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PCWorld

20 THINGS THEY DON'T WANT YOU TO KNOW

AND HOW YOU CAN FIGHT BACK

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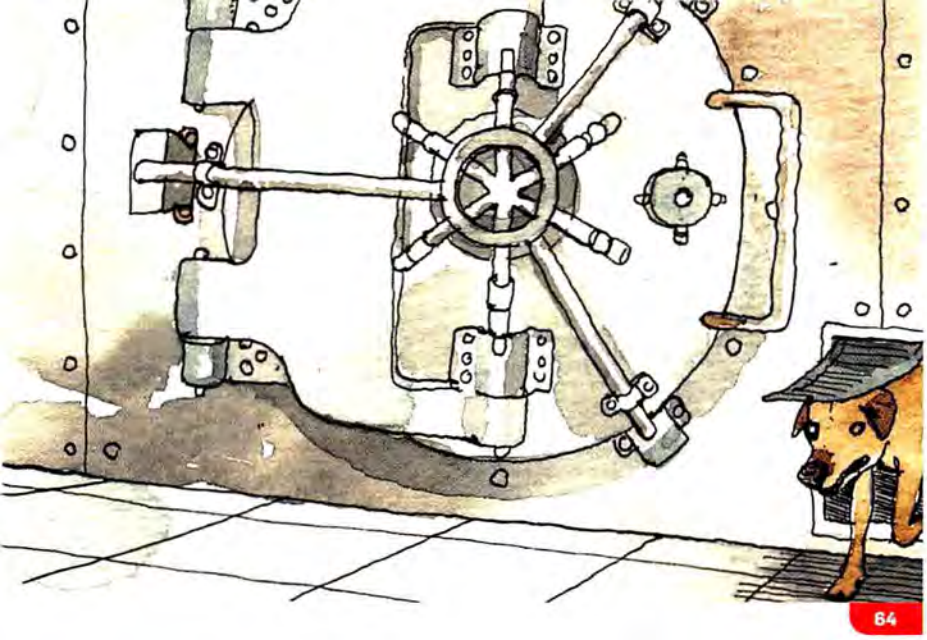

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We Get By With a Little Help From Our Friends

TESTING SECURITY software is scary business. The prospect of welcoming all sorts of nasty viruses, rootkits, and other bad actors inside your firewall should terrify any rational person. Yet sometimes it simply must be done, especially if you plan to review 13 major security suites, as we did for this issue (see "Maximum Security," page 74).

Fortunately, we happen to have a partner in crime (or, rather, in crime prevention). As we've done for a number of years, *PCWorld* collaborated with AV-Test.org—a testing facility focused on the kind of work that even security specialists usually run screaming from—to develop and run our battery of malware tests for this roundup.

To better understand what regular users expect from their security software, we turned to the real experts: our readers.

Our readers, to a great extent, were also partners in the proceedings. To get a better sense of what regular users want from a security suite (as well as from a slew of other products, from laptops to HDTVs), we surveyed hundreds of *PCWorld* readers.

We asked survey participants whether they had made a tech purchase in the last three months. If they had, we asked them to rank, in order of importance, the specs or capabilities that most affected their buying decision. Then we gathered all of the survey results into a spreadsheet, ran the numbers, and used them to revise the weightings that we assign to criteria in our reviews.

Most of the survey data within the bread-and-butter hardware categories matched our expectations. The reader feedback on security and antivirus products, though, surprised us a bit, and required us to conduct a substantial overhaul of our reviews criteria.

What Matters Most

The executive summary? As expected, a program's ability to detect and clean infections was number one, but not by a lot. Five more factors—the drag on system performance, footprint (how much space the software eats up), ease of use, speed of detection, and the number of interruptions (essentially, how annoying the program is)—were all bunched behind in a tight cluster.

Based on your feedback, we came to realize that in previous years we had given disproportionate weight to malware detection and remediation. As security software has gotten better at stopping the bad guys, other capabilities seem to have taken on greater importance in users' eyes.

So we ripped up our old equations and rejiggered our ratings to include usability issues such as startup and shutdown times, as well as resource usage as it affects day-to-day tasks like launching apps, copying files, and accessing the network.

Thanks to you, the user-driven rankings in this issue's article should give a better sense of which security suite deserves to live on your PC. And that should make the scary business of security just a bit less frightening. ●

Steve Fox is editorial director of PCWorld.

TABLETS

Where's the Apple iPad Review?

HERE IT IS, sometime in April, and you are holding an issue of *PCWorld* with the forward-looking dateline of May 2010. So where's our review of the Apple iPad tablet, which hit the streets on April 3? Not here—at least not in print, since we put this issue to bed in late March. Instead, our take on Apple's wunderkind is waiting for you online, at go.pcworld.com/ipad.

Now about that review: In some circles, the iPad can't fail. Even before the device's release, the Apple faithful and members of the media (some overlap there, to be sure) crowned it the next big thing. Apple's i-magic is strong stuff, indeed, and loyal Apple customers often report feeling an emotional attachment toward the company's well-designed hardware.

SOME CUSTOMERS COULD hardly wait for the April 3 introduction of Apple's iPad.

PHOTOGRAPH COURTESY OF APPLE

Personally, though, I would temper my expectations. Tablets have been around for a while, and consumers haven't embraced them, except as tools for vertical applications.

Even so, many manufacturers (not just one in Cupertino) hope to sell tablet PCs, whether powered by Android, Google Chrome OS, or Windows. What it comes down to is this: Does the world need a third device, something between a phone and a laptop? We'll see. But if tablets take off, you can bet that the iPad will have loads of company.

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PCW Forum

PCWorld's annual reader survey of tech brands' reliability and service—spanning six product categories (laptops, desktops, HDTVs, digital cameras, and printers)—always stirs lively discussion, and this year's results are no exception, as shown below. Add your own two cents at find.pcworld.com/69880.

Reliability and Service Survey

Thank you for a bold article ["Technology's Most (and Least) Reliable Brands," March]. I just hated to read that Dell has fallen so low in reliability.

I have bought six Dell computers, some for family members who trust my research. The first four purchases were no problem, but the last two—well, I have ended up choosing a relationship with another technology company.

CW Watson, Potosi, Texas

Backing up your low rating of HP, in my fairly extensive experience with its products (desktops, printers), I've found that when (or if) I actually manage to speak to someone in customer no-service, they usually can't even spell "HP," let alone help with a problem.

If, however, I allow these reps remote access, they are masters at creating major malfunctions, including multiple Blue Screens of Death.

bsvols, PCWorld.com forums

I totally agree with your near-bottom rating of Kodak digital cameras.

I gave a Kodak C180 digital camera as a Christmas gift to some close friends. The main problem with it was its batteries. In the 57 days since my friends received the camera, the batteries have been changed probably 25 or 30 times. Yesterday they returned it to me in hopes I can get my money back.

Robert B. Bashein, Fort Worth, Texas

I was seriously considering buying a Dell laptop with the i7 processor. After reading your article I have definitely reconsidered. Thanks!

Joe Steele, Fresno, California

When I bought my HDTV, I researched out the zing-zang on reliability, picture, features, etc. This was a year ago, and Samsung was the undisputed champ, whereas now it has average ratings. Don't know what's changed (I agree Panasonic is historically a great brand), but my 52-inch LCD is close to perfection, except for the speakers.

RayoLight, PCWorld.com forums

This article was enlightening. But I still rely most heavily on user reviews from across the Web. A few hours of research is worthwhile for something you plan on spending a few months of savings on.

oldschoolh4ck3r, PCWorld.com forums

Editor's note: For our take on the advantages and drawbacks of online reviews, see "User Reviews: How to Use Them Wisely" on page xx.

Ratings vs. R&S Survey

As a longtime subscriber to *PCWorld*, I look forward to each issue—it has enhanced my computer skills.

The incentive for this note is your March issue's "Technology's Most (and Least) Reliable Brands," and my recent horrid experiences with HP tech support for my printer—I probably fall in the category of the problem never being solved and possibly made worse. Consequently, I do agree with your placement of HP at the bottom of the reliability and service list for printers.

What disturbed me was that in the same issue you listed the HP Photosmart Plus All-in-One printer as a Best Buy [*Top 10 Inkjet Multifunction Printers*]. It seemed almost like an oxymoron—a "bad good buy."

Cy Mineo, Ocean City, New Jersey

Editor's response: Reliability and service are important, but they are just two of the factors that printer buyers should consider. Clearly our readers don't think much of the reliability of HP printers in general, or HP's support of them after the sale. Nevertheless, many HP printers perform well in our printer reviews, which test speed, print quality, and ease of use—hence their high ranking. *—Mark Sullivan*

Re: 'Malware Aims to Evade Windows 7 Safeguards' [*Security Alert*, March]—the weakest link of a computer system will always be sitting in front of the monitor. Until this link is removed, all systems are vulnerable.

JimH443, PCWorld.com forums

3D TV: Not for Everyone

Missing from your excellent article on 3D TV ["3D Comes Home," *Forward*, March] is the fact that 3D has a significant downside not found with every past advance in television technology: One needs to have well-balanced »

ILLUSTRATION: HARRY CAMPBELL

vision in both eyes to experience it. Many TV viewers do not, and many of those who don't aren't aware of it.

For that reason, everyone contemplating an upgrade to 3D needs to carefully test it in a showroom before committing to a purchase. For roughly 20 percent of the population, the experience is going to be something on the order of, "What's the big deal?"

Another problem not mentioned is the challenge faced by viewers who have to wear eyeglasses to watch TV. Active-shutter 3D glasses with prescription lenses will no doubt be available, but at a substantial added cost.

Ronald Russell, Lodi, California

CORRECTIONS

IN *RICK BROIDA'S Hassle-Free PC* (March), we should have said that the FixWin utility runs on Windows Vista and 7, but not on XP.

March's *Download This* should have indicated that OopsBackup has a 30-day trial; it costs $37.

PCWorld regrets the errors.

A Cable TV Issue

I jumped right out of my chair when I read your tip "Ditch the Antenna, Keep Your Digital Channels" [in "Essential Windows Tricks," February].

I've been writing letters for the past five years trying to have the channels provided in the basic "analog" package *unscrambled* in digital format. I have yet to find any cable company willing to do this—there is too much money to be made in selling or renting cable boxes.

Originally the United States was to go digital on February 17, 2009. The government offered $40 coupons for digital-to-analog converters to people who still used over-the-air signals. It then delayed the conversion of cable signals for another two years; now it has added another three years. My guess is, authorities are rightly scared of the backlash that will occur when all those second and third TVs go black because they don't have a cable box.

I challenge you to identify a cable system that has any permanent unscrambled digital channels.

I am disappointed that this tip did not warn your readers that there are no such cable channels available, and that you had better keep the old antenna.

Bob Sweet, Burlington, Ontario

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Forward

Mobile Digital TV:

Coming to a Small Screen Near You

VIZIO WILL OFFER three Razor LED 1-inch-thick Mobile DTV models priced from $150 (7-inch screen) to $230 (9-inch screen).

Mobile Digital TV feeds local television programming on the go to smartphones, laptops, and portable media players. We take Mobile DTV for a test drive.

BY JOHN R. QUAIN

DESPITE ALL THE hype about televisions' being turned off in droves in favor of Hulu and YouTube, live TV remains easily the most popular entertainment medium (just look at the ratings for *American Idol* or *CSI*). Still, in an effort to reach the iPhone generation, the broadcast industry is pushing Mobile Digital Television (Mobile DTV), a technology that lets you watch TV programming while you walk in a park or ride in a car barreling down a highway.

I took several Mobile DTV gizmos for a test drive and was impressed by the technology's video quality, plus its versatility in integrating with a wide array of devices.

The Mobile Digital Television Era Arrives

The Mobile DTV broadcasting standard comes from the Advanced Television Systems Committee (ATSC). Industry observers expect a slew of Mobile DTV–compliant products, from cell phones to laptops, to emerge this year. In my tests, I tried three Mobile DTV prototype devices: a portable DVD player, a cell phone, and a credit-card-size tuner for playing Mobile DTV on devices such as the Apple iPad and various RIM BlackBerrys via Wi-Fi retransmission.

The Mobile Digital TV era actually dawned last year, when U.S. television stations switched from analog to digital broadcasts. The move to digital broadcasting freed up wireless spectrum for TV stations, allowing them to offer subchannels designed specifically for in-transit viewers. Those channels broadcast in a standard-definition, widescreen format optimized for smaller screens. As a result, local affiliates can broadcast the same programming to homes and to mobile devices simultaneously.

Best of all, Mobile DTV (like regular over-the-air broadcasts) is free. By late spring, according to the Open Mobile Video Coalition trade group, some 30

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For more on new TV technologies, see find.pcworld.com/69921. And don't miss our recent charts of the best 40- to 42-inch (find.pcworld.com/69922) and 46- to 47-inch (find.pcworld.com/69923) HDTVs.

stations will be broadcasting in the new format. Among the stations in this pioneer group are seven in the Washington, D.C., area, including the region's NBC affiliate. Another 700 or more U.S. stations (out of the roughly 1600 local broadcasters overall) plan to offer Mobile DTV broadcasts by the end of 2010, the OMVC says.

New Hardware Needed

Inevitably, the new standards demand new hardware with new tuners to pull in the broadcasts. But Mobile DTV tuners are so inexpensive that they don't significantly raise the price of a handset. In contrast, satellite-based television systems—such as MediaFlo TV, designed for car backseats—have been around for years, but require professional installation of bulky, expensive (up to several thousand dollars, not counting the monthly subscription fee) hardware in an SUV or minivan. Furthermore, the picture attainable on mobile satellite systems tends to break up in urban environments.

Since Mobile DTV tuners are small enough to fit into a cell phone, manufacturers can put them in many different portable devices. The three prototype Mobile DTV products I tested were an LG portable TV/DVD player, an LG KB770 cell phone, and a Valups Mobile DTV Wi-Fi Receiver (see the sidebar below). In the New York metropolitan area, the only test channel available at the time of my hands-on review (February) was one operated by ION Media Networks. The test station's content consisted of rebroadcasted children's programming and CNBC news, and ION warned me that the channel's transmitter was less than ideally located. Nevertheless, I was surprisingly entertained.

THE TV INTERFACE on a Mobile DTV device may look something like this.

I could view uninterrupted programs on the LG smartphone as I walked down the street, or on the LG DVD player as I rode in the backseat of a car. The credit-card-size Valups Wi-Fi adapter tuned in to the test channel at a restaurant and displayed it on my iPod Touch well enough to keep my daughter happily diverted.

Like broadcasts from regular television stations, Mobile DTV channel broadcasts have a limited range. In the case of the New York test station (WPXN), I could receive a signal only within a radius of about 10 miles from the broadcast tower. When Mobile DTV stations go live, however, reception supposedly will be possible even at distances of 20 to 40 miles. This is welcome news for travelers who find themselves delayed in airport lounges, though passengers whiling away time on long »

TEST DRIVES

How Three Mobile DTV Prototypes Fared in Real-World Tests

LG Mobile Digital Television With DVD Playback

As any parent can attest, DVDs aren't enough to keep some kids entertained. So the addition of a Mobile DTV tuner may be just what LG's portable player needs to stand out from the scores of inexpensive portable disc players on the market. And if its features don't do the trick, its price certainly will: When the glossy black clamshell player debuts this summer, it will list for about $249—roughly double what some competing DVD-only players cost.

The player comes equipped with a 7-inch, widescreen (16:9) LCD, which flips open and then can sit at an angle on a separate hinged arm to achieve an ideal viewing position. It has the standard array of DVD playback controls on the right side, as well as a volume wheel, two headphone mini-jacks, an audio/video output, and DC power connections on the right edge.

THIS PROTOTYPE FROM LG combines a digital television with DVD playback and a Mobile DTV tuner for viewing on the go.

On the left side, neatly tucked away next to the USB port, is a pull-out, telescoping silver antenna for receiving Mobile DTV broadcasts. You use a Mode button on the left side of the screen to switch between discs and the TV receiver. The tuner automatically scans for available stations in the vicinity and then provides you with an electronic program guide that you can consult when making a selection.

When I tested it from a location that had a clear sight line to the Empire State Building (where the test station's transmitter is located), the LG receiver pulled in a clean picture. I saw no pixelation or jumpy images, and audio was crisp. The Mobile DTV format, in fact, works with a resolution of 416 by 240, which is good enough for screen sizes up to 7 inches.

Still, of the three prototypes I tested, the LG player was usually the first device to lose the broadcast as I moved out of range—say, 20 feet or so inside an office building. And though the battery lasted »

car trips will still have to change channels repeatedly.

Mobile DTV's main rival is the Qualcomm-backed Flo TV service. Flo TV is available on several smartphones (the $200 LG Arena, for example) and on the $250 Flo TV Personal Television. But the service costs $10 to $14 per month (depending on the device and the carrier), it delivers fewer than 20 nationwide channels, and the channels are available only in metropolitan areas. That's because Flo TV relies on its own network of transmission towers to broadcast programming in some of the space that was left vacant when television stations switched from analog to digital. Consequently, even though Flo TV programming is nationwide, the network itself is not. In the hinterland, you'll lose the signal.

Future Convergence?

Eventually, we may see devices that support both Mobile DTV and Flo TV. Both LG and Samsung have demonstrated cell phones with Mobile DTV, and both offer handsets than can receive Flo TV. Much depends on what cell phone carriers like AT&T and Verizon decide to do, since they control which handsets work on their networks; currently, both companies charge a substantial fee for cellular-network-based video, and free Mobile DTV could cut into their revenue from that source. Meanwhile, some Mobile DTV broadcasters are looking at the possibility of offering additional for-pay channels that could induce wireless carriers to add Mobile DTV to their handsets.

No matter what the cell phone situation for Mobile DTV looks like a year from now, tuners are slated to appear in many products over the next eight months. Dell has already announced plans to market a netbook with Mobile DTV; and Panasonic and a number of other major consumer electronics companies have voiced support for the standard.

When finished products reach store shelves this summer, we'll let you know how they fare in formal testing.

TEST DRIVES: CONTINUED

well beyond 3.5 hours playing DVDs and CDs, it regularly ran out of power after just over 2 hours of watching Mobile DTV broadcasts. LG says that a receiver chip made to draw less power should be ready for the player by the time you read this.

LG KB770 Smartphone

As a proof-of-concept handset, the LG KB770 demonstrates that Mobile DTV may be best suited to cell phones. Available in Europe, where customers can already tune in to DVB-T (Digital Video Broadcasting-Terrestrial) stations, this prototype was adapted to receive Mobile DTV, and in general it did an excellent job.

The smartphone itself has a 3-inch, 400-by-240-pixel touchscreen and is outfitted with two cameras: a 3-megapixel still camera and a small, 15-frames-per-second video camera. The handset also has the usual array of smartphone features: a microSD slot, stereo Bluetooth, and a multimedia player.

THE LG KB770 combines standard smartphone features with Mobile DTV reception.

To prepare the smartphone for Mobile DTV reception, you pull out the device's telescoping antenna and press the on-screen TV button. The phone automatically switches to widescreen landscape mode and scans for nearby channels. Among the skyscrapers of Manhattan, it managed to maintain a stable picture—certainly better than that of mobile satellite systems. The picture occasionally jumped in crosstown traffic, but I didn't find that too distracting. Just don't expect to follow the puck if you use the KB770 to watch a hockey game.

The prototype lasted for more than 2 hours of TV viewing on one charge. LG hasn't announced a carrier for the phone yet, so prices for hardware-plus-service-contract plans remain to be determined.

Valups Mobile DTV Wi-Fi Receiver

If you don't want to buy a new phone or portable device just so you can watch Mobile DTV channels, the Valups receiver represents a convenient $99 alternative to the LG devices. This wireless, credit-card-size unit has a single power button and three lights (to indicate battery use, TV reception, and Wi-Fi). To get Mobile DTV channels, owners download a free Valups app to their iPhone, BlackBerry, or Android handset. (It will work with an iPad, too.) I tested it with an iPod Touch.

THE $99 VALUPS Mobile DTV Wi-Fi Receiver lets you transform your smartphone or portable player into a Mobile DTV device.

I did sometimes have to restart the receiver's prerelease software, but otherwise the unit worked without a hitch. After downloading the software, you select the Wi-Fi TV network entry from the list of available Wi-Fi networks; you then see a list of available stations. Picture quality depends on the device you use.

I put the Valups Wi-Fi receiver in a front window, where reception was available, and then watched TV on my iPod Touch back in the office—where neither the LG portable DVD player nor the LG smartphone could pull in a television signal.

Originally introduced at the Consumer Electronics Show as the "Tivit," the Valups receiver should go on sale this spring.

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Microsoft's Plans for Windows Phone 7 Series

Redmond's mobile-phone OS adds social networking and new productivity features within a clean, touch-friendly interface.

IN MARCH, Microsoft unveiled its new mobile phone operating system, Windows Phone 7 Series. Unlike previous Windows Mobile versions, the overhauled OS focuses on social networking, the Web, and gaming. The Phone 7 Series OS is slated to be available on handsets by holiday season 2010.

Slick User Interface

Users familiar with the Zune HD's interface will find that Windows Phone 7 Series's menus and interface replicate the Zune HD's fluid animations and clean typeface.

The Quick Launch screen uses large, colorful tiles as shortcuts to frequently used or favorite apps or Websites. You can populate the screen with tiles linking to a Facebook profile or friends, too.

These tiles are live, meaning that when someone updates content on the app or site, the tile on your screen will change as well.

By tapping and dragging tiles, you can easily change their order; or press a broken-heart icon to remove one from the screen. Swiping right takes you to a list of all of your apps. To move an app to your Quick Launch display, press down on the app and select *add to quick launch*. Within an app, a row of menu options appears at the top of the display. As on the Zune, you can pan through items with a flick of your finger. To return to the previous menu, simply press the arrow key at the top of the interface.

PHONE 7's Quick Launch screen uses 'live tiles' as shortcuts to frequently used apps and sites.

Aggregating Hubs

The People Hub aggregates friends from your social networks in three screens: Recent, All, and What's New. The Recent screen identifies friends who've updated their profiles or statuses recently; All lists all of your friends; and What's New offers status updates in a single feed. You can share your own status updates easily, too.

The Pictures Hub lets you see the pictures posted on your hub (All), your newest pictures (Recent), or the latest from your friends (What's New). Your handset can pick the most recent pictures that you've uploaded or snapped with it; and as on the People Hub, What's New in Pictures displays your friends' latest picture uploads. Arrayed with those capabilities, the Pictures Hub makes sharing photos with your social networks extremely simple.

The Office Hub allows you to sync documents between your phone and your PC. The hub comes with OneNote (for notetaking), Documents, and SharePoint (for presentation collaboration). Users will also have access to an Outlook Mail app that has features similar to the ones on the desktop version.

Zune and Xbox Tie-ins

All Windows Phone 7 Series units will have the same music and video features as the Zune HD, and users will be able to use Zune PC software to manage their music. Does this mean the stand-alone Zune HD player is dead?

For people who own an Xbox and would like to keep close tabs on their friends' gaming prowess, Phone 7 Series phones will offer a mobile version of Xbox Live games, a Spotlight feed, and the ability to see a gamer's avatar, achievements, and gamer profile. In addition, users will be able to purchase games and apps from the Windows Marketplace.

Phone 7 Series phones will also ship with Bing Maps, which can dynamically update street-view photos, 3D graphics, and directions, and display real-time traffic updates and reviews of local businesses via Yelp.

Marketplace

Owners of Windows Phone 7 Series phones will be able to get Windows Phone apps from a new Windows Phone Marketplace. The new store will be the only channel for obtaining Phone 7 Series apps; and as with Apple, Microsoft must approve all applications before they can appear in the Marketplace.

The success of Windows Phone 7 Series may ultimately depend on the applications available for it. Microsoft says that many familiar mobile apps are on the way—for example, Associated Press, Foursquare, Seesmic, Shazam, and Sling Media.

Microsoft's many hardware partners include Asus, Dell, Garmin, HP, HTC, LG, Qualcomm, Samsung, Toshiba, and others. The company plans to make the Windows Phone 7 Series OS available to all four major U.S. carriers.

—Ginny Mies, with additional contributions from Ian Paul

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Nice Sixpack: Intel's Core i7-980X Extreme

INTEL'S LATEST Extreme Edition processor, the Core i7-980X, brings hyperthreading as well as turbo boost technology to the 32nm process. It is also Intel's first processor with six cores, for enhanced system performance in suitably optimized applications.

The Core i7-980X will supplant the four-core, 45nm Core i7-975 Extreme Edition as Intel's strongest CPU, at the same price ($999). But how much better is it?

The Core i7-975 and the Core i7-980X look identical; both have a base clock speed of 3.33GHz, TDP cooling rated at 130 watts, and three channels of DDR3-1066 RAM. But the i7-980X's six cores give apps 12 threads to work with, versus the i7-975's 8 threads. Also, whereas the i7-975 shares an 8MB L3 cache across its cores, the new CPU has a 12MB cache.

We tested each processor in a PC running Windows 7 Ultimate Edition (64-bit), with 6GB of RAM, a 1TB hard drive, and an ATI Radeon HD 5870 graphics card.

Though Intel aims the Core i7-980X at gamers, the new CPU outperformed the Core i7-975 only marginally in our tests. In Unreal Tournament 3 (at 1920 by 1200 resolution and high settings), the Core i7-980X cranked out 159.9 frames per second versus the Core i7-975's 155.4 fps. In

INTEL'S CORE i7-980X Extreme.

