ([find.pcworld.com/70175](http://find.pcworld.com/70175)). GMC provides IT administrators with smartphone management tools that include over-the-air device management, granular and consistent enforcement of mobile security policy, and end-to-end visibility for troubleshooting and support, with client applications for iPhone, Android, Windows Mobile, and other smartphone platforms.

## NET WORK TONY BRADLEY



### Don't Let Your PCs Join the Zombie Hordes

A ZOMBIE computer—or “bot”—lets an unauthorized person gain control

over it. A hacker, a malicious Website or e-mail, or a tainted USB thumb drive is typically the source of infection. The zombie (or bot) patiently waits to be summoned to perform some nefarious task—often as a part of an army of tens of thousands, or even millions, of zombie PCs, called a botnet.

Attackers can access lists of zombie PCs and activate them to help execute DoS (denial-of-service) attacks against Websites, to host phishing Websites, or to send spam e-mail messages. Tracing an attack

back to its source leads only to an unwitting victim rather than the true attacker.

#### Identifying a Zombie PC

Zombie infections are good at hiding so they are not noticed—and escape removal. They often have file and process names similar, or even identical, to normal system file names and processes so users won't think twice if they do see them.

Fortinet, a network security company, recently issued a Zombie Awareness Month Computer Survival Guide to help users defend against a zombie invasion. According to the guide, “the most likely way a computer becomes infected is by [its user] landing on a malicious link.”

Short, cryptic messages telling users to watch a video clip (or asking “Is this you in this video?”) and containing a shortened or obfuscated link that hides the true destination URL have plagued Facebook and other social networks.

Even after clicking on the malicious link, you may be unaware that your PC has been compromised or infected. The invader will try to send the same message—with the same cryptic video link—

Learn how to ensure that your network's computers don't become compromised.

to your contacts, but your friends may think that the message is suspicious and wonder why you would send a video link.

As the Fortinet guide explains: “A smart friend will ping you and ask, ‘Why did you send this video to me?’ If you know you didn't send a video link to your friend, you

can pretty much bet you've become infected or that your account is compromised.”

#### Protecting Against Zombies

Antimalware utilities, if you keep them up-to-date with the latest signatures, will proactively

protect PCs from most zombie or bot infections. But the signature-based security model always has a lag that leaves your systems vulnerable to a new attack while the security vendors develop detection tools for the new threat.

“The best way to disable [a zombie infection] and then kill it is to quarantine it (and the best way to do that is to disconnect the suspected zombie from the network),” Fortinet's guide says. “Then run a virus scan, which, if your software's up to date, should find it and rub it out.”

The guide concludes: “Zombie computers can be quite devious. Therefore, the best line of defense is to prevent infection in the first place; an initial infection can grow worse over time.” That means using antivirus software, firewalls, and so-called unified threat management (UTM).

The very best defense, though, is common sense along with a healthy dose of skepticism. User awareness is an IT administrator's friend. You want your users to be the friend who contacts the source of a funny-video message to tell that person about the suspicious message and warn that their PC may be a zombie.



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## TECH AUDIT

### Going Digital Saves Medical Practice Money, Improves Patient Care

FOR THREE DECADES, a Phoenix-based medical practice of four physicians used virtually no digital communication among its three offices. The practice, Associated Gastroenterologists, lacked e-mail and an intranet, and had no system to centrally manage technology, data storage, or security.

Instead, 55 employees shared information by faxing or carrying paper charts by hand. Staff wasted time hunting for records on 140,000 patients. Dictating data from printed forms into Microsoft Word and storing paper files ran up costs. On 30 desktop PCs connected to a peer-to-peer network, Internet activity was limited to accessing a remote billing system and a few managers' e-mailing vendors over Windows Live Mail.

The practice wanted to cut costs and improve efficiency by migrating to electronic record-keeping and adopting software to handle scheduling, billing, and reports.

#### The Solution

To enable the offices to communicate, itSynergy, a technology consulting firm also based in Phoenix, established a Microsoft Windows Small Business Server network as a wide-area network. We set up eight SonicPoint wireless access points across the offices, and SonicWall TZ200 and TZ210 firewall devices to provide security and a site-to-site VPN. A Microsoft Hyper-V server for the main office runs both Microsoft Windows Small Business Server 2008 and Windows Server 2008 32-bit, with Microsoft SQL Server 2005 in separate virtual machines. We added two more Dell PowerEdge T410 servers at the other offices, with each machine running Microsoft Windows Server 2003 R2 32-bit and SQL Server 2005.

After several months of testing and customization, we installed GloStream GloEMR software ([glostream.com](http://glostream.com)) to manage medical records, and GloPM for scheduling, billing, and reporting on 45 Dell Optiplex workstations and 10 Dell Latitude laptops. Dragon NaturallySpeaking voice recognition within GloEMR lets doctors dictate exam notes that instantly become part of a patient's chart.

A digital overhaul frees up funds and streamlines communication for doctors' offices.

The practice no longer snail-mails letters to a referring physician; the system now faxes those automatically once an exam is complete. Doctors can send prescriptions electronically to the pharmacy, saving time and potentially eliminating errors caused by messy handwriting; GloEMR's database also flags prescriptions that might react badly with other medications a patient is taking.



GLOSTREAM OFFERS ELECTRONIC medical records software that helps medical offices not only manage records but also do scheduling, billing, and reporting.

Laptops for the physicians, remote staffers, and managers run a mix of Windows 7 Professional and Vista Professional with Office Standard Edition. Backups to servers are scheduled every 15 minutes, with the capability to virtualize a backed-up server. Backups are shipped offsite every 24 hours and replicated to two far-flung data centers. We provide software training as well as ongoing assistance with network infrastructure and support.

#### The Payoff

With the new systems in place, staff members at last could communicate and view patient records electronically, getting on the same page at the same time. Reducing the costs of transcribing medical records immediately saved the business money. Longer term, as data populates the record-keeping and practice management systems, staff will be able to produce business reports that examine trends in billing and claims processing. The practice benefits from enhanced record-keeping, efficiency, and patient care.

—Michael Cocanower, itSynergy

For more real-world tech solutions for small and midsize businesses (including cloud services, virtualization, and network overhauls), check out PCWorld's Tech Audit ([find.pcworld.com/64147](http://find.pcworld.com/64147)). ●

#### MEET THE PROS

### itSynergy

MICHAEL COCANOWER IS president of Phoenix-based itSynergy, a Microsoft Gold Certified Partner and Small Business Specialist, and a Windows Small Business Server MVP. The top GloStream Certified Partner in Arizona, itSynergy has a health-care solutions practice based on electronic medical records and practice management consulting. Contact the firm at 602/297-2400 or [www.itsynergy.com](http://www.itsynergy.com).

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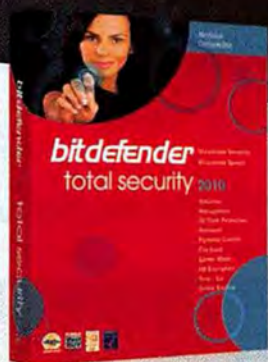
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Cybercriminals are smart.

good thing we're smarter

Cybercriminals have gotten good. How good? Now, their attacks can lay dormant, fooling many anti-virus products. Then, when your computer is vulnerable... they attack.

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STAPLES

# Security Alert

## Cross-Site Scripting: An Old Problem Returns

BY ROBERT VAMOSI

IN MAY, WEB security consultant George Deglin discovered a cross-site scripting (XSS) exploit that involved Facebook's controversial Instant Personalization feature (see page 40 and visit [find.pcworld.com/70207](http://find.pcworld.com/70207)). The exploit ran on Yelp, one of the three sites that Facebook had selected to test Instant Personalization. Deglin was able to obtain not only Facebook profile information shared with Yelp but also the e-mail addresses for that profile's Facebook friends—a potential gold mine for marketers and spammers alike. Shortly after Deglin's XSS flaw was fixed, another one surfaced on Yelp, so Facebook temporarily suspended the Instant Personalization program on that site.

XSS-based attacks are not new, but the rise of social media adds a new wrinkle.

### An XSS Primer

The most common XSS attack method uses e-mail: A criminal appends special characters, such as those of a foreign language, to an ordinary URL. These characters might tell a Web server to run a script that the crook has crafted. For

example, say an attacker appends such a script to your bank's URL and e-mails it to you. If you click the link, believing that it's legitimate e-mail from your bank, your browser sends the script to the Web server, which runs the malicious code and passes a browser cookie with your bank login details to the attacker, who can then log in to your online banking account.

Another type of XSS attack stores the malicious code on a

Web server. The attacker logs in to an e-commerce site, for instance, and posts a message containing a script. Some days later, you log in to the site and read the tainted post. As before, the script steals the cookie with your login information and passes it to the bad guy, who can then impersonate you.

A third type of XSS attack hits the Web browser itself. In this scenario, the attacker places a poisoned Flash file on a

site that you visit. When your browser downloads the video, the file triggers a script in the browser, and the attacker can then control elements of the page inside your browser.

When two Websites work together, it can cause security issues for you. Find out how to guard against this persistent threat.



### Web 2.0 and XSS

Today's Websites do a much better job of filtering out common XSS attacks than sites did in the past, but what happens when two sites with very different content-filtering needs decide to partner?

Say you click an ad on site A. Unbeknownst to you, that ad contains an XSS attack that silently directs your browser to site B, a travel site that has full access to your social networking profile. With an XSS attack, to become a victim you wouldn't have to visit site B, log in to it, click anything there, or even know that it

exists. Because site B already has access to your social networking profile (and perhaps information on your friends), the criminals behind the ad on site A now have access to that information as well. That's what is starting to happen with Web 2.0 mashups similar to the Facebook-Yelp collaboration.

Unfortunately, sites can't prevent XSS attacks simply by encrypting connections. SSL (Secure Sockets Layer), indi- ➤

**Browser "tabnapping"—in which phishers secretly change already-open tabs—is an emerging security threat. Learn more about it, and what you can do to protect yourself, at [find.pcworld.com/70210](http://find.pcworld.com/70210).**

cated by the little padlock that appears in the toolbar when you browse to an encrypted site, merely encrypts the attack. Generally, site designers have to lock down sites to prevent XSS exploits.

Users have two ways to avoid XSS attacks. One is to ignore links from one site to another: If site A links to, say, [somerandomsite.com/page](http://somerandomsite.com/page), instead of clicking that link you would go directly to [somerandomsite.com](http://somerandomsite.com) in another tab and find the page using the site's search feature. This technique is effective against XSS attacks embedded in the linked URL, but it's inconvenient—and it doesn't help when two sites share content. The other method is to disable scripting languages such as JavaScript within your browser. Even though this can disable desirable features on some sites, you may find it tolerable.

## Blocking Dangerous Scripts

Internet Explorer 8 was the first browser to have script-blocking XSS protection built in; Google Chrome soon followed. Both check to see if a script from a Web server is malicious—if it is, they block it. In April, researchers David Lindsay and Eduardo Vela Nava demonstrated ways to neutralize this approach (see the report PDF at [find.pcworld.com/70209](http://find.pcworld.com/70209)), but by that time Google had already fixed the problem in Chrome. Microsoft had corrected most of the issues in January and March, and planned to fix a third flaw in June, so the issue may be fully resolved by the time you read this.

Firefox users can employ the free NoScript ([find.pcworld.com/70213](http://find.pcworld.com/70213)) add-on to selectively block scripts. For instance, you can unblock a Flash video while blocking other script components on the site. IE and Chrome aren't nearly as granular in blocking suspect scripts.

One problem with NoScript is that most users don't like the inconvenience of individually unblocking scripts. But blocking and unblocking typically become second nature. You can also authorize all scripts on a given site for a single visit or all future visits, something you can do in IE 8 and Chrome, too.

## BUGS & FIXES

JAMES MULROY

### Flaws Plague Microsoft and Adobe Again

BUGS SURFACING IN recent weeks include Windows vulnerabilities that

could allow bad guys to enter your computer, as well as flaws in Adobe Shockwave Player and Photoshop that could permit attackers to run malicious code and possibly commandeer your system.

The Patch Tuesday fix that Microsoft released on May 11 includes two critical updates. The first addresses a vulnerability in Outlook Express and Windows Mail that could allow remote execution (that is, attackers could do whatever they want with your PC) if you visit a malicious e-mail server. This update is rated critical for Outlook Express on all supported editions of Windows 2000, XP, and Server 2003, and for Windows Mail on all supported editions of Windows Vista and Server 2008. See [find.pcworld.com/70189](http://find.pcworld.com/70189) for the full details.

The second update ([find.pcworld.com/70190](http://find.pcworld.com/70190)) corrects a flaw in Visual Basic for Applications that "could allow remote code execution if a host application opens and passes a specially crafted file to the Visual Basic for Applications runtime." If you logged in as an administrator on your PC, attackers could potentially take control of your system, install programs, and view, change, or delete data. Microsoft says this critical update applies to all supported versions of Visual Basic for Applications and to any program that uses it. The update is also important for all supported editions of Microsoft Office XP, 2003, and 2007.

Microsoft recommends that users acquire both of these updates. If you do not have automatic updating turned on, the company suggests downloading these critical updates manually. You can do so by going to Control Panel, selecting the *Windows Update* icon, and then clicking

Patches address Outlook Express and Windows Mail; updates fix Shockwave.

*Check for Updates.* You can learn more about the flaws—and download patches manually—at [find.pcworld.com/70191](http://find.pcworld.com/70191).

## Adobe Corrects Remote-Execution Vulnerabilities

Adobe has released a critical update for Shockwave Player 11.5.6.606 and earlier versions on Windows and Mac OS X. The update fixes a multitude of problems, all related to remote execution; to read about them, go to [find.pcworld.com/70192](http://find.pcworld.com/70192).

Adobe recommends updating to the latest version of Shockwave Player, 11.5.7.609 (though it's possible that another update will be released by the time you read this). Download the latest at [get.adobe.com/shockwave/](http://get.adobe.com/shockwave/). Adobe also issued an

update for Photoshop CS4 to patch holes that could allow an attacker to control your PC. This problem affects both Windows and Mac users. The company says that "a malicious .ASL, .ABR, or .GRD file must be opened in Photoshop CS4 by the user for an attacker to be able to exploit these vulnerabilities."

The affected versions are Photoshop CS4 11.0.1 and earlier for both Windows and Mac. Adobe recommends that customers update to Photoshop CS4 11.0.2 to resolve these issues. The vulnerability does not apply to users of version CS5. Windows users can download the update from [find.pcworld.com/70193](http://find.pcworld.com/70193); Mac users can find it at [find.pcworld.com/70194](http://find.pcworld.com/70194).



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## Researcher Says Crooks Target Users, Not OSs

WHO HAS THE safest operating system? Apple? Google? Microsoft? According to one security expert, what really matters is who's using the OS.

"Microsoft doesn't have a monopoly on all the technical vulnerabilities that are out there," says Zulfikar Ramzan, technical director of Symantec Security Response. Today's online criminals are far more likely to target user behavior. "You don't need as many technical skills to find one person who might be willing, in a moment of weakness, to open up an attachment that contains malicious content," says Ramzan.

Currently, only about 3 percent of the malware that Symantec encounters exploits a technical flaw. The other 97 percent is either "piggybacking on that 3 percent" or more likely trying to trick a user through some type of social engineering scheme, according to Ramzan.

What can you do? Treat any inbound inquiry with a healthy degree of skepticism. "That should apply to all forms of communication—not just e-mail, but even phone calls," says Ramzan.

No computer or operating system is 100 percent secure, of course. "People have tried to attack Microsoft's products because of the [huge] market share," Ramzan says. But if Google's upcoming Chrome OS takes off in the business and consumer markets, it will have a big target on its back too.

—Jeff Bertolucci

## PRIVACY WATCH

ERIK LARKIN



### Can You Really Trust Facebook?

RESPONDING TO YET another user uproar, Facebook recently made efforts to simplify its privacy con-

trols and introduce some other welcome changes. They're good steps to take—but considering that Facebook had to be forced to respect users' basic wishes regarding their own information, it suggests a serious disconnect in how the company and its users view privacy.

In January (see [find.pcworld.com/70183](http://find.pcworld.com/70183)), CEO Mark Zuckerberg had said that his company was updating its systems to "reflect what the current social norms are." So when Facebook announced in April that it would automatically enroll users into new features such as Instant Personalization—which handed users' publicly available Facebook info to selected Websites that users visited—the

implication was that users' wishes, not the company's bottom line, prompted the move from a largely private system shared only with approved friends to a largely public system that freely gave data to search engines, marketing companies, and anyone else who wanted it. (For a graphic that makes this evolution crystal clear, visit [find.pcworld.com/70184](http://find.pcworld.com/70184)).

#### Facebook Users Revolt

The shift suggests that, according to Facebook, the current social norm is to share everything with everyone. But many users clearly disagree, judging from the spike in the number of people searching in Google for "delete Facebook account" ([find.pcworld.com/70185](http://find.pcworld.com/70185)).

In May, reacting to complaints, Facebook drastically simplified its labyrinthine privacy controls. Instead of having to sift through as many as 50 settings

The social network's privacy policy has come under scrutiny yet again. Is Facebook doing enough to guard your data?

and 170 options (according to a count by the *New York Times* at [find.pcworld.com/70186](http://find.pcworld.com/70186)), users see a chart outlining which info is shared with everyone, with friends of friends, or with friends only. Just as important, Zuckerberg says (at [find.pcworld.com/70187](http://find.pcworld.com/70187)) that the company will no longer arbitrarily change those settings when new controls or features are added.

Good moves. But it's beyond me as to why any business would have to be

forced to acknowledge that reversing a user's privacy control changes to make previously personal information public is a bad idea.

If you're willing to stick with Facebook to see if the clue-bat whacking takes hold this time, try a tool

that can hedge your bets. Originally made to assist with the previous sorry maze of privacy controls, a bookmarklet from ReclaimPrivacy.org can scan your settings and report whether you might be sharing more than you'd like. Its creator, Web developer Matt Pizzimenti, says his organization will be keeping the tool updated to scan the newly simplified settings as well as any future controls, in part because he believes that the current defaults are still too open for comfort.

Wondering what the fuss is about? Data-mining firms are vacuuming up this now-public information for marketing and advertising databases. One company, Marketo.com, offers to "monitor what prospects say on social sites" for use with sales leads ([find.pcworld.com/70188](http://find.pcworld.com/70188)).

For some people, that may very well be today's social norm. Me, I still think there's such a thing as privacy. ●



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# Reviews & Rankings

## 4G Devices Take Flight

CHATTER ABOUT 4G has reached an all-time high thanks to the debut of HTC's EVO 4G smartphone (see page 46 for a review, and go to page 10 for an informal look at its 4G speeds). So named because they tap into the fourth generation of wireless networks in the United States, 4G services rely primarily on two technologies: WiMax and LTE (Long Term Evolution). With 4G you can achieve four to ten times the speed of 3G.

Sprint and Clearwire have partnered to deploy the largest 4G network in the U.S. to date; we looked at the first wave of devices for connecting to it. Sprint and Clearwire each offer branded 4G data services that use the same wireless-network backbone. Verizon expects to launch its LTE service by the end of 2010, and AT&T will

### MORE ONLINE

For reviews, news, and how-to articles covering 4G and other networking topics, go online to [find.pcworld.com/70174](http://find.pcworld.com/70174).

These modems and mobile hotspots will make your data fly over new wireless networks.

have its service up in 2011.

Three of the four products here—the Clear Spot, the Overdrive, and the U301—can work on both 3G and 4G networks. They're good options if you want to remain connected anywhere and to take advantage of 4G's higher bandwidth when you're in a 4G city.

### Clearwire 4G USB Modem and Clear Spot

The Clear 4G USB Modem, a Clearwire-branded Motorola USBw 25100 WiMax adapter, is basically a 4G radio on a USB stick. The modem is fairly easy to set up, and an included USB elbow adapter helps you face the antenna in the optimal direction (typically out a window). The modem costs \$70 from Clear without a contract, or you can lease it for \$4 per month with a two-year contract. For people who never need to connect outside the range of a 4G network (see the coverage map at [www.clearwire.com](http://www.clearwire.com)), this modem might be a fine choice; Clearwire's WiMax network is running in 36 cities currently, and the company will be adding more U.S. locations in the near future. Anyone who travels frequently, or who lives in one of the many non-4G cities, would be better off with a dual-mode 3G/4G modem.



THE CLEAR 4G USB Modem is handy if you're in a 4G area.

clearwire.com), this modem might be a fine choice; Clearwire's WiMax network is running in 36 cities currently, and the company will be adding more U.S. locations in the near future. Anyone who travels frequently, or who lives in one of the many non-4G cities, would be better off with a dual-mode 3G/4G modem.

The drivers are simple to use and install. Credit goes to Clearwire for moving beyond Windows-only driver support: Mac OS X support is available on the Clear download site, and Linux drivers are easily found in places such as SourceForge.

I ran five speed tests in Honolulu and in Las Vegas, and found throughput numbers that were scattered all over the map, as well as high signal-latency numbers in many of the tests. In my (admittedly limited) Honolulu tests, I saw average download speeds of 2.1 megabits per second and upload speeds of 1.8 mbps; download speeds ranged from 1.2 mbps to 3.9 mbps. In my Las Vegas tests, I saw average download speeds of 3.2 mbps and average upload speeds of 1.7 mbps;

★★★★ GOOD

Clear 4G USB Modem | Clearwire  
Fast and easy to set up, but won't connect outside 4G's limited reach.  
List: \$70  
[find.pcworld.com/70196](http://find.pcworld.com/70196)



46 HTC EVO 4G



48 ENTOURAGE EDGE



52 SEAGATE MOMENTUS XT



60 JABRA CRUISER

download speeds ranged from 3.1 mbps to 4.3 mbps.

Another Clearwire product, the Clear Spot, is a compact 4G router that you can share with up to eight Wi-Fi devices. At \$140, the unit provides a viable and convenient way to maximize your 4G connection, but its built-in battery lasts only 2 to 3 hours.

A rebranding of Cradlepoint's PHS300CW, the Clear Spot measures 4.7 by 2.9 by 0.8 inches and weighs 3.5 ounces. This minimalist device has one USB port for connecting the Clear 4G USB Modem (or another modem), as well as a power switch and a power connector. Setup is simple.

My testing went smoothly. Once all three LEDs are green, indicating that the device is connected and logged in, you should be able to browse for the Clear Spot's wireless SSID with no extra software. It's when you try to use a 3G USB modem or to tether the Clear Spot to your 3G or 4G phone that you need to consult the compatible-device list at [find.pcworld.com/70200](http://find.pcworld.com/70200), as well as to check with your wireless carrier (not every carrier is tethering-friendly).

I noticed that the Clear Spot handles IP addressing differently than other Clearwire products do. The company's home modem gets only private (NAT) addresses; you need a Clearwire Professional subscription to have a public address assigned in the form of a static IP address. By contrast, the Clear-

Spot hotspot, a savvy subscriber could set up a Web server or a gamer rendezvous server, without additional software.

—Brian Chee

### Sprint Overdrive 3G/4G

Made by Sierra Wireless, the Overdrive 3G/4G is Sprint's first mobile hotspot that, as its name suggests, works on

The battery-powered Overdrive fits easily in a shirt pocket and can share your cellular data connection with up to five Wi-Fi-capable devices. When it can't connect with a 4G network, it reverts to Sprint's 3G or 2G service, depending on what's available.

I traveled with an Overdrive through several of Sprint's 4G and 3G cities, along with a number of laptops and smart devices (an iPhone 3GS, an iPad, a Motorola Droid, and an HTC Hero). I often stowed the Overdrive in my coat pocket or in my backpack.

A simple yet comprehensive browser interface guided me through configuration and setup. An external LCD on the unit delivers status messages; if you like, you can make it show your Wi-Fi password as a reminder.

The single power/control button was sometimes slow to respond in my hands-on testing. Another drawback: The Overdrive took a full minute to boot up.

Since the device has GPS on board, you can view the unit's position in Google Maps; it also includes a MicroSD card so you can >>



SHARING YOUR 4G connection via Wi-Fi is easy with the Clear Spot.

wire portable offering gets directly addressable public IP addresses from the Clearwire DHCP servers. Armed with a USB modem and a

either a 3G or 4G network.

The unit has a list price of \$350, but Sprint's current rebates bring the net cost to \$50 when tied to a two-year contract (with unlimited 4G data but a 5GB-per-month cap on 3G data for \$60 per month). These prices are the same as for laptop USB network adapters, but at least you can share the bandwidth among several devices.

★★★★ VERY GOOD

**Clear Spot** Clearwire  
Compact router capably shares 4G with multiple devices via Wi-Fi.  
List: \$140  
[find.pcworld.com/70197](http://find.pcworld.com/70197)

share files among Wi-Fi-attached devices. In my testing, though, I found the MicroSD storage less convenient than using a simple USB stick to move files.

During my tests in Sprint 4G cities, the Overdrive remained in 4G mode about 80 percent of the time. When I used the Overdrive to connect my laptop in Baltimore and in Washington, D.C., I saw download speeds of around 3.2 megabits per second and upload speeds of 400 kilobits per second.

I set the device to switch automatically between 4G and 3G service, with a preference for 4G (the default setting). Moving to 3G from 4G was quick and seamless, but the Overdrive needed between 30 and 60 seconds to jump from 3G to 4G.