Dirt 2, the Core i7-980X managed 73.3 fps, as against the Core i7-975's 71.7 fps.

Those results aren't surprising, since many modern video games don't take full advantage of multithreading. But if you work with multithreaded apps such as Adobe Photoshop, Blender, and Sony Vegas Pro, spending $1000 for a Core i7-980X processor may make sense.

The clearest improvement will be in apps that sprawl across as many cores as possible, like Maxon's Cinema 4D animation software.

Though the i7-980X may not blow the i7-975 out of the water now, the performance bottleneck for gamers lies in the paucity of multithreaded offerings—and that situation is changing. If you can afford this $1000 chip, it may be worth the cost of entry. As multicore CPUs and multicore-optimized applications grow more and more common, you'll be able to put all six of its cores to good use.

—Nate Ralph

BETA WATCH EDWARD N. ALBRO

Springpad: Note Taker

I've used Evernote for a while to keep records of meetings and plans. But Springpad is a worthy, free competitor that brings some cool new tricks to note taking. For instance, you can import a recipe from a cooking site, and Springpad will automatically parse out the ingredients you need. Click a link, and it will add those ingredients to a shopping list. Type in the name of a movie, and not only will the service add a note with a description and image, but it will give you local showtimes or add it to your Netflix queue. A companion iPhone app lets you enter and access notes on the go. You can even add a product by scanning its barcode with your iPhone's camera. springpadit.com

Xpenser: Receipt Help

Even if your business trip goes off without a hitch, you'll have to deal with all those receipts afterward. And who can remember a week later what the taxi ride cost or why the bottle of single-malt scotch seemed deductible? With Xpenser, you can keep track of your expenses in real time, using any PC or phone. You can add an expense through the free service's site, by e-mail, IM, text message, or voice call. You can even keep track of your costs by sending direct messages on Twitter—or submit a photo of a receipt to prove that cheeseburgers really can cost $20. xpenser.com

CHOOSE 'OBAMIFY' IN Citrify's online photo editor, and your friends will look as though they stepped out of a campaign poster.

Citrify: Snappy Photo Editing

Online photo editors have existed for years, but early versions were often slow to show the changes you made to your images. Citrify displays the effects of your work as you do it, enabling you to see just how your picture will look as you pump up the contrast or sharpness. This free service includes most of the tools amateur photographers will need—in addition to adjusting brightness and hue, you can eliminate red-eye, smooth over wrinkles, and more. You can even "Obamify" your images, making the subjects look as though they're in the iconic campaign poster. citrify.com

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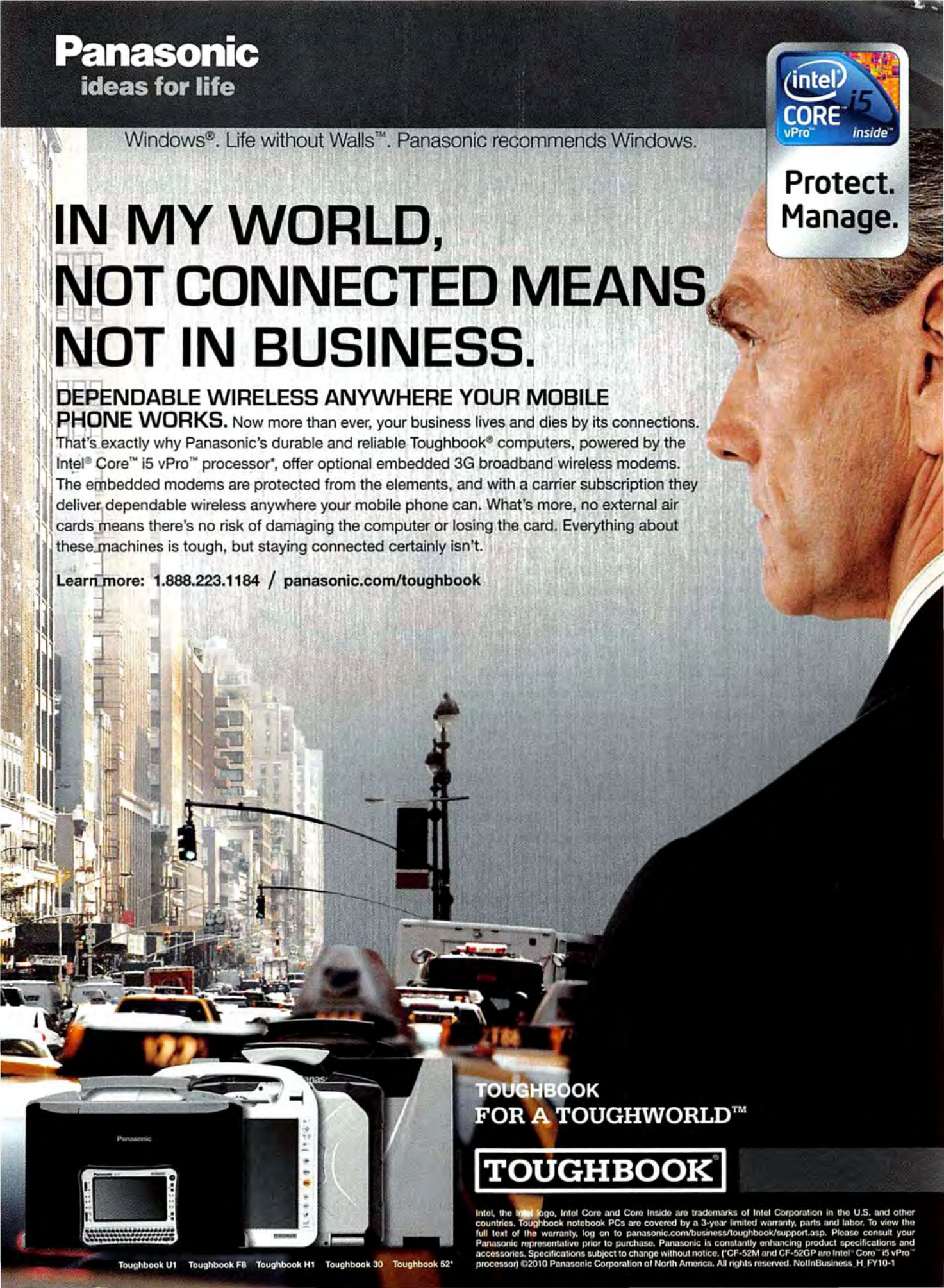

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HP's Slate Claims Edge Over iPad

HP SAYS support for Adobe Flash gives its Slate tablet an advantage over Apple's iPad.

Whereas iPad users look to Apple's App Store for apps and to iTunes for content, Flash gives HP users access to a wealth of Web content and apps, and Adobe's AIR provides a framework for developing additional ones.

A Windows 7–based unit, the Slate is scheduled to ship in mid-2010 at a price below $500.

Support for Adobe technology and the use of Windows 7 distinguish the Slate from the iPad, which incorporates a tablet-optimized version of the iPhone OS.

The Slate's Adobe support is a strength, but some people dislike HP's decision to use a general-purpose OS (Windows 7) in the tablet.

As the iPhone did, the iPad will attempt to provide an Apple-controlled media experience. In contrast, the Slate will be more about generalized Web browsing (including Flash) and running Windows 7 tablet apps.

Ultimately, Apple may have trouble scaling up the iPhone experience to meet user expectations for a larger-screen device; meanwhile, Windows 7 may not appear to be truly optimized for a tablet.

—David Coursey

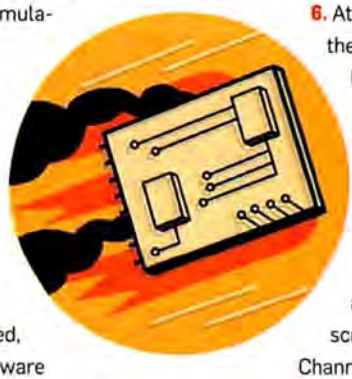
GEEKTECH

Hack Your Wii for Homebrew Apps and Games

Use Homebrew to invigorate your aging Wii with emulation, DVD playback, Linux, and more.

AFTER THE EXCITEMENT over the Wii's "revolutionary" controller died down, a lot of adult gamers began to notice Nintendo's missteps on the console—such as the scarce online community and the lack of mass storage, HD support, and DVD playback. If not for Homebrew, I'd have little reason to pick up a nunchuk.

Anyone looking to breathe new life into their Wii should consider getting into the Homebrew scene. What started with a couple of curious hackers has blossomed into a huge community of developers and users bringing amazing features to the aging console. Installing the Homebrew Channel makes emulation, DVD playback, and the ability to run Linux possible.



Nintendo plays a never-ending cat-and-mouse game with Wii hackers, much as Apple does with adventurous iPhone jailbreakers; but despite Nintendo's best efforts, the Wii Homebrew scene has matured, and today the necessary software is easier than ever to install. If you are new to the game, here's how to get it going.

Warning: Proceed at your own risk! If you read the documentation included with the installers and use caution, you can enjoy the fruits of Wii Homebrew in no time; but if you do something silly, you run a tiny risk of "bricking" your Wii.

What You Need

- A Wii running the latest Wii System Menu 4.2 (Wii Homebrew is possible on older versions, but the installation process is slightly different—so for simplicity's sake, I'll assume that you have the newest update).
- HackMii Installer version 0.6 (find.pcworld.com/69912) and Bannerbomb version 2 (find.pcworld.com/69913).
- An SD Card (formatted for the FAT32 file system) and a Wi-Fi connection.

How to Install Wii Homebrew

1. Download Bannerbomb v2 and HackMii.
2. Create a folder named 'private' on the root level of your SD Card, if such a folder doesn't exist there already.
3. Unzip the Bannerbomb files to the SD Card.
4. Copy 'installer.elf'—the HackMii installer file—to the root of your SD Card, and rename the copied version of the file 'boot.elf'.
5. Fire up your Wii and go to the SD Card menu in the bottom left of the home/channel screen. Insert your SD Card. A pop-up dialog box should ask you 'Load boot.dol/elf?' Click *Yes*. This will install the Bannerbomb exploit, which makes Homebrew possible.
6. At this point, Bannerbomb will run the HackMii installer to install the Homebrew Channel. In addition, it can install DVDx (which lets you use apps that use the DVD drive—recommended!) and BootMii (which protects against bricking). Once that operation is done, you'll have a new channel on your home screen called The Homebrew Channel, and the geeky fun can begin.

Apps to Check Out

Here are some other applications to give a try once you have Homebrew up and running:

- The Homebrew Browser: This app lets you browse and install homebrew apps to your SD Card straight from your Wii; without the tool, you have to remove the SD Card and use your PC to copy apps onto it. find.pcworld.com/69914
- Gecko OS: Besides enabling you to play Wii discs from other geographic regions (DVDx required), Gecko OS includes Ocarina, a homebrew cheat app reminiscent of Action Replay or Game Genie. find.pcworld.com/69915
- MPlayer CE: This media player for the Wii (DVDx required) handles playlists and DVD movie playback. find.pcworld.com/69916
- Wii-Linux: Of course, no hardware hack can be recognized as complete without the obligatory Linux build. find.pcworld.com/69917

—Mike Keller

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ILLUSTRATION: HARRY CAMPBELL

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PC Connection EXPRESS

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User Reviews: How to Use Them Wisely

BY CHRIS WALTERS

WEB RETAILERS LOVE user reviews, and have made them an integral part of sales. Bloggers and enthusiasts by the millions share their opinions about all sorts of products. But at the same time, marketers are creating replicants that walk and talk like user reviews but ultimately repeat feature lists and phrases crafted to appeal to specific demographics.

> Review sites offer valuable opinions, but they also attract fanboys, ax-grinders, and even a few clandestine shills. Approach with caution.

Though you'll find a lot of noise at review sites, you will encounter many more sources of good advice. The challenge is to filter out the junk. First, be honest with yourself. Being realistic about your needs will assist you in setting a budget, and it will enable you to focus on the right review types—casual anecdotes from past customers, overviews from newspapers and from general-audience Websites, in-depth and standardized evaluations from pros, or hard-core geekery from specialty forums. Knowing where to start will help you avoid being overwhelmed or seduced by jargon.

Make your own feature list, as well. An online search for "intro to HDTV," for instance, should help you gather enough expert information to assemble, in less than 15 minutes, a list of must-haves, would-like-to-haves, and deal-breakers.

Balance Your Web-Reviews Diet

Consulting user reviews on retail sites is the quickest way to see what consumers think about a product. But the trap (especially with retailers like Amazon that have mastered the technique) is that user reviews make it easy to do research without leaving the shopping page. Want slice-of-life examples of the product in use? Highlights of problem areas? The ability to vote reviews up or down? It's all there, right below the 'Buy' button. The problem is that the proximity of all of these options to the point of sale subtly transforms them into an extension of your shopping experience.

Will Chambers, editor in chief of Steve's Digicams (www.steves-digicams.com), has been writing and editing reviews for a decade. When he shops, he looks to user reviews as a supplement to more-rigorous reviews. If everyone on Amazon gripes about a weakness that the pros missed, he says, it can give you an edge when you are deciding what to buy.

On the other hand, he notes, user reviews lack the standardization required for accurate comparisons. "Make sure that whatever type of electronic you are looking at, [the reviewer is] using a standardized test that every manufacturer's model is being put through, so results are consistent," Chambers says. A standardized review should state how the product was tested, and show results in a way that lets you compare them with those of other models.

Avoid the Shills

"The one thing you can't trust about reviews at online retailers is [that] you can't know if someone is just trying to move more units," says Chambers. Most user reviews are probably authentic, but fake reviews exist—and given the level of anonymity that the Internet permits, posting a phony review »

ILLUSTRATION: DAN ZALKUS

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For additional information about Web-shopping pitfalls, including some that might affect your online privacy, read "Trouble With Default Settings at Online Stores" at find.pcworld.com/69807.

could hardly be easier. Unscrupulous bloggers might receive money, free products, or a boost in status for praising a company or product. Tech user Joe Smith could be a PR flack, a stay-at-home parent earning extra bucks as a reviewer-for-hire, or a marketing manager determined to improve sales.

There's enough opportunity for misbehavior, in fact, that an informal marketplace has sprung up. "Reputation management" firms might offer to burnish a manufacturer's image with strategic fine-tuning of user-review pages. Last August, MobileCrunch (find.pcworld.com/69803) posted internal sales material from Reverb Communications, in which the PR firm promises to front-load new releases on the Apple App Store with reviews provided by "in-house writers" and "written from the angle of each [target] age group including key words that resonate with each audience."

The ongoing attempts at gaming user reviews have led to crackdowns, too. Last July, the New York Attorney General fined cosmetic surgery company Lifestyle Lift $300,000 for fabricating online reviews. By the end of 2009, the Federal Trade Commission had revised and reissued guidelines instructing all bloggers to disclose any relevant business relationships to their readers, in part to combat fake personas that had been created to provide testimonials for health drinks and diet products.

Reviews Aren't Everything

In the end, remember that even the most highly praised product may break, and at that point you'll have to hope that its manufacturer takes after-the-sale customer service seriously. Online, you can find every sort of complaint about manufacturers, from the ridiculous to the infuriating. But just as with review sites, when you check comments at user-complaint forums, don't put too much stock in any one complaint.

For further information, including advice on how to identify a shill review, browse to the online version of this article at find.pcworld.com/69806.

SKEPTICAL SHOPPER GINNY MIES

Can Your Online Life Ruin Your Credit?

Financial institutions are monitoring your social networking activity—and could hold what you say against you.

BY NOW, MOST people are fully aware of the dangers of oversharing online. We've heard horror stories of people getting the ax at work or stirring up strife with family members over their too-much-information status updates. But it gets worse: Reports now say that your social networking activities could prevent you from getting a loan for the house, car, or boat you've had your eye on.

Reports that banks and other financial institutions are using social networks like Facebook and Twitter for targeted advertising campaigns caused some alarm earlier this year. Essentially, to identify good credit customers, the institutions (sometimes in partnership with research companies) examine your profile information and activity, as well as your friends. Consumer blogs immediately posed the question: Could your social networking affect your credit?

Before you delete your Facebook profile (or just de-friend your deadbeat pals), though, look at both sides of the issue. Rapleaf, a San Francisco–based social media research firm, is one of the companies in question. On its blog (find.pcworld.com/69843), Rapleaf says that the data collected from social networks is used only by marketers—not by people who make actual decisions about your credit. According to the company, marketers are employing the data merely to target promotional offers on credit cards or advertisements for certain products.

Judging You by Your Friends

Okay, so maybe Rapleaf and its clients are using the data innocently. What about the other financial institutions checking out your profile? The bottom line is that some of these banks are judging your financial status based on your social networking life—and that's a bit scary.

Erica Sandberg, a personal-finance expert and columnist for CreditCards.com, says that creditors look at your network to see whether you would be a good credit customer. The idea is that if your friends pay their bills on time, so will you. Sandberg adds that banks even use social networks to expedite loan acceptance. If a lot of your pals are homeowners or are in good standing with their credit card companies, you may be approved for a loan faster than if your network consists of people who aren't.

Bank marketing departments aren't the only ones scrutinizing individuals' online activity. According to personal-finance site Bankrate.com, bill collectors keep an eye on Facebook, too. A collector who can't get hold of a debtor may look at Facebook to see if that person has alternate contact information listed. Bill collectors also monitor behavior: If you're posting about buying a new car but failing to pay on a college loan, the agency will take note.

Safeguard Your Profile

Thankfully, you can protect your social networking profiles from prying eyes. Facebook updated its privacy settings to give you more control over what you show publicly (find.pcworld.com/69842). Tweeting about your reckless spending habits? Lock up your Twitter account, as well. Accept friend requests only from people you know personally. If you must keep your profile public, be aware of what you post and how far it can spread. You never know who may be watching.

ILLUSTRATION: HARRY CAMPBELL

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Consumer Watch

ON YOUR SIDE MARLA MIYASHIRO

I PURCHASED G Data InternetSecurity 2010 from Ultimate Internet Security's Website. When I attempted to download the program, I discovered that the process would take about 11 hours over my dial-up connection. I called Ultimate Internet Security to ask if they could burn the software onto a disc and then mail it to me. They agreed. When nothing arrived after a few weeks, I called a second time and was again assured that the company would send me a disc. Five weeks later, and I still haven't received the disc. Is there anything you can do?

Dave Kotrch, Gowen, Michigan

OYS responds: After we contacted Ultimate Internet Security, a company representative told us that at the time Kotrch placed his order, the G Data software was available only via download. When a colleague told the rep that Kotrch had requested a refund, the rep assumed that Kotrch hadn't received the disc and no longer wanted the product; the rep therefore took no further action. Meanwhile, Kotrch was left hanging.

Once we got involved, the representative sent a boxed version of G Data InternetSecurity 2010 to Kotrch, who says that he's pleased with the program.

If a product you're waiting for fails to arrive, we recommend that you be persistent in your attempts to contact the vendor. Ask the rep for an estimated delivery date, and say that you will follow up if the product hasn't arrived by then.

The Missing Link

Steven B. Bunnell of Norwood, North Carolina, bought PowerDVD 7.0 Standard video-playback software from CyberLink's online store and enjoyed using it. After replacing his laptop's motherboard, he reinstalled Windows Vista and asked CyberLink to send him a link that would enable him to download PowerDVD again. The company did so. Later, he had problems with Vista and installed XP on his computer. He then asked CyberLink several times for another link to PowerDVD, but the company's replies contained only installation instructions. Frustrated, Bunnell asked us for help.

After we contacted CyberLink, a customer support representative provided Bunnell with a link and instructions for downloading PowerDVD.

You never know when disaster will strike. As with your other important data, make a backup of programs you download. Taking this precaution will save you the hassle and potential cost of getting a replacement should you need one.

Rechargeable-Battery Recall

AMX, in cooperation with the U.S. Consumer Product Safety Commission, has recalled about 8600 rechargeable batteries sold with MVP 5000 series wireless touch panels (model numbers MVP-5100, MVP-5150, and MVP-5200i; you can find the number on the back of the unit). A defect in the battery can cause the battery pack to overheat and rupture, posing a fire and burn hazard.

Though no incidents or injuries have been reported, consumers should immediately stop using the touch panels and contact AMX to receive a free replacement battery. For more information, call AMX at 800/222-0193, visit the company's Website at www.amx.com, or e-mail the firm at service@amx.com and include the reference code XPX5000B.

Leap-Year Glitch Hits Sony's PlayStation 3

SONY HAS RESTORED service to its online PlayStation Network by resolving a glitch in the internal clock of some PlayStation 3 game consoles that wrongly recognized 2010 as a leap year and added a February 29 to the clock.

The glitch, which harkens back to the Y2K bug, affected millions of users around the world and kept many from accessing Sony's PlayStation Network. People with the new, slim PS3 consoles were not affected by the problem.

"We are aware that the internal clock functionality in the PS3 units, other than the slim model, recognized the year 2010 as a leap year. Having the internal clock date change from February 29 to March 1 (both GMT), we have verified that the symptoms are now resolved and that users are able to use their PS3 normally," reads a note on Sony's PlayStation blog (find.pcworld.com/69849).

Prior to giving PlayStation 3 owners clearance to use their units again, the blog had warned against using the consoles at all for fear of data errors and problems involving obtained trophies and other game achievements.

The March 1 blog posting advised users who continued to have problems displaying the correct time on the system's menu to try adjusting the time setting manually or via the Internet.

The PlayStation Network boasts over 40 million registered users, according to the site. The slim version of the PS3 launched in August of last year.

—Dan Nystedt

ILLUSTRATION: HARRY CAMPBELL (LEFT); JASON SCHNEIDER (RIGHT)

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Work Smart With Online Collaboration Tools

Find a free or paid service that offers the right collaborative tools for your business needs.

BY ZACK STERN

AN IMPORTANT FIRST step in helping a relatively small staff work efficiently is to enable them to work together in real time. Here's a look at some free and paid collaboration tools.

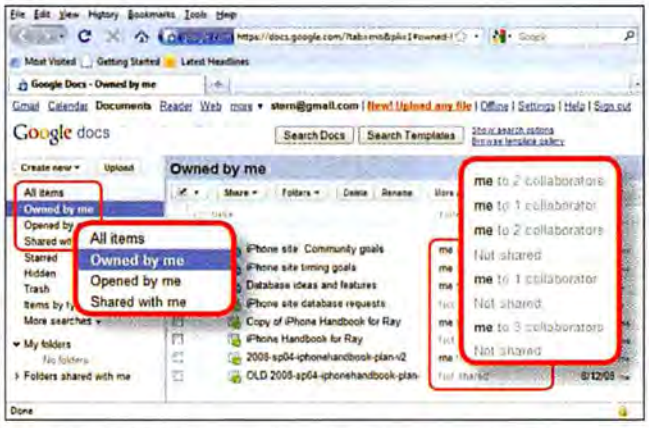
Google Apps

The free version of Google Apps (google.com/apps) includes e-mail with lots of free storage, sharable calendars, document editing, and other tools. Free Gmail accounts get more than 7GB of space, and Google often adds storage to the service. To encrypt data, you connect via secure HTTP; and you can access messages from a browser or through your own e-mail client. For real-time communication, Google Talk (google.com/talk) handles instant messages, voice, and video calls.

Beyond its basic features, the free edition of Google Calendar (google.com/calendar) lets you share or subscribe to other calendars, which is crucial for collaboration. You can sync to many phones or read data through a mobile Web browser.

Google Docs (docs.google.com) offers a word processor, a spreadsheet, and a presentation tool—all compatible with Microsoft Office. You can upload current files to share and edit, or start from scratch. You can also set permissions by individual or by group, so others can view or edit files.

With Google Sites (google.com/sites), you can create portals for restricted sharing of information or client-side details.



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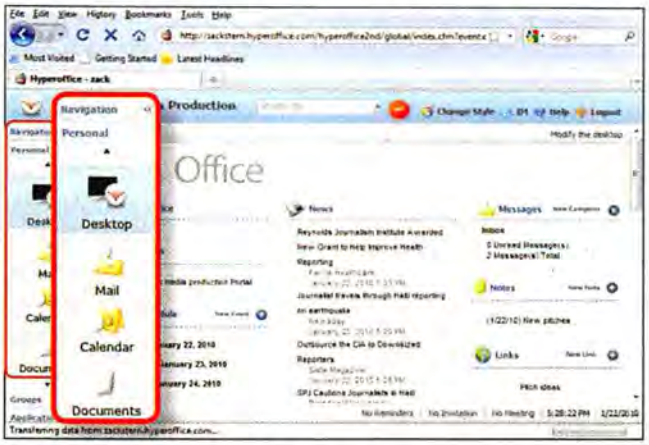

HYPEROFFICE GREETS YOU with important details in one location. Select from the tools on the left to create new messages and actions.

Google Apps Premier Edition

Priced at $50 per year per user, Google Apps Premier Edition provides increased storage allotments, more-robust user features, and group administration capabilities for managing all users through a single interface. Google Mail jumps to 25GB; Google Calendar upgrades schedule collaboration, and Google Groups (groups.google.com) enables your workers to communicate within a forum environment that's closed to the outside world. Finally, paid Google Apps accounts can use their business's domain name instead of "@gmail.com."

HyperOffice

Ideal for small and medium-size businesses, HyperOffice (hyperoffice.com) offers robust features scaled down to suit companies that lack dedicated IT support. HyperOffice's integrated collection of services lets you manage contacts, »

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Already using Google Apps in your business? For ten add-on apps that can supercharge your work life, visit find.pcworld.com/69854. And for useful PC productivity tips, browse to find.pcworld.com/69905.

messages, projects, files, and more. It syncs to Outlook, and you can read e-mail via any IMAP or POP browser. An online meeting tool lets you give presentations, but HyperOffice offloads chat features to Skype. You can track workflow and build simple tools to automate some processes, and you can set up custom Web pages to share data.

HyperOffice costs $10 or so per month per user, with discounts as the number of users increases. The meeting service and other advanced tools cost extra.

Three Other Options

Microsoft Business Productivity Online Standard Suite (find.pcworld.com/69845) is great if you use—and like—Microsoft mainstays such as Exchange Server and SharePoint. Priced at $10 per user per month, BPOS offers hosted online editions of those services, with browser-based access from any Mac or PC.

Lotus Live (lotuslive.com) has such features as Webcasting and online meeting tools. But they can get technical, so they're best suited for larger companies with on-staff IT support. Lotus Live's pricing structure is more convoluted than its competitors', as it takes an à la carte approach to service charges.

Zoho (zoho.com) uses Google's free-to-paid model, and offers lots of cloud-based apps. E-mail hosting, calendar, contact, and collaboration tools are available, as are invoicing and recruiting apps, and tools for CRM, human resources, and project management.

Zoho demands less internal support than the Microsoft and IBM tools do. But Zoho feels segmented, with each app living apart from the next. And like Lotus Live, Zoho uses à la carte pricing.

Select the Right Service

Many small and medium-size businesses can get by with Google's free collaboration tools. But for project management or other comprehensive features, consider a premium service. The five paid services discussed here offer strong tools; when in doubt, don't hesitate to take the free trial versions for a spin.

NET WORK MICHAEL SCALISI

Move to Windows 7 With Easy Transfer

Shift user profiles and data from XP or Vista to Windows 7 in a few clicks.

UPGRADING USERS to a new operating system always has pitfalls, and moving to Windows 7 is no exception. If you face a multiuser migration, automating the task is a good idea. And Microsoft has created a tool for the occasion: Windows Easy Transfer moves users' profile information (desktop, libraries, e-mail configuration, program settings, and so on) and other computer files and settings from their old Windows PC to a new one.

Easy Does It

You can also use Easy Transfer for replicating the Windows and program settings on your work and home computers, or for copying profile settings and data to additional PCs. The utility is helpful anytime you want to transfer or replicate user profiles across systems.

Before you start, you'll need to set up a physical way of transferring the data. You can use a cable, a network, or an external hard disk/USB flash drive. I've run into trouble using the network option across different VLANs; for a convenient workaround, choose the hard disk option and save to a network share. I've also had success using a Belkin Easy Transfer Cable, which connects between the two systems and copies everything in one go.

Windows Easy Transfer comes with all versions of Windows 7, but the system you are migrating from may not have it, so first download the utility to the old PC.

After launching Windows Easy Transfer on the donor computer and navigating past the Welcome screen, you'll have to choose a medium (Easy Transfer cable, network, or external disk; or a flash drive).

Next, you'll be prompted to tell Easy Transfer whether this is the "new" or "old" computer. (Hint: It's the old one.)

Windows Easy Transfer provides a list of all user profiles and shared items on the PC, and lets you check each one that you want to copy. As a result, you don't need to be logged on as a particular user to move the associated profile. Furthermore, you can customize each profile if you want to exclude any information.

If you chose Easy Transfer cable or network, your computer will wait for you to launch the Easy Transfer Wizard on the "new" Windows 7 computer. You can find it under *Accessories•System Tools* on the All Programs menu or by typing **Windows Easy Transfer** in the search bar. Then make the appropriate selections, and enter the provided Easy Transfer key.

After the two computers discover each other, the transfer will begin.

If you choose the external hard disk or USB flash drive option, you'll be prompted to specify a location to save the data to (it can be a network share). After saving the data, you will walk through the same steps on your new Windows 7 computer, and then you'll navigate to the Easy Transfer file to complete the migration.

Apps Stay Put

One thing that the Windows Easy Transfer tool won't do for you is move applications, so be prepared to dig up your old installation media and to find the relevant license keys. Windows Easy Transfer is best suited to home and small business uses, where the cost savings versus more-robust migration tools justify the extra time spent reinstalling apps.

The process of moving your users from XP to Windows 7 still may not be completely painless, but Windows Easy Transfer can certainly ease the transition.

ILLUSTRATION HARRY CAMPBELL

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TECH AUDIT

Saving Money, Space, and Energy With Blade Virtualization

How a Rhode Island law firm is doing more with less thanks to a virtualization makeover.

IN 1986, RHODE Island attorney Nicholas Barrett founded Nicholas Barrett & Associates, with just himself and an assistant running the business. Over the past 24 years, that small two-person office has grown into a bustling 45-person law firm specializing in litigation, real estate law, collections, and loan servicing.

Like any busy law office, NBA is a document-driven business that depends on reliable e-mail and file servers to meet clients' deadlines. Over the years, however, the company's 12 rack-mounted 2U white-box Windows 2003 servers—for file and print, e-mail, applications, Web, SQL, and document storage—had grown unreliable.

Further, single points of failure (including switches, hard drives, and RAID controllers) were causing crashes; the firm's server room had little space for expansion, and temperature issues were wreaking havoc with the network. After suffering several serious crashes that resulted in days of downtime and lost productivity, Nicholas Barrett called my team at PC Troubleshooters.

A Simpler Solution

Instead of overhauling each of the 12 aging servers individually, we replaced all 12 servers with a single IBM Blade Center S chassis with six HS21 IBM blades. This reduced the rack footprint of the server room from 24U to 7U, leaving plenty of expansion room in the previously cramped data center. The move also reduced the network's power consumption and heat generation by about 50 percent, lowering the firm's heating and cooling expenses and electricity bill by approximately $300 per month.

A SINGLE IBM Blade Center S chassis with six blades replaced a system of 12 servers.

Within the blade server, we used Citrix XenServer to virtualize the 12 existing machines, consolidating server operations and reducing the network's reliance on multiple physical servers. Now NBA has room to easily expand its network infrastructure to accommodate future rapid growth of the law firm without buying more hardware. The arrangement also enables the firm to back up and restore its data quickly and easily, should a network disaster strike.

Images of the firm's virtual servers are now maintained off-site in secure colocation facilities. This will enable NBA to recover its systems in minutes, rather than days following power outages, fire, theft, or even human error. We created a backup and disaster recovery system by deploying a network-attached storage device on site and using StorageCraft ShadowProtect software to image servers hourly. Each image is encrypted and sent to two separate storage facilities, one in Maryland and the other in Colorado.

The Payoff

This virtual server installation constitutes a strong first step toward greening the IT infrastructure at Nicholas Barrett & Associates. The firm now uses significantly less power to operate its server room, saving $3600 annually in electricity costs.

Because of the Blade Center S's high fault tolerance, the servers are less prone to costly downtime, which means a substantial improvement in productivity throughout the firm. The Blade Center contains no single point of failure. It has redundant power supplies, hard drives, RAID controllers, switches, and network cards, so a single failure anywhere will not take down the new system.

—Lisa Shorr, PC Troubleshooters

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

MEET THE PROS

PC Troubleshooters

FOUNDED IN 1992 at the University of Rhode Island, PC Troubleshooters provides small to medium-size businesses with IT support services, managed services, and maintenance of computer networks, servers, workstations, and apps—including providing services in the cloud. From remote server and desktop support to monitoring and managing clients' networks virtually, PC Troubleshooters emphasizes being proactive rather than reactive, building solutions that prevent downtime for the company's clients.

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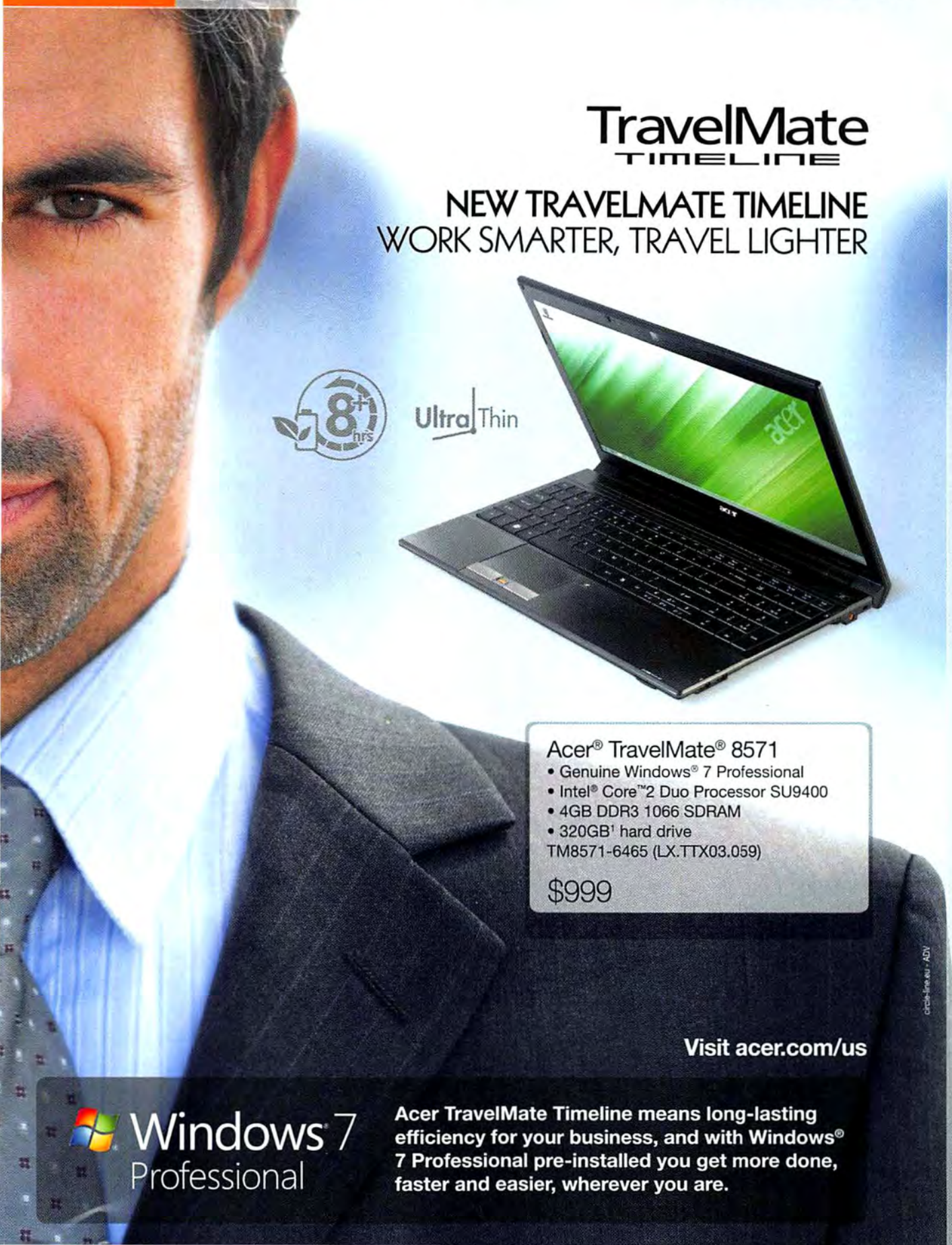

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- Gigabit LAN
- USB keyboard and mouse
- 7.1" W x 7.1" D x 1.2" H without bezel
- One-year limited warranty[2]

Nettop PC

Acer AspireRevo 1600

- Genuine Windows® XP Home Edition
- Intel® Atom™ Processor 230

AR1600-U910H (PT.SCL05.004)

$199

Acer T230H bmidh

- 23" wide-screen TFT LCD
- Touch-screen capable[6]
- 1920 x 1080 maximum resolution
- 80000:1 dynamic contrast ratio
- 160°/160° horizontal/vertical viewing angles
- VGA, DVI (HDCP), HDMI™ signal connectors
- 300 cd/m² brightness
- 2ms gray-to-gray response time
- One 1.5W integrated speaker
- Height, tilt and swivel adjustments

(ET.VT0HP.001)

$379

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/m² brightness
- 2ms gray-to-gray response time
- One 2.0W integrated speaker
- Tilt adjustment

(ET.FS3LP.001)

$299

acer

Acer® Veriton® X480G

- Genuine Windows® 7 Professional
- Downgrade right to Genuine Windows® XP Professional[3]
- 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[2] with limited on-site service during first year[7]

Acer Veriton X480G

- Genuine Windows® 7 Professional
- Intel® Core™2 Quad Processor Q8400
- 4GB DDR3 SDRAM
- 320GB[1] SATA hard drive

VX480G-EQ8400C (PS.V9703.005)

$699

Acer Veriton X480G

- Genuine Windows® 7 Professional
- Intel® Core™2 Duo Processor E7600
- 3GB DDR3 SDRAM
- 320GB[1] SATA hard drive

VX480G-ED7600C (PS.V9703.004)

$599

Acer P5271

- DLP® 3D-ready professional projector[5]
- 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 X480G

- Genuine Windows® 7 Professional
- Intel® Pentium® Processor E5300
- 2GB DDR3 SDRAM
- 160GB[1] SATA hard drive

VX480G-ED5300C (PS.V9703.006)

$479

Windows®. Life without Walls™.
Acer recommends Windows 7.

acer

Acer® TravelMate® 5530

- Genuine Windows® 7 Professional
- CD with Genuine Windows® XP Professional[3]
- 15.4" display, 1280 x 800 resolution
- Integrated Super-Multi drive
- Multi-in-one card reader
- 802.11a/b/g/Draft-N WLAN, Bluetooth®, gigabit LAN, V.92 modem
- Integrated webcam
- Fingerprint reader
- Optional docking station available
- One-year limited warranty[2]

Acer TravelMate 5530
- Genuine Windows® 7 Professional
- AMD Turion™ X2 Dual-Core Mobile Processor RM-75
- 4GB DDR2 667 SDRAM
- 320GB[1] hard drive

TM5530-5155 (LX.TQ903.004)

$749

Acer TravelMate 5530
- Genuine Windows® 7 Professional
- AMD Athlon™ X2 Dual-Core Processor QL-65
- 3GB DDR2 667 SDRAM
- 250GB[1] hard drive

TM5530-5369 (LX.TQ903.006)

$649

Protect Your Investment with an Acer Notebook Service Upgrade

Acer notebooks come with a one-year or three-year standard limited warranty.[2] 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 cannot be repaired. On-site service is available, too, for TravelMate notebooks.[7]

2-Year Extension of Limited Warranty (146.AB820.EX2)
For TravelMate and Aspire Notebooks with 1-Year Limited Warranty
$99

2-Year Extension of Limited Warranty + 3-Year Total Protection Upgrade (146.AD077.002)
for TravelMate and Aspire Notebooks with 1-Year Limited Warranty
(Total Protection Upgrade runs concurrently with limited warranty and limited warranty extension.)
$199

3-Year Total Protection Upgrade (146.AD339.004)
for TravelMate Notebooks with 3-Year Limited Warranty
(Runs concurrently with limited warranty.)
$99

3-Year Limited On-Site Service (146.AD362.003)
for TravelMate Notebooks with 3-Year Limited Warranty
(Runs concurrently with limited warranty.)
$99

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

3-Year Limited On-Site Service + 3-Year Total Protection Upgrade (146.AD362.004)
for TravelMate Notebooks with 3-Year Limited Warranty
(On-site service and Total Protection Upgrade run concurrently with limited warranty.)
$249

[1] 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.
[2] 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.
[3] The alternate operating system can be installed in place of, not in addition to, the pre-loaded operating system.
[4] Six-cell, 4400mAh lithium ion battery, up to 8.0 hours life depending on configuration and usage.
[5] 3D content, 3D glasses and an appropriately equipped PC are also required to display 3D images.
[6] Touch-screen capability requires appropriate software installed on the PC connected to the display. This software does not come with the display.
[7] 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.

acer **acer.com/us**

For the name of a reseller near you or further information, please visit our Web site or call **800-571-2237**

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Security Alert

Mobile Apps Can Compromise Your Privacy

BY LEAH YAMSHON

YOUR GPS-EQUIPPED SMARTPHONE and its map-based applications can be helpful for navigating and exploring your surroundings, but using them without understanding certain aspects of the technology can compromise your privacy. Constant access to GPS technology makes it easy for a great many people—anyone from complete strangers to business acquaintances to ex-lovers—to track your movements.

Social Exposure

Smartphone apps add posting on the go to social networking. Location-based sites such as BrightKite, Foursquare, and Loopt use friend-location technology. Though map-based apps are a fun way to see what's going on locally, they can divulge much more information than where you had lunch.

Take Foursquare: It's a game in which you log your location to gain rewards from bars, restaurants, and shops you visit. While you can use Foursquare via its Website, the game works best when you "check in" from a smartphone. That allows you to log in to more places than you could on your PC, and the more places you go, the more rewards and badges you earn.

Foursquare can also reveal a lot about your personal life through tie-ins with other social networks. When you create a Foursquare account, you are encouraged to link it to your Facebook profile, Gmail account, or Twitter feed to help you connect with friends. Doing so adds the linked profiles to your Foursquare profile, which strangers can access—even if they are not a "friend" on Foursquare. In other words, someone listed as a Facebook, Gmail, or Twitter friend can track the locations that you have logged in to on Foursquare.

Location-based mobile apps and social sites can be fun and very useful, but be careful—they can also open you to privacy invasions.

ILLUSTRATION: MATTHEW HOLLISTER

Geotagging Your Every Move

Geotagging is a stalker's dream function. When you post to location-based sites and services from your smartphone, a geotagged map usually shows where you were when you posted to the site. Even a post that says merely "Looking forward to the weekend" can contain geographical data.

If you use Google Buzz on your smartphone, you've probably seen the map that pops up after you "buzz." It shows where you are and what other users in your immediate vicinity have buzzed about. And because Google encourages users to provide their first and last name to boost their public index, your footprints are even more noticeable.

Sites such as BrightKite, Google Latitude, and Loopt use mobile-app components to connect people to nearby users. When you log in, you can see where your friends are in relation to you and send them a message to organize a meet-up. You can also see if other users with public profiles are in the area, and other users may see where you are, too, depending on your privacy settings and posting frequency.

Criminals can keep tabs on a heavy tweeter's whereabouts. To illustrate the danger, PleaseRobMe.com aggregated Foursquare check-ins that automatically posted to Twitter. When you check in somewhere else, you declare that you're not »

PCWORLD.COM

To learn more about the various privacy risks that GPS-based devices and services pose, browse to find.pcworld.com/69852. And read about data mining on smartphones at find.pcworld.com/69853.

at home, and previous social network posts can disclose your home address. PleaseRobMe.com didn't endorse criminal activity, of course; its creators wanted to make people more aware of the privacy implications of oversharing.

John Morris, director of the Center for Democracy and Technology's Internet Standards, Technology, and Policy project, believes that location information adds to the increased potential of stalking, domestic violence, and endangerment to children. It can also reveal personal information such as medical visits or political rallies attended.

Morris says that existing policies don't adequately protect a user's privacy, and that the CDT would like to see legislative and technical safeguards.

"Tech tools don't allow robust granular control," Morris says. "Build the technology to give users set rules over the use of their location."

While the CDT believes that Congress is moving toward passing such privacy laws, they will take time to be in effect.

Play It Safe

You should always explore individual sites' privacy settings and user policies.

Though some services, like Google Buzz, share your information publicly, others give you more control over who sees what. Loopt's "privacy by design" feature allows users to activate or deactivate location sharing at any time. BrightKite, Google Latitude, and Loopt let you permit only specific friends to have access to your location info. Latitude and Loopt require you to agree to location sharing when you sign up. Twitter's location sharing is switched off by default, and you can elect to show the general neighborhood or city instead of your exact coordinates.

Also, check your phone's settings to see if you can switch off its GPS feature. On the iPhone, open the *Settings* app, tap *General,* and then toggle the Location Services slider on or off. On Android phones, open *Settings,* tap *Location & compass,* and uncheck everything under the My Location heading.

BUGS & FIXES

ERIK LARKIN

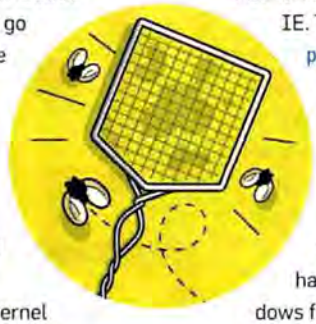
Patch Problem Uncovers Hidden Infection

A piggybacking rootkit plagues XP, 'kill bits' patch IE, and Adobe updates.

THE INFAMOUS BLUE Screen of Death made a surprise appearance in February—as a malware herald.

Some Windows XP users who applied all of Microsoft's updates on its regular Patch Tuesday that month complained when their system continuously rebooted afterward, perhaps with the dreaded BSOD. But the patches weren't to blame.

Instead, the reboots were prompted by a rootkit, a type of stealth malware used to hide other malware. After digging into problem reports, Microsoft found that changes made to essential system files let the lurking Alureon rootkit cause infected systems to go haywire after installing the MS10-015 kernel patch.



Windows XP Suffers

Microsoft says the Alureon problem afflicted only 32-bit systems, and mostly Windows XP. The kernel patch addresses a vulnerability that attackers could use to run privileged commands on a PC, for Windows 2000, Server 2003, Vista, Server 2008, and Windows 7 (see find.pcworld.com/69818). For affected XP users, Microsoft is offering free help at 866/727-2338.

A separate, drama-free Windows patch closes a major security hole that could allow poisoned DirectShow AVI files to launch attacks on vulnerable systems. The patch is essential for all supported Windows versions (2000, XP, Server 2003, Vista, Server 2008, 7), except some Server 2003 and Server 2008 versions. For full details, see find.pcworld.com/69819.

Block Web Attacks

To head off potential attacks from a malicious Website, pick up a second critical patch for Windows 2000, XP, and Server 2003. It addresses a vulnerability in the Windows Shell Handler (browse to find.pcworld.com/69820 for more information).

A Vista networking bug affects the way Windows handles TCP/IP, used for most network communications. The worst vulnerability can be hit only if you have IPv6 enabled. Windows Server 2008 is also affected, but no other versions of Windows are (see find.pcworld.com/69822).

New 'Kill Bits' for IE

Finally, an Internet Explorer "kill bits" update will block known vulnerable ActiveX controls from running in IE. The extra kill bits (find.pcworld.com/69823) are considered critical for Windows XP and 2000 and rated important for Vista and Windows 7.

Fire up Windows Update to make sure you have these essential Windows fixes. And don't let the potential for a malware-based reboot trap dissuade you: The only thing worse than a BSOD would be an unnoticed malware infection stealing your data.

More Adobe Exploits

According to Web-security company ScanSafe, four out of every five Web exploits found at the end of 2009 came from malicious PDF files that targeted Adobe flaws (find.pcworld.com/69824).

Adobe's latest patch updates Reader and Acrobat to 9.3.1 (or 8.2.1 if you use version 8). Click *Help• Check for Updates* to see if you have the latest fix, and visit find.pcworld.com/69825 for details.

BUGGED?

FOUND A HARDWARE or software bug? Send us an e-mail on it to bugs@pcworld.com.

ILLUSTRATION: HARRY CAMPBELL

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.

BitDefender 2010 features "intelligent" security, which tracks everything going on in your PC... all the time, to foil these sneak attacks. Best of all, this "intelligent" protection won't slow you down. Now, that's what we call good!

Is your computer virus-free? Are you sure?

Take our FREE 60-second QuickScan to find out.
You might be surprised at what you find.
Go to www.bitdefender.com/60seconds now!

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Security Alert

PRIVACY WATCH ERIK LARKIN

Browser Fingerprints: A Big Privacy Threat

A new technique helps advertisers identify you online—without cookies, and with no easy way for you to fight back.

FORGET COOKIES—even the ultrasneaky, Flash-based "supercookies" (see find.pcworld.com/69816). A new type of tracking might identify you far more accurately than any cookie, and you may never know that it's there.

The method pulls together innocuous data about your browser, such as plug-ins, system fonts, and your PC's operating system. Alone, they don't identify you. Together, they're a digital fingerprint.

It's like describing a person. Just saying "brown hair" won't identify anyone. But add in "5 feet, 10 inches tall," "chipped right front tooth," "size 12 shoes," and so on, and soon you have enough information to pull someone out of a crowd, even without their name, Social Security number, or any other of the usual identifiers.

Test your browser for unique identifiers without the risk: The Electronic Frontier Foundation, a privacy advocacy group, has set up an interesting online experiment at panopticlick.eff.org. Panopticlick gathers little details about your browser and computer, mostly using JavaScript. It uniquely identified my surfing software out of more than 650,000 visitors.

More Than a Rumor

Peter Eckersley, a staff technologist with the EFF, says he and his colleagues decided to create the site when he heard rumors about this kind of tracking. He wanted to see how accurate it might be.

Well, it's pretty accurate. And use of the technique is more than a rumor.