On my iPhone, iPad, Droid, and Hero, 4G download speeds were substantially worse than they were on my Overdrive-connected laptop. In fact, the iPhone and iPad registered faster speeds when connected via their internal 3G radios to AT&T's 3G network than when linked via the Overdrive to Sprint's 4G network. (I should note, though, that the latest Overdrive firmware update significantly improved the iPhone's performance over the hotspot.)



#### SPRINT'S OVERDRIVE hotspot works well with laptops.

For the Droid and the Hero (which normally connect on Verizon's and T-Mobile's 3G networks), the Overdrive boosted performance by about 50 percent. Whether that improvement justifies buying an extra Sprint contract is debatable.

In 3G-only cities, all of my test devices dropped to Sprint's reliable but somewhat leisurely 3G speeds.

Like other mobile hotspots, the Overdrive has its own battery, which you recharge via Mini-USB connected to a PC or to a power outlet with a plug-in adapter. The Overdrive seems to use more power when connecting to 4G than it does when connecting to 3G; its battery life was about 4 hours on 3G and 3 hours on 4G. Recharging it from a fully discharged state took between 2 and 3 hours using the USB cable, but less than an hour using the plug-in adapter.

For power laptop users, the Overdrive is a godsend. In 4G cities, it offers higher performance (often two or three times higher) than that

of hotel or coffee-shop Wi-Fi. And for frequent travelers, offsetting hotel Wi-Fi charges easily justifies the cost of the Sprint contract.

—Ken Biba

#### Sprint U301

The Sprint U301 3G/4G USB Modem is Sprint's first wireless data modem capable of connecting to both 3G and 4G networks. Though it has a list price of \$300, Sprint's current online rebates make it free if the purchase is tied to a two-year contract with unlimited 4G data (\$60 per month). That makes it a great deal: You're not paying significantly more to get a device that will straddle current and future cellular networks.

Setting up the U301 was simple. It comes with a CD, which takes you through a Windows wizard to install a driver and a connection utility. (You can download the software from Sprint, too.) The utility sets communications parameters ("3G only," "4G only," or "best available") and initiates the connection process.

I encountered only one hitch: My Windows 7 PC already had a Sprint 3G modem installed, and the 4G modem software I was trying to install conflicted with it. After I removed the old software, I was able to install the U301 software.

Once installed, the software was easy to use. I set the unit to switch automatically between 4G and 3G service, with a preference for 4G (the default). When it could detect neither 4G nor

3G, its fallback was to find 2G (1xRTT) CDMA service. In 60 tests, however, this happened only once.

During my tests, when the 4G signal faded, the U301 downshifted smoothly to 3G mode—but when the faster network again became available, the U301 was reluctant to move from 3G back up to 4G. I usually found it easier to pop the modem from the USB slot and reinsert it; this prompted the modem to launch the utility and start searching for 4G service.

In cities with Sprint 4G, the U301 was in 4G mode an



#### THE SPRINT U301 USB modem connects to 4G and 3G service.

impressive 80 percent of the time; the other 20 percent of the time it successfully found 3G coverage (with one exception). As Clearwire and Sprint jointly grow their >>

#### ★★★★★ SUPERIOR

##### Overdrive 3G/4G | Sprint

A godsend for connecting laptops; less useful for phones and tablets.

List: \$350

[find.pcworld.com/70198](http://find.pcworld.com/70198)

#### ★★★★ VERY GOOD

##### U301 | Sprint

Delivers fast speeds on 4G, but has trouble switching from 3G to 4G.

List: \$300

[find.pcworld.com/70199](http://find.pcworld.com/70199)

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\* Product warranty is for 3 years or 6,000 hours as measured by internal projector timer.

combined 4G network, that 80 percent coverage figure will likely improve.

The U301 registered fast speeds on 4G but fell slightly short of the promised download speeds of between 3 and 6 mbps, and peak speeds of

up to 10 mbps. In my tests, download speeds averaged 2 to 4 mbps, with occasional bursts up to 8 mbps. Only 19 percent of my tests yielded downstream throughput higher than 4 mbps, and the median download speed was

1.5 mbps—the same median speed as AT&T's 3G service.

If Sprint begins delivering on its promised downstream performance, its 4G service will be offering five times the speed of typical Starbucks Wi-Fi connections; it

will also exceed wired DSL, and will rival most cable-modem Internet services. Fortunately, until that happens, the Sprint U301 will keep you well connected over 3G data services, too.

—Ken Biba

## HTC's EVO 4G for Sprint: A Multimedia Powerhouse

THE HTC EVO 4G (\$200 with a two-year Sprint contract) is easily the best smartphone available on Sprint and is second to the HTC Droid Incredible (Verizon) as the best smartphone out today. It packs powerful specs and a lot of features into a slick, stylish design.

The main drawback is that not every user will get to experience 4G connectivity—yet they'll still have to pay for it. EVO 4G owners will have to shell out \$70 per month for unlimited data, as well as to pay a mandatory \$10 Premium Data add-on fee for 4G use. Given that only a handful of cities have WiMax coverage, that extra fee strikes me as unfair.

With its 4.3-inch WVGA (800-by-480-pixel) touchscreen, glossy black bezel, and blood-red detailing, the EVO 4G is a bit imposing. At 4.8 by 2.6 by 0.5 inches, it's also a little larger than the average smartphone. Even so, it's comfortable to hold. I found the touch-sensitive



THE EVO 4G runs the attractive HTC Sense overlay for Android.

buttons responsive, as well.

Audio sounds good, and the media player supports various audio and video formats. On YouTube, pressing the HQ button in the corner of a video loads up a crisper, larger version—one that uses the EVO 4G's entire screen real estate. Better yet, no 4G connectivity is necessary.

Video playback via SprintTV was disappointing, however. The video stuttered, and the sound didn't match up. According to other reviews I've seen, SprintTV wasn't much better over a 4G connection, either.

The phone's 8-megapixel

camera has a dual-LED flash. The interface is straightforward, and it offers advanced controls such as color, exposure, and white balance. Photo quality was impressive, indoors and out. Colors were vivid but natural, and details were sharp. My only gripe was that the flash tended to blow out details and color in indoor shots.

You can capture HD video, too. I was pleased with my videos, though the results don't hold a candle to those of a 1080p camcorder. You can output photos and videos in HD quality (720p) via the HDMI port, but you'll have to buy an HDMI cable.

Last but not least, the EVO 4G sports a front-facing 1.3-megapixel camera with video recording. This feature, paired with 4G speeds, opens up exciting opportunities for app developers. I'm expecting lots of apps with integrated video chat.

### Solid Performance

For now, we can't test the phone's 4G speeds and features, as San Francisco does not yet have 4G coverage. (To read about one editor's informal experiences with the handset in the Pacific Northwest, turn to page 10.)

But if you are in a 4G area,

you can use voice and data simultaneously, which is most useful for when you are connected to the phone's built-in mobile 4G hotspot—you won't be disconnected if you get a call. The hotspot costs \$30 per month on top of the \$80 for the data plan and Premium Data add-on. Fortunately, there's no data-usage cap.

We did test its 3G performance, and I was impressed by how quickly multimedia-rich Web pages loaded over Sprint's network. My phone calls in San Francisco were clear, too. A few colleagues on the other end noted that I sounded a bit tinny, but my voice was sufficiently loud and clear—even while I stood on a busy street corner.

Running on Qualcomm's 1GHz Snapdragon processor, the EVO 4G was speedy in my hands-on tests, including times I had multiple apps open. Apps launched quickly, too (though a couple crashed on me). Keeping data usage moderate, I could go a full day without needing to recharge the battery.

The EVO 4G might be a little ahead of its time. But even if you don't have 4G in your city, you'll be pleased with this smartphone.

—Ginny Mies

★★★★★ SUPERIOR

EVO 4G HTC

Speedy, stylish phone has powerful specs and multimedia features.

List: \$200 (with two-year contract)  
[find.pcworld.com/70155](http://find.pcworld.com/70155)



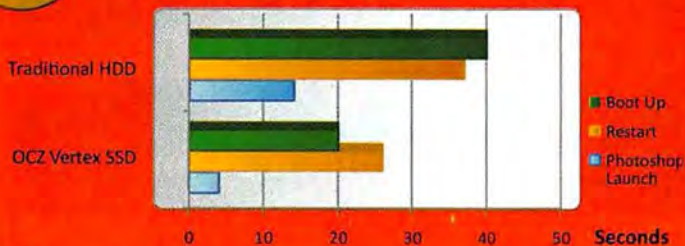


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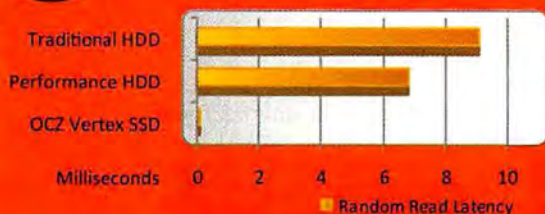


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## Entourage Edge: A Slate and E-Reader Combo

ON ONE SIDE of the Entourage Edge is an oversize, touch-enabled E-Ink digital-paper display; on the other, a bright touchscreen LCD from which you can run apps, including e-mail and a browser via built-in Wi-Fi. It's a potentially powerful combo, but its 3-pound

weight and high price (\$499) will limit its appeal.

Entourage envisions the Edge as a tool for, say, students, who can read assignments in the reader screen while taking notes on the LCD side (or scribbling notes on the 9.7-inch E-Ink reader in Journal mode, using the built-in stylus). The 10.1-inch LCD accepts text input on a pop-up software keyboard.

The device works well as an e-book reader, and you can acquire books from the Entourage store via the LCD. The Edge supports PDF and



YOU CAN SCRIBBLE notes on the E-Ink display; the LCD runs apps.

ePub e-book formats, too.

But it's less satisfying as a slate/netbook substitute: You expect a device with such a roomy screen to act more like a PC than like a large

smartphone—which, with its Webcam, speakers, mic, and headset jack, is basically what the Edge is. For most people, it's too bulky.

—Yardena Arar

★★★★★ GOOD

Entourage Edge

Entourage Systems

Dual-screen portable may appeal to some students, but it's bulky.

List: \$499

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# Value-Priced Kobo eReader Takes Patience to Use

AT \$150, THE Kobo eReader is about half the price of an Amazon Kindle 2. But in spite of the unit's refreshing interface, its usability suffers from sluggish performance and stiff buttons.

Users are greeted by a well-thought-out arrangement that marries shopping at Kobobooks.com—which provides some 2 million e-books—with a low-cost

e-reader. You can access your account either via the Web or via an app you can install off the e-reader.

But the bumps I encountered started with this app. The start guide doesn't explicitly mention it, and it has no clear means of installation. When I finally got it up and running, I found a visually pleasing yet rough interface. Still, it provides better integration with its online store than do rivals such as Aluratek and Fox-It.

The device accepts SD Cards (up to 4GB) and has 1GB of on-board memory. This memory, however, includes a hidden partition

**THE KOBO EREADER** has a refreshing interface.



that's accessible only via the app.

Many of the specs sound familiar: a 6-inch E-Ink screen with eight-level grayscale, ePub and PDF file support, and two-week battery life. The device's buttons fatigued my hands after about 15 minutes, though.

Kobo excels in its interface, and text is easy to read, but the unit's sluggishness makes tasks a bit harder.

Kobo does offer value with its low price and easy shopping. However, the Aluratek Libre Pro, another bargain-priced model, is much more responsive during navigation.

—Melissa J. Perenson

★★★★★ FAIR

eReader | Kobo

The good interface and low price don't quite offset the sluggishness.

List: \$150

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## Top 10 All-Purpose Laptops

A new ThinkPad takes first place, thanks to its superior performance and features.

MODEL	Rating	Performance	Features and specifications
<b>1</b>  <b>Lenovo ThinkPad W510</b> <b>\$2929 NEW</b> <a href="http://find.pcworld.com/70159">find.pcworld.com/70159</a>	★★★★★ SUPERIOR	<ul style="list-style-type: none"> <li>WorldBench 6 score: 118 Superior</li> <li>Overall design: 84 Good</li> <li>Tested battery life: 3:47</li> </ul>	<ul style="list-style-type: none"> <li>1.6GHz Core i7-720QM</li> <li>15.6-inch widescreen</li> <li>7.1 pounds</li> <li>500GB hard drive</li> </ul>
<p>► This workstation-class laptop has an excellent CPU and a good display, but its Windows 7 touch interface isn't great.</p>			
<b>2</b>  <b>HP EliteBook 8440w</b> <b>\$1649</b> <a href="http://find.pcworld.com/69809">find.pcworld.com/69809</a>	★★★★★ SUPERIOR	<ul style="list-style-type: none"> <li>WorldBench 6 score: 119 Superior</li> <li>Overall design: 77 Good</li> <li>Tested battery life: 6:07</li> </ul>	<ul style="list-style-type: none"> <li>2.67GHz Core i7 620M</li> <li>14.0-inch widescreen</li> <li>5.8 pounds</li> <li>BD-ROM</li> </ul>
<p>► The EliteBook 8440w is a solid corporate laptop with a terrific keyboard; it isn't a multimedia powerhouse, however.</p>			
<b>3</b>  <b>BEST BUY</b> <b>HP Envy 13</b> <b>\$1499</b> <a href="http://find.pcworld.com/69810">find.pcworld.com/69810</a>	★★★★☆ VERY GOOD	<ul style="list-style-type: none"> <li>WorldBench 6 score: 94 Very Good</li> <li>Overall design: 85 Very Good</li> <li>Tested battery life: 4:42</li> </ul>	<ul style="list-style-type: none"> <li>2.13GHz Core 2 Duo SL9600</li> <li>13.1-inch widescreen</li> <li>3.8 pounds</li> <li>250GB hard drive</li> </ul>
<p>► If it looks and feels like a MacBook, it must be from Apple, right? Wrong! The Envy 13 offers slim, stylish Windows-based computing.</p>			
<b>4</b>  <b>Lenovo ThinkPad T410</b> <b>\$1419 NEW</b> <a href="http://find.pcworld.com/70167">find.pcworld.com/70167</a>	★★★★☆ VERY GOOD	<ul style="list-style-type: none"> <li>WorldBench 6 score: 108 Very Good</li> <li>Overall design: 82 Good</li> <li>Tested battery life: 6:06</li> </ul>	<ul style="list-style-type: none"> <li>2.53GHz Core i5-540M</li> <li>14.1-inch widescreen</li> <li>5.6 pounds</li> <li>320GB hard drive</li> </ul>
<p>► The T410 retains the legendary keyboard feel of ThinkPads, but it also remains somewhat pricey for its feature set.</p>			
<b>5</b>  <b>Sony VAIO EB12FX/T</b> <b>\$749 NEW</b> <a href="http://find.pcworld.com/70168">find.pcworld.com/70168</a>	★★★★☆ VERY GOOD	<ul style="list-style-type: none"> <li>WorldBench 6 score: 91 Very Good</li> <li>Overall design: 83 Good</li> <li>Tested battery life: 3:22</li> </ul>	<ul style="list-style-type: none"> <li>2.13GHz Core i3-330M</li> <li>15.5-inch widescreen</li> <li>5.7 pounds</li> <li>500GB hard drive</li> </ul>
<p>► This Sony model gives you high style without the high price tag, but you give up some performance and battery life.</p>			
<b>6</b>  <b>Acer Aspire 5740G-6979</b> <b>\$749 NEW</b> <a href="http://find.pcworld.com/70169">find.pcworld.com/70169</a>	★★★★☆ VERY GOOD	<ul style="list-style-type: none"> <li>WorldBench 6 score: 93 Very Good</li> <li>Overall design: 85 Very Good</li> <li>Tested battery life: 2:58</li> </ul>	<ul style="list-style-type: none"> <li>2.27GHz Core i5-430M</li> <li>15.6-inch widescreen</li> <li>5.9 pounds</li> <li>500GB hard drive</li> </ul>
<p>► Acer's nicely priced 5740G-6979 offers very good performance, but its substandard audio and lack of Bluetooth may limit its appeal.</p>			
<b>7</b>  <b>Dell Inspiron 15 (1564)</b> <b>\$934 NEW</b> <a href="http://find.pcworld.com/70170">find.pcworld.com/70170</a>	★★★★☆ VERY GOOD	<ul style="list-style-type: none"> <li>WorldBench 6 score: 105 Very Good</li> <li>Overall design: 70 Fair</li> <li>Tested battery life: 3:29</li> </ul>	<ul style="list-style-type: none"> <li>2.4GHz Core i5-520M</li> <li>15.5-inch widescreen</li> <li>5.5 pounds</li> <li>320GB hard drive</li> </ul>
<p>► The 1564 variant of the Inspiron 15 has a lot of power—but with so few ports on the laptop, how are you going to make use of it?</p>			
<b>8</b>  <b>Lenovo ThinkPad T400s</b> <b>\$929</b> <a href="http://find.pcworld.com/69813">find.pcworld.com/69813</a>	★★★★☆ VERY GOOD	<ul style="list-style-type: none"> <li>WorldBench 6 score: 112 Superior</li> <li>Overall design: 88 Very Good</li> <li>Tested battery life: 4:56</li> </ul>	<ul style="list-style-type: none"> <li>2.53GHz Core 2 Duo SP9300</li> <li>14.1-inch widescreen</li> <li>4.6 pounds</li> <li>128GB solid-state drive</li> </ul>
<p>► With the ThinkPad T400s, Lenovo heaps on the features, cuts the girth, and builds a lean, mean business machine.</p>			
<b>9</b>  <b>Dell Studio XPS 16</b> <b>\$974</b> <a href="http://find.pcworld.com/63629">find.pcworld.com/63629</a>	★★★★☆ VERY GOOD	<ul style="list-style-type: none"> <li>WorldBench 6 score: 92 Very Good</li> <li>Overall design: 88 Very Good</li> <li>Tested battery life: 3:41</li> </ul>	<ul style="list-style-type: none"> <li>2.4GHz Core 2 Duo P8600</li> <li>16.0-inch widescreen</li> <li>7.0 pounds</li> <li>BD-ROM</li> </ul>
<p>► Dell's Studio line shines with this notebook, which provides sharp design and smart features without a hefty price tag.</p>			
<b>10</b>  <b>Toshiba Satellite U505-S2980</b> <b>\$970</b> <a href="http://find.pcworld.com/69814">find.pcworld.com/69814</a>	★★★★☆ VERY GOOD	<ul style="list-style-type: none"> <li>WorldBench 6 score: 87 Good</li> <li>Overall design: 78 Good</li> <li>Tested battery life: 3:36</li> </ul>	<ul style="list-style-type: none"> <li>2.2GHz Core 2 Duo T6600</li> <li>13.3-inch widescreen</li> <li>5.4 pounds</li> <li>500GB hard drive</li> </ul>
<p>► Toshiba's U505-S2980 is a solid, attractive performer, but the multitouch screen—its main draw—causes some problems.</p>			

CHART NOTES: Ratings are as of 6/7/10. Tested battery life figures are expressed in hours:minutes.

**MORE ONLINE** Visit [find.pcworld.com/69884](http://find.pcworld.com/69884) to see in-depth reviews, full test results, and detailed specs for all laptops on this chart.

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## Seagate's Hybrid Drive: A Speed Racer



SEAGATE'S Momentus XT, a hybrid drive with flash memory and a hard disk, offers significant performance improvements over its first-generation version, PCWorld Labs tests show. It has both higher capacity and a lower price than a straight-up solid-state drive, too.

A 2.5-inch, 7200-rpm drive that can fit into a standard 9.5mm z-height drive slot, the Momentus XT comes in

320GB (\$90) and 500GB (\$120) versions. Also inside is 4GB of flash memory.

In spite of the drive's dual nature, Windows 7 recognizes it as a single volume.

We tested the 500GB Momentus XT against an SSD (the 120GB OCZ Summit Series), a 5400-rpm 2.5-inch drive (the 750GB Western Digital Scorpio Blue), and a 7200-rpm 2.5-inch drive (the Western Digital WD3220BEKT) to see how the hybrid drive compares. We ran all four of the drives through seven passes to ensure consistency and maximum performance.

The SSD unsurprisingly led the pack in raw performance: It had the swiftest

boot time and the fastest times on our file read and copy tests. In second came the Momentus XT: It fell somewhere between the SSD and the 7200-rpm drive. For example, in our boot-up tests, the SSD took 86 seconds, versus 110 seconds for the Momentus XT, 149 seconds for the 7200-rpm drive, and 159 seconds for the 5400-rpm drive.

For sheer performance, SSD remains king. But it is also still expensive, and limited in capacity (the 120GB OCZ SSD costs \$400; a 256GB SSD, about \$750).

The Momentus XT won't give you nearly the same speed boost as an SSD, but it will improve upon stan-



**THE MOMENTUS XT hybrid drive fits into a standard drive slot.**

dard 5400-rpm hard drives, and even 7200-rpm ones, in some scenarios. If you want to enhance your system's performance without emptying your wallet, the Momentus XT is a good bet.

—Melissa J. Perenson

★★★★★ VERY GOOD

**Momentus XT | Seagate**

New hybrid delivers zippy performance without much added cost. List: \$120 (500GB); \$90 (320GB) [find.pcworld.com/70257](http://find.pcworld.com/70257)

## Seagate Portable Hard Drive Aims for Flexibility



FOR THE NEW GoFlex line of portable hard drives (which come in various capacities and prices), Seagate has reengineered the devices to separate the drive from the bridge board that translates the drive's native SATA to another interface connection. This lets the company offer a variety of cable modules for connection flexibility. A USB 3.0 cable costs \$30, an eSATA cable is \$20, a FireWire 800 cable costs \$40, and the Auto Backup cable sells for \$30.

The drive has two con-

nections to pass through: the bridge module's connector, and the connection from the bridge module to your PC. But I found on the shipping unit I tried that this



**THE FREEAGENT GOFLEX Pro can connect to various cables.**

module could come unseated more easily than expected.

Another annoyance: You have to pop the module off to use it with the dock that comes with the Pro drive.

The GoFlex holds a 7200-rpm drive instead of a standard 5400-rpm one. It costs \$140 for 500GB and \$190 for 750GB. It performed well; but despite its 7200-rpm speed, it was largely comparable to the older 5400-rpm FreeAgent Go.

Over USB 2.0, the 500GB drive we tested took 145 seconds to read a 3.68GB folder of files (same as the FreeAgent Go), 134 seconds to read a large 3.68GB file (1 second less than its predecessor took), and 155 seconds to

write that large file (same as before). But in our file and folder write test, the GoFlex took 182 seconds, versus 197 seconds for the older drive.

Over USB 3.0, the GoFlex performed comparably to the 7200-rpm Seagate BlackArmor PS 110.

The GoFlex drives offer good results, but the design is a bit kludgy. Unless you need the modular flexibility, competing units may make a more compelling choice.

—Melissa J. Perenson

★★★★★ VERY GOOD

**FreeAgent GoFlex Pro | Seagate**

Performs well and offers connection flexibility—but design is kludgy. List: \$140 (500GB) [find.pcworld.com/70173](http://find.pcworld.com/70173)



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## Top 10 High-Def Pocket Camcorders

These compact, reasonably priced cameras let you capture great video wherever you go.