Browser fingerprinting was developed for banks to employ to prevent fraud. But now one company, Scout Analytics, offers it as a service to Websites, and it collects not just browser data but also data about how you type—things like your typing speed and typing patterns.

This biometric signature can be gathered through JavaScript alone, making this form of tracking hard to block.

Matt Shanahan, senior vice president of strategy at Scout Analytics, says that the company is keen to expand into marketing and advertising by helping sites track visitors in a way that, as he notes, is more accurate than using cookies.

Short of in-depth analysis of a given page, browser fingerprinting doesn't leave tracks, so it's hard to pinpoint sites that use it. But clearly advertisers want accurate tracking.

Is It Legal?

Can sites legally use this fingerprinting? Existing guidelines from the Network Advertising Initiative, an online advertiser group focused on industry self-regulation, wouldn't allow it if a target had opted out of it for use in behavioral advertising, according to Ari Schwartz, deputy director of the Center for Democracy and Technology.

But hard-set rules vary among business sectors and states. Because of this and other variables, the tactic's legality remains fuzzy. Schwartz adds that, hypothetically, a site using it could be in the clear if the practice was disclosed in those long privacy policies that nobody reads.

And countering the technique can be problematic. The EFF lists some options at find.pcworld.com/69817, but none are as simple and painless as deleting a cookie.

In the arms race between online advertisers and Web surfers, this new technology could be a pretty big gun. ●

ILLUSTRATION: HARRY CAMPBELL

How Did You Know?
because... Spector Pro Is Watching

Your child is online now. Sadly, so are the bad guys. Each day, more than 50,000 predators are striking up conversations and trying to set up personal meetings with unsuspecting children through Facebook, MySpace, chat rooms and Instant Message services. How much do you really know about your child's online "friends" and what they're planning?

Monitor and Protect your Children Online with Spector Pro

Make sure your child is safe with Spector Pro, the best selling software for monitoring and recording every detail of their PC and Internet activity. Spector Pro records everything they do on the computer – their chats, instant messages, emails, the web sites they visit, what they do on Facebook and MySpace, the pictures they post and view... and much more. Plus, with Spector Pro's advanced screen snapshots feature, you not only see what they do, you see the exact order in which they do it, step by step.

Is there a "Susan" online with your child? Find out with Spector Pro, the most widely used and trusted monitoring tool available today.

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Reviews & Rankings

USB 3.0 Arrives

We give the inside scoop on USB 3.0: its real benefits, where to get it, and how to avoid rip-offs when shopping for these next-gen products.

SUPERSPEED USB 3.0 drives that truly are speedy include models from (clockwise, from left) Buffalo, Iomega, Seagate, and Western Digital. See the chart on page 47 for details on these units.

PHOTOGRAPHS: ROBERT CARDIN

LAB TESTED

WHEN YOU'RE IN front of your PC, waiting for something to transfer to removable media, seconds can feel like minutes, and minutes like hours. And backups to USB 2.0 appear to crawl along at a snail's pace—so much so that users often become reluctant to perform that essential chore.

Such data-transfer scenarios are where the new SuperSpeed USB 3.0 standard and its theoretical, blazing-fast throughput of 5 gigabits per second—as promised by the USB Implementers Forum (USB-IF)—will change your life for the better. And if our tests of four new USB 3.0 hard drives from Buffalo Technology, Iomega, Seagate, and Western Digital are indicative, the change will certainly be dramatic.

THIS CABLE may look like USB 2.0, but it's designed for USB 3.0.

USB 3.0's impressive speed is its raison d'être, but part of its beauty is its backward compatibility with USB 2.0. You need a new cable and a new host adapter (or one of the new motherboards built to support USB 3.0) to achieve USB 3.0 performance. But you can still use a USB 3.0 device on a USB 2.0 port and achieve typical USB 2.0 performance. You may also use USB 2.0 devices on a USB 3.0 port—though, again, with no gain in speed.

The technology behind USB 3.0 more closely resembles PCI Express than USB 2.0. Backward compatibility comes from clever connec-

INSIDE

50 MOTOROLA DEVOUR

52 CREATIVE VADO HD

57 ALURATEK LIBRE Pro

61 LENOVO IDEAPAD U150

tor design, and a dual bus. The designers added four data lines and a ground wire for the new USB 3.0 signals, and retained the existing pair of data lines for use with USB 2.0 devices. The two technologies share the existing power and ground wires, but they are otherwise completely separated.

As such, the USB 3.0 connector has design changes to accommodate the extra data lines. If you examine the inside of a type A USB 3.0 port with its familiar rectangular shape closely, you'll see that it shares the same size as a USB 2.0 port as well as the original four USB 1.1/2.0 contacts.

However, the port also has an additional five smaller contacts for the new USB 3.0 lines. When you plug in a 2.0 connector, it uses the four original contacts; when you plug in a USB 3.0 connector, it taps into the other five. Because motherboards and PCs will ship with both USB 2.0 and USB 3.0 ports, their insulating plastic, by specification (to distinguish them) must be bright blue on USB 3.0 ports, but black on USB 2.0 ports. Similar tricks have been used for the type B and mini connectors.

Another potential benefit of USB 3.0: The spec calls for a mere one-third of the power consumption USB 2.0 uses. The creators achieved that by reducing some of the background maintenance requirements of USB; unlike before, with USB 3.0 the interface transmits data only to the link and device that need that info, which allows other attached devices to go into a low-power state when not needed. The change applies only to the USB bus, not to the power that USB peripherals require or use for their own operation—although getting things done faster ultimately means using less power, as well.

The USB 3.0 revolution is coming, as many SuperSpeed USB 3.0–certified products are now shipping, including host controllers, adapter cards, motherboards (from Asus, Gigabyte, Intel, and others), and hard drives. But it won't be an immediate switch: According to In-Stat Research, it will be 2013 when more than one-quarter of USB products support SuperSpeed USB 3.0.

That slow transition isn't particularly surprising, considering that no compatible peripherals or consumer »

MORE ONLINE

How do these drives stack up against the competition? See our *Top External Hard Drives* chart at find.pcworld.com/69907.

USB 3.0 HARD DRIVES

MODEL	Rating	Specifications	Performance
Buffalo DriveStation USB 3.0 HD-HUX3 $200 find.pcworld.com/69908	★★★★☆ VERY GOOD	• 1.5TB • 7200 rpm max • USB 3.0	• Read files (3.7GB): 40 seconds • Copy files (3.7GB): 57 seconds • Malware scan: 340 seconds
▸ Although this drive isn't USB 3.0-certified, it performed well in our tests. Buffalo's USB 3.0 card is costly, however.			
Iomega eGo Desktop USB 3.0 $240 find.pcworld.com/69909	★★★★☆ VERY GOOD	• 2TB • 7200 rpm max • USB 3.0	• Read files (3.7GB): 40 seconds • Copy files (3.7GB): 57 seconds • Malware scan: 320 seconds
▸ The eGo is a fast performer over USB 3.0, but you'll have to buy a USB 3.0 card for it separately (Iomega's costs $40).			
Seagate BlackArmor PS 110 $180 find.pcworld.com/69910	★★★★☆ VERY GOOD	• 1TB • 5400 rpm max • USB 3.0 • Adapter card	• Read files (3.7GB): 59 seconds • Copy files (3.7GB): 73 seconds • Malware scan: 389 seconds
▸ Seagate includes an ExpressCard USB 3.0 adapter, and the drive provides 256-bit AES encryption to secure your data.			
Western Digital My Book 3.0 $200 find.pcworld.com/69911	★★★★☆ VERY GOOD	• 1TB • 7200 rpm max • USB 3.0 • Adapter card	• Read files (3.7GB): 39 seconds • Copy files (3.7GB): 55 seconds • Malware scan: 316 seconds
▸ At this price, you get a USB 3.0 adapter card included with the drive (a $20 premium over the nonbundled version).			

CHART NOTE: Ratings are as of 3/22/10.

electronics devices have even been announced so far. Some devices, such as keyboards and mice, won't benefit from SuperSpeed USB's increased performance. Other products, such as digital cameras and camcorders, will; we anticipate seeing USB 3.0 start to appear on this class of devices sometime in 2011.

BUFFALO'S CONTOURED USB 3.0 HD-HUX3 drive.

High Performance

The theoretical improvement in throughput that USB 3.0 offers is certainly dramatic—a 10X jump to 5 gbps over the existing USB 2.0 spec, which maxed out at a theoretical 480 mbps.

But how does USB 3.0 fare in the real world? Pretty darn well, it turns out.

To determine the veracity of the USB-IF's claims, we ran four SuperSpeed USB 3.0 drives through our test suite, which includes batch operations on a large set of small files, transfers of very large files, and a virus scan test that emphasizes a hard drive's seek speed. Three models were 3.5-inch external desktop units: Buffalo's $200 DriveStation USB 3.0 HD-HUX3, Iomega's $240 eGo Desktop USB 3.0, and Western Digital's $200 My Book 3.0. The fourth drive was Seagate's $180, 2.5-inch, portable BlackArmor PS 110.

Three drives came formatted in the NTFS file system, which is more efficient than the FAT32 file system in which the Buffalo drive was formatted. (FAT32's only benefit is that both Macs and PCs can read and write to the drive.) Fortunately, Buffalo provides an option to reformat the drive as NTFS; we used it, and all of our test results reflect this.

IOMEGA'S ZIPPY, 2TB eGo Desktop USB 3.0 external drive.

In PCWorld Labs tests, the drives assessed using USB 3.0 consistently proved noticeably faster than when using FireWire 800 (by as much as a third). And we found the USB 3.0 drives to be comparable in speed with eSATA drives (over a SATA-300 interface); the eSATA drives typically edged out the USB 3.0 units on a couple of our performance metrics.

By comparison, USB 2.0 looked like a dog cart in the Kentucky Derby. Depending on the test, USB 3.0 proved to be up to 3.5 times as fast and always more than double USB 2.0's speed.

Of the three desktop-size models (each with a 3.5-inch hard drive inside), the Western Digital My Book 3.0 was fastest overall, with the Buffalo and Iomega drives finishing right behind it. The drives were separated by

BUYER BEWARE

Don't Get Stung by High Prices for USB 3.0 Products

WHENEVER ANY NEW technology hits the streets, "entrepreneurs" ready to gouge consumers are rarely far behind. USB 3.0, aka SuperSpeed USB, was designed to be no more expensive than USB 1.1 or 2.0—but we've already seen vendors charging exorbitant prices for cables, adapters, and hubs. After all, USB 3.0 is brand-new and far faster than USB 2.0, so you must have to pay hefty early-adopter premiums, right? Wrong.

USB 3.0 HAS new connectors like this mini USB unit.

We understand that product development takes money, and we see nothing wrong with, say, a 25 percent premium on a drive or cable. For instance, while Western Digital's My Book Elite costs $170, the My Book 3.0 costs $200—not a bad deal since the latter is so much faster. But it's ludicrous for Belkin to charge $40 for a 3-foot USB 3.0 cable, when USB3.com and Directron.com each charge just $6. Likewise, for a USB 3.0 host adapter, Belkin wants $90 and Buffalo Technology is charging $81—while at USB3.com you pay only $30, and at Directron.com the adapter price is a still-economical $37.

We could find just one USB 3.0 hub—Buffalo Technology's BSH4A03U3—even mentioned, and it's only now showing up in Japan for about $88. But there's no big benefit to a USB 3.0 hub yet, since mice and keyboards will never be able to use the extra speed, and USB 3.0 flash drives are nowhere close to being mass-market products.

When you're shopping for USB 3.0 technology, don't plop down 40 bucks for a cable just because you think that because USB 3.0 is new, it must be expensive. It's not supposed to be. Also, make sure any product you buy has the SuperSpeed logo on the box. Some USB products will undoubtedly play games with the number 3 on their boxes or logos, hoping to snare the unwitting into purchasing older 2.0 or non-USB 3.0–certified technology.

—Jon L. Jacobi

mere seconds on almost all of our read and write tests; we saw the greatest distinction on our malware scan test, with a span of 24 seconds between the fastest (Western Digital) and the slowest (Buffalo).

Portable drives always lag their desktop counterparts in performance, simply because of their slower rpm (rotations per minute) speeds. As such, it's no surprise that the portable Seagate BlackArmor PS 110 was not as fast as the desktop drives evaluated here. However, among the portable drives we've tested, this model leaped into second place; only the WiebeTech ToughTech XE Mini 500GB, tested over eSATA, bested Seagate's USB 3.0 portable.

In PCWorld Labs power consumption tests, we found that the average power draw at any given time for the USB 3.0 drives was slightly greater than that of USB 2.0 while data was transferring. However, since USB 3.0 does things far more quickly, multiplying the average draw over time shows it doing roughly twice the work per watt.

WESTERN DIGITAL'S desktop-size My Book 3.0 drive.

Beyond performance measurements, USB 3.0 has a huge edge in convenience over eSATA. Unlike eSATA, USB 3.0 was designed with removable storage in mind. It's hot-pluggable—you simply plug in a device, and your operating system quickly adds it to the list of available devices. By contrast, eSATA drives nearly always require a system reboot to appear.

Furthermore, since USB 3.0 is a powered port, you don't necessarily have to run another external power supply to the drive as you normally do with eSATA drives. Most 3.5-inch hard drives, however, require more power than the USB bus can deliver, and those models will still need AC adapters.

Certified USB 3.0

One of the things to look for when buying a USB 3.0 product is the certified SuperSpeed USB 3.0 logo—a label that will ensure that the product you're purchasing truly lives up to the new specification.

At this point, though, expect companies to release USB 3.0 products without official certification or the SuperSpeed logo. An example is the Buffalo Technology HD-HUX3, which was the first drive to market; LaCie's drives, which are in the process of certification, will initially carry LaCie's own logo for USB 3.0 (the company says it plans to put a sticker on the products' box once certification is completed).

SEAGATE WISELY SHIPS its portable PS 110 USB 3.0 drive with an ExpressCard adapter.

One good thing: This time around, you won't have to worry about whether you're really getting the promised speeds. In the transition from USB 1.1 to USB 2.0, the creators of the latter spec wrote it in such a way that products didn't have to communicate at the full 480 mbps in order to be called "USB 2.0." In contrast, for a product to be certified as supporting USB 3.0, it must operate at the full 5 gbps.

Upgrade Possibilities

It's easy to upgrade to USB 3.0 on the desktop: You can buy adapter cards on the aftermarket for approximately $30, pay extra for a card from Buffalo ($70), or choose the Western Digital drive that includes a card (which carries a $20 premium over the version of the drive sold without the card).

With laptops, however, upgrading will be a tougher road. Unless your portable has an ExpressCard slot to accept an adapter such as the one that ships with the Seagate BlackArmor PS 110, you're not going to be able to add USB 3.0 to the notebook that you have now.

New laptops, though, will be a different story—eventually. So far only HP and Fujitsu have announced limited USB 3.0 support on laptops. Taiwanese laptop and desktop manufacturer MSI says it won't have USB 3.0 until the third quarter of this year, at the earliest. Product managers for both laptop and desktop makers cite manufacturing concerns such as having chipsets available in large quantities, and the need to test USB 3.0 chipsets, as reasons for the delay.

The Final Word

Speed, backward compatibility, power consumption... USB 3.0 more than lives up to the hype. It's only marginally slower than eSATA, and is far better suited to removable storage.

eSATA may yet pull farther ahead, especially once external enclosures built with 6-gbps SATA (SATA-600) come to market. However, now that USB 3.0 is here, we wouldn't be surprised to see eSATA lose traction to USB 3.0—at least in the general, non-high-performance consumer market. FireWire 800 is in a similar position: Aside from Mac support, FireWire 800 provides no tangible benefit over USB 3.0.

In the end, the real question is, do you want to have the speed of USB 3.0?

We certainly do.

—Melissa J. Perenson and Jon L. Jacobi

New MotoBlur Smartphones Come Into Focus

LAST FALL, Motorola introduced MotoBlur, a cloud-based interface for Android phones that seamlessly aggregates social networks.

MotoBlur supports contact syncing across social networks, a unified inbox for multiple e-mail accounts, and live widgets for social networking. If you lose your phone, you can track it via assisted GPS. Motorola has now launched two MotoBlur phones: the Cliq XT (with Android 1.5 OS and T-Mobile service) and the Devour (with Android 1.6 and Verizon service).

Cliq XT (T-Mobile)

The lightweight, gray-and-chrome Cliq XT has a slim body, rounded corners, and a textured rubber back. At 2.3 by 4.6 by 0.5 inches and 4.6 ounces, this model is very portable, but it lacks a QWERTY keyboard.

Like the Devour, the Cliq XT has a 3.1-inch display with 320-by-480-pixel resolution. It showed bright, accurate colors. The responsiveness was hit-or-miss: Tapping on an icon usually prompted instant action, but scrolling was a bit sticky.

A large, centrally located touchpad lets you navigate through multiple homepages or within a homepage. The handset's four standard Android hardware buttons (Menu, Search, Home, and Back) lie below the display.

Keys on the Cliq XT's keyboard are wide and well spaced for easier pressing. I did notice a slight delay after I typed before text appeared.

Like all Android phones, the Cliq XT gives you access to the many useful Google apps. You can set up and sync your Yahoo account with the device and get full Outlook sync support, too.

Unique to the Cliq XT, the Connected Music Player combines popular apps like Last.fm, Shoutcast, Soundhound, and TuneWiki. Audio sounded good but a bit hollow through my own earbuds. Music piped through the external speakers was weaker but still listenable.

The Cliq XT's 5-megapixel camera includes a flash and took attractive pictures. It also captures video at 24 frames per second at a good enough level of quality for posting on YouTube.

Call quality over T-Mobile's 3G network was a bit spotty at my end, but callers at the other end of the line had no complaints. The phone handled Web browsing easily.

THE CLIQ XT is optimized to handle multiple social networks.

THE DEVOUR delivers MotoBlur plus access to Google apps.

According to Motorola, the Cliq XT will cost less than $150; if so, you'll get a lot of great features for the money.

Devour (Verizon)

The 5.9-ounce Devour ($150 with a two-year Verizon contract) is a bit clunky, but it feels solid and has some nice design elements such as black rubber panels on the top and bottom to keep the phone from feeling slippery.

A sizable gap separates the bottom of the display from the touch controls. And the touch controls are laid out in two rows, leaving a lot of unused space on the smallish screen. The touch keys are quite responsive, however, and the optical mouse gives you a useful alternative to the touchscreen.

The Devour's recessed keyboard is easier to steady, making typing more comfortable. The keys are also large, and nicely raised and spaced out. The sliding mechanism is crisp and springy, yet solid.

The Devour has the standard Android music player and comes with a USB cable for transferring music. The supplied earbuds delivered clean-sounding audio; the external speakers were a bit weak, though. Video playback over the included Verizon V Cast video app was smooth, but the 3-megapixel camera was mediocre.

Call quality over Verizon's 3G network was excellent. My contacts sounded loud and clear with no distortion or background static or hiss. Callers on the other end of the line heard little background noise and said that my voice sounded natural. I didn't run into any dropped calls or dead zones.

Surfing the Web on the Android browser was great, as Verizon's 3G EvDO connection loaded pages quickly.

The Devour is a very versatile phone, but it could use an upgrade to Android 2.1 (and perhaps a price drop).

—Ginny Mies

★★★½☆ **VERY GOOD**

Cliq XT | Motorola

Superb multimedia and social networking, but middling call quality. Pricing not yet set.

find.pcworld.com/69885

★★★½☆ **VERY GOOD**

Devour | Motorola

Mediocre camera mars solid phone with social networking orientation. List: $150 with two-year contract

find.pcworld.com/69886

PHOTOGRAPHS: ROBERT CARDIN

Top 10 All-Purpose Laptops

LAB TESTED

HP's rugged, powerful EliteBook 8440w zooms to the head of the all-purpose laptop class.

	MODEL	Rating	Performance	Features and specifications
1	HP EliteBook 8440w $1649 NEW find.pcworld.com/69809	★★★★½ SUPERIOR	• WorldBench 6 score: 119 Superior • Overall design: Good • Tested battery life: 6:07	• 2.67GHz Core i7 620M • 14.0-inch widescreen • 5.8 pounds • 320GB hard drive
	▸ This solid corporate laptop comes with a Blue-ray Disc drive and a great keyboard, but it isn't a multimedia powerhouse.			
2	BEST BUY HP Envy 13 $1499 find.pcworld.com/69810	★★★★☆ VERY GOOD	• WorldBench 6 score: 94 Very Good • Overall design: Very Good • Tested battery life: 4:42	• 2.13GHz Core 2 Duo SL9600 • 13.1-inch widescreen • 3.8 pounds • 250GB hard drive
	▸ The slim, stylish Envy 13 essentially serves as a higher-priced, Windows-based answer to the 13-inch Apple MacBook Pro.			
3	Lenovo ThinkPad SL510 $929 find.pcworld.com/69811	★★★½☆ VERY GOOD	• WorldBench 6 score: 105 Superior • Overall design: Very Good • Tested battery life: 3:55	• 2.53GHz Core 2 Duo P8700 • 15.5-inch widescreen • 5.7 pounds • 320GB hard drive
	▸ The SL510 is an excellent choice for business users or students who don't plan to focus on graphics-intensive tasks.			
4	Apple 15-Inch MacBook Pro $2149 find.pcworld.com/69812	★★★½☆ VERY GOOD	• WorldBench 6 score: 105 Superior • Overall design: Good • Tested battery life: 3:40	• 2.8GHz Core 2 Duo T9600 • 15.4-inch widescreen • 5.8 pounds • 500GB hard drive
	▸ The latest MacBook Pro restores the FireWire port, and adds a lithium-polymer battery and a bootable SD Card slot.			
5	Lenovo ThinkPad T400s $929 find.pcworld.com/69813	★★★½☆ VERY GOOD	• WorldBench 6 score: 112 Superior • Overall design: Very Good • Tested battery life: 4:56	• 2.53GHz Core 2 Duo SP9300 • 14.1-inch widescreen • 4.6 pounds • 128GB solid-state drive
	▸ Lenovo heaps features—including a fantastic keyboard and touchpad—on the T400s, producing a lean, mean business machine.			
6	Dell Studio XPS 16 $974 find.pcworld.com/63629	★★★½☆ VERY GOOD	• WorldBench 6 score: 92 Very Good • Overall design: Very Good • Tested battery life: 3:41	• 2.4GHz Core 2 Duo P8600 • 16.0-inch widescreen • 7.0 pounds • 320GB hard drive
	▸ The Studio XPS 16 shines with a sharp design, a brilliant screen, and smart features—and does so without a hefty price tag.			
7	Toshiba Satellite U505-S2980 $970 NEW find.pcworld.com/69814	★★★½☆ VERY GOOD	• WorldBench 6 score: 87 Very Good • Overall design: Good • Tested battery life: 3:36	• 2.2GHz Core 2 Duo T6600 • 13.3-inch widescreen • 5.4 pounds • 500GB hard drive
	▸ Toshiba's U505-S2980 is a solid, attractive performer, but its screen—though multitouch—looks somewhat dim and grainy.			
8	Toshiba Satellite U505-S2940 $950 find.pcworld.com/63631	★★★☆☆ GOOD	• WorldBench 6 score: 80 Good • Overall design: Good • Tested battery life: 6:49	• 2.0GHz Core 2 Duo T7350 • 13.3-inch widescreen • 5.6 pounds • 400GB hard drive
	▸ The U505-S2940 is a solid choice for general computing and entertainment; it is bulkier than many competing laptops, however.			
9	Asus UL80Vt-A1 $849 NEW find.pcworld.com/69815	★★★☆☆ GOOD	• WorldBench 6 score: 76 Good • Overall design: Good • Tested battery life: 5:03	• 1.3GHz Core 2 Duo SU7300 • 14.0-inch widescreen • 4.8 pounds • 320GB hard drive
	▸ The UL80Vt-A1 offers good battery life, a discrete GPU, and nice performance, but its touchpad and mouse button are awful.			
10	Dell Inspiron 14z $799 find.pcworld.com/69821	★★★☆☆ GOOD	• WorldBench 6 score: 65 Fair • Overall design: Good • Tested battery life: 7:11	• 1.3GHz Core 2 Duo SU7300 • 14.0-inch widescreen • 4.6 pounds • 250GB hard drive
	▸ The stylish, student-oriented Inspiron 14z has great battery life; its excessively polished screen hampers viewing, though.			

CHART NOTES: Ratings are as of 3/1/2010. Tested battery life figures are expressed in hours:minutes.

PHOTOGRAPHS: ROBERT CARDIN

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

Pocket Camcorder Offers Unique Features

A FOUR-WAY directional pad controls the Vado HD's 2X digital zoom.

THE THIRD-GENERATION Creative Vado HD pocket camcorder ($180) offers top-notch 720p footage in low light, with an external mic port and versatile in-camera settings. It also has an extra-wide-angle lens, exposure controls, and a motion-detection mode that starts recording when movement occurs in front of the lens.

The exposure adjustments help you deal with low-light settings and other tricky shooting environments.

In normal indoor lighting, sample footage had vibrant but slightly oversaturated colors; images were sharp but not outstandingly so.

The Vado HD records MPEG-4 files to 4GB of internal storage. Its rechargeable lithium ion battery juices up via the same flip-out USB connector that you use to offload clips from the camcorder to your PC or Mac.

A responsive four-way, touch-sensitive directional pad surrounds a record button on the back of the Vado HD; it controls playback, exposure adjustments, and the unit's 2X digital zoom.