MODEL	Rating	Performance	Features and specifications
<b>1</b> <p><b>Creative Vado HD (Third Generation)</b>  <b>\$180 NEW</b>  <a href="http://find.pcworld.com/70260">find.pcworld.com/70260</a></p> <p>► This Vado HD has a very wide-angle lens, plus exposure controls and impressive low-light video quality—at a sub-\$200 price.</p>	★★★★★ SUPERIOR	<ul style="list-style-type: none"> <li>• Video quality: Very Good</li> <li>• Low-light video: Superior</li> <li>• Audio: Good</li> </ul>	<ul style="list-style-type: none"> <li>• Storage: 4GB drive</li> <li>• USB connector: Flip-out</li> <li>• HDMI: Yes</li> <li>• Still images: VGA</li> </ul>
<b>2</b> <p><b>Cisco Flip MinoHD</b>  <b>\$230</b>  <a href="http://find.pcworld.com/64121">find.pcworld.com/64121</a></p> <p>► The second-generation Flip MinoHD is the sexiest and most solidly built pocket camcorder we've tried, with very good video quality.</p>	★★★★★ SUPERIOR	<ul style="list-style-type: none"> <li>• Video quality: Very Good</li> <li>• Low-light video: Superior</li> <li>• Audio: Good</li> </ul>	<ul style="list-style-type: none"> <li>• Storage: 8GB drive</li> <li>• USB connector: Flip-out</li> <li>• HDMI: Yes</li> <li>• Still images: No</li> </ul>
<b>3</b> <p><b>BEST BUY</b> <b>Kodak Zi8 HD</b>  <b>\$170</b>  <a href="http://find.pcworld.com/64120">find.pcworld.com/64120</a></p> <p>► The full-featured Zi8 captures the best HD pocket-camcorder footage we've seen, but its interface and digital zoom often get in the way.</p>	★★★★★ SUPERIOR	<ul style="list-style-type: none"> <li>• Video quality: Superior</li> <li>• Low-light video: Very Good</li> <li>• Audio: Good</li> </ul>	<ul style="list-style-type: none"> <li>• Storage: SDHC card</li> <li>• USB connector: Flip-out</li> <li>• HDMI: Yes</li> <li>• Still images: 5 megapixels</li> </ul>
<b>4</b> <p><b>Cisco Flip UltraHD</b>  <b>\$200</b>  <a href="http://find.pcworld.com/64122">find.pcworld.com/64122</a></p> <p>► The Flip UltraHD has a wide-angle lens, superior low-light footage, substantial storage capacity, and an HDMI-out port.</p>	★★★★★ SUPERIOR	<ul style="list-style-type: none"> <li>• Video quality: Very Good</li> <li>• Low-light video: Superior</li> <li>• Audio: Good</li> </ul>	<ul style="list-style-type: none"> <li>• Storage: 8GB drive</li> <li>• USB connector: Flip-out</li> <li>• HDMI: Yes</li> <li>• Still images: No</li> </ul>
<b>5</b> <p><b>Toshiba Camileo S20</b>  <b>\$180 NEW</b>  <a href="http://find.pcworld.com/70261">find.pcworld.com/70261</a></p> <p>► The fun-filled, 1080p-shooting Toshiba Camileo S20 is unsurpassed in features, but we've seen better usability and build quality.</p>	★★★★☆ VERY GOOD	<ul style="list-style-type: none"> <li>• Video quality: Very Good</li> <li>• Low-light video: Good</li> <li>• Audio: Good</li> </ul>	<ul style="list-style-type: none"> <li>• Storage: SDHC card</li> <li>• USB connector: Cable</li> <li>• HDMI: Yes</li> <li>• Still images: 5 megapixels</li> </ul>
<b>6</b> <p><b>Sony Bloggie MHS-CM5</b>  <b>\$200 NEW</b>  <a href="http://find.pcworld.com/70075">find.pcworld.com/70075</a></p> <p>► It shoots 1080p video and has a pistol-grip design and a 5X-optical-zoom lens, but its quality doesn't match that of similarly priced units.</p>	★★★★☆ VERY GOOD	<ul style="list-style-type: none"> <li>• Video quality: Good</li> <li>• Low-light video: Fair</li> <li>• Audio: Good</li> </ul>	<ul style="list-style-type: none"> <li>• Storage: SDHC card and Memory Stick card</li> <li>• USB connector: Flip-out</li> <li>• HDMI: Yes</li> <li>• Still images: 5 megapixels</li> </ul>
<b>7</b> <p><b>Kodak Zi6 Pocket Video Camera</b>  <b>\$160</b>  <a href="http://find.pcworld.com/70262">find.pcworld.com/70262</a></p> <p>► The Kodak Zi6's features and frame-rate options are superb for a pocket unit, but the video quality is a shade below the competition's.</p>	★★★★☆ VERY GOOD	<ul style="list-style-type: none"> <li>• Video quality: Good</li> <li>• Low-light video: Good</li> <li>• Audio: Superior</li> </ul>	<ul style="list-style-type: none"> <li>• Storage: SDHC card</li> <li>• USB connector: Flip-out</li> <li>• HDMI: No</li> <li>• Still images: 3 megapixels</li> </ul>
<b>8</b> <p><b>Kodak Zx1</b>  <b>\$150</b>  <a href="http://find.pcworld.com/62823">find.pcworld.com/62823</a></p> <p>► This is a pocketable HD camcorder for the snowboarder set, with a slick, durable design to go along with its decent performance.</p>	★★★★☆ VERY GOOD	<ul style="list-style-type: none"> <li>• Video quality: Good</li> <li>• Low-light video: Good</li> <li>• Audio: Poor</li> </ul>	<ul style="list-style-type: none"> <li>• Storage: SDHC card</li> <li>• USB connector: Cable</li> <li>• HDMI: Yes</li> <li>• Still images: 3 megapixels</li> </ul>
<b>9</b> <p><b>Cisco Flip SlideHD</b>  <b>\$280 NEW</b>  <a href="http://find.pcworld.com/70263">find.pcworld.com/70263</a></p> <p>► The Flip SlideHD is great for video playback; its touchscreen, however, is extremely frustrating to use when you're shooting video.</p>	★★★★☆ VERY GOOD	<ul style="list-style-type: none"> <li>• Video quality: Very Good</li> <li>• Low-light video: Superior</li> <li>• Audio: Good</li> </ul>	<ul style="list-style-type: none"> <li>• Storage: 16GB drive</li> <li>• USB connector: Flip-out</li> <li>• HDMI: Yes</li> <li>• Still images: No</li> </ul>
<b>10</b> <p><b>Memorex MyVideo HD Camcorder</b>  <b>\$130</b>  <a href="http://find.pcworld.com/70264">find.pcworld.com/70264</a></p> <p>► This pocket model won't bowl you over with its performance or build quality, but its feature set represents good value for the price.</p>	★★★☆☆ GOOD	<ul style="list-style-type: none"> <li>• Video quality: Good</li> <li>• Low-light video: Good</li> <li>• Audio: Fair</li> </ul>	<ul style="list-style-type: none"> <li>• Storage: 16GB drive</li> <li>• USB connector: Flip-out</li> <li>• HDMI: Yes</li> <li>• Still images: No</li> </ul>

CHART NOTE: Ratings are as of 6/7/10.

**MORE ONLINE** Visit [find.pcworld.com/70259](http://find.pcworld.com/70259) to see in-depth reviews, full test results, and detailed specs for all camcorders on this chart.





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## Corel Offers Artistic Photo Tools for Tyros

THE PAINT IT photo-imaging program relies on the natural-media engine that Corel's pro-level Painter program uses. Brush options include a smudge or airbrush to help you turn photos into works of art resembling paintings, charcoal sketches, or pencil drawings. To keep it simple, however, the tools and interface are quite limited.

★★★★★ VERY GOOD

Paint It | Corel

A fun, simple way for novices to convert photos into art pieces.

List: \$40

[find.pcworld.com/70204](http://find.pcworld.com/70204)

Paint It's automated art creator lets you choose from among 11 available styles, ranging from Oil Painting to Detailed Watercolor to Pen & Ink Drawing. Click *Start*, and watch the app create a work of art in the selected style, based on your photo's colors and composition.

Paint It will continue painting until you click *Stop*. In our tests the resulting images looked pleasant, but a bit uniform and often coarse.

Paint It's 24 brushes come with adjustable control over color, size, and opacity. You can also choose between a hard-edge brush or a single-



COREL PAINT IT'S Impressionist Painting style is right on the Monet.

level soft-edge brush, and you can set brushes to follow a straight line or to permit you to draw freehand.

The palette on the bottom of Paint It's screen offers 64 colors. To supplement those hues, you can use an eyedropper to replicate a color from your picture, or you

can choose any color in the spectrum from the program's more advanced color picker.

Paint It is suitable for novices who enjoy playing with their pictures and want a way to convert a photo into a basic painting or drawing.

—Sally Wiener Grotta  
and Daniel Grotta

## Backup Service Values Performance Over Appearance

MOZY 2.0 IS a mild but welcome upgrade of the client for the popular online backup service. Besides improving the interface, this version lets you back up easily to the MozyHome cloud service (you can get 2GB of free storage, or unlimited storage for either \$5 per month or \$54 per year) and to a local hard drive.

The user interface's partial makeover brings larger fonts and icons that make it easier to read; it also blends better with Vista and Windows 7,

★★★★★ SUPERIOR

Mozy 2.0 | Decho

Very reliable online service adds local backup to its bag of tricks.

Free download; storage varies

[find.pcworld.com/70203](http://find.pcworld.com/70203)



IT'S NOT BEAUTIFUL to look at, but Mozy 2.0 works like a pro.

albeit not as well with XP.

Mozy claims that 2.0 is faster than its predecessor; and the software did seem zippy in my hands-on testing. I used a fairly speedy Comcast cable broadband connection that often sustains 500-kbps uploads and 1-mbps downloads.

The big news with Mozy

2.0 is its ability to back up to a local hard drive as well as to online servers. Every backup strategy should include easy-to-restore local copies and physically secure offsite (in this case online) destinations, and handling both requirements with one program can save you time and effort. The local backup

is a rudimentary, plain file copy; and your sole option is to choose the drive partition (C:, D:, or whatever) it should reside on. But that's fine for taking care of your most important data, and the payoff is that you can manage your backup from within a single interface.

Otherwise, Mozy hasn't changed much: Cloud backup includes automatic file selection, open file backup, user-definable backup sets with filtering, and versatile scheduling. It's an excellent service backed by industry giant EMC, and it works smoothly in the background to protect your data. Ultimately the less-than-lovely interface is of far less consequence than the increased functionality.

—Jon L. Jacobi

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## Top 10 Inkjet Multifunction Printers

HP takes four of the first five spots, with a high-performance, low-cost model at the top.

MODEL	Rating	Performance	Features and specifications
<b>1</b>  <b>BEST BUY</b> <b>HP Photosmart Plus</b> <b>\$149</b> <a href="http://find.pcworld.com/63563">find.pcworld.com/63563</a>	★★★★★ VERY GOOD	<ul style="list-style-type: none"> <li>Text quality: Very Good</li> <li>Graphics quality: Very Good</li> <li>Tested speed: 8.9 ppm text/4.0 ppm graphics</li> </ul>	<ul style="list-style-type: none"> <li>30 ppm text</li> <li>28 ppm graphics</li> <li>4800-by-1200-dpi maximum true color resolution</li> </ul>
<p>▶ A true bargain, the Photosmart Plus delivers impressive speed and print quality, plus Wi-Fi and autodupelexing options, at a low price.</p>			
<b>2</b>  <b>HP Officejet Pro 8500 Wireless All-in-One</b> <b>\$400</b> <a href="http://find.pcworld.com/62494">find.pcworld.com/62494</a>	★★★★★ VERY GOOD	<ul style="list-style-type: none"> <li>Text quality: Very Good</li> <li>Graphics quality: Good</li> <li>Tested speed: 10.7 ppm text/4.5 ppm graphics</li> </ul>	<ul style="list-style-type: none"> <li>35 ppm text</li> <li>34 ppm graphics</li> <li>4800-by-1200-dpi maximum true color resolution</li> </ul>
<p>▶ A small office that wants it all can get it here: This MFP has features galore for the long term, including extremely inexpensive inks.</p>			
<b>3</b>  <b>HP Officejet 6500 Wireless</b> <b>\$199</b> <a href="http://find.pcworld.com/62945">find.pcworld.com/62945</a>	★★★★★ VERY GOOD	<ul style="list-style-type: none"> <li>Text quality: Very Good</li> <li>Graphics quality: Very Good</li> <li>Tested speed: 7.6 ppm text/3.5 ppm graphics</li> </ul>	<ul style="list-style-type: none"> <li>32 ppm text</li> <li>31 ppm graphics</li> <li>4800-by-1200-dpi maximum true color resolution</li> </ul>
<p>▶ The midpriced Officejet 6500 Wireless offers a solid combination of performance, features, and print quality, with few compromises.</p>			
<b>4</b>  <b>Canon Pixma MP490</b> <b>\$100</b> <a href="http://find.pcworld.com/63413">find.pcworld.com/63413</a>	★★★★★ VERY GOOD	<ul style="list-style-type: none"> <li>Text quality: Superior</li> <li>Graphics quality: Good</li> <li>Tested speed: 6.3 ppm text/2.3 ppm graphics</li> </ul>	<ul style="list-style-type: none"> <li>8.4 ppm text</li> <li>4.8 ppm graphics</li> <li>4800-by-1200-dpi maximum true color resolution</li> </ul>
<p>▶ The Pixma MP490 is a surprisingly good multifunction printer for the price, but its high black ink costs chip away at the savings.</p>			
<b>5</b>  <b>HP Photosmart Premium Touchsmart Web All-in-One</b> <b>\$400</b> <a href="http://find.pcworld.com/63998">find.pcworld.com/63998</a>	★★★★★ VERY GOOD	<ul style="list-style-type: none"> <li>Text quality: Very Good</li> <li>Graphics quality: Good</li> <li>Tested speed: 7.8 ppm text/3.7 ppm graphics</li> </ul>	<ul style="list-style-type: none"> <li>33 ppm text</li> <li>32 ppm graphics</li> <li>9600-by-2400-dpi maximum true color resolution</li> </ul>
<p>▶ The idea of accessing Web apps from a printer is intriguing, but this unit still has some work to do to make good on its promise.</p>			
<b>6</b>  <b>Lexmark Platinum Pro905</b> <b>\$399</b> <a href="http://find.pcworld.com/63602">find.pcworld.com/63602</a>	★★★★★ VERY GOOD	<ul style="list-style-type: none"> <li>Text quality: Very Good</li> <li>Graphics quality: Good</li> <li>Tested speed: 7.0 ppm text/2.5 ppm graphics</li> </ul>	<ul style="list-style-type: none"> <li>33 ppm text</li> <li>30 ppm graphics</li> <li>4800-by-1200-dpi maximum true color resolution</li> </ul>
<p>▶ Though Web capabilities and generous features put the Pro905 into contention for a small office, it's average in other respects.</p>			
<b>7</b>  <b>Epson Stylus NX515</b> <b>\$130</b> <a href="http://find.pcworld.com/63232">find.pcworld.com/63232</a>	★★★★★ VERY GOOD	<ul style="list-style-type: none"> <li>Text quality: Good</li> <li>Graphics quality: Good</li> <li>Tested speed: 18.4 ppm text/5.1 ppm graphics</li> </ul>	<ul style="list-style-type: none"> <li>36 ppm text</li> <li>36 ppm graphics</li> <li>5760-by-1440-dpi maximum true color resolution</li> </ul>
<p>▶ Students and home users will appreciate the Stylus NX515's speed, but they won't like its high ink costs and its other quirks.</p>			
<b>8</b>  <b>Canon Pixma MX870</b> <b>\$200 NEW</b> <a href="http://find.pcworld.com/69542">find.pcworld.com/69542</a>	★★★★★ VERY GOOD	<ul style="list-style-type: none"> <li>Text quality: Very Good</li> <li>Graphics quality: Very Good</li> <li>Tested speed: 6.2 ppm text/1.7 ppm graphics</li> </ul>	<ul style="list-style-type: none"> <li>9.4 ppm text</li> <li>6.1 ppm graphics</li> <li>9600-by-2400-dpi maximum true color resolution</li> </ul>
<p>▶ Excellent output, good performance, and low ink costs make this well-balanced MFP suitable for a small office or a busy family.</p>			
<b>9</b>  <b>Lexmark Pinnacle Pro901</b> <b>\$300 NEW</b> <a href="http://find.pcworld.com/70031">find.pcworld.com/70031</a>	★★★★★ VERY GOOD	<ul style="list-style-type: none"> <li>Text quality: Very Good</li> <li>Graphics quality: Good</li> <li>Tested speed: 6.3 ppm text/1.8 ppm graphics</li> </ul>	<ul style="list-style-type: none"> <li>33 ppm text</li> <li>30 ppm graphics</li> <li>4800-by-1200-dpi maximum true color resolution</li> </ul>
<p>▶ You'll pay more for the Pinnacle Pro901 but less for its ink—a reasonable trade-off in view of the plentiful features included.</p>			
<b>10</b>  <b>Canon Pixma MX350</b> <b>\$150 NEW</b> <a href="http://find.pcworld.com/69541">find.pcworld.com/69541</a>	★★★☆☆ GOOD	<ul style="list-style-type: none"> <li>Text quality: Very Good</li> <li>Graphics quality: Very Good</li> <li>Tested speed: 5.7 ppm text/1.7 ppm graphics</li> </ul>	<ul style="list-style-type: none"> <li>8.4 ppm text</li> <li>4.8 ppm graphics</li> <li>4800-by-1200-dpi maximum true color resolution</li> </ul>
<p>▶ Higher-than-average ink costs are the biggest black mark against Canon's otherwise versatile and affordable Pixma MX350.</p>			

CHART NOTES: Ratings are as of 6/1/10. Speeds are in pages per minute (ppm); resolutions are in dots per inch (dpi).

**MORE ONLINE** Visit [find.pcworld.com/62965](http://find.pcworld.com/62965) to see in-depth reviews, full test results, and detailed specs for all printers on this chart.

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[TigerDirect.com](http://TigerDirect.com)

## Hands-Free In-Car Calls, With Multiple Extras

THE \$70 JABRA Cruiser is the latest car-friendly Bluetooth gizmo to promise you hands-free cell phone use while you drive. The shiny black device can also transmit phone calls and play music from your cell phone through a car's FM radio.

To set up the Cruiser, you must first charge it via a USB cable attached to a PC. Turning the charged device on for the first time activates pairing mode; you then complete the pairing with your



THE CRUISER LETS you put a call on hold and answer a waiting call.

phone's Bluetooth utility.

Inside your vehicle, you clip the Cruiser to a sun visor (the device's wire clip also serves as an antenna), and immediately it's ready to function as a speakerphone; to answer calls, you simply press a button (you can initiate calls on your cell phone, too, and they will automatically transfer to the Cruiser). For the driver, audio quality in speakerphone mode is so-

so; but a call I received from a driver using the Cruiser sounded clear and natural.

Not surprisingly, switching from speakerphone mode to FM mode significantly improves audio quality for the in-car user. Incoming calls automatically play over the stereo, as will any music that you play. Everything sounded terrific in my tests.

Using the FM hookup can be complicated. If you drive

into an area where a station uses your frequency, you must manually scan for a free frequency and then tune in the Cruiser. This can be a problem on long trips, where you'll inevitably run into a commercial station using the frequency that you set the Cruiser to. You can manually select a new frequency, of course, but reconnecting is annoying.

Overall, I'd recommend the Cruiser as an affordable, easy-setup device to support hands-free calls in an older vehicle (some new cars have this functionality built in). Its ability to channel audio through your stereo can make a big difference if you have to take calls in your car.

—Yardena Arar

★★★★★ VERY GOOD

Cruiser | Jabra

Hands-free calls and music over a car stereo with minimal hassle.

Street: \$70

[find.pcworld.com/70195](http://find.pcworld.com/70195)

## Sound ID 510 Headset: Comfortable and Customizable

THE \$130 SOUND ID 510 Bluetooth headset is a very customizable headset that delivers reasonably good audio quality for its price.

Other Bluetooth headsets are customizable with new features via the Web, but the Sound ID 510 is the first model to have its own iPhone app—EarPrint, available as a free download from Apple's App Store or from PCWorld's AppGuide ([find.pcworld.com/70202](http://find.pcworld.com/70202)).

EarPrint lets users adjust the type of audio compression employed for incoming audio, a company official says. It also acts as an equalizer, amplifying some sounds



A HEADSET finder utility causes the 510 to flash its LED.

and muting others. Once you reach a setting that sounds good, you can lock it into the headset. EarPrint comes with a battery meter and a headset-finder utility.

To cancel noise, three tiny microphones separate your voice from ambient sounds. In general, audio quality in my tests was clear and crisp,

though some callers noticed occasional pops of static.

The 510's touch-sensitive volume control had an unusually smooth response. To make volume adjustments, you just slide a finger up or down the outside of the 0.28-ounce unit while a call is in progress. The 510 comes with multiple earpieces, along with an earhook in case all else fails.

An "environmental" mode amplifies ambient sounds so that they pass through the unit as if you didn't have the headset in your ear. This setting improves hearing, but it makes noisy rooms seem much noisier because it boosts even distant sounds.

The 510 supports Blue-

tooth 2.1+EDR, and it will also support A2DP when a planned free firmware update becomes available for download. Sound ID says the 510's lithium polymer battery should last for 5.5 hours of talk time and 135 hours of standby time per charge.

This lithe, adaptable headset is highly capable, but you'll need to spend a little time optimizing the audio before you can settle into it.

—Robert S. Anthony

★★★★★ VERY GOOD

510 | Sound ID

Solid Bluetooth headset unit for anyone willing to fine-tune audio.

Street: \$130

[find.pcworld.com/70201](http://find.pcworld.com/70201)



# USB 3.0

**10X**  
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Backward compatible

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## T-Mobile's Great Entry-Level MyTouch 3G Slide

THE MYTOUCH 3G Slide, the latest addition to the T-Mobile MyTouch family, stands out from its siblings with a full QWERTY keyboard, a new Android user interface, and a roomier touchscreen—but its built-in camera is mediocre.

Though the MyTouch 3G Slide (\$180 with a two-year T-Mobile service contract) isn't as pocketable as the original MyTouch 3G, its keyboard is a welcome addition, with large, comfortably spaced keys. If you prefer the touch keyboard, you can use Swype for faster typing. Another upgrade is the 3.4-inch multitouch display; its

predecessors had a 3.2-inch display. The phone is available in three color options: black, white, and an attractive dark red.

### Android Made Easy

The 3G Slide runs on the latest Android 2.1 firmware; HTC, the manufacturer, promises that you'll be able to upgrade it to 2.2 in the future. HTC and T-Mobile custom-built its user interface, which has several HTC Sense-like features such as a pretty weather app and a socially aware address book (which aggregates contact information from social networks).

The MyModes feature lets you customize your phone for your business life and for your personal life via widgets, homescreen apps, and wallpapers. For instance, you can set work applications to be hidden from



A QWERTY keyboard gives the 3G Slide excellent versatility.

your homescreen when you leave the office. You can program MyModes to switch by location (using GPS), or you can switch it manually.

The Genius Button is on the front face, below the display. Press it, and you jump

to a simple voice command menu, where you can use the commands to make calls, compose and send text and e-mail messages, search the Web, and more.

The phone's 5-megapixel camera took good-looking outdoor snapshots with fairly sharp detail and natural colors but some pixelation and blurriness. Indoor photos were on the dark side, with detectable image noise, and the flash tended to blow out detail. The 3G Slide's camera has a quick shutter speed, and the interface is touch-friendly and easy to use.

### Strong Performance

A few applications ran a bit slowly, but I was happy overall with the phone's performance. Most apps launched quickly, and the 3G Slide's touchscreen was responsive.

Call quality on T-Mobile's 3G network was quite good. The relatives and friends I spoke with had clear, natural voices with ample volume. Likewise, colleagues said that my voice was loud and clear with no static or distortion, even while I was standing on a busy street corner. The network loaded media-heavy Web pages quickly.

The MyTouch 3G Slide is a big improvement over the original MyTouch 3G and is one of the best T-Mobile Android phones available. First-time smartphone owners will like its simple user interface, finger-friendly touchscreen and keyboard, and sub-\$200 price.

—Ginny Mies

★★★★★ VERY GOOD

### MyTouch 3G Slide | T-Mobile

Solid midrange Android phone has great features, except its camera. List: \$180 with two-year contract [find.pcworld.com/70171](http://find.pcworld.com/70171)

## New BlackBerry More Solid Than Bold



THE BLACKBERRY BOLD 9650's sculpted keys deter slippage.

THE BLACKBERRY Bold 9650 (\$200 with a two-year contract from Sprint) offers Wi-Fi, a superb keyboard, lots of memory, and excellent messaging features.

The 4.4-by-2.4-by-0.5-inch phone weighs 4.8 ounces. Its body combines a muted chrome bezel with smooth black rubber and textured plastic for in-hand comfort. It sports a 2.4-inch 480-by-360-pixel display and, in place of the usual trackball, a responsive touchpad.

This BlackBerry's keyboard is compact yet roomy. Indi-

vidual keys were easy to press and had just enough responsive clickiness.

The Bold 9650 ships with OS 5.0, as OS 6.0 won't ship until the fall. Its interface is clean and simple to navigate, thanks to its easy-to-identify icons.

—Ginny Mies

★★★★★ VERY GOOD

### BlackBerry Bold 9650 | RIM

Not exactly bold, but an extremely well-designed business device. List: \$200 with two-year contract [find.pcworld.com/70206](http://find.pcworld.com/70206)



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## Photo Utility Does It All

LOOKING FOR AN all-in-one application for managing, viewing, and performing basic editing on your photos? ACDSee Photo Manager 12 conveniently organizes every photo tool you'll need.

Photo Manager 12 finds and displays all photos in a folder almost instantaneously. You can examine photos in an Explorer-style view, along with a more detailed view of the highlighted thumbnail; the app also provides lots of data about each image, including aperture data, focal length, file size, image type, and shutter speed. You can sort, group, and filter your photos in just about any way you want.

Photo Manager 12 also lets you add keywords to photos, import photos from your camera, create your own categories, and search by keyword or another criterion to find photos fast.

The included editing tools are designed for simplicity rather than power, but for basic tasks such as red-eye removal, exposure adjustments, sharpening, cropping, and blurring, Photo Manager 12 does a fine job.

At \$70, ACDSee Photo Manager 12 isn't exactly cheap, but it's a winner.

—Preston Gralla

★★★★★ VERY GOOD

**Photo Manager 12** | ACDSee

Fast, intuitive photo-management software is well worth the price.

List: \$70

[find.pcworld.com/70205](http://find.pcworld.com/70205)

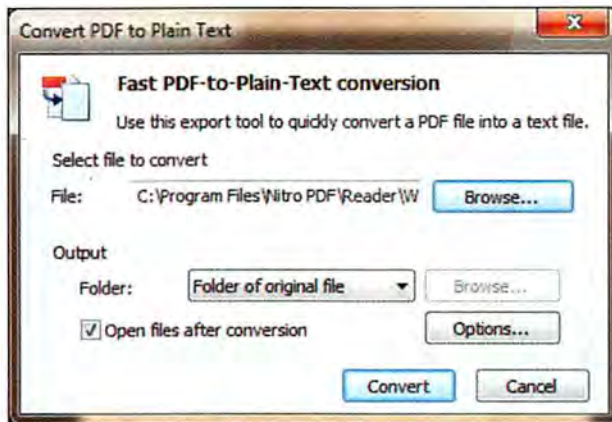
## DOWNLOAD THIS

### Fast PDFs, Fast Photo Formatting, and Physics

THE WORD "FREE" is music to every computer user's ears—especially when it applies to well-designed software that solves common problems. This month's trio of no-cost downloads includes a swift document reader that opens big PDF files quickly, a clever photo tool that works minor magic on photos en masse, and a collection of physics-based toys that transforms your desktop into a playground.

perform any or all of the following actions: rename them, rotate them, convert them to other image formats, turn them all to black-and-white or sepia-tone images, add watermark images or text, add borders, tweak their colors, and of course resize them. FastStone Photo Resizer is the perfect tool for anyone who wants to work efficiently with image files in groups. [find.pcworld.com/70182](http://find.pcworld.com/70182)

—Kim Saccio-Kent



**THE FREE NITRO PDF Reader is a multifeatured and very powerful application for reading, searching, creating, or converting PDF files.**

#### Nitro PDF Reader

Nitro PDF Reader is the most powerful free tool you can find for reading and creating Portable Document Format (PDF) files. This software performs many tasks that tend not to be available in free PDF tools. As a PDF reader, it's lightning fast. For example, it successfully opened a 174-page, graphics-heavy PDF file almost immediately—faster than any other PDF reader I've tried. Nitro PDF Reader lets you search, zoom in and out, rotate pages, and more—pretty much everything you'd expect from a PDF reader. [find.pcworld.com/70181](http://find.pcworld.com/70181)

—Preston Gralla

#### FastStone Photo Resizer

If you have a bunch of photo or image files that you want to work on all at once, you'll find FastStone Photo Resizer tremendously useful. Like its sibling FastStone Image Viewer (also free), FastStone Photo Resizer is modestly named: It does a lot more than just resize photos. Plug in a batch of image files, and you can

#### SoupToys Toybox

This program will eat up a lot of your time if you're not careful—but that's a good thing. SoupToys Toybox places a box full of basketballs, tennis balls, tiny rubber balls, a roller skate, a basketball hoop, and other objects on your desktop. It gives these objects cartoony physical attributes and behavior, and then lets you go nuts with them. It even keeps score when

something manages to clear the basket. The roller skate, especially, is amusing because of the way it gets knocked over when you toss a basketball at it. [find.pcworld.com/70180](http://find.pcworld.com/70180)

—Steve Horton ●



**PULL PHYSICS-BASED objects from SoupToys Toybox, and see what they do on your desktop.**



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(Note: the above portrait is not Mr. Buffett.)**

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# Super Software Secrets

**From obscure options to esoteric shortcuts to arcane add-ons, here are 55 hidden gems that will help you master the programs you use every day.**

BY PATRICK MILLER

The apps you use most—your Web browser, productivity tools, media managers, and Windows and its built-in accessories—are more powerful than you realize. They are loaded with unpublicized features that make your PC easier to use, they respond to superquick keyboard shortcuts that you've never heard about, and they support add-ons and plug-ins that can shave minutes or even hours off of mundane daily chores.

But finding these shortcuts and obscure features usually means perusing dusty manuals or digging through intimidating help menus, and many of the most useful tips are ones that you would never have thought to look for in the first place. Fortunately, you don't have to do the searching yourself—we've done it for you. Read on for the mother lode of expert software secrets. >>

# Windows Tricks

No matter how fast your system is already, a well-crafted Windows shortcut can give it a recurring productivity boost. These tricks and workarounds will make your applications quicker to launch, your files easier to find, and your PC simpler to manage.

## Work Your Windows Key

**Quickly view your system specs:** Press <Windows>-<Pause> to bring up the System Info window. This keyboard shortcut can be especially handy if you're troubleshooting a PC and need to pull up the system's specs in a hurry.

**Launch taskbar apps:** Put your most commonly used applications in the taskbar, and you'll use your mouse a lot less. Pressing <Windows> plus any number key will launch the program in the corresponding taskbar slot (so <Windows>-1 will open Windows Explorer, <Windows>-2 will open the app positioned to the right of Explorer, and so on).

**Ditch the Displays Control Panel:** To switch display modes instantly when you plug in a projector or dock your laptop to an external display, press <Windows>-P.

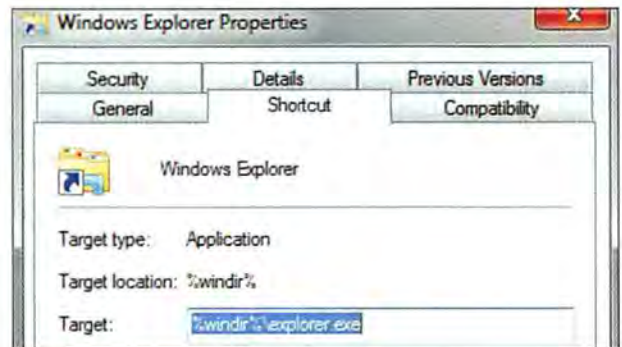
**Run apps from anywhere:** You can launch applications and set parameters from your keyboard, without having to waste time digging through the Start menu to find the one you want to use. Press <Windows>-R to bring up the Run dialog box.

## Fix the Small Stuff

**Don't lose your work to automatic updates:** Windows Update often forces your PC to restart after it finishes updating the operating system with the latest fixes—and if you're away from your desk with an unsaved document open at the time, you'll lose your work. To prevent this from happening, open *Windows Update* in the Control Panel, click *Change settings*, and in the drop-down menu select *Download updates but let me choose whether to install them*. That way, you'll never again get burned by a post-update reboot.

**Change Windows Explorer's default folder:** Tired of clicking through Windows Explorer to find the one folder you use regularly? You can save precious time and mouse clicks by making Windows Explorer open your favorite folder by default. Right-click the *Explorer* icon in your taskbar, and then right-click *Windows Explorer* and select *Properties*. In the Target field, add a space and a file path at the end of the '%windir%\explorer.exe' section, so that the new (longer) path looks like

Press <Windows>-P to switch display modes when you attach a peripheral.



To specify a default folder in Windows Explorer, alter the Target field's text.

this: '%windir%\explorer.exe C:\Users\yourusername\yourfolder'.

**Stick to one point of view:** Windows will remember and abide by your View settings for each individual folder—a level of faithfulness

that's annoying if you like to stick with a particular view setting. Open a folder, click the *Organize* tab, and choose *Folder and search options*. Select the *View* tab and click the *Apply to folders* button at the top. You have a new default folder!

**Disable touchpad clicking when you type:** If your touchpad is set to detect a tapping motion as a mouse click, it can send your cursor flying around your screen whenever your wrist accidentally brushes against the touchpad. Grab *Touchfreeze* ([find.pcworld.com/70214](http://find.pcworld.com/70214)), a free utility that automatically disables your touchpad while you're typing, and you won't have to wonder where your newly typed text ended up.

**Use your local Library (folder):** Windows 7's Libraries provide an easy way to organize and access files, but they become much more useful when teamed with *Win7 Library Tool* ([find.pcworld.com/70215](http://find.pcworld.com/70215)), which lets you add nonindexed folders (including network folders) to your library of choice.

**Safely remove memory cards without waiting:** You're supposed to use the *Safely Remove Hardware* icon in the system tray before unplugging memory cards and the like—but waiting for it is such a pain that you'll be itching to pull your memory card without waiting for *Safely Remove Hardware* to do its thing. The key to making quick removal safe is to ensure that Windows isn't writing to the card without your knowledge; if the operating system behaves itself, you can eject the card whenever you want without corrupting your data. To adjust your settings, first right-click the memory card in Windows Explorer, choose *Properties*, click the *Hardware* tab, select the memory card reader, and choose *Properties*; then click the *Policies* tab (you may have to click the 'Change settings' button before *Policies* shows up), and choose *Optimize for quick removal*. Henceforth, you won't need *Safely Remove Hardware*.



## Taskbar Techniques

**Restore your Quick Launch bar:** Windows 7 added a lot of neat features to the taskbar, but in the process it got rid of the Quick Launch bar. Fortunately, bringing Quick Launch back is fairly easy. Right-click the taskbar and uncheck *Lock the taskbar*; then right-click the taskbar again and choose *New toolbar*. Type `%appdata%\Microsoft\Internet Explorer\Quick Launch` into the file path, and then click the arrow button on the right to navigate to that folder. Quick Launch will be back in action.

**Clean up your system tray:** Your system tray probably contains lots of icons that you rarely use. Instead of clicking the arrow to expand the system tray every time you need access to its contents, just drag the icons you use most often from the expanded tray to the minimized tray area on the taskbar. That way, you can click them immediately instead of having to expand the tray and root around for the icon you need.

**Drag and drop to your taskbar apps:** A taskbar icon's behavior depends on which modifier keys you hold down as you click it. Hold down **<Shift>** while you click an app's icon to open a new instance of the app. Hold down **<Ctrl>-<Shift>** while clicking the app's icon to open the program as an administrator. Drag a file from your desktop (or from an open window) over an app's icon on the taskbar to pin the icon to the app's jump list, or hold down **<Ctrl>** to open the file with that program.

## Mastering Microsoft Office

While your job might be sheer drudgery on certain assignments, working in Office doesn't have to be. Office has its fair share of hidden secrets that can lighten the load of your workday.

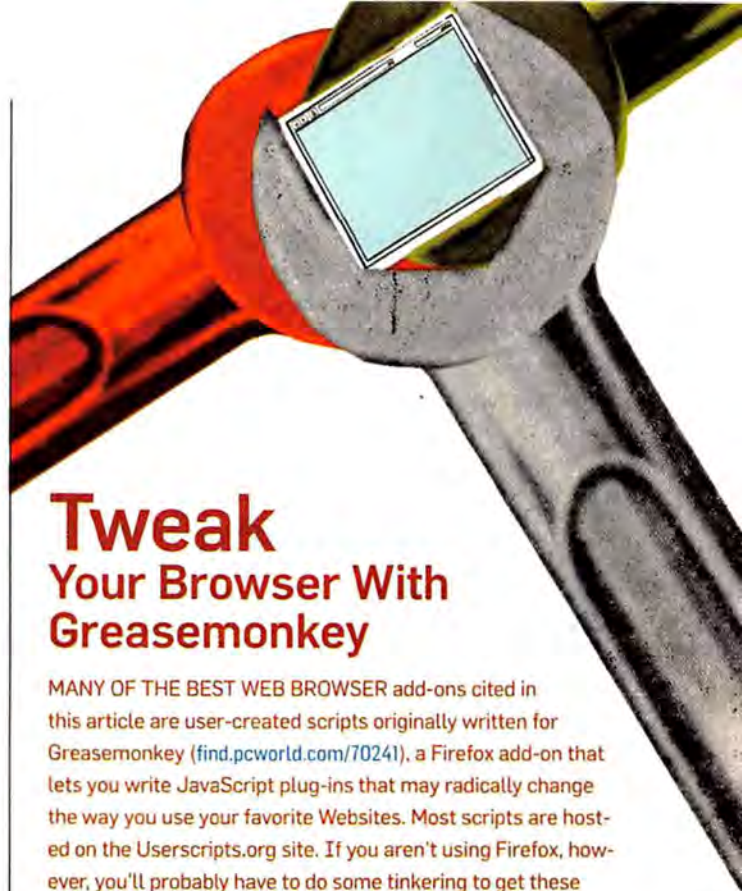
### Work With Word

**Convert your PDF files:** PDF to Word ([find.pcworld.com/70216](http://find.pcworld.com/70216)) is a neat Web service that converts PDF files to Word format so that you can edit them. Alternatively, you can download Nitro PDF Reader ([find.pcworld.com/70217](http://find.pcworld.com/70217)), an app that comes from the same company and offers similar features.

**Maximize your macros:** If you spend a significant amount of time in Word, consider using the built-in Macro function to record and automate repetitive tasks. First enable the Developer tab (in Office 2007): Click the *Office* button in the upper-left corner, choose *Word Options*, and check *Show Developer tab in the Ribbon*. Then switch to the *Developer* tab in your document, and you can record your own macros (global as well as document-specific) and assign them to keys or toolbar buttons.

**Navigate with your thumbnails:** Scrolling through long Word documents is a waste of time. Click the *View* tab and check the *Thumbnails* box to add a bar on the left side of the window that you can use to skip quickly from page to page.

**Strip out text formatting:** Want to copy and paste a block of text without bringing the original formatting along for the ride? To do this, first copy the text you want (by pressing



## Tweak Your Browser With Greasemonkey

MANY OF THE BEST WEB BROWSER add-ons cited in this article are user-created scripts originally written for Greasemonkey ([find.pcworld.com/70241](http://find.pcworld.com/70241)), a Firefox add-on that lets you write JavaScript plug-ins that may radically change the way you use your favorite Websites. Most scripts are hosted on the Userscripts.org site. If you aren't using Firefox, however, you'll probably have to do some tinkering to get these Greasemonkey scripts to work in your browser.

Google Chrome users are lucky. Chrome's developer-only builds have included script functionality for years, but it didn't become a fully supported feature until last February. Now, you can find plenty of Chrome-specific plug-ins by going to the Google Chrome Extensions page ([find.pcworld.com/70243](http://find.pcworld.com/70243)). Many scripts made for Greasemonkey will work in Chrome, too (you can download and install them straight from Userscripts.org); but there's no guarantee that they'll work as well as they do in Greasemonkey, so you'll have to try them out for yourself—or wait for someone else to port a Chrome version over.

Internet Explorer users looking to add scripting support can choose between Trixie ([find.pcworld.com/70244](http://find.pcworld.com/70244)) and IE7Pro ([find.pcworld.com/70245](http://find.pcworld.com/70245)). Neither of them is quite as robust as Greasemonkey, however: Trixie hasn't been updated for a few years, and IE7Pro has yet to step up to an IE 8 version. If you are an IE adherent, you can try these add-ons to see if they work, but you'll probably have to switch to a different browser to get satisfactory add-on support.

Safari users working on a Mac OS can opt to use GreaseKit ([find.pcworld.com/70246](http://find.pcworld.com/70246))—formerly known as Creammonkey—or SIMBL ([find.pcworld.com/70247](http://find.pcworld.com/70247)) to enable Greasemonkey scripts. Safari on Windows does not have a SIMBL/GreaseKit equivalent, however, so non-Mac Safari fans must switch to Chrome or Firefox for access to the trove of Greasemonkey goodies.

**<Ctrl>-C**); then open the *Edit* menu (or click the drop-down menu under the *Paste* icon on the Word 2007 ribbon), choose *Paste special*, and select *Unformatted Text*. This method is perfect for removing hyperlinks from copied Web content. >>

## Own Your Office

**Bring menus back:** If you still haven't learned Office 2007's ribbon system after three years of exposure to it, maybe you should just get rid of it. UBitMenu ([find.pcworld.com/70218](http://find.pcworld.com/70218)) is a third-party Office add-on that restores the old menu setup. What's more, it's free for private use.

**Keep your docs private:** You can make a Word or Excel document more secure by saving it with a password (if you like, you can even specify different passwords so that some people can edit the document while others can only read it). Select *Save As*, click the *Tools* drop-down menu, and choose *General Options* (*Security Options* in older versions of Office).

**Find a lost e-mail message:** By default, in its All Items searches, Outlook 2007 doesn't include e-mail messages consigned to the Deleted Items folder. If you're looking for a missive that you think you may have deleted, select *Tools•Options•Preferences*, and click *Search Options*. Check the box under 'Deleted Items' that says *Include messages from the Deleted Items folder in each data file when searching in All Items*, and you may be able to pull your missing mail out of the trash.

**Eliminate notifications:** Ever had a highly productive computer session ruined by an errant e-mail notification? To disable Outlook's notification sounds and system-tray messages, go to *Tools•Options•Preferences•E-mail Options*, and then click the *Advanced E-mail Options* button. Uncheck all of the options shown under 'When new items arrive in My Inbox'.

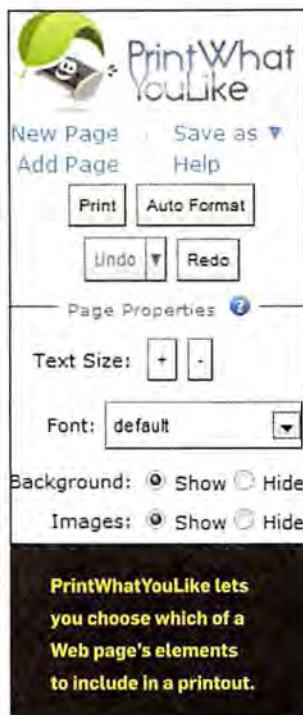
**Insert a new worksheet in an Excel spreadsheet:** To open a new worksheet in an existing Excel spreadsheet without having to dig through any menus first, simply press <Shift>-<F11>.

## Web Browser Tricks and Scripts

Like the exploding ballpoint pen and powerful laser watch that James Bond found so handy in *GoldenEye*, your browser can do more than meets the eye. Whether you are Firefox friendly or an Internet Explorer devotee, plenty of great add-ons are available for customizing and controlling your Web browsing experience. Take advantage of the tips in this section, and you'll never again have to endure a lost comment or forum post, spend precious time stripping unwanted formatting out of blocks of copied and pasted text, or waste sheets of paper every time you print out a copy of a Web page. Besides being easy on your processor, these practical add-ons are free, so load up on them.

### Firefox Fans Only

**Make Gmail better:** Grab Better Gmail 2 ([find.pcworld.com/70219](http://find.pcworld.com/70219)), a suite of scripts and add-ons designed to fix some of Gmail's niggling annoyances. With Better Gmail 2, your mouse



will highlight the e-mail message that you hover it over, the Unread count in the Gmail window will appear first (so that it won't get cut off if it's located in a tab), and attachments will show up from the list view, among other useful improvements. Meanwhile, the first version of Better Gmail has become available to users as a Chrome extension ([find.pcworld.com/70220](http://find.pcworld.com/70220)).

**Never lose another forum post:** Use the Lazarus Firefox add-on ([find.pcworld.com/70221](http://find.pcworld.com/70221)) to save everything you type in a form, just in case your PC crashes at an

inopportune moment. Your blood pressure will thank you.

**Deep-six the links:** Copy Plain Text ([find.pcworld.com/70222](http://find.pcworld.com/70222)) is another convenient Firefox add-on. It strips all of the nasty, unpredictable formatting out of text that you copy and paste.

### Tips for Any Browser

**Save eight keystrokes from every URL:** You no longer need to type "www." or ".com" in most URLs. Instead, merely type the unique part of the domain name that you want to visit—say, *pcworld*—into your browser's navigation bar, and press <Ctrl>-<Enter>. Your browser will automatically fill in the "www." and ".com" parts of the address.

**Middle-click to open a link in a new tab:** Middle-clicking a link (that is, clicking it with the scrollwheel) will cause it to open in a new tab. Middle-clicking a folder containing multiple bookmarks will cause all of them to open in new tabs.

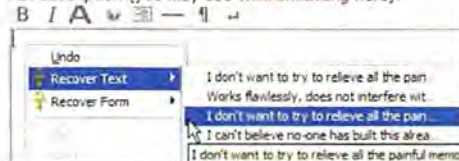
**Improve a site's printer friendliness:** At most Websites, the "printer-friendly" versions of the content are pretty awful. So head over to Print-WhatYouLike.com, and pick exactly which page elements you want to keep in your hard copy.

**The Lazarus add-on saves the content you type into online forms in Firefox.**

Short summary:

Type: task

Full description (you may use WikiFormatting here):



### Must-Have Add-Ons

**Capture a full-page screenshot:** Ever need to snag a screenshot of an entire Web page? Three utilities designed for specific browsers—Screengrab for Firefox ([find.pcworld.com/70224](http://find.pcworld.com/70224)),



IE Screenshot ([find.pcworld.com/70225](http://find.pcworld.com/70225)), and Talon ([find.pcworld.com/70226](http://find.pcworld.com/70226)) for Google Chrome—are perfectly suited to the task.

**Try IE-in-a-tab:** Even if you typically don't use Internet Explorer, you should have a copy of it handy for special situations. You might need to see how your site works in IE, for instance, or a site you use might not support other browsers. For maximum convenience, IE Tab for Firefox ([find.pcworld.com/70227](http://find.pcworld.com/70227)) and IE Tab for Chrome ([find.pcworld.com/70228](http://find.pcworld.com/70228)) let you keep the Microsoft browser in a tab so you don't have to juggle multiple browsers at once.

**Bring back the bookmark:** If you got out of the habit of using the humble bookmark because synchronizing different sets of bookmarks was too much of a hassle, install Xmarks ([find.pcworld.com/70229](http://find.pcworld.com/70229)). It lets you sync your bookmarks across different PCs and across different browsers.

**Verify sites' trustworthiness:** The Internet can be a dangerous place, but the Web of Trust ([find.pcworld.com/70230](http://find.pcworld.com/70230)) browser add-on promises to make your excursions there a little safer by telling you how the sites you visit rate in terms of privacy policy, vendor reliability, and child safety.

## Chrome and Google Apps

**Keep up on your Gmail:** Are you a convert to Gmail who misses the way Outlook used to notify you of new messages? Google Mail Checker Plus ([find.pcworld.com/70231](http://find.pcworld.com/70231)) chimes when you receive new messages, lets you view the subject, and opens a new Gmail message window when you click a mailto: link.

**Check your Google Calendar:** If you frequently need to take quick peeks at your Google Calendar, pick up DayHiker ([find.pcworld.com/70232](http://find.pcworld.com/70232)) and you'll be able to access it without opening a new tab or moving away from your current page.

**Perform instant YouTube searches:** Never type "www.youtube.com" again. Instead use Fast YouTube Search ([find.pcworld.com/70233](http://find.pcworld.com/70233)) to jump-start your search for YouTube videos from the comfort of your main browser window.

**Easily add RSS feeds to Google Reader:** If you use Google Reader to track your RSS feeds, you'll appreciate RSS Subscription Extension ([find.pcworld.com/70234](http://find.pcworld.com/70234)), which displays an RSS icon in the address bar whenever you are on a page that includes an RSS feed. Just click the icon, and you can add the feed to your subscription list without any hassle.

## Manage Your Media

Movies, music, podcasts, pictures...your PC may take up less space in your house than your photo albums and your DVD collection do, but that doesn't guarantee that its contents can't sink over time into total disarray. For many people, PCs have become the hub for storing family photos, home videos, and music libraries—and without the right apps and tricks, those collections can quickly degenerate into a trackless wilderness. Read on for tips to keep iTunes in line, to avoid stuttering streams, and to automate photo uploads.

## iTunes Tricks

**Auto-add to iTunes:** Managing an iTunes library can be a hassle, especially if you download your media from multiple apps. iTunes 9 introduced an 'Automatically Add To iTunes' folder (located by default at C:\Users\username\Music\iTunes\iTunes Media); iTunes monitors this folder for new files and appropriately sorts the ones it finds. Download new music and videos to this folder, and you won't have to organize them later.

**Keep your feeds going:** iTunes will automatically stop up- >>

## Upgrade Your PC's Accessories

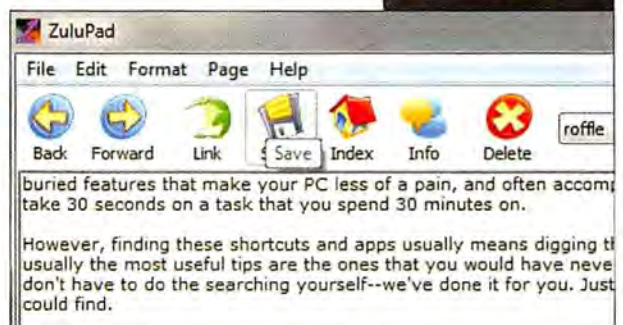
WINDOWS' BUILT-IN accessories are nice, but eventually you may want something more. If so, check out these apps, which pack more useful features while managing to stay svelte.

> **Notepad++** ([find.pcworld.com/70248](http://find.pcworld.com/70248)) is Notepad for advanced text wranglers. Most of the features in this application are aimed at people who work with raw code—Notepad++ supports HTML, XML, JavaScript, .ini files, and various flavors of C, among other languages and formats—but the tabbed document displays, macros, and in-document bookmarking features are useful for anyone who regularly works with plain text.

> **ZuluPad** ([find.pcworld.com/70249](http://find.pcworld.com/70249)), on the other hand, focuses on the "note" side of the Notepad feature set. With ZuluPad (the Basic version is free; the Pro version costs \$15), you can pull in images, automatically link to your other notes while you type, and even sync your ZuluPad documents online.

> **Paint.net** ([find.pcworld.com/70250](http://find.pcworld.com/70250)) is a lightweight paint program that has been around forever—and with good reason. It's much more capable than Microsoft Paint (which falls short of most people's image-editing needs), and yet at the same time it's smaller and easier to use than professional-caliber applications such as Adobe Photoshop Elements ([find.pcworld.com/70251](http://find.pcworld.com/70251)) and GIMP ([find.pcworld.com/70252](http://find.pcworld.com/70252)).