The 2-inch-diagonal LCD does its job, offering decent visibility in direct sunlight. The all-plastic frame is sturdier than that of the first Vado HD, but still no match for the Flip Mino HD's case.

For simple operation and good low-light performance, the Flip Mino HD wins out. For 1080p footage, frame-rate controls, and removable storage, get the Kodak Zi8. But for a wide-angle lens, exposure controls, and good low-light video, opt for this third-gen Creative Vado HD.

—Tim Moynihan

★★★★½ **SUPERIOR**

Vado HD | **Creative**

Latest Vado HD offers great range and controls at an affordable price.

Street: $180

find.pcworld.com/69919

Backup Now EZ 2010 Edition: Easy but Unreliable

UNLIKE MANY competing programs, NTI's Backup Now EZ 2010 Edition ($50) has a truly intuitive and visually appealing interface. If only it had worked properly.

Backup Now EZ 2010's interface consists mostly of large, easy-to-interpret icons. The exceptions: The 'cancel' and 'create boot disc' functions inhabit a menu that appears after a backup has commenced. The interface is friendly, and the software automatically searches for and selects common user data. The file-based portion of Backup Now EZ 2010 worked perfectly for me, but I missed having the option to perform native file copying instead of the single file that Backup Now creates.

NTI PROVIDES a simple, colorful, adaptable interface for backups.

You don't need to choose files for the full system backup. But on my test bed, I often add and remove auxiliary drives, and sometimes such a drive appears as the first physical drive in the PC, with the OS listed as running off the second or third drive. Unfortunately, NTI hard-wired Backup Now EZ 2010 to back up the first physical drive it encounters, causing it to back up the wrong drive in two of my tests.

Worse, the program offers no way to select a partition or drive manually to circumvent the problem, and the BNEZ 2010 boot disc that I created failed to find the backup (of the wrong drive) on my external USB drive.

As much as I like the program's outstanding interface, I can't recommend Backup Now EZ 2010 Edition, due to the misdirected backups. For neophytes, Acronis True Image Home 2010 is a better choice.

—Jon L. Jacobi

★★★ **GOOD**

Backup Now EZ 2010 Edition | **NTI**

Programming flaws and intrusive registration spoil superb interface.

Street: $50

find.pcworld.com/69920

PHOTOGRAPH: ROBERT CARDIN

GOING green

APC Legendary Reliability

APC Back-UPS Pro Makes Green Computing As Easy As Plugging It In

According to the U.S. Department of Energy, in the typical American home, appliances and home electronics are responsible for using about 20 percent of all the energy piped into that home each month—totaling $240 a year on average. A large part of that bill is for the power to run computers, laptops, printers, and other computing devices, many of which are left on 24 hours a day.

Now there's an easy way to trim those expenses and do something good for the environment, too: APC's Back-UPS Pro backup power unit offers several power-saving modes designed to save money by reducing unnecessary power draws, while protecting your sensitive electronics and data. The average Back-UPS Pro user can save as much as $50 a year simply by connecting devices that were formerly plugged directly into a wall outlet to a Back-UPS Pro unit instead.

One of the Back-UPS Pro's primary features is the power-saving outlets that automatically shut off power to unused peripherals, turning them off completely when they are not in use. A growing problem for electronics devices has been so-called "vampire" power usage, whereby devices that should really be turned off actually draw a small —but not insignificant—amount of electricity 24 hours a day to remain in a sort of standby mode, and that adds up to substantial costs over time.

But the Back-UPS Pro offers an additional power-saving feature called automatic voltage regulation, or AVR. AVR is designed to correct situations where improper voltage is being delivered from the utility. If voltage to a device is too high or too low, the Back-UPS Pro automatically corrects this, bypassing the unit's transformer and preventing the internal battery from activating unless there is a complete loss of power. This feature saves even more money for the consumer because it prevents the internal battery from having to be recharged frequently, which requires more energy.

It's easy to see at a glance how much you're saving. A large LCD on the front of the Back-UPS Pro shows information about electrical load, estimated runtime in the event of an outage, input voltage, and other system information.

For a more detailed look at each device's current status and history of power problems, and to manage configuration options, the PowerChute Personal Edition software bundled with each Back-UPS Pro lets users manage their backup power system. Each unit includes a $150,000 equipment protection policy. Extended warranties are available for as long as three years.

During the week of Earth Day (April 18 to 24, 2010), for every green surge protector product sold through participating retailers, APC will donate $5 to an environmentally friendly organization. For more information, see your local retailer or visit

www.apc.com.

Get 10% OFF entire cart purchase, for more information http://www.apc.com/promo/get.cfm?keycode=s323w or call 1-888-289-APCC X8304

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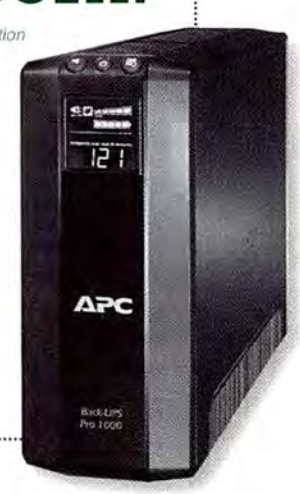

Top 10 Performance Desktop PCs

LAB TESTED

Powerful new systems armed with six-core processors kick their quad-core rivals to the curb.

	MODEL	Rating	Performance	Features and specifications
1	CyberPower Black Pearl $4199 NEW find.pcworld.com/69878	★★★★½ SUPERIOR	• WorldBench 6 score: 171 • WorldBench 6 rating: Superior • Overall design: Very Good • Graphics: Perfect	• 3.33GHz Core i7-980X Extreme Edition • 6GB of RAM; 2TB of storage • ATI Radeon HD5870 (three cards) • BD-R drive
	▸ Equipped with Intel's six-core Core i7-980X processor, the performance-oriented Black Pearl could be a power user's best friend.			
2	Maingear Shift Gaming Desktop PC $7000 find.pcworld.com/69459	★★★★½ SUPERIOR	• WorldBench 6 score: 181 • WorldBench 6 rating: Superior • Overall design: Very Good • Graphics: Perfect	• 3.96GHz Core i7-975 Extreme Edition • 6GB of RAM; 2TB of storage • XFX Radeon HD5870 (three cards) • BD-R drive
	▸ Maingear's Shift is very fast and very flashy, but its edge in speed and graphics quality isn't commensurate with its price premium.			
3	Polywell Poly X5800A3 $4500 NEW find.pcworld.com/69879	★★★★☆ VERY GOOD	• WorldBench 6 score: 175 • WorldBench 6 rating: Superior • Overall design: Good • Graphics: Superior	• 3.33GHz Core i7-980X Extreme Edition • 12GB of RAM; 2.5TB of storage • ATI Radeon HD5970 • BD-R drive
	▸ It may not be much to look at, but the Poly X5800A3's premier components and fast speeds make it a compelling power PC.			
4	Electronics and Computing Black Mamba Power Desktop PC $2179 find.pcworld.com/69830	★★★½☆ GOOD	• WorldBench 6 score: 153 • WorldBench 6 rating: Very Good • Overall design: Very Good • Graphics: Very Good	• 3.6GHz Core i7-920 • 6GB of RAM; 2.3TB of storage • nVidia GeForce GTX 295 • DVD±RW drive
	▸ This overclocked offering from boutique PC maker Electronics and Computing delivers outstanding performance.			
5	Polywell MiniBox P5500C Compact Power PC $1800 find.pcworld.com/69877	★★★☆☆ GOOD	• WorldBench 6 score: 145 • WorldBench 6 rating: Very Good • Overall design: Good • Graphics: Very Good	• 2.93GHz Core i7-8740 • 4GB of RAM; 3.5TB of storage • ATI Radeon HD4890 • BD-R drive
	▸ The MiniBox P5500C Compact Power PC may be small, but its WorldBench 6 numbers prove that it's no joke—this is a killer rig.			
6	Gateway FX6831-03 $1699 find.pcworld.com/69831	★★★☆☆ GOOD	• WorldBench 6 score: 142 • WorldBench 6 rating: Good • Overall design: Fair • Graphics: Very Good	• 2.8GHz Core i7-860 • 16GB of RAM; 1.5TB of storage • ATI Radeon HD5850 • BD-R drive
	▸ The FX6831-03 delivers impressive computing muscle where it counts, with strong speeds and high-definition support.			
7	BEST BUY HP Pavilion HPE-170t $1434 find.pcworld.com/69460	★★½☆☆ FAIR	• WorldBench 6 score: 146 • WorldBench 6 rating: Very Good • Overall design: Fair • Graphics: Good	• 2.8GHz Core i7-860 • 8GB of RAM; 1TB of storage • nVidia GeForce GTX 260 • BD-R drive
	▸ HP had to skimp on a few elements to achieve the screamingly fast HPE-170t's killer price-to-performance ratio.			
8	Gateway FX6800-05 $2999 find.pcworld.com/69876	★★½☆☆ FAIR	• WorldBench 6 score: 141 • WorldBench 6 rating: Good • Overall design: Good • Graphics: Very Good	• 2.93GHz Core i7-940 • 6GB of RAM; 1TB of storage • ATI Radeon HD 4870 X2 • DVD±RW drive
	▸ Anyone not scared away by its limited upgrade options will find that Gateway's FX6800-05 is a potent machine.			
9	Micro Express MicroFlex 95B $1500 find.pcworld.com/69833	★★½☆☆ FAIR	• WorldBench 6 score: 148 • WorldBench 6 rating: Very Good • Overall design: Very Good • Graphics: Fair	• 3.2GHz Core i7-950 • 3GB of RAM; 300GB of storage • nVidia GeForce GTX 295 • DVD±RW drive
	▸ Though it's somewhat light on storage (at a relatively skimpy 300GB), the MicroFlex 95B turns in top-notch general performance.			
10	AVADirect Core i7 SLI/CrossFireX DDR3 Gaming System $1840 find.pcworld.com/69834	★★☆☆☆ FAIR	• WorldBench 6 score: 153 • WorldBench 6 rating: Very Good • Overall design: Good • Graphics: Very Good	• 2.6GHz Core i7-920 • 3GB of RAM; 1TB of storage • eVGA GeForce GTX 285 • DVD±RW drive
	▸ This strong system suffers a bit from undistinguished graphics, but it manages to outrun a number of pricier rivals.			

CHART NOTES: Ratings are as of 3/15/2010. Performance word scores are relative to the performance desktop PC category.

MORE ONLINE Visit find.pcworld.com/69881 to see in-depth reviews, full test results, and detailed specs for all of the PCs on this chart.

PHOTOGRAPHS: ROBERT CARDIN

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™

amazon.com MonShopper.com newegg

For more information or to purchase one of our award-winning products, call 1-877-450-0105 or visit www.moneual.com

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Plextor 12X Blu-ray Writer Has Fast Performance

BLU-RAY BURNERS are advancing at a fast pace: Only a couple of months ago I was marveling at the speed of 8X-rated Blu-ray burners—now we have the 12X Plextor PX-B940SA ($250). The write speeds make this Blu-ray drive an especially appealing option.

Even though 12X-rated discs aren't available yet, judging from my tests this Plextor drive will hit 10X write speeds with 4X-rated media, and 12X speeds with 6X media (both Panasonic and Sony currently sell 6X-rated media). The drive maxes out at 12X write speeds, but like most 4X or greater drives, it starts slower and gradually ramps up.

IN TESTS, THE PX-B940SA wrote to Blu-ray discs effortlessly.

In my tests, writing 23GB to a single-layer 4X-rated BD-R disc at 10X with the PX-B940SA took about 11 minutes, 31 seconds (or about 7.4X), and burning 40GB to a dual-layer 2X disc took 22 minutes, 19 seconds (or about 6.6X). With 6X media, the write speed improved to 7.8X. Since Blu-ray rewrite technology is still stuck at 2X (9MB per second), backing up to BD-RE remains a somewhat time-consuming process.

Plextor bundles CyberLink's BD Suite to take care of burning, movie authoring, video playback, and other tasks. The software is more than capable, but it also bugs you incessantly with registration notices and ads. The program offers no option to bypass the registration, but it does give you a way to disable push advertising; even so, some annoying ads remain in PowerDVD and other modules.

The Plextor PX-B940SA is a great Blu-ray drive that suffered nary a hiccup in my testing. This model is faster than anything else you'll currently find on the market.

—Jon L. Jacobi

★★★★½ **SUPERIOR**

PX-B940SA | Plextor

Terrific Blu-ray drive operates smoothly and writes swiftly.

Street: $250

find.pcworld.com/69892

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Libre Pro E-Reader: Easy on the Eyes

PRICED AT $170, the no-frills, lightweight Aluratek Libre Pro e-reader is a refreshing surprise. It handles better than most rivals, and it sports a bargain price.

In the Libre Pro, Aluratek uses a monochrome, non-backlit, 5-inch Toshiba LCD screen intended to achieve a result that is comfortable to read and kind to the battery. Though the display is small compared with that of some other e-readers, I found it easy on my eyes for long reading engagements. But in my tests the battery failed to last through a three-day weekend without needing a charge (Aluratek says the device will last for up to 24 hours of continuous reading, and 30 days of standby).

I found the Libre Pro intuitive and easy to use. At just 7 ounces, it's a joy to hold in one or both hands. All of the navigation buttons are soft to the touch and finger-friendly.

The unit has an SDHC slot and supports cards up to 32GB. You can load various file formats, such as Adobe ePub, text, and PDF. You can download books manually or buy them from ePub-compatible stores. The device also comes with 100 classic titles preinstalled—a nice way to get the ball rolling.

BUTTONS FOR TEXT and numeric input sit on the Libre Pro's right edge.

At the bottom are the power button (a bit tough to press), the headphone jack, and a hand-strap loop. At the top, under a sturdy rubberized flap, are the SD slot and the mini-USB port.

Although the Libre Pro lacks the Wi-Fi or 3G connectivity of some fancier e-readers, it keeps things basic and to the point. This little device is a pleasure to use, and it can be a reasonable alternative to more costly, connected models.

—Melissa J. Perenson

★★★½ VERY GOOD

Libre Pro | Aluratek

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Pandigital Portable Printer Uses Heat, Not Ink

PANDIGITAL'S Portable Printer ($130) is a snapshot model that uses no ink—it uses heat to make an image on specially coated paper.

You can view one photo at a time on the 1.44-inch LCD and print one, two, or four of the same image per sheet. From a PC, you can scale an image or adjust its quality in rough increments. You can also type a title to be printed at the top of the image.

The special paper is no bargain: Online, I found an average cost of 37 cents per print, versus combined ink and paper costs of 25 cents for the Epson PictureMate Charm (find.pcworld.com/63989) and 34 cents for the HP Photosmart A646 (find.pcworld.com/63618).

In my hands-on tests, the device's photos were disappointing. They took a tedious 78 seconds, on average, to output. I noticed certain, consistent flaws: a washed-out look, a lack of subtlety in dark areas, and an odd blue-green tinge at the edges. (Pandigital says the last issue is a firmware problem; a fix is in the works.)

The Pandigital Portable Printer showcases an intriguing technology. Unfortunately, this model does not compete well with similarly priced dye-sublimation or inkjet snapshot printers.

—Melissa Riofrio

THE PORTABLE PRINTER'S cartridge holds ten sheets of coated paper.

★★☆☆☆ FAIR

Portable Printer | Pandigital

Photos exit slowly, and the quality disappoints; paper is expensive.

Street: $130

find.pcworld.com/69844

Top 5 Color Inkjet Printers

LAB TESTED

Business-focused HP models lead the field with good speed and features—plus cheap inks.

	MODEL	Rating	Performance	Features and specifications
1	HP Officejet Pro 8000 Wireless Printer $180 find.pcworld.com/64133	★★★★☆ VERY GOOD	• Text quality: Superior • Graphics/photo quality: Good/Very Good • Tested speeds (ppm): 10.3 text/4.2 graphics	• 35 ppm text • 34 ppm graphics • 4800-by-1200-dpi maximum resolution
	▸ Packed with features and built for speed, this small-business inkjet from HP is hard to beat. Its ink costs are amazingly low.			
2	BEST BUY HP Officejet 6000 Wireless Printer $120 find.pcworld.com/63656	★★★½☆ VERY GOOD	• Text quality: Very Good • Graphics/photo quality: Very Good/Good • Tested speeds (ppm): 7.4 text/3.4 graphics	• 32 ppm text • 31 ppm graphics • 4800-by-1200-dpi maximum resolution
	▸ Good speed and print quality, plus automatic duplexing, distinguish this HP small-office model. Its high-yield inks are a great deal.			
3	HP Officejet 7000 Wide Format Printer $230 find.pcworld.com/63411	★★★½☆ VERY GOOD	• Text quality: Superior • Graphics/photo quality: Very Good/Good • Tested speeds (ppm): 7.6 text/3.4 graphics	• 33 ppm text • 32 ppm graphics • 4800-by-1200-dpi maximum resolution
	▸ Printing posters and other large pieces is easy with HP's fast, wide-format printer. The high-yield inks are cheap.			
4	Epson WorkForce 40 $130 find.pcworld.com/62351	★★★☆☆ GOOD	• Text quality: Fair • Graphics/photo quality: Fair/Good • Tested speeds (ppm): 12.8 text/5.1 graphics	• 38 ppm text • 38 ppm graphics • 5760-by-1440-dpi maximum resolution
	▸ The pricey inks for the WorkForce 40 produce fuzzy text and grainy prints—hardly a good deal for a small office.			
5	Canon Pixma iP4700 $100 find.pcworld.com/63619	★★★☆☆ GOOD	• Text quality: Good • Graphics/photo quality: Good/Superior • Tested speeds (ppm): 6.7 text/3.3 graphics	• 9.2 ppm text • 8.1 ppm graphics • 9600-by-2400-dpi maximum resolution
	▸ A nice bargain, this low-cost Canon printer offers good speed and print quality, plus unusually high paper capacity (300 sheets).			

CHART NOTES: Ratings are as of 3/15/10. Speeds are in pages per minute (ppm); resolutions are in dots per inch (dpi).

MORE ONLINE Visit find.pcworld.com/69891 to see in-depth reviews, full test results, and detailed specs for all printers on this chart.

PHOTOGRAPHS: ROBERT CARDIN

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Corel Photo, Video Editors: Features and Flexibility

SOLD SEPARATELY as well as in a $150 bundle, the X3 versions of Corel's photo and video programs offer easy-to-use editing functions. We looked at both.

PaintShop Photo Pro

In version X3 of its image editor ($100), Corel has reworked the interface; it has also added "Photo" to the PaintShop Pro name to emphasize a focus on the photography enthusiast market.

You install and run the three X3 components—the main program, PaintShop Photo Project Creator, and Painter Photo Essentials—separately. Integration among the three is nonexistent.

In the main program's redesigned Organizer, you can name, rate, tag, caption, and sort photos, and view metadata. You can also do some quick edits via the Express Lab. In addition, the Organizer offers tools for RAW files, including the new Camera RAW Lab and the ability to convert batches of RAW files to another format.

The main interface remains familiar, with its usual rich and deep features. Most notable among the new tools is the Smart Carver, which contracts sections of a picture to delete extraneous objects or people.

The new, separate Project Creator is the center for making photo books, cards, collages, calendars, and slideshows (the last of which can now include HD videos). It also has output options for Facebook, Flickr, and YouTube, plus links for backing up data and ordering prints and projects online. After you start and name a project, you choose the pictures for it simply by dragging and dropping them into the program's holding area.

Unfortunately, Project Creator doesn't show subfolders in alphabetical order, so we wasted time looking for specific folders. Also, if you previously installed Corel Digital Studio on your system, even if you have since uninstalled it, Project Creator may have difficulty displaying image thumbnails. (Corel is working on a patch.) We found Project Creator more sluggish than the rest of the suite, too.

—Sally Wiener Grotta and Daniel Grotta

STARTING A PROJECT is simple in PaintShop Photo Pro's new Project Creator, but the program doesn't list subfolders alphabetically.

IN ADDITION TO an Easy Edit mode appropriate for beginners, VideoStudio Pro X3 has a wide array of advanced editing tools and effects.

VideoStudio Pro

Many video-editing apps try to accommodate both novices and aspiring auteurs. The $100 VideoStudio Pro X3 does a good job of making appropriate compromises.

I found that in switching among editing tasks or previewing a clip, VideoStudio was snappier than most competitors. That's thanks mainly to its ability to take advantage of the multithreading capabilities of Intel's latest processors.

Neophytes will want to go straight to Corel's Easy Edit feature (aka VideoStudio Express). You choose a title, a format (standard or HD), and a template. Then you drag and drop your clips into the creation space, and the program does the rest.

The advanced-edit section has added a few new tricks. The one Corel is touting the most is RotoSketch, which traces the outlines of a video to create animation. More useful is the beefed-up titler, which can now handle various effects so that titles flow or ripple across the screen.

You can burn HD video in Blu-ray format onto a DVD disc; the package has all of the features of Corel DVD Factory, too, so you can record on DVD in standard definition or in AVCHD, or burn a true Blu-ray disc.

For sharing, you can post to Facebook, Flickr, YouTube, and Vimeo in HD. You can also make compressed clips for the iPod Touch.

—John R. Quain

★★★½ VERY GOOD

PaintShop Photo Pro X3 | Corel

Image editor has great tools and versatility, but poor integration.

List: $100

find.pcworld.com/69837

★★★★ VERY GOOD

VideoStudio Pro X3 | Corel

Solid app offers down-and-dirty editing with minimal frustration.

List: $100

find.pcworld.com/69904

Lenovo IdeaPad U150: Remarkably Slim, Stylish

WITH THE SLEEK U150, Lenovo departs from its usual no-nonsense approach to laptops.

WEIGHING LESS than 3 pounds, the Lenovo IdeaPad U150 is an eye-catching Windows 7 ultraportable. At $749, it's a bit pricey, but it pretty much justifies its cost with sheer style.

The U150 ships with either a black or red lid. Our black review system had an Intel Core 2 Duo SU7300 CPU clocked to 1.30GHz, Intel's GMA X4500 graphics, 4GB of DD3 SDRAM, and a 320GB, 5400-rpm hard drive. That's a bump over the red model's Pentium Dual-Core SU4100, 3GB of DD3 SDRAM, and 250GB, 5400-rpm hard drive. Both sport an 11.6-inch, 1366-by-768-pixel screen. Our test unit had just enough muscle for core tasks, reflected in its middle-of-the-road WorldBench 6 score of 66.

Though the screen is very glossy (and thus hard to see under bright light), the colors are sharp, and the LED-backlit screen performs admirably. Unfortunately, the U150 doesn't have the power to run modern games beyond slideshow speeds. Its speakers are tinny, too.

The keyboard is bigger than those on most ultraportables; working on text-heavy items is much more comfortable than I expected. It feels a bit mushy, however. The touchpad can jitter the pointer just a little.

With an average of 6.25 hours of battery life, the U150 lasted about 45 minutes longer than our average mark for tested ultraportables, which makes its satisfactory WorldBench 6 performance more impressive. Some credit must go to the oversize battery, which juts out from the back—not a great-looking design element, but a nice rest for the keyboard when you set to work.

—Patrick Joynt

★★★½ **VERY GOOD**

IdeaPad U150 | **Lenovo**

Nice-looking ultraportable PC provides decent performance.

Street: $749

find.pcworld.com/69829

HP Officejet 4500 Wireless MFP Is Cheap but Poky

THE HP OFFICEJET 4500 Wireless All-In-One color inkjet multifunction printer gives small-office users a bit of everything for a low price ($130), including Wi-Fi. It's slow, however, and the ink costs are middling to expensive.

THE WI-FI CONNECTIVITY in this HP MFP is a nice extra for the price.

It comes with a 20-sheet automatic document feeder, plus a 100-sheet input tray that also catches up to 20 sheets of printed output—an awkward, but common, design among low-cost MFPs. Duplexing is manual, with on-screen prompts. For connectivity, the MFP has USB and Wi-Fi; the latter is a nice bonus. HP generously bundles USB and phone cables, plus a line adapter.

All of those features are easy to use, thanks in large part to Flash animations that walk you through installation as well as common tasks and problems. You navigate via the two-line, 16-character monochrome LCD and the usual arrow, OK, and back/cancel buttons; the device also has a numeric keypad.

This MFP is one of the slower models we've tested: It generated just 5 pages per minute when printing text, and 2.4 ppm when printing graphics. Copying and scanning were also quite poky.

In our tests on plain paper, text looked a little fuzzy but nicely black, while graphics seemed fairly smooth. On HP's photo paper, images were slightly cloudy and yellow on occasion (especially in flesh tones), but they still fell within a natural range.

The inks are a mixed value. Standard-size black costs $15 for a 200-page yield, or a pricey 7.5 cents per page. The tricolor cartridge is $29 for a 360-page yield, or 8.1 cents per page. The high-yield black option costs $32 and lasts 700 pages, or a decent 4.6 cents per page.

—Melissa Riofrio

★★½ **FAIR**

Officejet 4500 Wireless | **HP**

Entry-level MFP has Wi-Fi, but it's slow and uses somewhat pricey ink.

Street: $130

find.pcworld.com/69403

Track Down Look-Alike Image Files

ANYONE WHO HAS a hard disk clogged with photos will welcome the $25 Visual Similarity Duplicate Image Finder. It quickly hunts down not just file duplicates but also very similar images.