The ZuluPad app allows you to link automatically to other notes from the note you are currently typing.



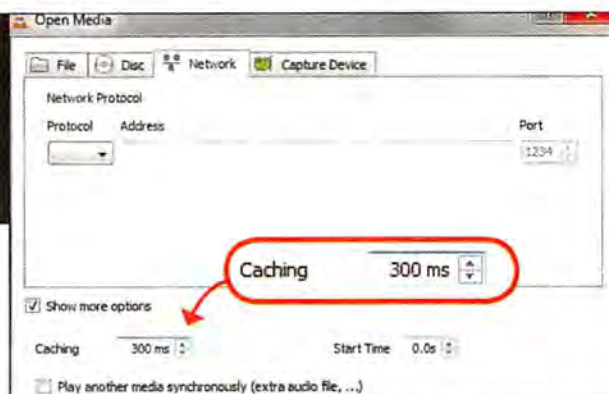
dating your podcast subscriptions if you don't listen to them—a real annoyance if you want to listen to a series of podcasts on, say, a marathon road trip. A simple Visual Basic script ([find.pcworld.com/70235](http://find.pcworld.com/70235)) automatically marks all of your unplayed podcasts as played, causing iTunes to continue updating them. Use Windows' built-in Task Scheduler to set the script to run every week or so.

**Clean up your music:** You don't really need four copies of the same song in your iTunes library—even if it's really good. So select *File>Display Duplicates*, and start deleting.

**Create multiple libraries:** You may not want iTunes to lump all of your media into a single library. Maybe you'd prefer a family-friendly media library and a separate adults-only media library, or maybe you'd rather not reveal your love of Rupert Holmes singles to anyone else. Whatever the reason, you can use *Libra* ([find.pcworld.com/70236](http://find.pcworld.com/70236)) to set up multiple iTunes libraries and switch from one to another at will; with luck, that "RH+" library won't attract any attention.

**Speed it up:** By default, iTunes has a few performance-slowness settings turned on. To disable the laggards, open the Preferences menu and uncheck any of the following you don't use: *Look for shared libraries* (Sharing tab), *Look for Apple TVs* (Apple

In VLC, to increase the size of your PC's read buffer, select a larger number in the Caching field.

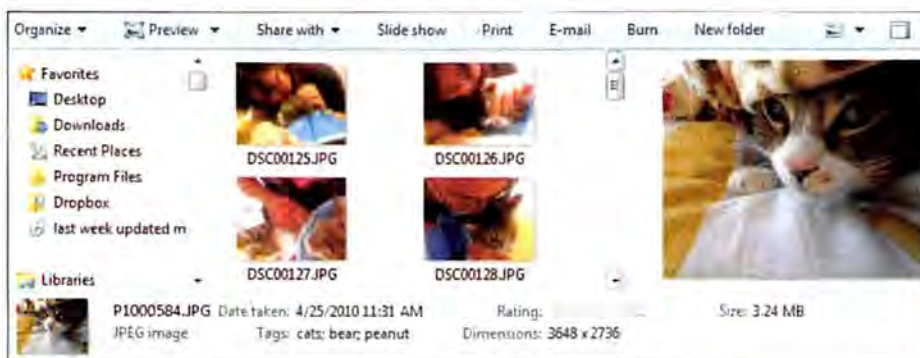


that may help is to increase the size of your system's read buffer. This adjustment will make the stream take longer to start, but it can also smooth out some hiccups by introducing a little more latency. In VLC, open the *Open Network Stream* menu, check *Show more options*, and bump up the number in the Caching field. In Windows Media Player, choose *Options* from the *Organize* menu, click the *Performance* tab, and manually adjust the 'Buffering settings'.

**Accelerate or slow down podcasts:** If you want to play back your audiobooks and podcasts in Windows Media Player at a different speed from the one they were set to play at, you can arrange it instantly via a few keyboard shortcuts. Press **<Ctrl>-<Shift>-G** to make a podcast play faster, press **<Ctrl>-<Shift>-S** to slow it down, and press **<Ctrl>-<Shift>-N** to reset it to normal.

**Automate photo uploads:** Depending on which photo management software and online photo services you prefer, you may be able to upload new pictures automatically. *LiveUpload to Facebook* ([find.pcworld.com/70238](http://find.pcworld.com/70238)) can publish from Windows Live Gallery, while *Picasa* ([find.pcworld.com/70239](http://find.pcworld.com/70239)) can post anything you put in a Picasa Web Album on the Picasa Website. If you favor Flickr, try *Foldr Monitr* ([find.pcworld.com/70240](http://find.pcworld.com/70240)), which can watch a specific folder for newly added images and post them to your Flickr account. (For more on automating your media collection, see page 94.)

**Tag photos from Windows:** If you have a lot of photos on your PC, you'll probably want to organize them with



TV tab), *Look for remote speakers connected with AirTunes* (Devices tab), and *Look for iPod touch, iPhone and iPad Remotes* (again, Devices tab). In the Store menu, turn *Genius* off.

## Secrets of Syncing, Streaming, and Organizing

**Don't mess with codecs:** If you're tired of installing and updating audio and video codecs to extend your player's capabilities, make VLC ([find.pcworld.com/70237](http://find.pcworld.com/70237)) your main media player. Easily the most compatible media player available, VLC can handle a multitude of file and streaming formats designed for iTunes, Winamp, Windows Media Player, and more.

**Prevent stream stutter:** Though many factors outside your control could interrupt your video stream (especially if you're streaming from another user's PC rather than from a dedicated service such as Netflix or YouTube), one tweak

Windows 7 offers built-in support for organizing and tagging photo files.

a photo gallery app (such as Windows Live Photo Gallery or Picasa). But if you don't want to deal with an extra application, you can use Windows 7's built-in metadata support to maintain order among your photos by means of descriptive tags ("Kids" or "Vacation," for example). Just select the pictures in Windows Explorer, click *Show More Details...* at the bottom of the open window, click *Tags*, and type the tags you want to use (separate multiple tags with semicolons). Once you've tagged your photos, you can search for them by placing "tag:" in front of your search string. ●

# In search of a new style

## **MONEUAL 320**

### Raising the HTPC Standard

Composed entirely of aluminum, the **MONEUAL 320 HTPC** puts to use a single HDMI cable that outputs both multimedia and audio in digital high quality onto an LCD TV. The Moneual 320 is perfect not only for basic PC functions such as word processing and web surfing, but also for storage, recording, and playback of full HD quality media. Delivering powerful performance at the size of the average DVD player, the Moneual 320 will be the key to bringing the HTPC out of the niche and into the mass market.

Moneual recommends  
 **Windows 7**

**MONEUAL 312**



**MONEUAL 320**



**MONEUAL 972i**



**MONEUAL**

amazon.com



For more information or to purchase one of our award-winning products, call 1-877-450-0105 or visit [www.moneual.com](http://www.moneual.com)

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High-zoom cameras  
with sleek looks  
(clockwise from top left):  
Casio Exilim EX-FH100,  
Sony Cyber-shot DSC-HX5V,  
Samsung HZ35W, Canon  
PowerShot SX210 IS.

BY TIM MOYNIHAN  
PHOTOGRAPHS BY  
ROBERT CARDIN

# Zoom, Zoom, Zoom



These versatile pocket megazoom cameras deliver serious power in a compact package. »

**THEY'RE BIGGER AND MORE POWERFUL** than your average point-and-shoot camera. They're smaller and more day-to-day friendly than a sophisticated digital SLR model. When you come right down to it, high-zoom compact cameras perfectly fill the middle ground between portability and performance. Meet the tweeners—they would prefer it if you call them pocket megazooms, though.

As the "pocket megazoom" name suggests, the marquee feature for the seven cameras we review here is their larger-than-average optical-zoom ranges. Each of these high-zoom compacts offers a wide-angle-to-telephoto reach of at least 10X. Thanks to various innovative advances in the world of cameras, however, that's often where the similarities end. From internal GPS antennas to high-speed shooting modes to fast-focusing silent lenses to sensors optimized for low-light shooting, most of these cameras have a distinct specialty.

Sony's Cyber-shot DSC-HX5V and Samsung's

HZ35W, for example, have internal GPS receivers for geotagging photos instantly, which might come in handy for globetrotters or anyone who wants to display snapshots on a map. Casio's Exilim EX-FH100, meanwhile, offers a 40-frames-per-second shooting mode that lets you capture a fast-action sequence and turn it into slow-motion footage during playback. Along with full manual controls, Canon's PowerShot SX210 IS provides creative scene modes and top-notch video capture, while Panasonic's Lumix DMC-ZS5 has a near-silent, fast-focusing zoom lens. For its part, Nikon's Coolpix S8000 is the easiest to use of the lot, and Fujifilm's FinePix JZ500 has a unique face-detection mode for your pet dog or cat.

For this article, we attempted to put all those bells and whistles aside and judge each of these seven big-name, big-zoom cameras on its merits alone. Here's how these models



## Top Pocket Megazoom Cameras

Sony's DSC-HX5V packs a variety of exciting features, while Canon's SX210 IS appeals to beginners and advanced photographers alike.

MODEL	Rating	Performance	Features and specifications	Bottom line
 <p><b>1</b> Sony Cyber-shot DSC-HX5V \$350 <a href="http://find.pcworld.com/70160">find.pcworld.com/70160</a></p>	★★★★★ VERY GOOD	<ul style="list-style-type: none"> <li>Image quality: Good</li> <li>Video quality: Good</li> <li>Strength: Color accuracy</li> <li>Weakness: Sharpness</li> </ul>	<ul style="list-style-type: none"> <li>10X optical zoom (25-250mm)</li> <li>10 megapixels</li> <li>4.1 by 2.4 by 1.2 inches</li> <li>Built-in GPS and compass</li> </ul>	Sony's GPS-enabled, feature-laden DSC-HX5V is far from a gimmick camera, thanks to good image quality and great shooting modes.
 <p><b>2</b> Canon PowerShot SX210 IS \$350 <a href="http://find.pcworld.com/70161">find.pcworld.com/70161</a></p>	★★★★★ VERY GOOD	<ul style="list-style-type: none"> <li>Image quality: Good</li> <li>Video quality: Superior</li> <li>Strength: Video</li> <li>Weakness: Distortion</li> </ul>	<ul style="list-style-type: none"> <li>14X optical zoom (28-392mm)</li> <li>14 megapixels</li> <li>4.2 by 2.3 by 1.3 inches</li> <li>Full manual controls</li> </ul>	The slim follow-up to the SX200 IS has a near-perfect blend of manual controls and automatic modes, and its video capture is stunning.
 <p><b>3</b> Samsung HZ35W \$350 <a href="http://find.pcworld.com/70162">find.pcworld.com/70162</a></p>	★★★★★ VERY GOOD	<ul style="list-style-type: none"> <li>Image quality: Very Good</li> <li>Video quality: Fair</li> <li>Strength: Sharpness</li> <li>Weakness: Video</li> </ul>	<ul style="list-style-type: none"> <li>15X optical zoom (24-360mm)</li> <li>12 megapixels</li> <li>4.2 by 2.4 by 1.3 inches</li> <li>GPS and full manual controls</li> </ul>	The GPS-enabled HZ35W shoots the sharpest, highest-quality stills in its class, but its menu structure and video quality fall short.
 <p><b>4</b> Casio Exilim EX-FH100 \$350 <a href="http://find.pcworld.com/70163">find.pcworld.com/70163</a></p>	★★★★★ VERY GOOD	<ul style="list-style-type: none"> <li>Image quality: Good</li> <li>Video quality: Good</li> <li>Strength: Color accuracy</li> <li>Weakness: Distortion</li> </ul>	<ul style="list-style-type: none"> <li>10X optical zoom (35-140mm)</li> <li>10 megapixels</li> <li>4.1 by 2.5 by 1.2 inches</li> <li>High-speed and RAW shooting</li> </ul>	Casio's high-speed megazoom camera has superb battery life and good image quality, but its zoom lens is noisy and autofocus is laggy.
 <p><b>5</b> Nikon Coolpix S8000 \$300 <a href="http://find.pcworld.com/70164">find.pcworld.com/70164</a></p>	★★★★☆ GOOD	<ul style="list-style-type: none"> <li>Image quality: Good</li> <li>Video quality: Good</li> <li>Strength: Lack of distortion</li> <li>Weakness: Color accuracy</li> </ul>	<ul style="list-style-type: none"> <li>10X optical zoom (30-300mm)</li> <li>14 megapixels</li> <li>4.1 by 2.3 by 1.1 inches</li> <li>Easy, automated controls</li> </ul>	With automated controls and simple operation, the S8000 is a powerful camera for novices. We wish it also had manual controls.
 <p><b>6</b> <b>BEST BUY</b> Panasonic Lumix DMC-ZS5 \$250 <a href="http://find.pcworld.com/70165">find.pcworld.com/70165</a></p>	★★★★☆ GOOD	<ul style="list-style-type: none"> <li>Image quality: Fair</li> <li>Video quality: Very Good</li> <li>Strength: Sharpness</li> <li>Weakness: Exposure</li> </ul>	<ul style="list-style-type: none"> <li>12X optical zoom (25-300mm)</li> <li>12 megapixels</li> <li>4.1 by 2.4 by 1.3 inches</li> <li>Full manual controls</li> </ul>	With a fast-focusing zoom lens and manual controls, the video-savvy DMC-ZS5 ditches fancy extras—but its images are often underexposed.
 <p><b>7</b> Fujifilm FinePix JZ500 \$250 <a href="http://find.pcworld.com/70166">find.pcworld.com/70166</a></p>	★★★☆☆ FAIR	<ul style="list-style-type: none"> <li>Image quality: Fair</li> <li>Video quality: Poor</li> <li>Strength: Lack of distortion</li> <li>Weakness: Sharpness</li> </ul>	<ul style="list-style-type: none"> <li>10X optical zoom (28-280mm)</li> <li>14 megapixels</li> <li>3.8 by 2.2 by 0.9 inches</li> <li>Pet detection mode</li> </ul>	The most pocket-friendly of these pocket megazooms, the JZ500 doesn't have the features or performance to truly compete.

CHART NOTE: Ratings are as of 6/2/10.



stacked up to one another, based on subjective testing by the PCWorld Labs for still-picture and video performance, as well as our hands-on evaluations of day-to-day performance.

## Sony Cyber-shot DSC-HX5V

With its built-in GPS, digital compass, wireless image and video sharing via TransferJet, accelerometer-driven panorama mode, and 1080i high-definition video capture in AVCHD format, you could easily overlook the fact that the Sony Cyber-shot DSC-HX5V (\$350) is, in fact, a camera. And it's an excellent camera, delivering some of the best image quality we've seen from a point-and-shoot model in 2010.

The 10-megapixel, 10X-optical-zoom (25mm to 250mm) DSC-HX5V captured some of the highest-rated images in the PCWorld Labs' subjective tests for image quality, leading this pocket-megazoom pack in exposure quality and color accuracy. Sharpness and distortion levels were less impressive, however, and video quality trailed that of both the Canon PowerShot SX210 IS and the Panasonic Lumix DMC-ZS5, earning the DSC-HX5V an overall imaging score of Good.

When you use the DSC-HX5V in everyday situations, you quickly discover that it has some of the most innovative features available in a camera. Its particular strengths are thanks to three modes, all of which you can access via a mode dial on top of the camera: Handheld Twilight, which snaps up to six images at different exposure settings in rapid succession and overlays them to create a crisp, well-exposed photo; Intelligent Sweep Panorama, which lets you press the shutter button once and pan the camera across a field of view to create an instant panoramic photo; and Backlight Correction HDR, which takes backlit images at different exposure levels and overlays them to bring out foreground highlights.

The geotagging works, but the function is tethered to your computer. Though the DSC-HX5V automatically geotags images as you snap them (as long as you're outside), you need to install the bundled Picture Motion Browser software on a Windows PC and offload the photos to your hard drive to get any use out of the data. Dragging and dropping photos onto the software's MapView interface correctly places them where you shot them, but you don't get the same on-the-go conve-



nience that you do with the Samsung HZ35W's GPS feature.

Battery life is solid, at 310 shots on one charge. If you use the DSC-HX5V with its GPS service turned on at all times, however, your battery life is bound to be affected significantly.

Seasoned photographers should note a few significant omissions from the DSC-HX5V's bag of tricks: You can't shoot in RAW, and although the camera has a full manual mode that lets you adjust aperture and shutter settings independently, it forgoes dedicated aperture-priority and shutter-priority modes.

The DSC-HX5V takes SD/SDHC cards or Sony's Memory Stick Pro Duo in its single media slot. It's also one of two Cyber-shot models that support wireless peer-to-peer sharing via TransferJet-capable devices. Not many TransferJet devices are available yet, however, and you need a special TransferJet Memory Stick card to share wirelessly with the DSC-HX5V.

**Bottom line:** Don't call Sony's GPS-enabled, feature-loaded DSC-HX5V a gimmick camera. It supplements its in-camera goodies with great image quality and terrific shooting modes.

## Canon PowerShot SX210 IS

Offering ease of use, manual controls, and best-in-class video quality, the 14X-optical-zoom PowerShot SX210 IS (\$350) is a follow-up to last year's excellent SX200 IS. Improvements include a slimmer frame, the ability to zoom while shooting video, support for SDXC cards, and new scene modes.

In the PCWorld Labs' subjective still and video testing, the SX210 IS received an overall imaging score of Good. It had the most well-rounded images of any camera in this group, >>



The zoom toggle on Canon's PowerShot SX210 IS gives you superb control over the lens.

earning a Good rating in all four of our testing categories (exposure, color accuracy, sharpness, and lack of distortion).

The SX210 IS produced noticeably better video than the other megazooms, too, posting a video-quality score of Superior. In contrast, audio capture was weak; the camera has no mic-in port, so you're stuck with less-than-impressive sound to accompany the stunning 720p, 30-fps video.

This is the top "one-size-fits-all" camera here, offering the best range of controls to suit both advanced and novice photographers. It has manual controls, including aperture-priority mode, shutter-priority mode, and full manual exposure. Aperture settings range from f3.1 on the wide-angle end to f8.0 in full telephoto, and you get more incremental f-stop options than you do with the Casio Exilim EX-FH100.

The SX210 IS has a few creative scene modes worth mentioning. New to the mix are a Miniature Mode, which makes full-size objects seem like models by imitating the effects of a tilt-shift lens, and Fisheye, which mimics a fish-eye lens. Holdover modes from previous Canon cameras include Color Accent (which allows you to expose a single color in an otherwise black-and-white photo) and Color Swap (which lets you replace one color with another in your photo).



Lacking a raised hand grip, the camera has a narrow, finger-width trench along the top and sides for securing the grip; you adjust the 14X-optical-zoom lens (28mm to 392mm) by using a toggle-like control on the top of the camera with your fingertip. Gripping the camera still takes two hands, but the zoom toggle gives you greater control over the zoom speed than do the ring-based or thumb-operated controls that most point-and-shoots have. It's definitely worth a test drive before you buy, especially if you like shooting with one hand.

The pop-up flash is another improvement over last year's model. Instead of relying on fully electronic measures to control it, you can manually flip this flash up and down. The flash automatically pops up when you turn the camera on; if you don't need it, you can just close it with your finger.

Battery life is decent. The SX210 IS is rated for 260 shots

## Point, Shoot, Action! PCWorld Labs Puts Pocket



PART OF OUR review process for every digital camera involves detailed image-quality testing in front of a panel of judges. With the vast majority of still cameras now offering 720p high-definition video capture, we believed that it was a good time to start rating digital cameras on their ability to shoot video, too.

The seven pocket megazooms in this roundup are the first point-and-shoot cameras to go through subjective tests by the PCWorld Labs for video quality. Our methodology involves recording a 1-minute video of a toy train and Ferris wheel to gauge aspects of the video quality—namely smoothness of motion, color accuracy, and the lack of artifacts. We also play an audio clip through speakers in the scene to determine how well each camera picks up sound.

We shoot the same scene twice, with each camera in the same tripod location at its highest video-quality setting: once in bright



Lab Manager Tony Leung shoots our test scene.



per charge of its rechargeable battery, short of the 300-plus shots we see on average for a point-and-shoot camera.

**Bottom line:** The slick, slimmed-down successor to Canon's SX200 IS offers a near-perfect blend of manual controls and creative scene modes, and its video capture is stunning.

## Samsung HZ35W

The 15X-optical-zoom Samsung HZ35W (\$350) has the best overall performance score and feature set of any camera in this roundup, but our hands-on tests exposed a few concerns.

Let's start with the laundry list of positives. The 15X lens (24mm to 360mm) offers the largest optical-zoom range of any compact camera currently available, and this model's dual stabilization feature proved amazingly effective in correcting everything but the most severe shaking. To review images and frame shots, you use the 3-inch AMOLED screen, which is impressively sharp and easy on the eyes.

The geotagging feature works well, going a step further than Sony's DSC-HX5V—you don't need to install software on your PC and then offload images to see the GPS features in their full glory. Navteq's mapping service is installed on the HZ35W, letting you view your photos in a map on screen. It also displays the city name, rather than just coordinates, when you're viewing your geotagged images on the camera.



Samsung's HZ35W is a GPS genius, displaying your geotagged images on an in-camera map.

For example, you get effects that mimic a tilt-shift lens, a fish-eye lens, and >>

## Megazoom Video Capabilities to the Test



We rate clips from each camera for audio and video quality.

indoor lighting, and again with the overhead lights turned off and a floor lamp turned on behind the camera. Once we've shot all of the footage, our panel of judges rates each clip for its overall video quality in bright lighting, its quality of footage in low light, and its audio quality. The video scores account for 15 percent of each camera's overall performance score, and the audio quality makes up 5 percent of the camera's performance rating.

In our first-ever video tests for point-and-shoots, the Canon PowerShot SX210 IS earned the top overall score for video, thanks to its smooth, vibrant footage in bright light and its admirable video quality in low light. Hot on its heels was the Panasonic Lumix DMC-ZS5, which received high marks for its smooth, sharp footage; that model also has a quiet, video-friendly zoom lens and a fast autofocus.

Want to see our test video clips for these cameras side-by-side? Visit [find.pcworld.com/70211](http://find.pcworld.com/70211) for the tale of the tape.



For rapid-fire shooting and long-term battery life, Casio's Exilim EX-FH100 leads the pack.



sketch drawing, but they're hidden deep in the menus under the Smart Filter header; most users would probably go looking for them among the scene modes. And though the camera's manual settings include aperture- and shutter-priority modes, you can't adjust those settings while you frame your shot; instead you have to dive one layer into the menus to do so.

What's more, the camera's excellent dual-stabilization mode is available only via a dedicated selection on the mode dial; you don't have access to its image-stabilizing powers in any of the manual modes or other settings.

Last on the list of problems: The HZ35W is a bit chunkier and deeper than the other cameras here, and it doesn't offer much of a raised handgrip. A grooved thumb rest below the shutter button on the back doesn't give you a lot of traction.

**Bottom line:** The GPS-enabled HZ35W produced some of the sharpest, highest-quality stills we've seen this side of a DSLR, but its confusing menu system and poor video knock it down a peg.

## Casio Exilim EX-FH100

Though the EX-FH100 (\$350) frames its 10X-optical-zoom lens (24mm to 240mm) with slick, curvy looks, the main attraction is its high-speed shooting mode. It's also a good all-purpose camera with nice image quality and long battery life.

In subjective tests by the PCWorld Labs for image quality, this Exilim ranked in the top tier of our test group, serving up sharp images with good color accuracy and exposure levels. Noticeable distortion and middle-of-the-pack video quality were weak spots, leading to an overall imaging score of Good.

Zooming in and out can be frustrating due to the noise of the lens motors and to the autofocus, which in some instances searched for a second or two before locking in on a crisp image. Compared with the Panasonic Lumix DMC-ZS5, the EX-FH100 is severely lacking in these respects.

On top of that, the camera suffers from noticeable shutter lag, even after you've pressed the shutter button halfway to focus on your subject. This is most obvious in the automated Best Shot mode, where being too quick on the trigger results in a 'Shutter half-press too short' error message.

The EX-FH100's high-speed shooting mode makes those

offenses more forgivable. It's a valuable weapon for sporting events and other fast-action shoots, capturing up to 40 stills per second at a 9-megapixel resolution or 120 frames per second of 640-by-480 video. You can crank up the video-capture speeds even higher, to a certifiably insane 1000 frames per second of 224-by-64 video. Playback is well implemented on the 3-inch LCD screen, letting you adjust the speed of the slow-motion playback by following on-screen instructions.

The EX-FH100 is also the only camera in this roundup that shoots RAW-format images, making it a good fit for people who do a lot of image editing and enhancement. But when you're shooting in RAW mode—and when you're using the high-speed mode—the camera takes quite a bit of time to save the photos to an SDHC card. Though shot-to-shot times were lightning-fast, write speeds were a slow 7 to 8 seconds for large RAW images or high-speed image batches.

In addition to a range of scene modes and the Best Shot mode, the EX-FH100 offers full manual, aperture-priority, and shutter-priority modes for experienced photographers. Even though they're great settings to have, your options are limited in aperture-priority mode: The f-stop selections are just f3.2 or f7.5 at the wide-angle end, f5.7 or f16.1 at full telephoto, and other two-stop combinations at focal lengths in between.

This is the go-to camera of the bunch if you need battery longevity. Its battery is rated for 520 shots on one charge, so you can probably leave its charger at home in most cases.

**Bottom line:** Casio's first high-speed pocket megazoom camera provides superb battery life and image quality, but its noisy zooming and laggy autofocus are drawbacks.

## Nikon Coolpix S8000

There's a lot to be said for simplicity, and the almost fully automated Coolpix S8000 (\$300) is the ideal high-zoom option for anyone who doesn't want to fuss with settings. Advanced photographers and learn-as-you-go shooters won't like the lack of manual controls, but people looking for a dead-simple pocket megazoom will appreciate this model. >>

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The 10X-optical-zoom S8000 offers a wide-angle-to-telephoto reach of 30mm to 300mm, 720p high-definition video capture at 30 frames per second, and one of the sharpest 3-inch-diagonal LCDs we've seen on a point-and-shoot. This camera pretty much drives itself: Shooting modes include full auto (which also lets you tweak white balance, metering options, autofocus mode, and ISO), 15 scene modes, and an automatic scene selector that chooses the right scene mode for the environment.

Also in the mix are a Smart Portrait mode that's optimized for single or group portraits—it lets you tweak skin-softening filters, a smile-triggered shutter, and a blink detector—as well as a motion-tracking mode that locks in on a moving object and keeps it in focus. That's it for the shooting modes; you don't get any manual aperture or shutter controls. The automation tends to do a very good job, though.

In PCWorld Labs imaging tests, the S8000 led the group in lack of distortion, and it was among the leaders for exposure quality and sharpness. Its color accuracy and video quality were only mediocre, however, and as a result the S8000 posted an overall imaging score of Good.

Battery life is on the low side. The S8000 has a CIPA battery life rating of 210 shots per charge of its lithium ion battery, well short of the 300-plus-shot performance of an average point-and-shoot camera.

In my hands-on tests, the Coolpix S8000 had the best macro mode of any of the cameras in this roundup. I was just about able to touch the lens to a subject and still get a crisp, well-focused photo without the autofocus searching in and out.

You can correct exposure problems easily within the camera thanks to Nikon's D-Lighting feature, which you employ during playback. Rather than attempting to correct backlit or underexposed images while you're capturing them, you re-process images with D-Lighting after you shoot, creating a modified copy of your photo while retaining the original.

The Coolpix S8000 captured decent video, but audio pickup was weak from its top-mounted stereo microphones. What's more, while filming, you're limited to digital zoom rather than

The easy-to-use Nikon Coolpix S8000 is great for novices, thanks to its fully automated controls.

being able to use the full power of the camera's 10X-optical-zoom lens.

This is a slim and light camera, due to the lack of a protruding hand grip. It's a bit boxy, though, so you'll need both hands to secure it. Unfortunately, the doors that cover the HDMI port and the USB connector are made of rubbery plastic and are prime candidates to tear off after about a dozen uses.

**Bottom line:** With automated controls and straightforward operation, the Coolpix S8000 is an ideal high-zoom camera for beginners. It's hard to take a bad photo with this model, but you get no manual controls.



## Panasonic Lumix DMC-ZS5

Think of the DMC-ZS5 (\$250) as the Coolpix S8000 for seasoned photographers. It offers a full range of manual controls to go along with its 12X-optical-zoom lens (25mm to 300mm), and its quiet motors and fast autofocus make it a double-duty standout for stills and video.

Like most pocket megazooms, the 1.3-inch-deep DMC-ZS5 is a bit too large to be pocket-size. It can squeeze into an inside coat pocket and would have little trouble fitting into a bag, but forget about cramming it into a pair of skinny jeans.

Its manual controls make it a notable upgrade to last year's fully automated Lumix DMC-ZS3. In addition to a full manual mode, which lets you select aperture and shutter values independently, you get aperture-priority and shutter-priority modes. Aperture values range from f3.3 to f6.3 at the wide-angle end of the zoom to f4.9 to f6.3 at full telephoto. Shutter speeds range from 1/2000 of a second to 60 seconds. >>



Quiet zooming and fast autofocus make the Panasonic Lumix DMC-ZS5 a great option for video.



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**\$1309**



Fujifilm's FinePix JZ500 can fit in a pocket and offers a unique mode for photographing pets.



The camera has nice automated settings (Intelligent Auto, Intelligent Resolution, and Intelligent ISO among them) and scene modes (including an excellent High Dynamic Range mode).

But when you weigh it against some of the more feature-focused pocket megazooms here, the DMC-ZS5 has a comparatively small bag of tricks.

Unfortunately, photos tended to come out a bit dark and underexposed unless we used its manual settings. In PCWorld Labs jury evaluations for image quality, the DMC-ZS5 scored poorly on exposure quality and color accuracy, but it also had some of the sharpest photos in our test group. It fared well on video—shooting smooth and sharp movies that earned a Very Good rating—but the on-board microphone was weak. The DMC-ZS5 netted an overall imaging score of Good.

This camera shines when you use the optical-zoom lens while shooting video. Autofocus is lightning-quick and sharp, and when you use a tripod or a flat surface, the reach of the lens can produce stunning results. I was able to zoom three and a half city blocks away without the autofocus flinching at all. You don't get manual controls while shooting video, but you can adjust white balance, choose from preset exposure settings, and select a few color filters while filming.

When shooting stills, the shutter lag is a mixed bag. For single shots, it's practically nonexistent: You can power the camera on and snap a shot within about a second, though it takes a fraction of a second longer if the camera is in Intelligent Auto mode. Shot-to-shot lag is noticeable, however; unless the DMC-ZS5 is in its three-shots-per-second burst mode, the camera takes quite a bit of time between shots.

Since a physical lock switch controls the capture and playback settings, moving between reviewing images and snapping photos takes time, too. With the DMC-ZS5, unlike with many cameras, pressing the shutter button during photo playback doesn't put the camera into capture mode, so you lose about a second while you're adjusting the lock switch.

**Bottom line:** With manual controls and a fast-focusing 12X lens, the DMC-ZS5 eschews fancy extras and gets down to brass tacks.

## Fujifilm FinePix JZ500

The Fujifilm FinePix JZ500 (\$250) is the most pocketable pocket megazoom here, thanks to a curvy 1-inch-deep body that's significantly slimmer than any of the other cameras.

Unfortunately, its performance was also comparatively ane-

mic. Its shortcomings aren't entirely surprising: This model is Fujifilm's bargain pocket megazoom for 2010, playing second string to the higher-end FinePix F80EXR.

In the PCWorld Labs' subjective evaluations for still-image and video quality, the JZ500 turned in a disappointing score of Fair. Our judges noted that sample images taken with the JZ500 were murky and soft, resulting in well-below-average scores for both exposure quality and sharpness.

The JZ500 doesn't make up for its imaging failings with battery life, either. The camera has a rating of 230 shots for each charge of its lithium ion battery, which is well short of some of the more feature-loaded cameras in this group.

Video performance was at the bottom of the pack, especially in low-light tests—and that tells only half the story when it comes to shooting video with this camera. Due to the noisy zoom-lens motors and laggy autofocus, taking 720p clips with the JZ500 is often a study in frustration.

The JZ500 lacks manual shutter and aperture controls; you're limited to the camera's scene modes, program mode (which lets you adjust ISO, white balance, autofocus, and other basic settings), auto mode, and automated scene-selecting mode. It's certainly easy to use, but it lacks the polish and image quality of Nikon's similarly robot-like S8000.

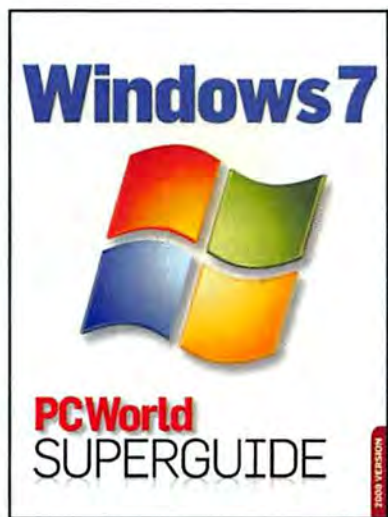
The most interesting aspect of the JZ500 is its pet-detection scene mode, which is a face-detection mode for dogs and cats. You can set the camera to snap a photo automatically as soon as your pet turns toward the camera, but our hands-on tests revealed that the shutter isn't quick enough to capture particularly fast-moving dogs or cats. If you opt to press the shutter button manually, it does take a fine pet photo.

The JZ500 is an also-ran among the major players in the pocket megazoom class, but it has a bigger, more-powerful sibling. For Fujifilm fans pining for a pocket megazoom, we suggest holding out for the FinePix F80EXR, which boasts the company's higher-end EXR sensor along with a 10X-optical-zoom lens. We wanted to have the F80EXR in this roundup, but a tight testing deadline prevented its inclusion.

**Bottom line:** The most pocket-friendly of these pocket megazooms, Fujifilm's FinePix JZ500 doesn't have the features or the performance to match higher-priced competitors. ●

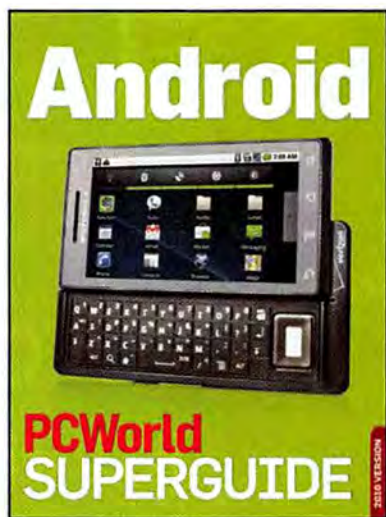
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# chip Showdown

**Confused about which processor to pick for your new system?**

We tested eight leading chips to help you make the smartest choice. Here's everything you need to know about today's best desktop, laptop, and mobile CPUs.

BY DAVID MURPHY

## »» When you're shopping for a new PC,

don't meekly settle for the default processor recommended by the configurator. Picking the right CPU is a personal decision that you shouldn't enter into lightly. And with so many options to choose from, you need to know what you're getting into when you settle on a chip for your system. We've rounded up eight of the leading processors on the market and put them through a battery of rigorous tests to help you shop with confidence.

Even after you've made the decision to opt for an Intel or an AMD processor, however, you still aren't out of the woods: Within each company's chip lineup sit a number of different families of CPUs. And you'll find plenty of options within each of these product families that run the gamut of specifications and features. These details give each chip its speed, cost, and name—but you'll run into trouble if you start trying to analyze a processor's potential based on these three characteristics alone.

It's unwise to assume that a processor's stated frequency, or the speed at which the CPU executes its instructions, is a reliable guide to its speed versus competing chips. While that assumption might turn out to be true in some cases, a chip's actual architecture can torpedo it. Depending on the make and model, a "slower," or lower-frequency multicore CPU can beat out the general performance of a seemingly faster processor that's been split into fewer cores—a four-core CPU versus a dual-core CPU, to put it simply. Also, processors that seem to indicate superiority by their naming conventions can be anything but: It all depends on how and when they were created, not on their labels.

And that's just the beginning of the sources of confusion. How does automatic overclocking play a role in today's conventional CPUs? How does the price-to-performance ratio play out on seemingly more expensive Intel chips versus AMD's less pricey designs?

The questions can be as numerous as they are confusing for anyone unfamiliar with processor architectures. But that's okay: We've taken eight classic examples—four each from the Intel and AMD lineups—and run them through our bevy of WorldBench 6 tests to deliver a guide you can use to understand your options, and to help you pick your next processor. We discuss the processors in order, from speediest to slowest, as decided by their WorldBench 6 benchmark scores.

Processors aren't limited to PCs, so we also take a look at CPUs for smartphones and tablets; see the chart on page 93.

faster

# 1

### Intel Core i7-980X

**Whoosh! This category leader is so fast, it'll sprout wings and fly.**

At \$999, the 3.33GHz Core i7-980X (with automatic overclocking to 3.6GHz) is Intel's flagship offering in consumer processors. It's the first desktop-grade CPU with six physical cores, but hyperthreading yields 12 virtualized ones. The six cores share 12MB of integrated L3 cache. The end result is a measurable performance boost for optimized applications—and a score of 147 on our WorldBench 6 tests.

A 32-nanometer design, the 980X is fully compatible with existing X58-chipset motherboards running an LGA 1366 socket. X58-based motherboards use Intel's quickpath interconnect (QPI) architecture. QPI replaces the frontside bus design of the now antiquated Core 2 chips, for faster (and greater) bandwidth for routing communications between the motherboard, system components, and the CPU.

Intel splits its mainstream desktop and mobile CPU offerings

into three sections: The Core i7, Core i5, and Core i3 lines,

representing, respectively, high-end, midrange, and entry-level products. That doesn't always mean that a Core i5 chip will be slower than a Core i7, however, as you'll see later. Nor does a Core i7 always have four physical cores. Intel's mobile i7 line defaults to two cores unless the chip has a QM or XM extension.

> **BENCHMARK SCORE: 147**



## CPU TERMS

DISCUSSIONS OF CPUs can quickly sound pretty technical. Here are some of the most-common terms used in describing processors.

# 3

## AMD Phenom II X6 1090T

AMD's first-ever six-core desktop CPU beats all of the company's other offerings, but are its advantages strong enough to justify an upgrade? You decide.

AMD enters the performance game in third place with its brand-new, six-core, 3.2GHz Phenom II X6 1090T processor. Codenamed "Thuban," this \$299, 45-nanometer CPU can hit speeds of up to 3.6GHz as a result of Turbo Core, the AMD equivalent of Intel's automatic overclocking technology (which is called Turbo Boost).

The X6 1090T's 6MB L3 cache is half that of Intel's six-core chip, and it takes a performance hit of 20 percent compared with Intel's Core i7-980X. The X6 1090T also lacks an answer for hyperthreading, a critical technological component of Intel's top-shelf CPU lineups.

Performance gaps aside, the X6 1090T wins the compatibility race against Intel by a mile. You can drop this CPU into any existing motherboard with AM3 or AM2+ sockets (after a BIOS upgrade). The combination of a simple upgrade path and the CPU's super-low price of \$299 makes for a great alternative to upgrading your existing motherboard and memory, if you just want to reap the benefits of a new, up-to-date processor.

> **BENCHMARK SCORE: 118**

# 2

## Intel Core i7-870

A significant price drop with a minor performance loss against Intel's top-line CPU makes this 45-nanometer, quad-core model an excellent buy.

Intel's 2.93GHz (with automatic overclocking to 3.6GHz) Core i7-870 processor earns second place in our rankings. The differences between this \$564 processor and the Core i7-980X, though important, result in only a 14 percent decrease in performance from that of the Core i7-980X.

> **BENCHMARK SCORE: 127**

The i7-870 drops its internal L3 cache to 8MB. In addition, it carries a 45-nanometer designation (the size of the space between transistors). The smaller this number, the smaller and more numerous the transistors that can be packed onto a processor. Also, this midrange CPU limits you to four memory slots on your motherboard instead of six.



slower

**Cache:** Internal memory in the CPU, housing frequently accessed data and instructions for superfast turnaround on memory requests.

**Chipset:** Components that work together, alongside the CPU, to form a cohesive computing unit.

**Clock speed:** The speed at which a CPU executes its instructions, usually measured in gigahertz (billions of cycles per second); also known as the chip's "frequency."

**Code name:** A company's nomenclature for a new series of chips; may refer to a processor lineup ("Gulftown" or "Deneb"), a micro-architecture (Intel's "Nehalem"), or a platform (AMD's "Dragon").

**Core:** The part of the processor that reads and executes program instructions.

**Die:** The physical surface area on which a semiconductor circuit is fabricated. Smaller die sizes reduce chip manufacturing costs and chip power consumption.

**GPU:** Graphics processing unit—the chip that processes graphics and video. It may be located on the CPU, as part of the motherboard chipset, or on a separate ("discrete") graphics card.

**Nanometer:** One billionth of a meter; the unit used to gauge the distance between the narrow connections tying transistors on a CPU.

**Socket:** The electrical interface on the motherboard, where the CPU sits; usually backward-compatible over chip iterations.



4

### Intel Core i3-540

> **BENCHMARK SCORE: 115**

Confusion lurks

within Intel's Core processor lineup. Case in point: The Core i3-540 beats the general performance of the otherwise higher-class Core i5-750!

As mentioned earlier, naming conventions don't always translate into measurable performance improvements. Intel's Core i3-540 is a 3.06GHz dual-core CPU, and a member of the company's Clarkdale line of chips.

Released four months after Lynnfield (the family of the Core i7-870), Clarkdale is based on a 32-nanometer production process, versus Lynnfield's 45-nanometer design.

The \$145 Core i3-540 lacks Turbo Boost, so the chip can't run faster than 3.06GHz.

Despite this limitation, and the chip's 4MB of L3 cache, it still tops the performance of Intel's Core i5-750 CPU by 8.5 percent on WorldBench 6. (The quad-core i5-750 does do 25 percent better on Cinebench, the multicore-optimized processor benchmark, however.)

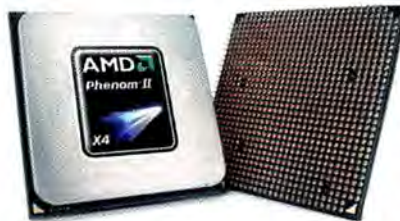
The Core i3-540 is really geared for users who aren't enthusiasts—not only does it yield formidable dual-core performance, but it also comes with a GPU core that is packed right alongside the CPU. This sandwich of performance and integrated graphics could cost

faster

## NEW TECHNOLOGY ON THE HORIZON

WHAT DOES THE future of CPU technology look like? In a word, integration. Expect Intel to push toward stronger integration of its CPUs and GPUs, as in its Core i3 and i5 lines. The 32-nanometer Sandy Bridge CPU is the next "tock" in the company's "tick/tock" development strategy, in which it refines the microarchitecture on one hand and launches a brand-new design on the other. Beyond Sandy Bridge is the 22-nanometer Ivy Bridge.

On Sandy Bridge processors, the GPU will actually rest on the



5

### AMD Phenom II X4 945

If multithreaded applications aren't your deal, AMD's Phenom II X4 945 is a power-

> **BENCHMARK SCORE: 110**

ful alternative to its top-shelf Phenom II X6 1090T processor.

AMD released its first Phenom II processors, the quad-core "Deneb" CPUs, in January 2009. Triple-core X3 processors (whose performance falls between that of their dual-core and quad-core cousins) followed. Arriving a few months later was the 3.0GHz X4 945 processor, which brought full AM3-socket support. The benefit of this design is that AM3 will allow you to stick DDR3 memory in your system.

This \$140 quad-core chip runs a mere 7 percent slower on our WorldBench 6 tests than AMD's top-shelf, six-core Phenom II X6 1090T. The chips have similarities—the X6 is akin to an X4-class processor with two extra cores bolted on. Both share 6MB of L3 cache and run on a 2GHz HyperTransport architecture (the AMD analog to Intel's QPI), but the X6 1090T runs at 3.2GHz, with automatic overclocking up to 3.6GHz. On Cinebench, the six-core X6 1090T outperforms the quad-core X4 945 by 60 percent.

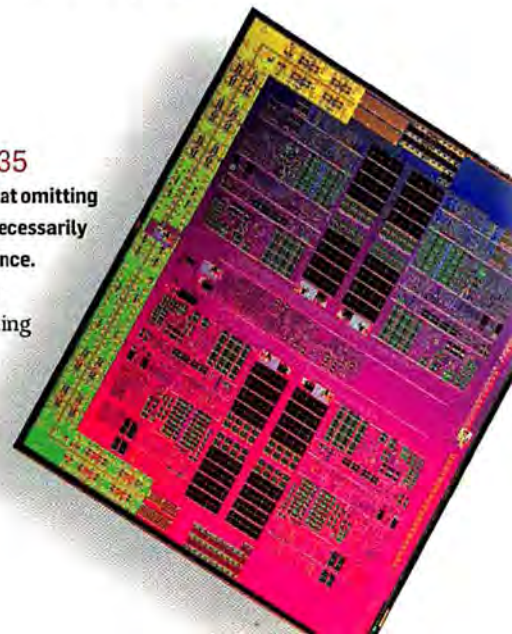
6

### AMD Athlon II X4 635

The Athlon II X4 635 shows that omitting a processor's L3 cache isn't necessarily a crippling blow to performance.

> **BENCHMARK SCORE: 110**

Does your system really need a ton of L3 cache in order to achieve dazzling performance? For all intents and purposes, AMD's 2.9GHz Athlon II X4 635 processor is the functional equivalent of its 3.0GHz Phenom II X4 945. Both CPUs are based on the AM3 socket, though the X4 945 sports a 15X multiplier instead of the Athlon II X4 635's 14.5X, for a slight difference in clock speeds.





same hunk of silicon as the CPU—right now, the Core i3, i5, and i7 platform features a 45-nanometer graphics core that's split onto a

separate die. A new Advanced Vector Extension instruction set—an evolution of the set for Nehalem processors—should bring performance boosts to media encoding, 3D modeling, and video and audio processing.

AMD also plans to get into the CPU/GPU mash-up party (it bought GPU and chipset developer ATI Technologies in 2006). Its forthcoming microprocessor design, code-named Fusion, will come in two varieties. Llano will be a 32-nanometer quad-core design featuring a DirectX 11-compatible GPU, similar to the ATI Radeon 5000. Ontario is a 40-nanometer design that blends a two-core CPU and a DirectX 11 GPU together for ultra-low-power mobile processing—a direct shot at Intel's Atom platform.

Llano chips should continue AMD's Turbo Core automatic over-clocking. But to lower the power draw of its chips, the company is developing a new power-gating technology to let individual cores shut down when not needed.

you a new motherboard, though, because the widely used P55 chipset doesn't support the Core i3-540's GPU core. Look to Q57, H55, or H57 chipsets instead.

**slower**

The \$120 X4 635 runs on a smaller die size, compared with the Phenom II X4 945. The biggest difference between the two chips is the omission of the Phenom II family's L3 cache. This doesn't affect the overall WorldBench 6 score of the Athlon II X4 635, however, as it's able to tie the Phenom II X4 945's score of 110. That said, Cinebench results show that the latter CPU is a stronger multitasker, but only to the tune of a 9.5 percent increase in performance.

## Top Intel and AMD Processors

HERE IS OUR comparison of eight processors—four each from Intel and AMD—on various factors. Chips are grouped by manufacturer, and in order of increasing power, from left to right. Besides real-world testing on our WorldBench 6 suite, we ran synthetic benchmarks, using Maxon's Cinebench. The software measures processing power by rendering a 3D scene and stresses all available processor cores.

RATING FACTOR	Intel chip				AMD chip			
	Core i3-540	Core i5-750	Core i7-870	Core i7-980X	Athlon II X2 255	Athlon II X4 635	Phenom II X4 945	Phenom II X6 1090T
Frequency	3.06GHz	2.66GHz	2.93GHz	3.33GHz	3.1GHz	2.9GHz	3GHz	3.2GHz
WorldBench 6 score	115	106	127	147	101	110	110	118
Price	\$145	\$199	\$564	\$999	\$75	\$120	\$140	\$299
Cinebench points	2.55	3.2	5.29	8.58	1.77	3.25	3.56	5.69
Dirt 2 frame rate	80.9 fps	71.8 fps	77.1 fps	73.34 fps	48.8 fps	67.2 fps	81.38 fps	76.5 fps
Power utilization when idle	71.4 watts	73.8 watts	74.2 watts	95.3 watts	95.8 watts	95.7 watts	98.1 watts	85.2 watts
Power utilization at peak	102 watts	134 watts	174 watts	210 watts	127.4 watts	153 watts	143 watts	239 watts

CHART NOTES: Street prices are as of 6/14/10. Dirt 2 is a video game; we tested at a resolution of 1920 by 1200 pixels; fps = frames per second. For performance, higher numbers are better.

# 7

## Intel Core i5-750

You don't get multithreaded processing power with the i5-750; as a result, this quad-core suffers on multitasking tests.

This 2.66GHz quad-core CPU, a member of Intel's Lynnfield family of chips, is based on the same characteristics as the previously mentioned Core i7-870 CPU, with one key difference: This CPU has no hyperthreading—its four physical cores are all you're going to get, rather than the eight "virtual cores" that would otherwise appear in your operating system when using a Core i7-870.

How much does that difference affect this \$199 chip's performance? Our WorldBench 6 tests showed a 17 percent drop by the i5-750 from the i7-870, which is almost double the 9 percent difference between the two CPUs' stock clock speeds (the i5-750, with Turbo Boost, can raise its frequency to 3.2GHz when needed). The difference on our multithreaded Cinebench test is more pronounced, as the i5-750 delivers a score 40 percent lower than that of the i7-870.

In addition to the chip's dual-channel memory controller (which means only four DIMM slots), the socket-1156 CPU's internal PCI Express controller can dish out one full x16 PCI-E connection for graphics or split two x8 connections. That won't affect your performance unless you plan to run a pair of graphics cards in parallel.

> **BENCHMARK SCORE: 106**

faster

# 8

## AMD Athlon II X2 255

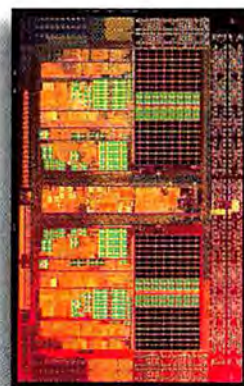
This low-end CPU isn't that much slower than the Phenom II X6 1090T, except with multithreaded apps, where it's game over.