Tell the utility what folders to check, and it swiftly goes about its work. Rather than checking only file names, it examines the contents of the files; it even compares files of different formats (for example, a .jpg file and a .gif file) to see if they are similar. The app took only a few minutes to compare hundreds of graphics files on my PC.

After the tool finishes its task, it shows you all of the images that it thinks are duplicates or very similar, rating their similarity and allowing you to compare them visually. You can then delete the pictures that you no longer want. (The free downloadable demo version won't delete any files; you must pay and register to gain that function.)

If you want a sophisticated but easy-to-use tool to clean out similar photos, Visual Similarity Duplicate Image Finder is worth buying.

—Preston Gralla

★★★★½ **SUPERIOR**

Visual Similarity Duplicate Image Finder | MindGems

Utility skillfully digs up similar photo files as well as exact copies.

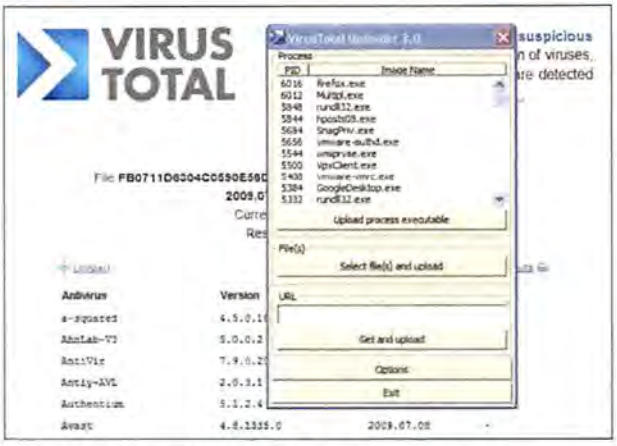
List: $25

find.pcworld.com/69839

DOWNLOAD THIS

Innovative Freebies That Help You Save Time

THE BEST TIMESAVERS don't just cut out steps; they change the whole approach. Sure, you could run extra virus scans on your PC—or you could scan questionable files with 40-odd antivirus programs online. You could e-mail images and then phone the recipient to explain them—or you could send a slideshow with voice-over narration. You could constantly fiddle with your windows—or you could snap them to a grid. And all of these files are free.



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VirusTotal Uploader

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find.pcworld.com/69875 *—Erik Larkin*

GoldMail Free

GoldMail Free is a useful program and Web service that allows you to create and share slideshow-style messages complete with voice descriptions. You can probably think of many situations where creating multimedia messages can add impact to what you're trying to say. Creating, posting, and sharing messages is easy. GoldMail's audience is general business users; its limits on their ability to be "creative" is probably a feature, and the interface's simplicity means fewer calls to tech support. You can create up to five messages of up to 3 minutes each in length before you must delete old ones.

find.pcworld.com/69874 *—Ian Harac*

NARRATING AN E-MAIL slideshow using GoldMail Free is simple.

GridMove

Resizing all of your windows by hand can be tedious, and Windows' built-in features for manipulating them are basic and clunky, so GridMove's smooth handling of windows is helpful. With just a few mouse clicks or hotkey presses, this utility will resize and move your windows to fit a customizable grid. GridMove does have a learning curve, especially for its more advanced features such as keyboard shortcuts. But once you're familiar with this utility, you'll discover that it's a robust program, great for arranging and aligning your windows in seconds. find.pcworld.com/69873

—Gabe Gralla

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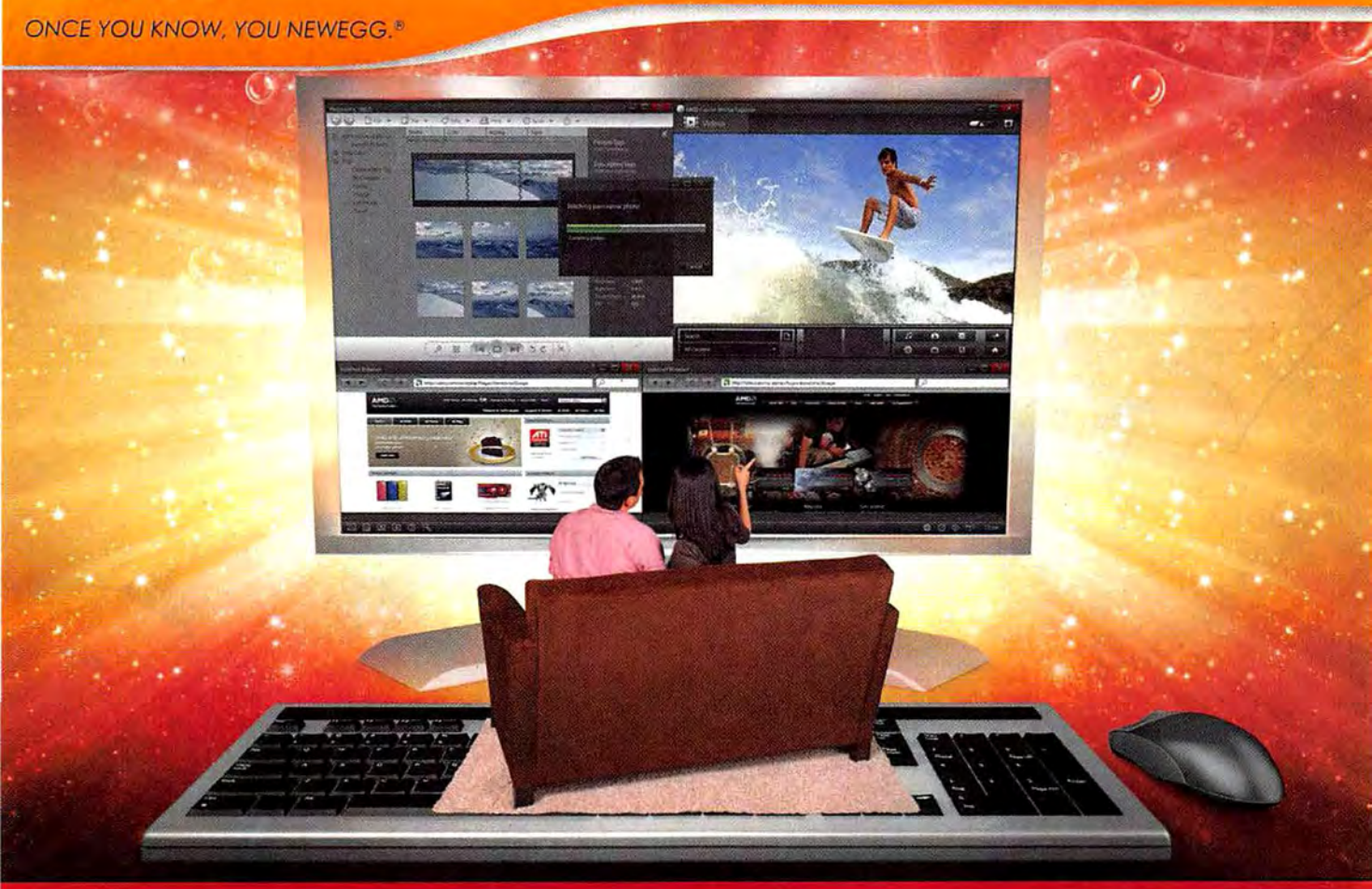

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Dirty *little* Secrets

20 tech facts **they** *don't want you to know*

Eavesdropping Webcams, spying ISPs, and toxic PCs. Here are 20 dangers that the industry is hiding from you... **and what you can do about them.** »

BY DAN TYNAN
ILLUSTRATIONS BY BARRY BLITT

The truth is out there. But **they** don't want you to know about it.

Who's "they"? It could be Google or product manufacturers, your employer or your wireless carrier, Hollywood or Uncle Sam.

What don't they want you to know? That your phone and your Webcam may be spying on you. That your subsidized handset will cost you way more over time than an unsubsidized one. That your PC may be coated with toxic flame retardants. And that's just for starters.

But don't despair. For every dirty little secret revealed herein, we provide a fix or describe a quick way to work around the issue (if any exists). You don't have to be a victim, if you know what to do.

Just remember: You've been warned.

Cell Phones Don't Crash Airplanes

Why can't you use your phone on flights? The FAA fears that the RF signal emitted by devices on the 800MHz spectrum band may interfere with navigation, specifically GPS. Yet there is no documented case of an air accident or serious malfunction caused in this way.

The FCC's concern is that phones overhead might disrupt wireless networks on the ground, possibly hurting network performance. But some experts say the worry is outdated. "Modern phones use lower power, and, further, cell towers have directional antennas designed for covering the surface of the earth [not the air above]," says Ken Biba, CTO of Novarum, a wireless consulting and engineering group.

the fix = There isn't a lot you can do. At least you don't have to fly with people jabbering on their phones from takeoff to landing.

Your ISP Is a Copyright Cop

The next people who bust you for illegally swapping music and movies could be the folks you pay for Internet access. The recording and film industries are seeking to manipulate upcoming net neutrality legislation to allow Internet service providers to scan the bits passing through their networks and to block any that may violate copyrights—similar to Comcast's notorious attempts to throttle BitTorrent connections in 2007. The Federal Communications Commission's recommended rule changes already contain an exception for "reasonable network management," which could include sniffing for copyrighted content, says Jennifer Granick, civil liberties director for the Electronic Frontier Foundation (www.eff.org).

According to leaked reports, the international Anti-Counterfeiting Trade Agreement (ACTA) now being negotiated in private sessions contains provisions requiring ISPs to police their networks for copyright scofflaws. Critics of the proposed treaty fear that copyright holders will insert a "three-strikes" policy, under which users could have their Internet access revoked if they're caught exchanging copyrighted content more than twice.

"It's dangerous giving so much power to copyright claims," says Wendy Seltzer, project leader for the Chilling Effects Clearinghouse (chillingeffects.org) and a Fellow at Harvard's Berkman Center for Internet & Society. "Imagine someone telling you, 'If you violate our copyrights, we can terminate your Net connection, not just your blog.'" With such a powerful new partner serving as both investigator and enforcer, might copyright holders be emboldened to pursue more people suspected of violations? And what protections will consumers have against false claims of infringement?

the fix = Contact your congressional representatives and tell them that you oppose net neutrality loopholes for content filtering. Support organizations such as Chilling Effects, the EFF, and Public Knowledge (www.publicknowledge.org), which fight laws that turn Internet service providers into Hollywood's hired guns.

Your Passport Could Make You a Target for Crime—Wirelessly

Most American travelers are only dimly aware of a radio frequency ID chip embedded in their passport. The chip lets a passport control officer transfer information wirelessly to a terminal, but security researchers have shown that RFID readers can pull data from a passport from a greater distance. Last year, Chris Paget of the security firm IOActive drove around San Francisco and, within 20 minutes, copied the data out of two U.S. passport holders' pockets, using a laptop plus off-the-shelf equipment and software costing a total of $250.

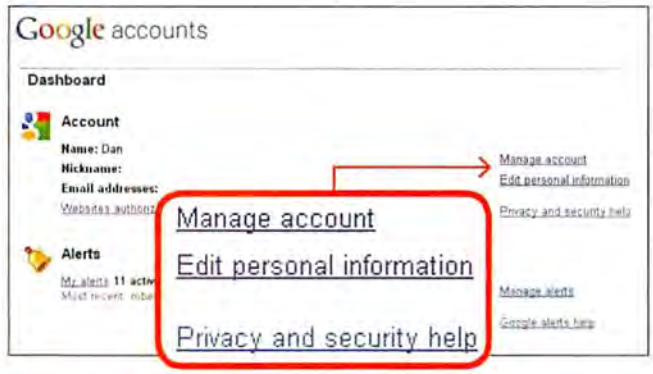
the fix = "If a few hundred bucks' worth of gear is all it takes to engage in mass identity theft, or the ability to target citizens of a specific country for crime," says Andrew Brandt, lead threat research analyst for Webroot, "it doesn't seem unreasonable to carry your travel documents wrapped in aluminum foil."

Google Could Rat You Out

How much does Google know about you? Its stored data may include your visited sites, search terms, maps, contacts, calendar, e-mail, and chat history, plus Google Voice phone records, YouTube videos and Picasa photos, documents you store online, Google Buzz updates, and—if you use an Android handset—your cell phone data. If the government comes with a subpoena (or even just a strongly worded letter, per the Patriot Act), Google must hand it all over. Sure, the feds can get the data from anyone; but Google's wealth of information, plus its lengthy data-retention policies, makes their job easier.

Additionally, all that stands between you and identity thieves is your Gmail log-on and password—the key that unlocks every other Google service. Last October, Google reported that thousands of Gmail accounts had been compromised by a phishing scheme that also targeted AOL, MSN Hotmail, and Yahoo. Little wonder, then, that Chinese hackers targeted Gmail when they compromised the service last December.

the fix = In Google Dashboard (www.google.com/dashboard), find out what information you're sharing and adjust your settings. Make your Gmail password harder to guess. If you think your Gmail account has been hacked or stolen, try using Google's account-recovery page (find.pcworld.com/69867). And given Google's recent stumbles over user privacy with Buzz, consider spreading the risk over different providers. »



Pacemakers and Other Implants Can Be Hacked

Researchers at the University of Washington have demonstrated that medical implants that rely on wireless technologies for monitoring the devices and adjusting their settings are not secure.

In lab tests, scientists from UW, the University of Massachusetts Amherst, and Harvard Medical School were able to take control of a cardiac defibrillator and use it to induce ventricular fibrillation, a potentially lethal condition. They could also read sensitive medical information stored on the device and change it at will.

Study coauthor Tadayoshi Kohno, assistant professor at the University of Washington, says that similar techniques theoretically could be applied to other wireless medical devices, such as drug dispensers and neuro-stimulators. "In the future [medical devices will] be much more like full-grown computers," says Kohno. "We did this study to raise awareness and increase our understanding of the security risks these devices could pose."

the fix = At present no fix exists, though the FDA and medical-device manufacturers are aware of the problem. There are no known cases of medical devices being hacked. Even Kohno downplays the danger. "The risk to patients today is low," says Kohno. "These are amazing life-saving devices, and I would have no qualms about using one."

> When used in plastic casings, BFRs [brominated flame retardants] can also migrate out of the plastic into the dust in the room and then enter the body via the hand-to-mouth contact.
>
> Arlene Blum
> executive director, Green Science Policy Institute

PHOTOGRAPH: ROBERT CARDIN

Your PC Might Be Killing You

Though tech makers have cut back on harmful chemicals, some gear still may have brominated flame retardants, which studies have linked to lower IQs in children and reduced fertility rates. BFRs "can be converted to highly toxic brominated dioxins and furans if the products are burned at the end of their life," says Arlene Blum, executive director of the Green Science Policy Institute and a visiting professor of chemistry at UC Berkeley. Even daily use can be dangerous. "When used in plastic casings, BFRs can also migrate out of the plastic into the dust in the room and then enter the body via the hand-to-mouth contact."

the fix = Certain pre-2009 products—especially devices that generate a lot of heat, like laptops and laser printers—may still contain BFRs, says Michael Kirschner, associate director of the Green Science Policy Institute. "Do some research," says Kirschner. "Almost all vendors now have an environmental section on their Websites that tells you about the materials they use."

Geolocation Data Is Not Private

Telecommunications companies maintain what is known as customer proprietary network information (CPNI), which can include details on your rate plans, who you called, and your location. By law, carriers can't sell your CPNI without your permission, but often they'll simply send an e-mail or letter giving you the chance to opt out; if you don't respond, they're free to sell your CPNI to whomever they please.

That doesn't necessarily mean they do so right now. But the temptation may be overwhelming: The market for location data is expected to reach nearly $13 billion by 2014, according to Juniper Research.

A company that has your geographic data could sell it to businesses in your area or try to send promotions to you. The classic example: You're walking by a store when your phone gets a text message offering a 20 percent discount—but only if you shop right now.

the fix = At this writing, Congress is preparing to hold hearings about geolocation data and privacy. In the meantime, read your carrier's privacy policy and follow the steps for opting out of sharing your CPNI.

License Agreements May Not Be Enforceable

Your legal obligations under the end user license agreement for a software package or service may vary, says Jonathan Ezor, director of the Institute for Business, Law & Technology at the Touro Law Center on Long Island. "EULAs are contracts, and contract law is state law," says Ezor. "It's governed by the state where you live or where the company is based." Other factors include whether the agreement contains unenforceable restrictions, whether it gives consumers sufficient choice, and what method it provides for users to indicate agreement, Ezor adds.

the fix = Read the EULA. Does the software "phone home" to verify that you're using the product as its creator intended—and if you're not, does it have the ability to disable the program remotely? If the app does neither, you're probably free to do as your conscience allows.

'Private' Browsing...Isn't

These days, most major Web browsers offer "private" or "incognito" browsing (known colloquially as "porn mode"). But all the feature does is tell your browser not to record the sites you've looked at, the search terms you've used, or the cookies deposited during that session.

If the sites you visit record your IP address (many do), that information is available to any interested party that has a legal right to request it—a group that may include divorce attorneys and law enforcement.

Of course, your Internet service provider assigned you the IP address, so it can track you online, if it so chooses. The FBI wants ISPs to store surfing histories for at least two years; so far, major providers have resisted, in part because the storage and record-keeping requirements would be enormous. What information ISPs retain and how long they keep it vary—most providers won't talk about it. (One exception is Cox Communications, which says it retains IP address logs for six months.)

the fix = To browse off the record, use a proxy service such as Anonymizer (www.anonymizer.com) or Tor (www.torproject.org).

Your Webcam May Be Watching

Two-way video chat is fun. One-way chat—where you're being watched—is not so enjoyable. But it's more common than you might think.

In February, school officials in southeastern Pennsylvania landed in hot water after they installed software on school laptops that activated Webcams remotely. The school said that the software, which could snap a picture of whoever was using the MacBook, was only for locating lost or stolen laptops; outraged parents sued the district, and the story made headlines. Two weeks earlier, a woman reported being spied on by a Dell support tech who had turned on her Webcam without asking permission. In 2006, Spanish authorities arrested two teens after they hacked Webcams at a college and tried to blackmail students caught in compromising situations. In 2004, an online intruder took over the PC of a 15-year-old girl in Houston, operating her Webcam and typing messages about her clothes.

the fix = If you have an external Webcam, unplug it when you're not using it. If your camera is built in, covering the lens with a sticky note should do the trick. »

Your Boss Probably Monitors Your PC

If you work for a medium-size or large company, the folks in your IT department are keeping tabs on you.

Using dedicated software, they can monitor the sites you visit, and scan e-mail. They can check network-activity logs, or use tools that capture keystrokes or grab screenshots.

Recent American Management Association surveys show that two-thirds of employers monitor staffers' Web and e-mail activity. About four out of ten use keyloggers or snoop in employees' files. And one out of four has fired employees for Net-related misdeeds.

Besides boosting productivity, companies are trying to avoid malware, leaks of confidential data, and liability for sexual-harassment suits if employees are exposed to Internet porn.

The problem? "Companies use this information selectively," says Joe Rose, a Sacramento, California, labor-rights attorney, "either to pile on evidence in case of employee misconduct or if the employee engages in activity the company doesn't like, such as labor organizing."

the fix = Don't use company gear or networks for personal business. If your employer gave you a BlackBerry, get your own cell phone, says Rose. Your privacy rights at work are minimal at best.

You're Spending Too Much on Printer Ink

Attempt to use a refurbished or refilled cartridge in your inkjet printer, and the printer manufacturer may warn you that you're voiding your service warranty, putting your printer at risk of damage, or possibly ruining your printouts.

Nonsense, says Bill McKenney, CEO of InkTec Zone, which sells equipment for refilling inkjet cartridges to retailers such as Wal-Mart International.

"You won't void the warranty and you won't hurt your printer," says McKenney. "A bad refill job may leak ink inside your machine. Otherwise you'll be fine. And the savings are so significant, there's almost no reason not to do it."

PCWorld's lab tests (find.pcworld.com/61892) show that while prints made with third-party, refurbished, or refilled cartridges aren't always as good as those made with the printer manufacturer's ink, they are safe to use. The exceptions are "prebate" cartridges, sold at a slight discount, that contain a chip preventing their being refilled (which should be clearly labeled as one-use-only products).

the fix = Buying a refurbished cartridge can save you 10 to 20 percent off the price of a new one. Refills bump your savings to 50 percent or more.

The drawbacks are that you may not get quite as much ink with a refill (the amount is usually at least 95 percent, McKenney says), archival prints may not maintain their color quality for as long, and you can refill each cartridge only three to eight times before you'll have to recycle it and get a new one.

You Can Escape Almost Any Service Contract Without Penalties

You say you agreed to a two-year service contract to get a discount on your broadband service or smartphone? You may be able to ditch your obligation without having to pay an early-termination fee—if your provider changes the terms after you sign up.

In December 2009, Sprint notified its customers of a 40-cent monthly increase on all lines and a $5 increase on accounts with spending limits. That constituted a "materially adverse change of contract" per Sprint's terms; this opened a porthole for unhappy Sprint customers to jump ship without incurring early-termination fees, which can amount to $150 or more. Similar changes in administration fees allowed T-Mobile users to switch in September 2009 and Verizon users to opt out in the spring of 2008.

the fix = If your provider alters terms and you decide to leave, contact the company within the time period specified in your contract (usually 30 to 60 days). Make it clear that you're leaving because of the "materially adverse" nature of the change.

You Can Fight the RIAA and Win

Entertainment-industry organizations such as the RIAA and MPAA can have your Website taken down simply by sending an e-mail to your Web host or your Internet service provider—even if you've done nothing wrong. Under the endless gift to copyright holders known as the Digital Millennium Copyright Act, service providers may avoid liability by immediately removing material alleged to violate copyrights. They don't require proof, and they don't have to notify you in advance.

If your materials do not infringe copyrights, however, you can file a DMCA counter-notification with your service provider. If the copyright holder doesn't file suit against you within 14 days, your provider must restore what it deleted. (Of course, if the copyright holder calls your bet and files suit, you can withdraw your claim. Otherwise you'll need to lawyer up, so pick your battles carefully.)

Unfortunately, service providers don't always provide sufficient notice for site owners after the takedown; in some cases bloggers don't even know which files to remove. Recently, six music bloggers had years' worth of MP3 archives wiped from Blogger.com after Google received DMCA takedown notices from the International Federation of the Phonographic Industry. One site was reinstated, while a few others changed Web hosts; the rest were still dark at press time.

the fix = Mail or fax your provider a counter-notification ASAP (e-mail isn't an option). You'll find a fill-in-the-blanks form at chillingeffects.org.

> Wherever you carry your phone, the government can go to your wireless provider and use those records to figure out where you are.
>
> Jennifer Granick
> civil liberties director,
> Electronic Frontier Foundation

Phones Are Homing Beacons

No matter where you roam with your cell phone, you can be found. You don't even need a GPS chip in your handset—your using cell towers allows your carrier to triangulate your position within a few hundred yards.

"Wherever you carry your phone, the government can go to your wireless provider and use those records to figure out where you are," says the Electronic Frontier Foundation's Jennifer Granick.

Of course, this information could save your life—cell phone tracking has assisted in locating kidnap victims and travelers stranded in the wilderness. But law enforcement has also used it to track people without probable cause. Documents obtained via a Freedom of Information Act lawsuit by the ACLU, the EFF, and the Center for Democracy and Technology reveal that the state of New Jersey obtained cell phone subscriber information 79 times between 2002 and 2008 without a warrant. At press time, a federal appeals court was to hear arguments in the case; how the court rules may determine how much of a snoop your phone continues to be.

the fix = If your handset has GPS and you don't want to be tracked, shut the GPS chip off. Regardless, turning off your phone entirely is your best bet for dropping off the grid, if only temporarily.

The NSA Is Tapping Your Data Stream

Remember the hubbub about the Bush administration's warrantless wiretaps? Nowadays, the National Security Agency still sifts through the petabytes of information traveling along the nation's fiber backbone—but legally, due to after-the-fact lawmaking by Congress.

In December 2005, the *New York Times* reported that the NSA had engaged in domestic digital surveillance without U.S. court approval. In January 2006, former AT&T technician Mark Klein gave documents to the Electronic Frontier Foundation confirming that the NSA had installed surveillance equipment at a major Internet hub in San Francisco. In 2006 and 2008, the EFF sued AT&T and the federal government, respectively. Both suits were rebuffed by federal courts and are currently on appeal. In July 2008, Congress passed a bill granting retroactive immunity to telecoms for their participation in NSA wiretaps.

"What people don't know and should is that there is a dragnet sucking up all their communications so the government can review them," says the EFF's Jennifer Granick. "AT&T is still routing all of its data traffic through the NSA."

the fix = Last September, four Democratic senators introduced the Retroactive Immunity Appeal Act, which would make telecoms accountable; it hasn't gone far. For now, avoid googling "improvised explosive device" and "Osama" on the same day, unless you like visits from the Men in Black.