The \$75, 3.1GHz dual-core Athlon II X2 255 doesn't come with any onboard L3 cache. And its L2 cache is split into 1MB per core. As a 45-nanometer, Socket AM3 model, it's backward-compatible with any motherboard based on Socket AM3 or AM2+.

As for performance, when compared with AMD's top-shelf, six-core Phenom II X6 1090T, the X2 255 is only 15 percent slower on our general tests—but 70 percent slower on Cinebench, our multicore-focused measure.

> **BENCHMARK SCORE: 101**

3.1GHz dual-core Athlon II



slower



# Server CHIPS

HAVE YOU EVER considered using a server-class processor as the heart of your desktop PC? Depending on the kind of system you're after, you might unlock even more computer power if you opt for a server-class chip instead of a consumer CPU. But you may have to fork over some extra cash for it.

Intel's Xeon-class processors can be powerful substitutes for a regular CPU—a Xeon W3580 can go onto an analogous LGA 1366-socket motherboard. The W3580 costs the same as its consumer equivalent, the Core i7-975 Extreme Edition, and it comes with support for server-grade Error Correction Code memory.

As for AMD, you could opt for one of its latest 8- or 12-core Opteron CPUs (\$1000-plus for the 12-core variant). You'll have to pick up a G34-socket motherboard, as no server chip is directly compatible with a Socket AM2+ or AM3 design. Similar issues arise with six-core Opteron chips. AMD's \$300 "Thuban" line of consumer CPUs may be a better option.

**LOG ON TO PCWORLD.COM** Want a desktop or laptop with one of these CPUs in it? Find reviews at [www.pcworld.com/products/computers/desktops.html](http://www.pcworld.com/products/computers/desktops.html) and [www.pcworld.com/products/computers/laptops.html](http://www.pcworld.com/products/computers/laptops.html). You'll also find buying advice, build-it-yourself how-to's, and helpful videos. For phone reviews, see [www.pcworld.com/products/phones.html](http://www.pcworld.com/products/phones.html).

# Phone CPUs & SPECS

**What's inside your smartphone or tablet?** As these devices do more and more for work and play, we thought no discussion of processors would be complete

without considering the latest mobile offerings. So we looked at the processors in many popular smartphones and tablets, ranking

them, in our estimation, from most powerful to least.

This chart starts with a column of processor models. Most smartphone and tablet processors are SoCs (System-on-Chip designs), meaning that they combine CPU, graphics, RAM, and often other features into a single multilayered package. So we list the actual CPU within each SoC, its clock frequency, its GPU, and representative products with those internals. Individual products may slightly vary the specs. In most cases, products are readily available, but a couple of the mobile processors have only recently been announced, with no shipping products yet named for them.

—Joel Durham Jr. ●



CHIP	CPU	Graphics	Clock speed	RAM	Devices	Comments
Intel Atom Z600 Series	Intel Atom	Intel GMA 600 (PowerVR SGX 535 up to 400MHz)	1.5GHz to 1.9GHz	Up to 2GB	None announced yet	Intel's just-announced Atom Z600 series is aimed at tablets and smartphones, with a promise of industry-leading performance. Power usage is far lower than in previous Atom mobile CPUs, but is still a bit on the high side. No associated products have yet been announced.
nVidia Tegra 2	Dual-core ARM Cortex-A9 MPCore	nVidia Tegra	Up to 1GHz	Up to 512MB	Aigo N700 tablets, Notion Ink Adam (not yet shipping)	This forthcoming CPU scored design wins at CES and should continue the good name of nVidia's Tegra; but until the product hits the street, we won't know as much about it as we do about the other chips here.
Apple A4	ARM Cortex-A8	PowerVR SGX 535	1GHz	256MB	Apple iPad	This is essentially the same CPU and graphics core that appears in the iPhone 3GS, but the A4 runs at a higher clock speed. Preliminary tests show it outperforming the Qualcomm Snapdragon in the Google Nexus One by as much as 40 percent (depending on the test).
nVidia Tegra APX 2500/2600	ARM 11 MPCore	nVidia Tegra	Up to 1GHz	128MB	Microsoft KIN phones, Microsoft Zune HD	This nVidia ARM-based processor has proved to be speedy and versatile, and of course the graphics are stellar. No big surprises here, but a lot of satisfaction.
Samsung-Intrinsity Hummingbird	ARM Cortex-A8	Varies	1GHz	256MB	Samsung GT-I9000 Galaxy S 16GB, Samsung GT-S8500 Wave variants	It's not on a ton of phones yet, but that doesn't mean it won't be. The speedy Hummingbird is a solid attempt to compete with iPad-class muscle; time and testing will tell whether it's a success or another also-ran.
Qualcomm Snapdragon QSD8250	Qualcomm Scorpion (like ARM Cortex-A8)	AMD Z430	1GHz	256MB to 512MB	Dell Mini 5, Google Nexus One, HTC HD2, Toshiba TG01	One of the fastest and most popular high-end smartphone chips on the market. Implementations vary slightly, but many may be held back by the processor's limited memory bandwidth.
Marvell PXA930	Intel XScale PXA900	Intel-designed	800MHz	128MB to 256MB	Asus P565, AT&T/RIM BlackBerry Bold 9700, RIM BlackBerry Bold 9000 variants, RIM BlackBerry Storm 9500, and more	This Intel core Marvell chip is obviously a popular core for the BlackBerry line (RIM and other variants), and its life isn't over yet—it's featured in a newer BlackBerry model that was set to debut this June.
XScale PXA270	Intel Xscale PXA270	Intel 2700G	Up to 624MHz	128MB	CompuLab Exeda, Datalogic Mobile J Series, Motorola MC5590, and more	An older Intel XScale CPU, the PXA270 was installed in phones as recently as late 2009. It's definitely not a performance contender, but it has been used in more than 40 models of smartphones.
Samsung S5PC100	ARM Cortex-A8	PowerVR SGX 535	600MHz	128MB to 256MB	Apple iPhone 3GS variants	The original iPhone was popular, but the 3GS brought performance into the mix. The same chip, running at 1.0GHz, is expected to be included in upcoming Meizu smartphones.
Qualcomm MSM7227	ARM1136EJ-S core	AMD Z430	600MHz	Up to 512MB	Various Acer BeTouch models, Acer NeoTouch P400, HTC Legend, HTC Tera, Sony Ericsson Xperia X10a Mini, and more	Similar to the Qualcomm MSM7200, this updated chip features the same core but with a speedier clock frequency and better memory support. It's exceedingly popular and expected to appear in upcoming smartphone models from HTC, Garmin-Asus, and others.
Texas Instruments OMAP 3430	ARM Cortex-A8	PowerVR SGX 535	Up to 600MHz	256MB to 512MB	Motorola Milestone, Motorola Motoroi, Palm Pre Plus variants, Samsung SCH-M510, Vodafone 360 MI	Another popular Cortex-A8 chip, the TI OMAP 3430 could be the most substantial thing Texas Instruments has done since the scientific calculator. It's featured on more than 20 phones and tablets, plus at least one upcoming model from Motorola.
Qualcomm MSM7200	ARM1136EJ-S core	ATI-designed CPU	400MHz	128MB	HTC Sedna 100, HTC Touch Dual, LG KS20, Toshiba Portage G810, Toshiba Portage G910, and more	This Qualcomm chip is used in more phones than we can list. Though not terribly powerful, it is inexpensive and capable of supporting numerous features found on current smartphones.

# Here's How

## Automate Your PC's Media Collection

With the help of a few tools, you can automate some time-consuming tasks and make your video, photo, and music library much easier to manage.

BY PATRICK MILLER

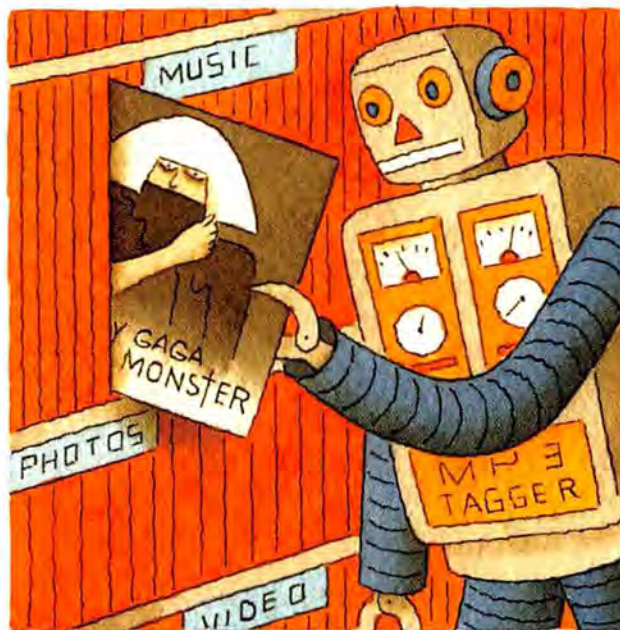
USING YOUR PC to store photos, videos, and music might save you the trouble of having to dust off photo albums and alphabetize your CD collection, but keeping all of your media converted, stored, tagged, and uploaded can still be a pain.

Here's how to automatically download, convert, and sync video files; dump photos to Flickr; and take the hassle out of tagging music.

### Automatically Convert (and Sync) Your Videos

These days, you can record video using pretty much any gadget within arm's reach. Depending on what you plan on doing with your videos, however, you'll need to convert them into different formats, which can be a fairly time-consuming PC task.

If you just need to convert a folder of videos to a certain format (to play on your iPod Touch, for example), Videora iPod Converter ([find.pcworld.com/70151](http://find.pcworld.com/70151)) can help.



Just select the setting recommended for your device, play with the quality sliders, and click *One-Click Convert* to bring up a dialog box that will let you drag to select as many files as you want.

Unfortunately, some of

Videora's advanced features don't function well. Though it is possible to tell Videora to watch a specific directory for new files, convert them, and add them to iTunes, I couldn't get the directory-watching to work, and the

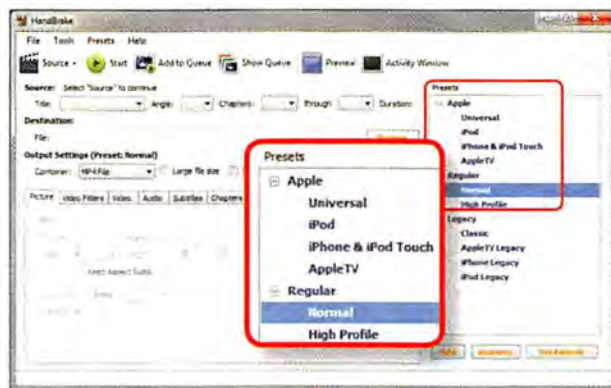
iTunes-adding seemed to work infrequently.

Instead of Videora, I opted for HandBrake ([find.pcworld.com/62914](http://find.pcworld.com/62914)), another popular conversion app. In the graphical interface, HandBrake doesn't make setting up automatic batch conversion easy (you have to add each item manually), but the program does have a separate command-line app that you can work with.

If you want to have automatic processing, dust off your DOS skills: You'll need a batch file (.bat) that tells your PC to take all the files in the immediate folder (or any nested folders), pass them along to HandBrake to convert to an iPod-friendly format, name them ('filename-ipod.mp4'), and hand them to iTunes, which will add them to the iTunes library and sync them with your attached iPod.

An app called Alert and Convert that works with HandBrake tries to do the same thing as the batch file, but I couldn't get it to work 100 percent of the time. So I've posted a batch-file template at [find.pcworld.com/70152](http://find.pcworld.com/70152). (Note, though, that batch files can do lots of things to a PC, and if you're not careful you might be converting a lot of videos.)

Right-click on the convert-



HANDBRAKE'S GRAPHICAL INTERFACE offers many video-conversion functions—but its command-line app is better for batch jobs.



videotemplate.bat file and select *Edit* to open it in Notepad. You should see:

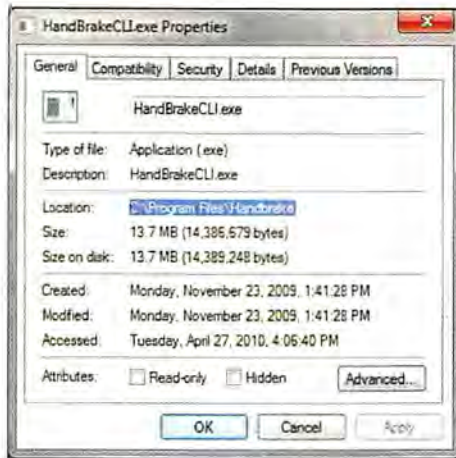
```
@for /r %%F in (*.file-
type), *.filetype) do (
"[location of hand-
brake CLI]" -i "%F" -o
"%-pnF-ipod.mp4"
--preset="iPhone &
iPod Touch"
move /y "%F"
"[location of processed
videos dir]"
@for /r %%X in (*ipod.
mp4) do
```

```
(move /y "%X" "[location
of Automatically Add To iTunes
folder]"
start "" "[Location of iTunes
app]"
pause
```

To adapt this batch file to work on your PC, you'll need to fill each bracketed item with your details. In place of [filetype], insert the three-letter extension. Enter (\*.mp4, \*.flv, \*.3gp, \*.avi), for instance, and HandBrake will look for all MPEG-4, Flash Layer Video, 3GP, and AVI files.

For [location of handbrake CLI], enter the path to HandBrake's command-line app. It's typically in the same folder as the HandBrake graphical app, so just right-click on the HandBrake icon in your Start menu and copy the location. You should end up with something like 'C:\Program Files\Handbrake\HandBrakeCLI.exe'.

If you're converting video to something other than an iPod Touch/iPhone format, replace the "--preset="iPhone & iPod Touch"" with a different set of encoding instructions. See [find.pcworld.com/70153](http://find.pcworld.com/70153) for a list of HandBrake's encoding presets.



**IN HANDBRAKE'S PROPERTIES dialog box, you can confirm the location of the command-line app.**

You'll want to put the original files somewhere else once they're processed; otherwise, this script will convert them again on the next go-round. I created a folder on my desktop called "Processed Videos" and put that in the [location of processed videos dir] section.

In iTunes 9 and later, you have a folder called Automatically Add To iTunes; use this folder to add new movies to the iTunes Library. Find it by opening your User folder and selecting *Music • iTunes • iTunes Media • Automatically Add To iTunes*. Put this path in [location of Auto-

atically Add To iTunes folder].

Finally, find the path to iTunes itself (typically "C:\Program Files\iTunes\iTunes.exe") and paste that in the [Location of iTunes app] spot. If your iPod Touch is synced to your PC, iTunes should automatically sync on launch.

Now that you have a script, try running it with some sample files.

Before proceeding any further, be sure to put the script in the directory you want it to watch for new videos.

Next you need to make it run automatically. In Windows Task Scheduler (*Control Panel • Administrative Tools • Task Scheduler*), click *Create Basic Task*. Enter a name and description, click *Next*, and specify how often the task should run—we'll say Daily—and a time to run (ideally a time when you're not using the PC, so you don't have to worry about the CPU's getting bogged down by converting video).

Click *Next* again, leave the setting on 'Start a program', click *Next*, and paste the name of the directory you want the batch file to watch in the 'Start in (optional)' field. You may need to put the path in quotes if any folder names have spaces.

## Stay on Top of Video Podcasts With Miro

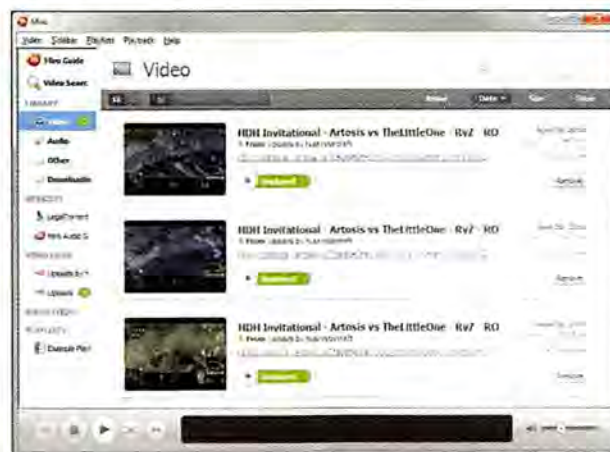
Wouldn't it be nice if one app could keep you updated on YouTube subscriptions, video podcasts, and Web/TV series? Grab Miro ([find.pcworld.com/60372](http://find.pcworld.com/60372)) and stay tuned with minimal hassle.

For example, I've been using Miro to monitor a few of my YouTube subscriptions because I hate checking the YouTube pages, and sometimes I want to watch the videos on my iPod Touch during my commute.

To do the same, open Miro, go to the *Sidebar* menu, click *Add Feed*, and then enter [http://www.youtube.com/rss/user/\[insert username here\]/videos.rss](http://www.youtube.com/rss/user/[insert username here]/videos.rss) in the URL field. Miro will download the latest videos as soon as they go up. Combine that with the auto-convert batch file you configured, and you can have your YouTube subscriptions delivered to your portable video player every morning.

Miro also has a built-in BitTorrent client, so you can use your preferred RSS-friendly BitTorrent search engine ([LegalTorrents.com](http://LegalTorrents.com) is the default option) to stay subscribed to your favorite (legal) TV and Web series.

Just add the RSS feed for the search as a video podcast feed, and Miro will handle the downloads. Though >>>



**WITH MIRO WATCHING over your video subscriptions and podcasts, you no longer need to spend time hunting for those items yourself.**

# Here's How

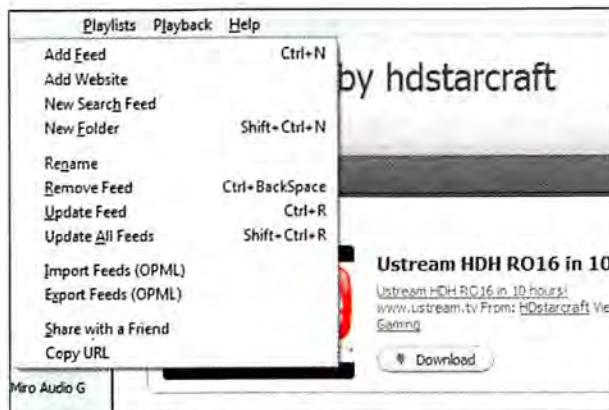
it's not as robust as dedicated BitTorrent clients, you can configure BitTorrent-specific settings (seed ratios, bandwidth limits, and so on) in the Preferences menu.

Miro works with iTunes podcast subscriptions, too—both video and audio. Open iTunes, right-click *Podcasts* (on the left side of the main window), choose *Export*, and pick *OPML* as the format. In Miro, choose *Import Feeds (OPML)* from the Sidebar menu and select the file you just exported from iTunes.

## Keep Flickr Updated With Foldr Monitr

Staying current with your Flickr uploads can be a struggle, especially if your home Internet connection doesn't have the bandwidth to handle a lot of big JPEG files. You can fix this with Foldr Monitr ([find.pcworld.com/70145](http://find.pcworld.com/70145)), which can watch a directory for images and automatically upload them to your Flickr account.

Download Foldr Monitr, and run the Setup.exe app to configure it; you will need to enter your Flickr account information and authenticate it on the Flickr Website.



**FROM WITHIN MIRO'S Sidebar menu, you can quickly add video feeds and import OPML-format video and audio podcast subscriptions.**

Click *Browse* to specify a folder to watch, and check the *Include Subfolders* box if you wish. You can set Foldr Monitr to upload your photos to sets according to subfolder name, too—do this in the Options menu.

Afterward, Foldr Monitr will hang out in your system tray and upload images in the background. If you want it to stick to times when you are not at home (so it won't stop you from using your Internet connection), set up a task in the Task Scheduler, as you did for video conversion, that runs at night or during work hours.

You can also incorporate Foldr Monitr into other workflows. If you use Photoshop Elements, you can batch-process a folder of

images by selecting *Process Multiple Files* from the File menu. Simply define what you want Elements to do (apply the Auto Levels and Auto Contrast filters, resize to 606 pixels wide, and convert to a high-quality JPEG, say) and use the folder that Foldr Monitr is watching as the destination. Once your images are clean, they'll upload automatically to Flickr.

## Use Mp3tag to Organize Your MP3s

Even the most dedicated and vigilant music maniac can end up with several dozen MP3s named 'Track 1' from 'Unknown Album'. Quite a few apps promise to help you keep your music library tagged, sorted, and properly album-arted. However, I keep

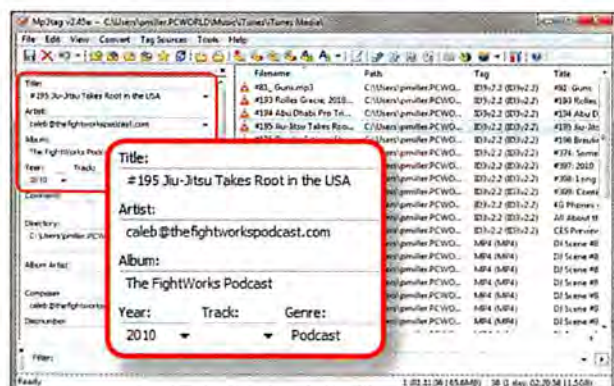
coming back to Mp3tag ([find.pcworld.com/70154](http://find.pcworld.com/70154)), because it's really good—and it's free (well, donationware).

Give Mp3tag a directory, and it lists your media files for your editing convenience. From there, select a group of files (an album, perhaps) and select Amazon, discogs, freedb, or MusicBrainz from the Tag Sources menu. You can also grab album art from Amazon (United States or Germany). If the standard ID3 tags aren't enough, you can edit extended tags (iTunes podcast metadata, for example) in the View menu. The handy Invert Selection (<Ctrl>-<Shift>-A, or choose it under the *Edit* menu) is perfect for those times when it's easier to pick out the three songs you don't want to tag than the 439 that you do.

Bear in mind that Mp3tag is a powerful tool. If you're syncing your PC's music library to your MP3 player or phone, you may find that your reverse-alphabetical-by-drummer's-mother's-maiden-name tag system doesn't work too well on a 2.5-inch display. Keep your system simple, and it will be easier to maintain later.



**FOLDR MONITR ADDS your stuff to Flickr. Just direct it to watch a specific folder (and subfolders, if you wish), and it does the rest.**



**THE POWERFUL MP3TAG allows you to manage your library of songs and podcasts, and gives access to both standard and extended tags.**

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SATA3

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SPEAKERS

MOUSE

Components included with system

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## The Procrastinator's Guide to PC Maintenance

Sure, you want to keep your PC running well, your apps updated, and your data safe—but you're lazy. Here's how to keep your PC healthy while expending the minimum amount of effort possible.

As you undoubtedly know, you're supposed to keep files backed up, applications up-to-date, and antivirus software current. Unfortunately, you are—to speak frankly—too lazy to do these tasks as thoroughly and regularly as you should, and too cheap to shell out for add-ons that would do them for you. How do I know? Well... we have a lot in common.

But you don't have to reinvent yourself to get things under control. Here are a few tricks for keeping up on your basic PC maintenance without breaking a sweat.

### Ditch Windows XP

If you still use Windows XP, your operating system expects you to perform a few more maintenance tasks than later Windows versions do.

Defragmenting your hard drive, for instance, is automatically scheduled in Windows 7 and Vista but is a manual task in XP (right-click the drive in My Computer, select *Properties*•*Tools*, and choose *Defragment Now*).

Regrettably, Windows 7 isn't free—Home Edition costs \$100 at this writing—and though it is the best Microsoft OS I've ever used,



it might be out of your price range. Also, if you're on an older PC, slogging through an upgrade might not be worth it (though we have plenty of Win 7 upgrade tips at [find.pcworld.com/70143](http://find.pcworld.com/70143) if you want to give it a shot).

On the other hand, defragmenting a 1TB hard drive doesn't yield the same performance benefits that doing the same operation on a smaller, slower hard drive used to provide—and those

performance benefits were fairly minor to begin with.

So, assuming your PC is fairly recent, you'll likely be okay putting off defragging.

### Back Up With Dropbox

On PCWorld.com, we have lots of how-to articles explaining different backup strategies and plans ([find.pcworld.com/70144](http://find.pcworld.com/70144)); but if external drives and thoughts of drive images make your eyes glaze over, they won't

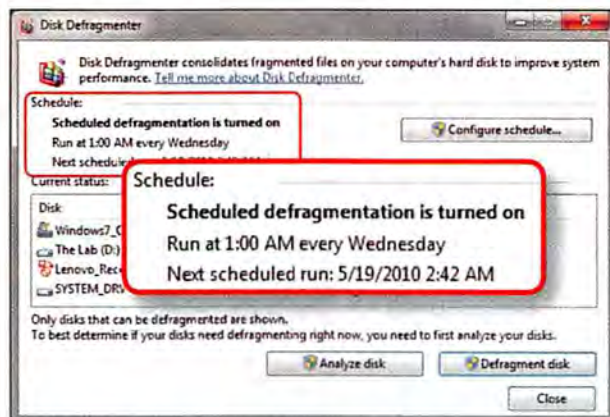
help. Instead, think about what you have on your PC that you'd miss if you lost it.