'Cheap' Phone? Bad Deal

To lock you into paying hundreds of dollars a month for mobile voice and data service, a wireless carrier will sell you a subsidized phone for much less than the company paid for it. But spending more up front for an unsubsidized phone might save you cash in the long run. *PCWorld* contributing editor JR Raphael compared fees for an unsubsidized Nexus One with those for the iPhone 3GS and Motorola Droid, which come tied to contracts; the cost savings over two years was $1350. (See find.pcworld.com/69846.)

the fix = Do the math. As vendors move toward an "open" handset model, paying more up front can save you a bundle. »

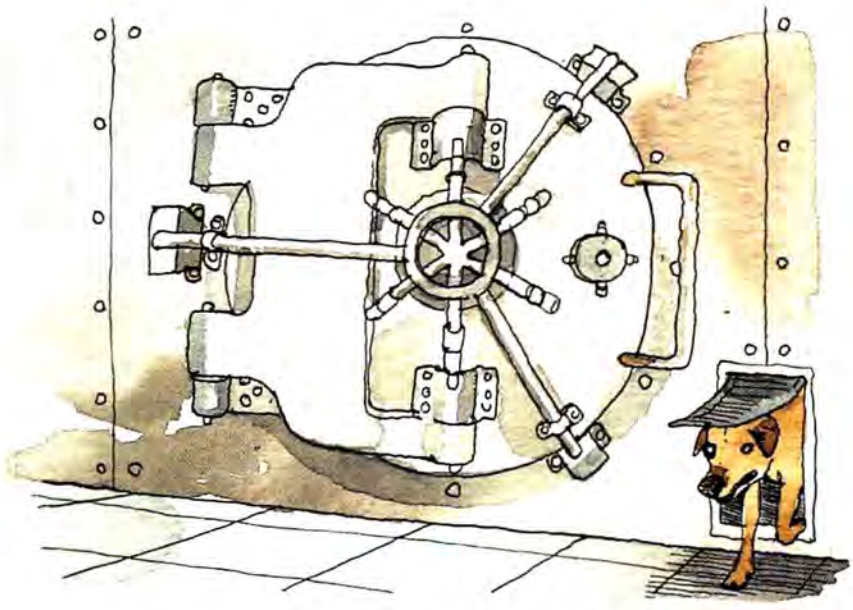
Cyberwar Is Heating Up (and Uncle Sam Is Losing)

For several years, U.S. government networks have been under siege from foreign adversaries. And this could have been prevented.

Attacks on Department of Defense computers rose 60 percent in 2009, according to a congressional committee. Last July, a botnet originating in North Korea launched a DDOS attack on the Federal Trade Commission, the Department of the Treasury, and other U.S. agencies. In December, China was fingered for attacks that compromised Google but also targeted government research firms, contractors, and think tanks.

"E-mail is [the U.S. government's] primary means of communications, and that's completely exposed," says Richard Stiennon, chief research analyst for IT-Harvest and author of *Surviving Cyber War*. "Attackers from all over are having their way with government computer systems."

the fix = "Joe and Jane Citizen need to tell the federal government to comply with computer security standards published by the National Institute of Standards and Technology (NIST)," says Stiennon. "That will get us about 90 percent closer to where we need to be."



Antivirus Software Won't Protect You

Security apps won't shield you from the worst nasties. "Antivirus software only catches the low-hanging fruit," says Mark Kadritch, CEO of The Security Consortium and author of *Endpoint Security*. The increasing number of zero-day attacks—coupled with some security vendors' failure to promptly fix holes in their products—means that even up-to-date antimalware tools may still be behind the curve when it counts, he says.

the fix = You can't do without security software (see page 74 for our look at the latest suites). But to protect yourself more effectively, take extra steps such as saving data to encrypted drives. You can also install VMware or other software that lets you create virtual machines and discard them as they become infected, Kadritch says.

The Web Never Forgets

If you have an ugly encounter with someone in person, odds are you'll both forget most of it within a week. Experience the same thing on the Internet, and it will be preserved forever. Worse, people have lost jobs, gotten sued, been arrested, or endured endless embarrassment due to things they said in e-mail messages or posted on Facebook.

"The Internet never forgets," says the University of Washington's Tadayoshi Kohno. "In the old days, if you wanted to make data disappear from your computer, you could take out your hard drive and take a sledgehammer to it. Today, much of our data is in the cloud. There's no single hard drive to smash anymore."

the fix = Kohno and other UW researchers developed a technology called Vanish, which adds a "self-destruct" mechanism to data shared on the Net. It encrypts text and distributes pieces of the encryption key across a dozen peer-to-peer networks. After a specified period of time, Vanish starts losing the keys, making the data unrecoverable. It works with e-mail or with text entered into a Web form, Kohno says. Though Vanish is still just a research project, the curious can download its open-source Firefox plug-in (find.pcworld.com/69848). ●

ABERDEEN
SERVERS AND STORAGE

WHAT'S THE DEAL WITH THOSE GUYS?

Sometimes you have to ask, "What are they thinking?"

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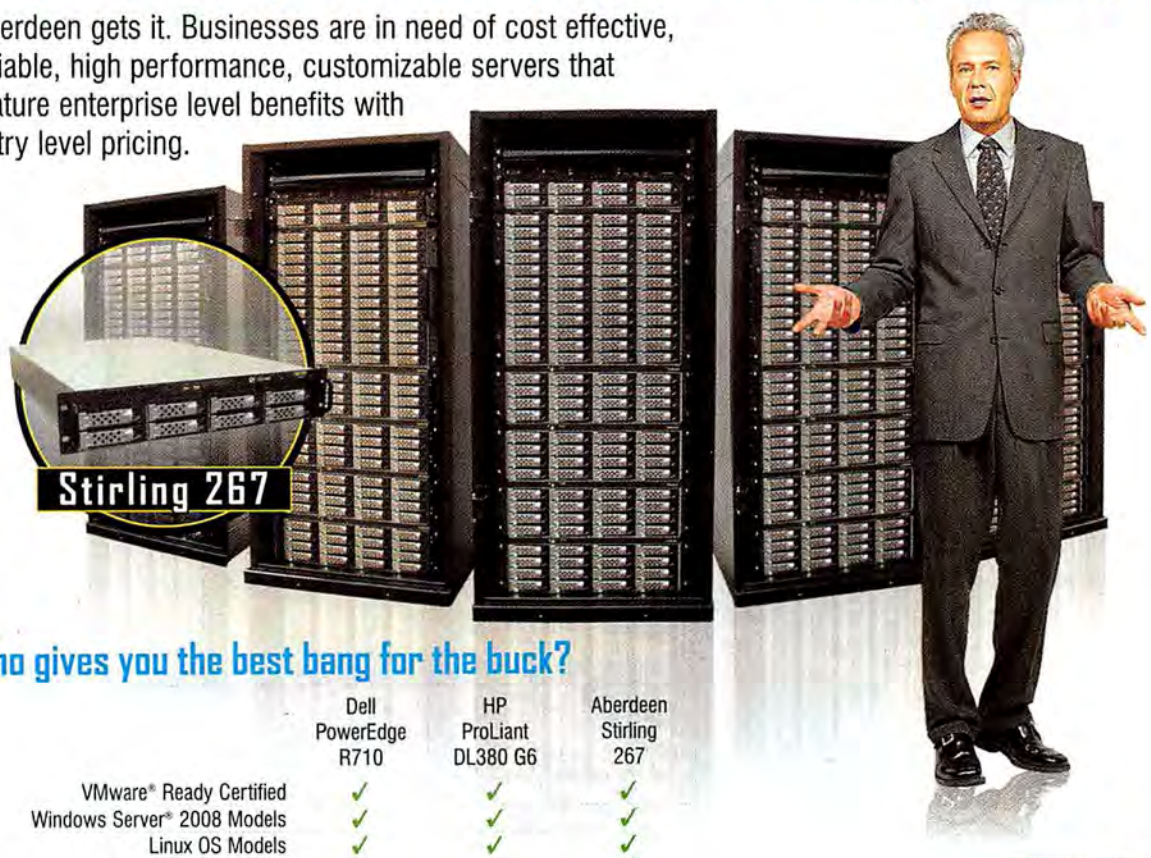

Who gives you the best bang for the buck?

	Dell PowerEdge R710	HP ProLiant DL380 G6	Aberdeen Stirling 267
VMware® Ready Certified	✓	✓	✓
Windows Server® 2008 Models	✓	✓	✓
Linux OS Models	✓	✓	✓
Redundant Power	✓	✓	✓
Hardware RAID 0, 1, 5 & 6	✓	✓	✓
SAS / SATA Drive Support	✓	✓	✓
Available with 2TB Drives	✓	✗	✓
Out of Band RAID Management	✗	✗	✓
JBOD Storage Expansion	✗	✗	✓
Dual Intel® Xeon® Processors	E5504 2GHz	E5504 2GHz	E5504 2GHz
Memory	6GB	6GB	6GB
PCI-E Expansion Slots	4	6	7
Hot-Swap Drive Bays	6	6	8
Maximum Capacity	12TB	6TB	16TB
Configured Capacity	3TB	3TB	3TB
Warranty	3 Years	3 Years	5 Years
Price	$4,462	$5,338	**$3,995**

intel Xeon inside

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Prices for the above specific configurations obtained from the respective websites on Jan. 27, 2010. Intel, Intel Logo, Intel Inside, Intel Inside Logo, Pentium, Xeon, and Xeon Inside are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. VMware is a registered trademark or trademark of VMware, Inc. in the United States and/or other jurisdictions. For terms and conditions, please see www.aberdeeninc.com/abpoly/abterms.htm. pcw05

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LAB TESTED

Think all security suites are the same?

Not even close.

Our comprehensive tests show you which of today's suites to trust, and which to skip.

Maximum SECURITY

The year 2009 was a bad one for PC security: Online attackers created more malware last year than in the previous 20 years combined. Clearly, you can no longer rely solely on traditional definition-based antivirus software and firewalls—you need a new breed of security. Over the past few years, security suites have been improving, thanks both to the enhancement of traditional detection methods and to the addition of behavioral analysis. The latter technology detects malware based exclusively on how it acts on your PC—a good way of catching threats so new that security vendors haven't yet made definitions to identify them. And many suites now have cloud-computing features »

BY ROBERT VAMOSI
ILLUSTRATION BY JAN FEINDT

that compare questionable programs and files against online databases to better identify the latest threats. With these cloud features working alongside behavioral analyses, suites can better detect malware they've never seen before.

Almost all the security suites we tested this year also include some form of antirootkit technology. (Rootkits—a kind of stealth malware used to hide infections—have gradually become more commonplace.) These changes mean security suites are detecting and blocking malware faster than ever.

Nonetheless, we found some significant differences in just how well security suites protect your PC. We tested 13 suites in all. (See find.pcworld.com/69890 for a full list of products.) Norton Internet Security 2010 took the top ranking, owing to its strong overall malware detection. Kaspersky Internet Security 2010 was a close second. AVG Internet Security 9.0 placed third for its malware detection and speedy system per-

LAB TESTED

Smarter Security Suites

Norton and Kaspersky rank neck-and-neck at the top—but Norton rated slightly better in overall detection and disinfection.

	INTERNET SECURITY SUITE	PCW Rating	Speed and detection rating	Antivirus and antispyware detection				Malware cleanup	Ease of use	
				Signature-based detection of malware	Behavior-based detection of malware	Rootkit detection; includes active and inactive rootkits[1]	Rootkit removal[1]	Successful cleanup of active malware components[2]		
1	**Norton Internet Security 2010** **$70 for one year/three PCs** find.pcworld.com/69893	★★★★½ SUPERIOR	Superior	98.4%	100.0%	96.7%	100.0%	93%	Very Good	
2	Kaspersky Internet Security 2010 **$80 for one year/three PCs** find.pcworld.com/69894	★★★★½ SUPERIOR	Superior	97.4%	86.7%	100.0%	100.0%	87%	Very Good	
3	AVG Internet Security 9.0 **$70 for one year/three PCs** find.pcworld.com/69895	★★★★ VERY GOOD	Superior	95.4%	100.0%	100.0%	86.7%	87%	Good	
4	BEST BUY PC Tools Internet Security 2010 **$50 for one year/three PCs** find.pcworld.com/69896	★★★★ VERY GOOD	Very Good	96.3%	93.3%	100.0%	86.7%	100%	Good	
5	BitDefender Internet Security 2010 **$50 for one year/three PCs** find.pcworld.com/69897	★★★½ VERY GOOD	Very Good	96.2%	80.0%	96.7%	86.7%	93%	Good	
6	Avast 5.0 Internet Security **$60 for one year/three PCs** find.pcworld.com/69898	★★★½ VERY GOOD	Very Good	96.5%	26.7%	100.0%	60.0%	80%	Very Good	
7	McAfee Internet Security 2010 **$70 for one year/three PCs** find.pcworld.com/69899	★★★½ VERY GOOD	Very Good	99.9%	86.7%	100.0%	100.0%	87%	Very Good	
8	Panda Internet Security 2010 **$80 for one year/three PCs** find.pcworld.com/69900	★★★½ VERY GOOD	Very Good	99.8%	73.3%	86.7%	86.7%	93%	Good	
9	Webroot Internet Security Essentials **$60 for one year/three PCs** find.pcworld.com/69901	★★★½ VERY GOOD	Very Good	96.2%	46.7%	96.7%	86.7%	100%	Good	
10	Trend Micro Internet Security Pro 2010 **$70 for one year/three PCs** find.pcworld.com/69902	★★★½ VERY GOOD	Very Good	89.4%	93.3%	96.7%	73.3%	87%	Good	

CHART NOTES: Prices are as of 3/8/10. See find.pcworld.com/69890 for our full rankings. FOOTNOTES: [1] Test conducted at default settings. [2] Cleanup of active malware files. Does not include removal

formance. Closely following the top picks was a competitive middle tier of suites from Avast, BitDefender, McAfee, Panda, PC Tools, Trend Micro, and Webroot. The suites from Eset, F-Secure, and ZoneAlarm lagged, due to acceptable, but not great, malware protection.

Norton, our top performer, has a comprehensive set of features.

For antimalware testing, *PCWorld* contracted the services of AV-Test.org, a respected security testing company. We looked not only at traditional signature-based detection but also at how well the suites cleaned infections, removed rootkits, and detected malware based on behavioral analysis.

But what if the suite slows your system performance to a crawl? This year we added a battery of tests to measure such drag: changes in boot times, application launch times, and the time to create or open a batch of documents, among other tests, both with and without the security suites running (see "The Performance Hit" on page 79).

All the suites had antivirus, antispyware, and antispam components, plus a firewall. Some, such as PC Tools, had little beyond those core functions. The rest offered extra capabilities, such as parental controls, online backup, and Internet browser protection.

Here's a rundown of the top ten suites, in order of rating.

	Speed (in seconds)					
	On-demand scan[1,3]	On-access scan[1,3]	System boot time	Word 2007 launch time	Microsoft Office install time	Bottom line
	101	254	50.8	4.3	214	Norton Internet Security 2010 is our top pick, thanks to its excellent detection of new malware.
	97	288	43.4	2.9	215	Kaspersky Internet Security's very good malware detection, swift speed, and good interface make it a close second.
	133	365	48.9	2.6	192	AVG Internet Security 9.0 offers strong protection, but its tired interface is long overdue for improvement.
	412	171	43.1	5.4	236	PC Tools Internet Security 2010 is much improved from last year, with better traditional malware detection and strong behavior-based protection.
	130	256	43.5	3.3	214	BitDefender Internet Security 2010, with a redesigned interface, provides solid protection at a great price.
	62	182	43.3	3.4	193	Avast Internet Security, a surprisingly good newcomer, is speedy—but it has trouble detecting new threats.
	236	561	50.6	4.8	211	McAfee Internet Security 2010 does a good job at detecting malware, but some system performance problems drag its score down.
	265	330	54.6	3.7	193	Panda Internet Security's interface needs some work, and its detection of new malware doesn't keep pace with the top performers.
	345	334	48.4	3.3	216	Webroot Internet Security Essentials provides built-in backups; it stumbles, however, in spotting new threats.
	202	446	42.4	3.5	221	Trend Micro Internet Security Pro has plenty of features and is easy to use, but in malware detection it falls short of the top contenders.

of Registry changes or inert files. [3]Time to scan 4.5GB of data; lower is better.

Norton Internet Security

Norton ($70 for three users) has a comprehensive set of features, top-notch malware detection, and fair speed.

The Norton interface is nicely laid out, but its peculiar use of color (a black main window with orange accents) makes it hard to read. The left panel displays a CPU performance gauge. The middle column has three sections: Computer, Network, and Web. The right column shows configuration options.

Norton was one of the top performers in detecting and cleaning up active malware infections. It found all the bad software, disabled 93 percent of it, and removed all traces of two-thirds of it.

It detected 93 percent of inactive rootkits, and detected and removed all active rootkits. (Only Kaspersky and McAfee achieved perfect scores here.)

Norton alone earned a perfect score in detecting, disabling, and removing malware using behavioral scanning.

In our tests for old-style signature-based malware detection, this suite found 98.4 percent of samples. (McAfee, though, detected 99.9 percent.) »

Norton took 3.9 seconds longer than the average startup time. But we experienced minimal drag in day-to-day operations. Scan speeds were decent; it took 4 minutes, 14 seconds to scan 4.5GB of data in our on-access test (how quickly a malware scanner works when you're opening or saving a file).

One annoyance is Norton's use of proprietary names like Quorum, Sonar, and Insight for security technologies that it explains poorly. For the record, Quorum is Symantec's cloud-based detection engine that assigns a reputation to programs based on several factors; Sonar is Symantec's behavioral-detection technology; and Insight provides up-to-the-minute data on malware collected from other users.

Kaspersky Internet Security

Kaspersky earned high scores for strong malware detection, efficient performance, and a nicely designed interface. But while it executes its functions well, its price ($80 for three users) is more than the cost of some other suites.

Kaspersky's screens are informative without being overwhelming. The main window includes a left pane for navigation, and a right pane for the options. Features are organized by general topics, such as My Protection, My Security Zone, Scan My Computer, and My Update Center.

In detecting active malware infections on a PC, Kaspersky performed well. It detected all malware samples and disabled 87 percent, but removed all files for only 47 percent of infections (which was about average, however). And it tied McAfee as the top performer in rootkit detection, finding and removing all active rootkits.

Kaspersky was second to Norton in our testing, but it costs more than most suites.

Kaspersky was above average in detecting and disinfecting malware through behavioral scanning, finding 87 percent of samples through behavioral testing, disabling 73 percent, and fully removing 60 percent. (Top performers disabled over 90 percent.)

In signature-based detection, Kaspersky scored a 97.4 percent detection rate—an impressive result, but a bit below the top score in this test, a 99.9 percent detection rate.

Kaspersky Internet Security's impact on system performance is minimal. It beat the average startup time by 3.5 seconds. Scan speeds were okay, too, as the suite took 4 minutes, 48 seconds to scan 4.5GB in our on-access test.

AVG Internet Security 9.0

AVG, at a discounted $44 for three users ($70 list), is a very affordable suite that provides strong malware detection and disinfection, but it could be easier to use. For example, on the main screen, icons for suite features aren't organized appropriately, making it hard to find the correct tool right away. (Our screenshot shows an overview screen.)

AVG, in third place, has a nice price and does a good job of PC protection overall.

AVG detected 93 percent of infections by malware samples, and disabled 87 percent. But it was able to fully remove only 27 percent of malware samples.

AVG detected all inactive and active rootkits, and removed 87 percent of the samples—a removal rate on a par with the other products we tested.

AVG was perfect at detecting and disabling infections on our test PC in our behavioral-scanning tests. It also scored a respectable 93 percent at removing every trace of malware.

The suite includes LinkScanner, a tool that looks for and scrubs malicious content from Websites before it hits your browser, so you can still view the questionable sites.

Using traditional signatures, AVG detected 95 percent of malware. (The top performer detected 99.9 percent).

In bootup time, AVG was about 2 seconds slower than the average of suites tested. Its impact on overall system performance was slight, though scan speeds were a bit slow. It took 6 minutes, 5 seconds to scan a 4.5GB file when we opened it.

PC Tools Internet Security

BEST BUY PC Tools ($50 for three users) is a bare-bones suite with strong malware detection, but it lacks the parental controls and online backup features of comparable suites.

The suite gears its interface for the average consumer—it's easy to just set it up and forget it. The main screen is quite straightforward to navigate as well. More-advanced users, however, may find the simple interface constraining.

PC Tools, now owned by Symantec, detected and disabled all active infections and also removed 60 percent of the active malware—a better rate than that of most of the suites here.

In rootkit detection, PC Tools produced fairly strong scores; it detected all inactive and active rootkit samples, and

removed 87 percent of samples. That's a strong showing, but some of the suites we reviewed removed all samples.

It scored a respectable 93 percent in detecting, blocking, and removing unknown malware; and in signature-based malware detection, it caught over 96.3 percent of samples.

With PC Tools, our test machine took 43.1 seconds to boot, about 3.5 seconds faster than the average. The suite did slow app launch times and software installation, though in day-to-day use I noticed little impact. The suite's on-access scanner was the fastest, scanning 4.5GB of data in 2 minutes, 51 seconds, but its on-demand scanner was by far the slowest.

BitDefender Internet Security

BitDefender provides solid protection at a low price ($50 for three users). Its new interface has three variations: a basic display with only three large icons and simple text, an intermediate design showing more detail, and an advanced interface for those who want to see granular details. Color status indicators make it easy to see at a glance whether your PC is protected.

In detecting and disabling active infections, this suite proved effective. It found all infected files and Registry entries and disabled 93 percent, but it completely removed only 40 percent.

PC Tools is much improved this year, with strong behavior-based scans.

BitDefender detected 97 percent of active and inactive rootkits, disabled 93 percent of active rootkits, and fully removed 86 percent.

BitDefender did poorly at detecting and blocking malware based on behavioral analysis; it detected 80 percent of test samples, blocked 40 percent, and removed only 6 percent of samples—all rather disappointing results. It did better at signature-based malware detection, finding 96 percent.

Its firewall was a bit noisy, warning us about the activities of some popular applications that pose no threat.

The suite did well in our performance-impact tests, but it wasn't among the most efficient. Our test PC booted quickly, with BitDefender improving on the average startup time by roughly 3.5 seconds, for a total of 43.46 seconds. Scan speeds were around average; it took 4 minutes, 16 seconds to scan 4.5GB of data in our on-access test.

BitDefender is a good midtier offering, but its behavioral analysis could be better.

BitDefender's technical support isn't extensive. For example, the company offers e-mail support only if you can't find what you are looking for in its searchable (but limited) knowledge base.

Avast 5.0 Internet Security

Avast 5.0 ($60 for three users) has all the basic PC protection features and does a reasonable job at traditional malware detection. It is »

The Performance Hit

LAB TESTED

FOR THIS YEAR'S roundup, we included a battery of tests to evaluate how security suites affect your PC's speed. Our testing, conducted by German security lab AV-Test, measured 11 key aspects of a suite's impact on PC performance: boot time, application launch time, file copy operations, application installation time, and more. We also looked at how quickly a suite will scan your PC for viruses and other malware.

Alwil's Avast Internet Security had the least impact on system performance, with faster-than-average scores in all tests, and very good scan speeds.

While top-ranking Norton Internet Security didn't do as well as Avast, it put up very good scores overall, though performance dragged a little more than average in a couple of tests. Norton also had faster-than-average scanning speeds.

Another big name, McAfee Internet Security, was one of the weaker performers here. It had a heavier-than-average impact on PC performance in most tests, and its on-access scan speed (which simulates how well a suite can scan for malware when files are opened or saved to disk) was the slowest of all the suites we tested.

For more on our test results, see our chart on page 76, and the full product roundup online at find.pcworld.com/69890.

also fast. But it fell short at detecting new threats and lacks some extra features.

The Avast interface has a clean, sophisticated look and is easy to use, yet it also makes you work a bit: You must tell the suite what to do every time it finds an infection, and you can't proceed with the scan until you tend to the alert message.

Avast detected all infected files and Registry entries and disabled 93 percent of the infections. But it removed all traces of malware in only a third of the cases. It found and disabled all rootkit samples, but completely removed only 60 percent, the worst removal score.

The Avast firewall works similarly to the Windows firewall, asking you to designate each network as Home, Work, or Public. The Public setting blocks the most traffic (since public networks are less secure), while the Home setting allows more traffic to come in. Work, a middle ground, is the default.

The antispam function labels suspected junk with "***SPAM***" in the subject lines. It integrates with Microsoft Outlook and some e-mail clients, and can scan Web-based e-mail clients such as Gmail.

Avast runs fast scans, but it falls short in behavioral detection of malware.

In behavioral detection, Avast detected, disabled, and removed only about 27 percent of samples. In signature-based detection, Avast demonstrated a respectable 96.5 percent detection rate.

Avast was the top performer overall in our suite of system speed tests and was near the top in scanning speed.

McAfee Internet Security

McAfee Internet Security ($70 list for three users; $50 discounted) did well at detecting malware. Its interface is fresh and distinct, too, and it has a solid set of features. But the suite slowed system performance more than many competing products did, pulling down its ranking.

The suite's redesigned interface is intuitive and easy to work with—and unusual. Sections are called drawers; click the section, and the drawer opens to reveal the settings and status of each component. The top portion remains fixed, offering a static overview of the entire product.

McAfee proved effective at cleaning up active infections;

McAfee is very good at detecting malware, but it may slow down your PC.

it detected all test infections, disabled 87 percent, and completely removed 47 percent. It did well in behavioral detection, scoring 87 percent for detection, 73 percent for blocking attacks, and 60 percent for removing all traces.