For example, if you have irreplaceable photos that need backing up, but you don't want to spend the time or money required to back them up to a DVD or external drive, consider storing them in a Flickr account, in a Picasa Web album, or even in a Facebook album.

All of those options are free, though some services charge for storage or monthly upload bandwidth beyond a specified limit. And all have automatic upload functions to keep backups going. Picasa users can do this with Picasa Web Albums; Flickr and Facebook users should check out Fldr Monitr for Flickr ([find.pcworld.com/70145](http://find.pcworld.com/70145); see page 96 for more) and LiveUpload to Facebook ([find.pcworld.com/70146](http://find.pcworld.com/70146)).

When it comes to documents, the main items I have to back up are my work-related files, so I don't need to buy terabytes of storage. In fact, I don't even need to buy a USB flash drive. I simply signed up for a Dropbox Basic ([find.pcworld.com/70129](http://find.pcworld.com/70129)) account—which gives users 2GB of free online storage—and I copy my whole Work Stuff folder over to it.

That doesn't always work, however, because I have a handful of high-res image files scattered among the Word docs, and they would eventually use up all of the space in my free Dropbox account. Rather than shell out \$10 a month or so to increase my space allot- ➤



**IN WINDOWS 7 and Vista, Disk Defragmenter will automatically handle your disk defragging. Windows XP offers no such convenience.**



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# Here's How

ment, I periodically search for every Word file on my hard drive (by searching for \*.doc) and drag the files into a new folder on Dropbox.

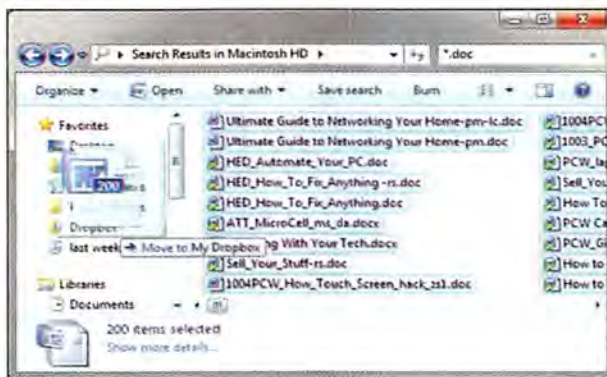
If you have other folders that you want to sync with Dropbox without relocating it, grab Dropbox Folder Sync ([find.pcworld.com/70147](http://find.pcworld.com/70147)). Also, since Windows treats Dropbox as it would any other folder in its file system, you could make a batch file with some basic DOS commands to automate the search and copy process.

## Update Everything

You may not care enough about bug fixes and minor features to keep every single program current, but you do need to keep Windows and a few major applications (such as your browser, PDF reader, and office suite) updated to avoid nasty security exploits. Fortunately, you can arrange to have all of these things updated automatically.

Start by opening Windows Update in the Control Panel. Click *Change settings*, and set the drop-down menu to *Install updates automatically*. If you don't have Microsoft Update installed, only Windows updates will download automatically; if you have other Microsoft programs (anything from Silverlight to Office), you need Microsoft Update. To pick it up, click the *Click here for details* link shown at the bottom of the Windows Update window.

Every major browser has an automatic updating function of some sort, so your browser should already be covered. Microsoft delivers Internet Explorer updates



**COPYING FILES TO Dropbox is the no-hassle way to back up data.**

via Windows Update, and Google Chrome receives its updates behind the scenes. To see whether your version of Chrome is current, click the wrench icon and choose *About Google Chrome*; if your version is old, the dialog box should give you the option to update.

Like Chrome, Firefox handles updates internally. You can ensure that you'll get the latest Mozilla releases by selecting *Tools•Options•Advanced•Update* and checking *Automatically download and install*. Safari's updates are handled through Apple Software Update, which normally is installed with Safari. If it doesn't run automatically, open it and go to *Edit•Preferences•Schedule*, where you can select your preferred update frequency.

Next, you'll want to keep Adobe Acrobat updated, because it's a frequent target for malware. You can set it to update automatically by selecting *Edit•Preferences•Updater* and checking *Automatically update and install*.

Also, go to JavaScript (on the left side of the Preferences window) and uncheck *Enable JavaScript*. Since JavaScript is a common attack vector for malware, your system will be safer if you don't have it on by default (you can always re-enable it for individual PDF files that you deem nonthreatening).

Now all of your most critical apps are set to update automatically. But why stop there? FileHippo.com's free Update Checker ([find.pcworld.com/70255](http://find.pcworld.com/70255)) will scan all the programs on your machine,

check their versions against its database, and point you to download links for the apps that need updating.

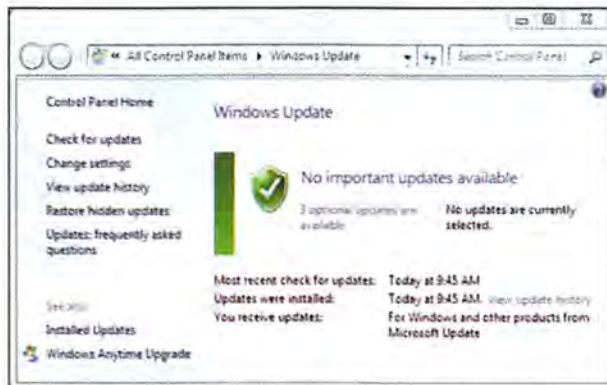
## No-Fuss Antivirus

One of the things you can't afford to procrastinate about is your antivirus software. If you don't already have a utility installed, check out "Can You Trust Free Antivirus Software?" ([find.pcworld.com/70148](http://find.pcworld.com/70148)) for advice. Each of the suites described there should have its own automatic update functions in place; they are essential for keeping your system armed with the latest defenses against malware. Since Microsoft's own Security Essentials uses Windows Update, you won't need to configure anything.

If you have a decent antivirus suite, you don't have to put much additional effort into staying safe—just don't click dubious links or open questionable attachments. Also, make sure that your e-mail app doesn't automatically display external images (Gmail takes this precaution by default; to reenable the option temporarily, go to *Settings* under the General tab). You might wish to plug any links into Google before clicking them, to confirm that they're legit.

To verify shortened URLs (generated by Bit.ly, TinyURL, and the like) before clicking them, install the Untiny Greasemonkey script ([find.pcworld.com/70149](http://find.pcworld.com/70149)). Finally, see other tips—for business and home users alike—in "Enterprise Security Tips on a Small-Business Budget" ([find.pcworld.com/70150](http://find.pcworld.com/70150)).

—Patrick Miller



**WINDOWS UPDATE AND Microsoft Update can keep Windows, Office, Internet Explorer, and other Microsoft apps current and patched.**

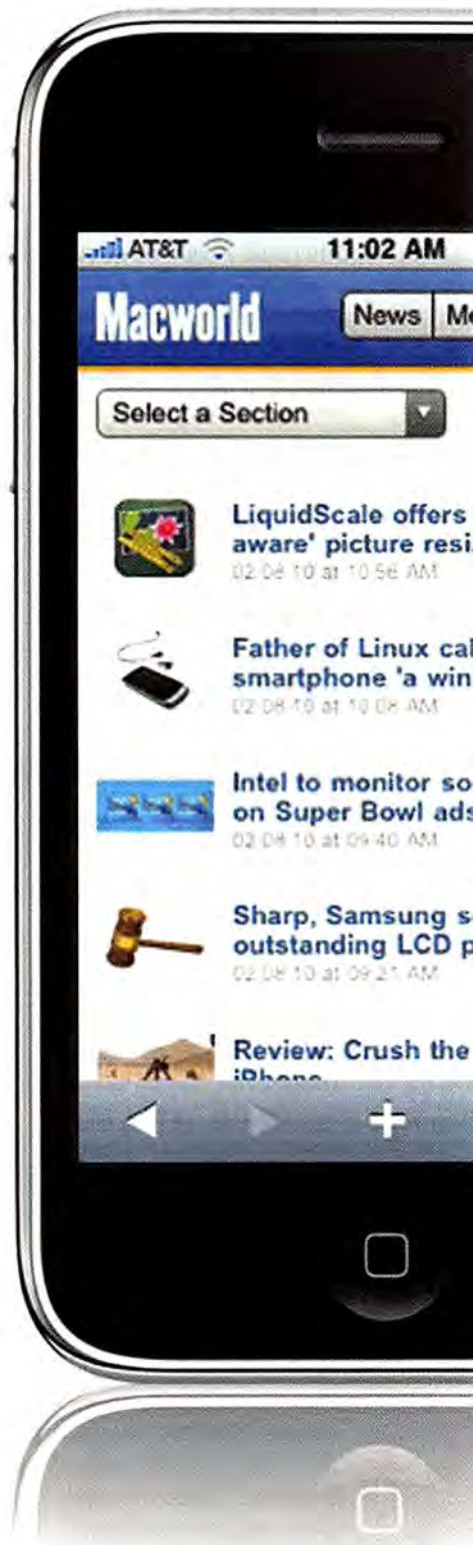
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## Use SMS to Add Events to Google Calendar

GOOGLE CALENDAR IS the single best cloud service you're not using. It has been around for years, but I know plenty of people who still don't see the point of a calendar that lives on the Web. Trust me: Once you start using it, especially for things like keeping tabs on family members' hectic schedules, you'll wonder how you got along without it.

You don't even have to be at your PC to do calendar tasks such as adding new events. All you need is your



**TO SET UP** Google Calendar to work with text-messaging updates, you need to enter a verification code.

mobile phone and a few seconds to tap out a text message. In other words, Google Calendar lets you add events via SMS (standard messaging rates apply). You simply compose a plain-English message, and then send it to GVENT (48368). For example, you could type **Lunch with Bob at Crunchy's 12:30pm tomorrow**. Send a text like

that, and presto: Google Calendar will create a new appointment containing all the pertinent details.

Before you can take advantage of this slick feature, however, you have to configure Google Calendar to work with your phone.

1. Sign in to your Calendar account and click *Settings*.
2. Click *Mobile Setup*.

3. Enter your phone number, click *Send Verification Code*, and wait a bit for your phone to receive a message.

4. Find the verification code in the message, type it into the corresponding field, and click *Finish setup*.

Now you can add stuff to your calendar just by texting details to GVENT. Neat, huh?

—Rick Broida

### ANSWER LINE

## How do I remove a USB drive when Windows insists that it's in use?

—Lobtuf, PCWorld forums

WINDOWS SHOULD SAY what program is using the drive, but it doesn't. You have to do some detective work. Start by doing what Windows suggests: Wait a bit, and then try again. But keep busy while you wait. Confirm that you don't have the drive open in Windows Explorer; you may want to close all Explorer windows, just in case. Next, examine the system tray to make sure that an app that used the drive (or launched from it) isn't still running in the background.

If those tests don't bear fruit, check running processes: Right-click a blank spot on the taskbar and select *Start Task Manager*. Click the *Processes* tab, and study the list. If you find a likely culprit, select it, click *End Process*, and confirm your choice.

That didn't work? Well, you've

### ASK YOUR QUESTION AT FORUMS.PCWORLD.COM

waited long enough—see if Windows will declare the drive safe to remove. Nope? You have three options. The obvious one is to shut down Windows (hibernating it won't do), remove the drive, and reboot. This is completely safe, and it will work. It's time-consuming, though, and it requires you to reload all of your programs and files.

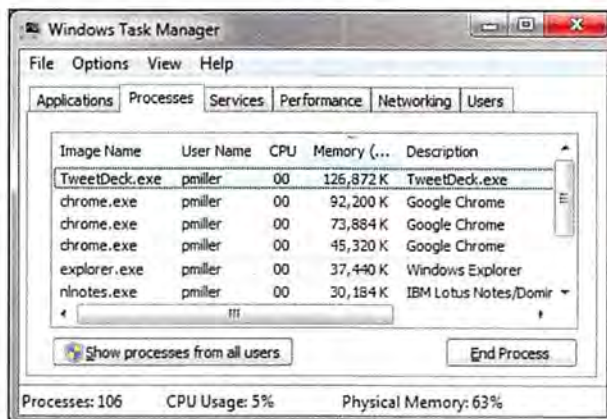
The second choice is to ignore the warning and remove the drive. I've done this many times, but it's probably a foolhardy approach.

The best option is to use third-party software that can identify, and even kill, whatever process is holding the drive. The \$20 USB

Safely Remove ([find.pcworld.com/60209](http://find.pcworld.com/60209)) replaces Windows' Safely Remove icon with its own. If the app can't remove the device, it will show you the problem processes. The free Unlocker ([find.pcworld.com/60905](http://find.pcworld.com/60905)) does a similar job. If you can't remove a drive, right-click the drive and select *Unlocker* for a list of the processes.

For advice on how to deal with a related problem, see "Safely remove your memory cards without waiting," on page 68.

—Lincoln Spector



**TRY EXAMINING** WINDOWS Task Manager's list of running processes to identify any that might be holding your USB drive hostage.



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## View, Print, and Back Up Your PC's Drivers

DOCUMENTS? CHECK. Photo and music libraries? Check. Drivers? Hm...better double-check. Even if you're religious about backing up important data, I'll wager that you've never thought to back up your drivers.

That's an oversight. After all, if your system suffers a meltdown, you will need video, mouse, printer, and other drivers to get everything up and running again. And take it from me: Driver discs always go missing when you need them the most.

Double Driver 4.0 ([find.pcworld.com/70141](http://find.pcworld.com/70141)) makes fast

and easy work of saving your drivers. The utility scans your machine, detects and selects the drivers that aren't native (that is, aren't part of the operating system), and lets you back them up to any kind of storage: a USB drive, a network folder, and so on.

I particularly like the output options. You can save the drivers in a structured folder (in which each driver gets its own subfolder), a compressed folder (good if you're saving to, say, a space-challenged flash drive), or a self-executable file (which will automatically restore



**THE FREE DOUBLE Driver utility quickly and easily identifies your computer's drivers and makes backups suitable for any type of storage.**

every driver when you run it).

The app also lets you print a list of your installed drivers and/or save the list as a text file. Both could come in mighty handy if you happen to lose the backup itself.

What I like best about Double Driver, apart from its being free, is that it's a portable application. You

have nothing to install; the program can run just as easily from a flash drive as it can from your desktop.

Ultimately, it belongs on everyone's list of must-have (and must-use) utilities. Take a few minutes, and make a driver backup—the system you save could be your own.

—Rick Broida

### ANSWER LINE

## How do I protect my network but let visiting friends access the Internet?

—USANomad, PCWorld forums

BEFORE YOU WORRY about guarding your network from friends, you need to secure it from strangers. This involves password-protecting your Wi-Fi network. Since I don't own your router, I can't tell you how to do this—check your manual. Your router will probably offer several encryption options. Go with WPA2; it's secure, and unless someone visits with a very old laptop, your friends' PCs should have no compatibility problems. If they do, WPA is your second-best option. Don't use WEP unless you absolutely can't avoid it.

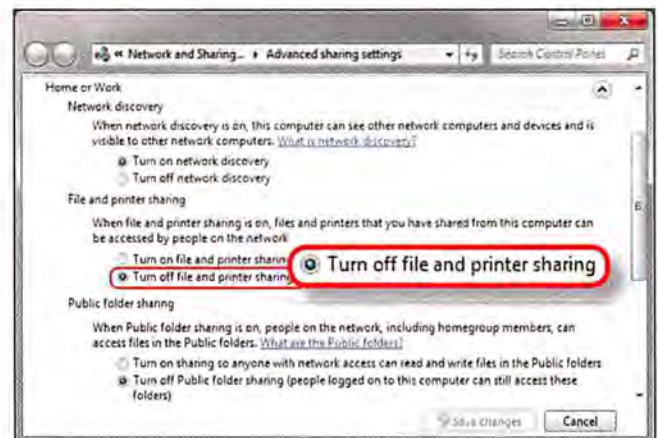
Whatever encryption you pick, choose a strong password. Of course, you'll have to share that password with your visitors. Keep it in a text file on a flash drive—then you can just plug the flash drive into your friend's laptop and copy and paste the password. (Why not use a utility like Password Safe? Because your friend might have a Mac or a Linux PC that can't run Windows software.)

Your friends can now get onto your network and thus onto the Internet. So how do you keep them from accessing the other computers on your network (assuming that asking them nicely isn't sufficient)? One solution is to turn off file sharing on your computer.

On XP, click *Start*, right-click *My Network Places*, and select *Properties*. From the top menu, select *Advanced*, and then *Advanced Settings*. Uncheck *File and Printer Sharing for Microsoft Networks*.

In Vista, click *Start*, right-click *My Network Places*, and pick *Prop-*

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**TURNING OFF FILE sharing in Windows is a simple way to guard your networked computers' data from overly curious visitors.**

erties. Under 'File sharing', choose *Turn off file sharing*. Click *Apply*.

For Windows 7, click *Start*, type *advanced sharing*, and pick *Manage advanced sharing settings*. Select *Turn off file and printer sharing*.

You have other options as well. If you want to share folders with family but not with visitors, see the online version of this article at [find.pcworld.com/70139](http://find.pcworld.com/70139) for the steps necessary to specify who has folder access over the network. Also, be sure to read the original forum discussion at [find.pcworld.com/70140](http://find.pcworld.com/70140) for details on setting up a router with two networks—one private and one public.

—Lincoln Spector



## Three Tricks for Customizing the Windows 7 Interface

WINDOWS 7 IS a good operating system, but you might find some of its features incompatible with your work style. Here are a few tips for altering the interface to better match your preferences.

### Restore the Classic 'All Programs' Menu

Reader Bob A. wrote me recently to say that he doesn't like the scrolling All Programs list in Windows 7's Start menu and to ask how he might return to XP's larger, fly-out list.

Vista offers the option of restoring that "classic" Start menu, but Windows 7, inexplicably, doesn't. Fortunately, you have at least two ways to accomplish this: one, a simple Registry tweak; the other, a shareware utility. I'll start with the latter, since it's arguably the easier of the two. Classic Start Menu Pro ([find.pcworld.com/70142](http://find.pcworld.com/70142)) replaces the Windows 7 Start menu with just what you'd expect. Install and run the utility, and then click *Start* for a blast from the XP past. As you can see in the screenshot below, Classic Start Menu also takes advantage of Windows' Aero features, so you get some of the best of both worlds. Unfortunately, the app is nagware for the 30-day trial period; it will cost you \$20 to own free and clear.

If you'd prefer a free alternative, you can modify Windows 7 so that the Favorites menu becomes an XP-like Programs menu.

1. Click *Start*, type **regedit**, and press **<Enter>**.
2. Navigate to the HKEY\_CURRENT\_USER\Software\Microsoft\Windows\CurrentVersion\Explorer\Shell Folders key.
3. Double-click the *Favorites* entry, and replace the existing path with **C:\ProgramData\Microsoft\Windows\Start Menu\Programs**.
4. Move to HKEY\_CURRENT\_USER\Software\Microsoft\Windows\CurrentVersion\Explorer\User Shell Folders, and repeat step 3.
5. Exit Regedit, and then restart your PC.

Now, when you click *Start*, you should see a Programs menu on the right side. Mouse over to see the fly-out menu of yore. (Don't see it? Right-click *Start*, and click *Properties*. In the Start Menu tab, click *Customize*. Scroll down to the *Favorites* menu entry, click its checkbox, and then click *OK, OK*.)



**THE \$20 CLASSIC Start Menu app transforms Windows 7's scrolling All Programs list into a fly-out list similar to that of Windows XP.**

Some simple tweaks can bring the XP-style All Programs menu and Control Panel to the newer OS. Plus: Make the system tray more useful.



**DO YOU PREFER to have an XP-style look for the Control Panel? The 'Large icons' setting in Windows 7 will produce something similar.**

### Restore the Classic Control Panel in Windows 7

Along the same lines, reader Bill told me he has "a lot of problems with the Windows 7 Control Panel," and wants the XP version back.

First, allow me to champion the new Control Panel for a moment—specifically, its search capabilities. For example, suppose that I want to adjust the settings for my mouse. All I have to do is click in the Search Control Panel field (in the upper right) and type **mo**. The first thing that it shows me is the Mouse category, along with numerous options. I can click an option or keep typing; if I want to modify the mouse-wheel settings, for instance, I type **mouse wheel**.

That said, if you really want the old XP-style Control Panel, just click the *View by* menu in the upper-right corner, below the Search field), and then choose *Large icons*. The result isn't exactly the same, but it's close. And the Search option still works.

### Show More Icons in the Windows 7 System Tray

The Windows system tray is a necessary evil. It shows status icons for system elements (like volume and network connections) and programs running in the background. Until Windows 7, controlling what did and didn't appear in the system tray was challenging at best. Now, Microsoft has made it easy to choose what you see.

Start by clicking the small white arrow at the left edge of the system tray. You'll see any icons that aren't currently configured to appear full-time in the tray. Click *Customize* for a list of all the Notification Area Icons. Click the drop-down menu next to one of them, and you get three choices: 'Show icon and notifications', 'Hide icon and notifications', and 'Only show notifications.'

Notice that any changes you make are implemented immediately (no clicking Apply or OK required). Obviously your changes won't be permanent until you do click OK; this just gives you a chance to see what your system tray will look like before you finalize it. ●

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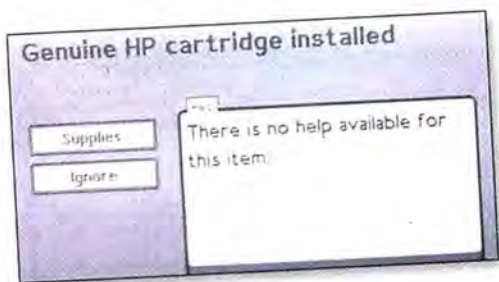
# The Back Page

## FROM OUR READERS



## Ax Not What Your Tech Support Guy Can Do for You

PC owners in Petoskey, Michigan, can always call on reader Nick Dakins, owner of Petoskey Computer Repair, who makes house calls in his "classic 1983 Chevy Citation, compete with four matching Yosemite Sam "back off" mud flaps and fuzzy dice on the mirror." We wonder if the hand tool protruding from the PC case on the car's roof is any indication of Dakins's approach to tech support.



## Feeling Helpless? You're Not Alone

Alwyn Jones never fails to get a chuckle when the abandon-all-hope message, at right above, appears on the display of his HP LaserJet 4345 multifunction printer. Good thing there's an Ignore button available to deal with the helplessness.

## What a Bundle!

Bogdan Bota was surprised to see this recent advertisement from CompUSA (yes, it's still around online) for a Canon videocamera. Where else can you find a camcorder that's powered by an AMD mobile PC chip and runs Windows 7?

**15x ZOOM** **HD PLUS** **CANON FLASH MEMORY HD DIGITAL CAMCORDER**

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- Win7 Home Prem. 64bit
- 1 Year Ltd. Warranty

**AMD Turion II Ultra Dual Core 2.6GHz, 4GB DDR2, 320GB HDD, DVD RW, 15.6" Display, Win7 Home Prem. 64bit**

## Plugged In



**Potent Power** HP Labs researchers pitch a design for a data center powered by manure from 10,000 dairy cows. We hope the facility is located upwind from the supply of raw materials.



**Free Guarantee** China's government claims that it "guarantees" its citizens the right to free speech on the Internet. We'll take "Other Things Full of Manure" for \$500, Alex.



**Personal Virus** A British researcher says he deliberately infected his body with a computer virus. No clear proof yet of a link between that and his sudden desire to join a zombie bot army.



**Leader of the Pac** Pac-Man celebrates his 30th birthday. You don't even want to know how many power pellets he knocked back at the party.



**Dressing in iStyle** An Australian clothing start-up has created a dress and a T-shirt with a special iPad pouch in the front. Fortunately for the company, kangaroos can't sue for patent infringement. ●

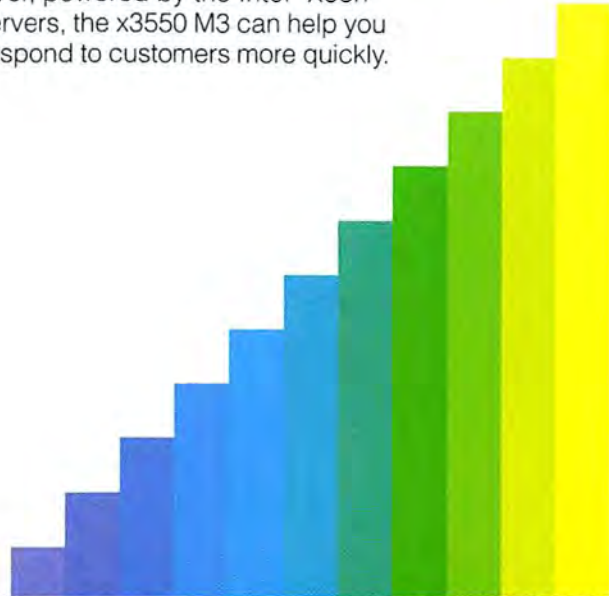
—JR Raphael and Steve Fox

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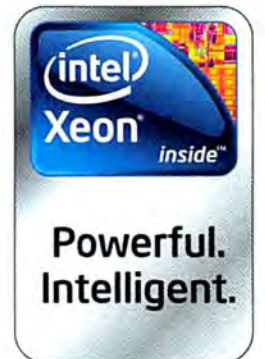
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