McAfee tied Kaspersky as the leader in rootkit detection, earning a perfect score for both detection and removal.

As for old-style signature-based detection of malware, the McAfee package performed the best of all the suites we reviewed, with a 99.9 percent detection rate.

This suite made for somewhat longer boot times on our test machine, about 50.6 seconds—nearly 4 seconds longer than the average. McAfee had the slowest on-access scan speed; it took 9 minutes, 21 seconds to scan 4.5GB of data. In hands-on use, though, I noticed only slight slowdowns.

Panda Internet Security

Panda's suite ($80 for three users) has all the basic features, plus extras like 2GB of online backup and the ability to protect USB devices. But its detection of unknown malware falls a little short.

The interface is more complicated than it needs to be, using multiple combinations of both tabs and grouped items. But the configuration settings are easy to navigate.

The antispam feature adds a toolbar and a spam folder to Outlook and Outlook Express. Its backup feature can back up by file type or by selected folders or drives, and you can back up to Panda's online backup service. The parental controls require an »

Panda is a little pricey, and it lags the top performers in detecting new malware.

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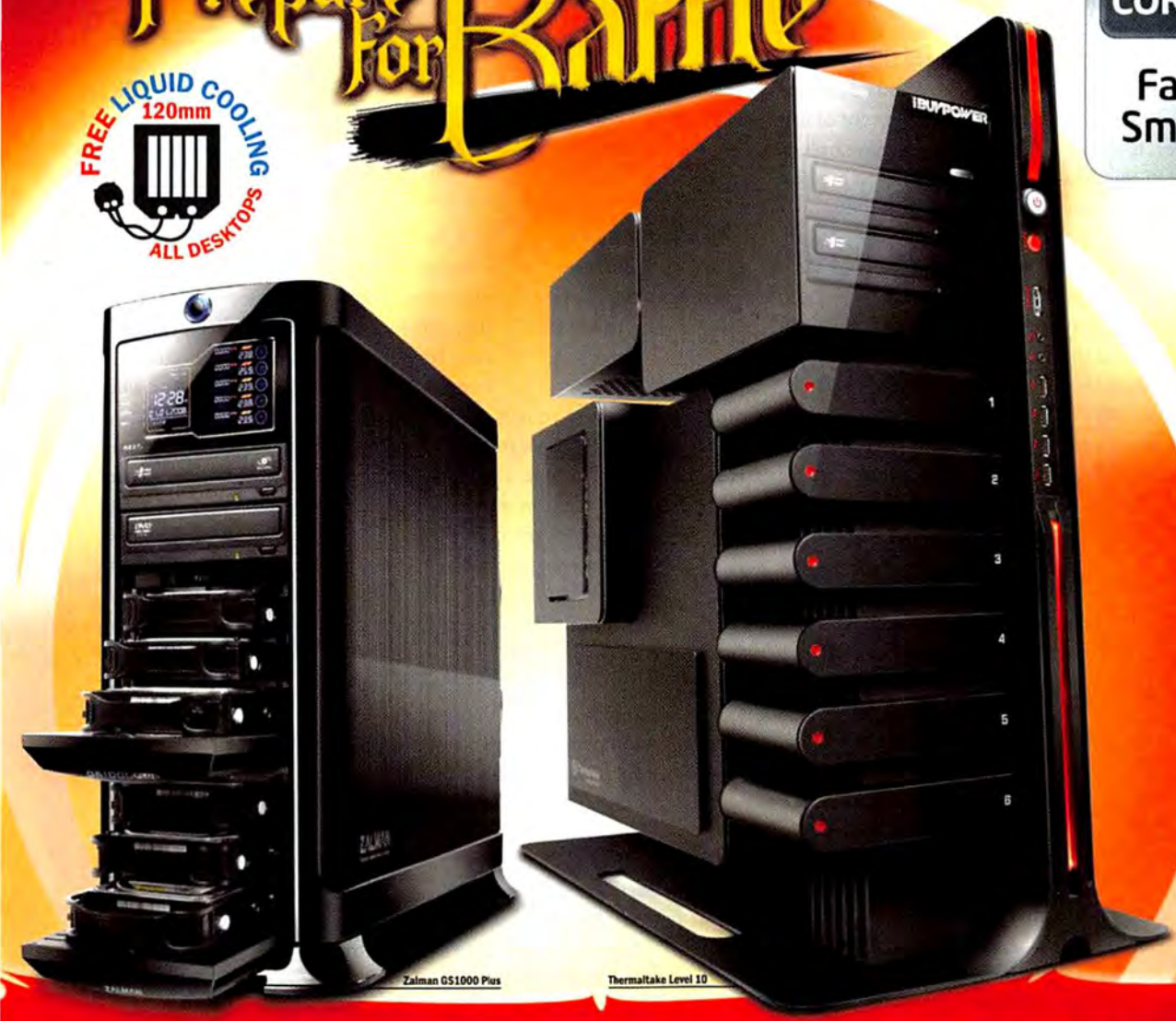

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account for each individual; by logging in, you activate the security set for that individual.

Panda found all active infections on our test PC and rendered 93 percent of infections inert. It completely removed all files and Registry changes for 33 percent of infections—a little low. Panda detected 93 percent of active rootkits and 80 percent of inactive ones. It was able to completely remove only 87 percent of this stealthy malware. (Our top performer was able to detect and remove all rootkits.)

Its behavioral detection of new, unknown threats was unimpressive. It found 73 percent of our samples, blocked 53 percent, and removed 33 percent.

In detecting malware using traditional signature files, Panda had the second-best showing, with a 99.8 percent detection rate, a hair behind the leader.

Panda slowed down boot times the most; our test system took 54.68 seconds to boot with Panda's suite installed. But it had minimal drag on ordinary operations. Scan speeds were significantly slower than average; Panda took 5 minutes, 30 seconds to scan 4.5GB of data in our on-access tests.

Webroot Internet Security Essentials

This suite ($60 for three users) is essentially Webroot's SpySweeper antivirus/antispyware software with a firewall, an antispam utility, backup software, and Internet browsing

protection thrown in. But it lacks parental controls common in other Internet suites and falls well short when detecting and disinfecting brand-new malware threats. Its interface is serviceable, but can be cryptic and unintuitive.

Webroot offers backup features, but it may miss newer malware threats.

Webroot detected and disabled all active malware infections on our test PC, and it removed all traces of 60 percent of the samples—above average among the suites we tested. Webroot detected 93 percent of inactive rootkits and all active ones, but removed only 87 percent of rootkit samples.

Though it detected all samples in our behavioral-analysis tests, it blocked only 27 percent of samples, and completely removed a mere 13 percent. In traditional signature detection, it found 96.2 percent of samples.

Trend Micro is a full-featured suite, but its detection performance wasn't the best.

Webroot generally had a low impact on our test system's performance, though boot time (48.4 seconds) was a little on the slow side. However, on two performance tests (repeatedly copying a file and creating a file), Webroot took longer to complete the task than virtually any other suite in this roundup. Webroot's scan speeds were on the slow side, as well: It scanned 4.5GB of data in 5 minutes, 34 seconds in our on-access scan test.

Webroot offers free technical support by phone, but only on weekdays from 7 a.m. to 6 p.m. Mountain Time. The company also offers PDF versions of the suite's manual online, as well as a video tutorial for the installation process.

Trend Micro Internet Security Pro

Trend Micro ($70 for three users) offers a competitive and complete package for Internet security, but its malware detection lags somewhat. Its interface is easy to read and use. Configuration options can get quite advanced, but first-time users will find the defaults sufficient to begin with.

Trend Micro found all the active malware infections on our test PC and disabled 87 percent. It completely removed 47 percent of the malware, about average for this roundup.

The suite was strong at detecting rootkits, but it was a little behind the curve at removing them. It detected all inactive rootkits and 93 percent of active rootkits, and it removed 73 percent of the samples, versus the average of 87 percent.

For detection and disinfection through behavioral scanning, Trend Micro was average. Although it detected 93 percent of samples, it blocked only 60 percent and removed 40 percent.

Trend Micro was the worst of the group at signature-based malware detection, catching 89.4 percent of samples. On average, suites detected 96 to 97 percent of samples.

The suite's impact on system performance is mixed. Our test PC started up in 42.4 seconds, about 4.5 seconds faster than the average boot time. We saw little drag in the PC's daily operations. On-access scans were much slower than average; it scanned 4.5GB of data in 7 minutes, 26 seconds.

Trend Micro includes a full range of technical support options with how-to videos, a searchable knowledge base, and PDF manuals for download. Free e-mail, chat, and telephone support is available during business hours. ●

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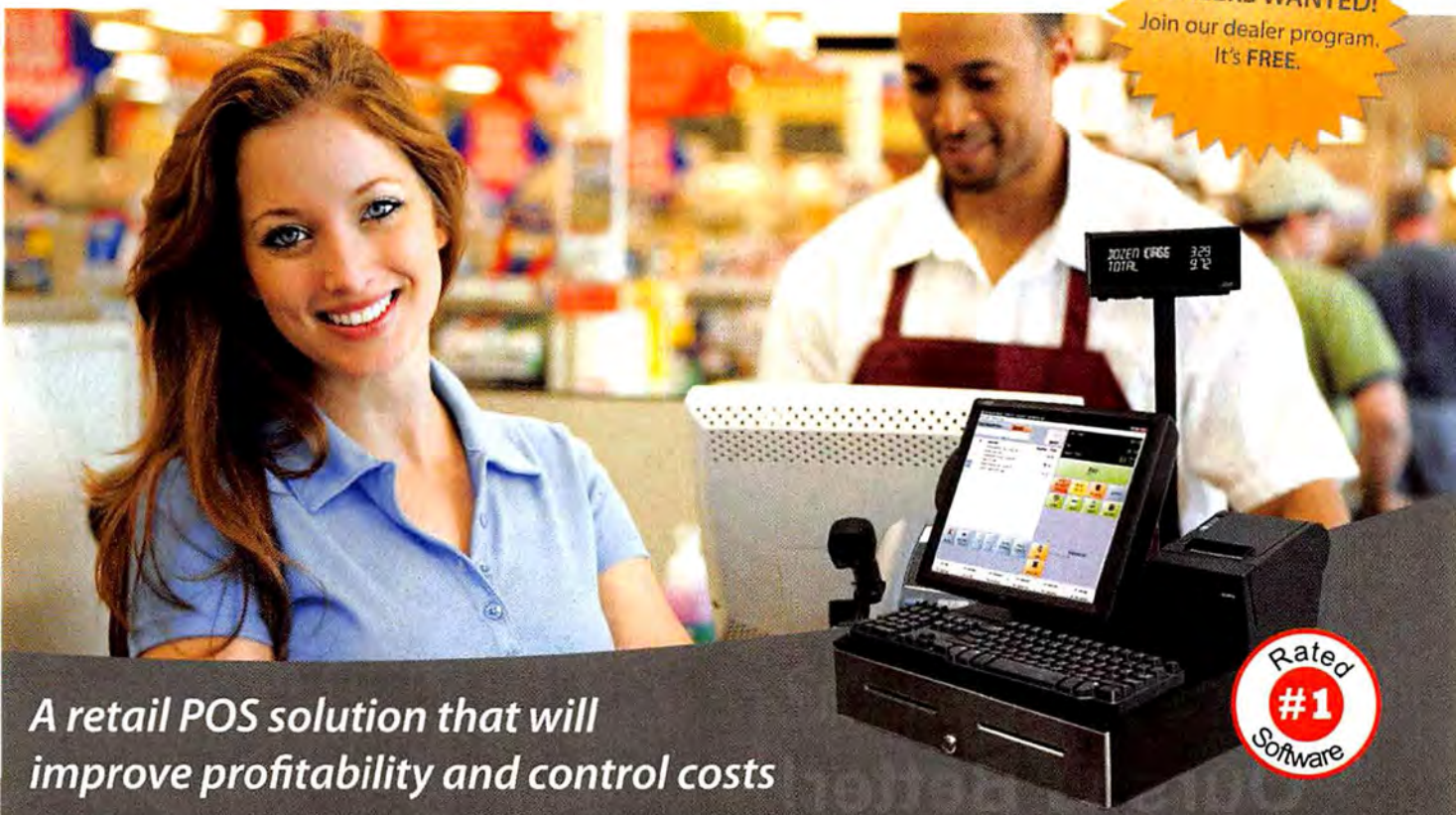

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Lost!

BY ROBERT STROHMEYER

When your cell phone, laptop, or other gear goes missing, these essential tips will improve your odds of recovering it—or ensure that the lost item won't come back to haunt you. »

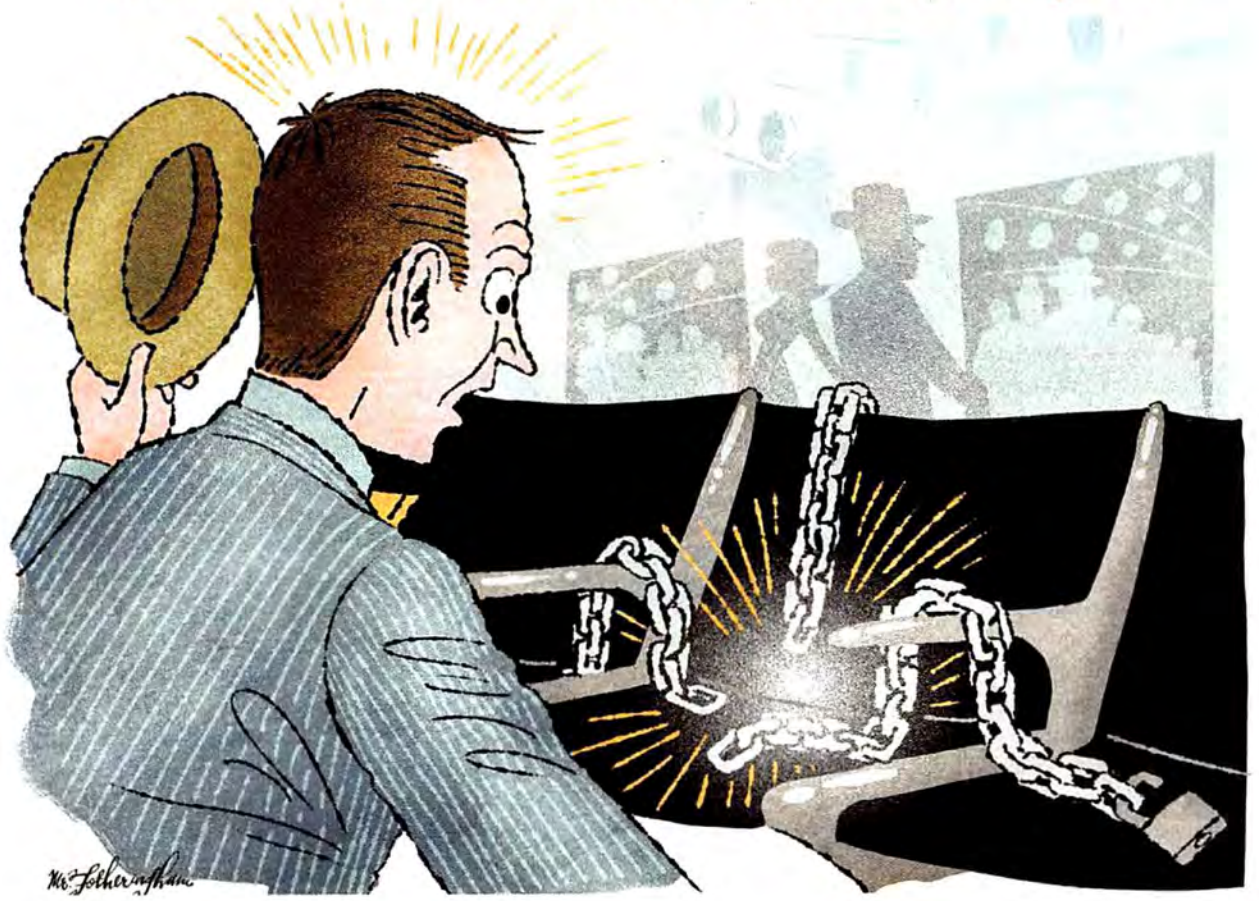


ILLUSTRATION: EDWIN FOTHERINGHAM

You don't know what you've got until it's gone, they say—and they might very well have been talking about my cell phone. A couple of months ago, while walking through the departures terminal at McCarran International Airport in Las Vegas, I reached into my coat pocket to grab my Motorola Droid—and panicked. Where I had expected to feel the cool metal case of my most trusted travel companion, my fingers reported only pocket lint and a couple of crumpled business cards. My phone had gone missing, and with it the security of my contacts, my banking information, my entire e-mail history, and my Facebook and Twitter logins—and I didn't even have a passcode on the phone.

As I stood in the midst of the bustling airport and realized the extent of my predicament, I felt a rush of blood to my head. If some less-than-honest person were to find the phone before I did, they would be just a single finger-tap away from every e-mail I had sent or received during the previous two years. If they tapped on my Facebook app, they could pretend to be me and hustle my family, friends, and colleagues with Western Union scams. In addition, they would have easy access to my GPS data, showing exactly where I live and potentially putting my family at risk.

After quickly checking the terminal and failing to spot my phone on the ground anywhere, I grabbed a stool at the nearby airport lounge, booted up my laptop, and began the arduous task of changing the passwords on all of my online accounts—from Gmail to PayPal to Twitter. But just then I heard a familiar ringtone emanating from behind the bar. Some Good Samaritan had found my smartphone on the floor minutes earlier and turned it in. My data, my identity, and my loved ones were safe—but only because I was lucky.

At that moment, I vowed never to repeat that experience. Since then, I've become a faithful custodian of my phone and all of my other mobile devices. Here's how you can add serious security to your mobile gear, making it harder to lose, easier to recover, and less prone to exposing your personal data if it falls into the wrong hands.

Four Habits That Help You Avoid Losing Your Stuff

LOSING THINGS IS easy. Getting them back can be tough. Here are four simple habits that can help you prevent losses and improve your chances of getting your gadgets back if you do leave them somewhere.

1. Keep receipts: Whenever you take a cab, eat at a restaurant, or grab a cup of coffee at a café, ask for a receipt and hold on to it for a day or so. That way, if you suddenly realize that you left your Kindle, keys, or other belongings behind, you are only a phone call away from starting to recover them. Receipts often include important information you may not know or remember, such as the name of the person who helped you, and that person may remember you and your lost item.

2. Label everything: Whether you use laser-printed return address labels or fancy professional asset tags, labeling your belongings gives finders a way to reach you and return the item. Most people are honest enough to be willing to help you if you make it easy for them to do the right thing.

3. Pack consistently: If you always store each piece of gear in the same place, you're more apt to notice when something isn't where it belongs. For instance, if you consistently put your phone in your inside coat pocket, you have a better chance of realizing that it's not there as you leave a restaurant. Get into the habit of knowing which pockets your essential items live in, and you'll be less likely to leave them behind.

4. Accessorize: Covering your smartphone in a flashy case may suggest that you look to *Petulant Tween* magazine for tips on style and aesthetics, but it'll also make your handset catch your eye on a cluttered restaurant table. If you tend to leave things behind, sacrificing a little dignity in return for maximum visibility may save you headaches in the long run.

ILLUSTRATION: EDWIN FOTHERINGHAM

What to Do If Your Phone Goes Missing

The best time to worry about cell phone security is now, before your phone disappears. By taking some sensible precautions, you can make your phone easy to recover, and even safeguard your data.

Losing a phone actually entails three separate losses: the hardware itself, the data on the device, and the security that you would normally enjoy by maintaining control over your data.

To minimize the collective impact that these losses can have on your life, you should address each of the three facets separately. First, take steps to make your phone recoverable, or at least easily replaceable, in the event that it goes AWOL. Second, keep an up-to-date backup copy of the data on the phone in a safe place. Third, make sure that nobody else can access that data if your phone gets lost or stolen.

PROTECT YOUR ANDROID phone by setting an unlock pattern like this one to confound thieves and interlopers.

Lock Down Your Phone

Before we consider various fancy-pants tricks for securing and finding a lost phone, let's focus on the most basic task: setting a password.

Nearly every cell phone on earth—smart or otherwise—has some kind of passcode protection built in, yet almost nobody uses the feature because it adds an annoying 3-second delay to the process of making a call. Well, get over it. Set a password—or an "unlock pattern," if you're an Android user. Do it now, and you'll avoid worrying later on whether someone out there is reading through your e-mail or accessing your Facebook account on your lost phone.

Make Your Phone Recoverable (or Easily Replaceable)

Usually, losing a cell phone is a short-term problem. (When in doubt, check under your car seat.) But even if your handset ends up wandering miles away in the hands of a stranger, you may be able to get it back. Regardless, taking the right precautions ahead of time can minimize the various expenses associated with losing the device.

The first step in taking the sting out of losing your mobile phone is to shell out a few dollars per month for handset insurance from your carrier. When you buy a new phone, do this at the same time. If you have a phone but haven't yet signed up for insurance through your carrier, do so now. For a monthly fee of about $8 (for smartphones), the insurance will guarantee you a quick, free replacement if you lose the phone—and it will get you up and running if you do something silly like run over the handset with a motorcycle.

Of course, collecting on your handset insurance is a last resort if you lose your phone. The better outcome is to find the device quickly after it vanishes. Fortunately, you have plenty of good options for doing this.

If you lose your phone in some mundane way, such as by dropping it under a coffee table, and you're sure it must be nearby but you just can't find it, you can call it from another phone so that it will ring until you can home in on it. If you frequently set your handset to silent mode, you can obtain any of several cheap or free apps (available for most smartphone platforms) designed to override the phone's current settings and make it ring at full volume whenever it goes into hiding.

WHERE'S MY DROID, a free download from Android Market, makes your phone ring so you can find it easily.

For Android users, the free Where's My Droid (find.pcworld.com/69855) is a great first choice among quick locator apps. This Android Market download lets you set up a passphrase that you can use to activate a loud ring on your phone. Just borrow a friend's phone and send your passphrase via SMS (or use your phone's SMS e-mail address, such as 4155551212@vtext.com), and your phone will automatically adjust its ringtone to maximum volume and ring for a preset length of time—or until you find it and tell it to stop.

BlackBerry users have a number of choices as well. The best free option is Where's My Phone (find.pcworld.com/69856), available from the BlackBerry »

App World store as a feature-limited version of a more robust paid app. With the free version, you can trigger a loud alarm via e-mail to help you find your BlackBerry. The $4 paid version adds more features, such as GPS location.

For iPhone users, a 99-cent app called Beep My Cell (find.pcworld.com/69857) offers similar functionality, along with the option to add a custom message for anyone who finds the device (if it's not where you thought it was). Rather than relying on e-mail or text messages to trigger its beeping, you log in to beepmycell.com and click *Beep My Cell* to start up the noise.

Another low-cost utility is PhoneFinder With Google Maps (find.pcworld.com/69858), which brings this functionality to Windows Mobile handsets. A text message to this $1.50 app causes PhoneFinder to kick on the ringer and transmit the phone's GPS location to the handset that sent the SMS, giving you two ways to look for it at once.

WHERE'S MY PHONE enables a Good Samaritan finder to call you and return your BlackBerry.

Create a Smartphone Backup

The more extensively you use your cell phone, the more completely you depend on the data it stores. So regularly backing up your phone makes sense.

Often the easiest way to perform a backup is by using a cable connection: Most smartphones—including models ranging from iPhones to BlackBerrys to Palm WebOS phones (including the Pre) to Windows Mobile devices—come with syncing utilities that are designed to create a complete backup of the phone's contents. Thanks to those programs, if you sync your phone regularly, you should always have a recent copy of your files, contacts, messages, and photos safely stored on your computer. Do this religiously.

Unfortunately, though, not all smartphones encourage you to synchronize and back up your data manually. The worst offenders in this regard are Android phones, which tend to behave a lot like stand-alone computers; for this reason it's easy to neglect syncing the phone to a desktop PC for months on end. Though Android is designed to work seamlessly with Google's cloud-based apps (such as Gmail, Calendar, and Contacts), which automatically sync all of your data to the Web, most of the data stored on your device won't automatically sync to anything.

A number of backup apps are available for Android, but my favorite is MyBackup Pro (find.pcworld.com/69859). This $5 app wirelessly syncs all of your Android phone's data—including apps, contacts, bookmarks, SMS messages, pictures, and music playlists—to a secure server. If your phone is lost, stolen, or damaged, you can download the data onto a replacement phone and pick up where you left off.

MYBACKUP PRO, a $5 app, archives the entire contents of your Android phone on a Web-based server.

Adopt Advanced Security Measures for Your Gear

Dealing with a misplaced phone that you know is somewhere in your own home or at a friend's house is no big deal. But if you leave your phone in a cab or unwittingly drop it on the sidewalk, you will probably need more-advanced recovery and protection features to get it back and keep its contents safe. Fortunately, a few cool programs and services are available that cover every major smartphone platform. They aren't free—but if your data is valuable to you, they're worth paying for.

If you want protection across multiple smartphone platforms, your best option is TenCube's WaveSecure (find.pcworld.com/69860). Available for Android, BlackBerry, Symbian S60, and Windows Mobile phones, WaveSecure provides as complete a package of protection as you can hope to have for a device that's prone to wandering away.

TENCUBE'S WAVESECURE protects Android, BlackBerry, Symbian S60, and Windows Mobile phones.

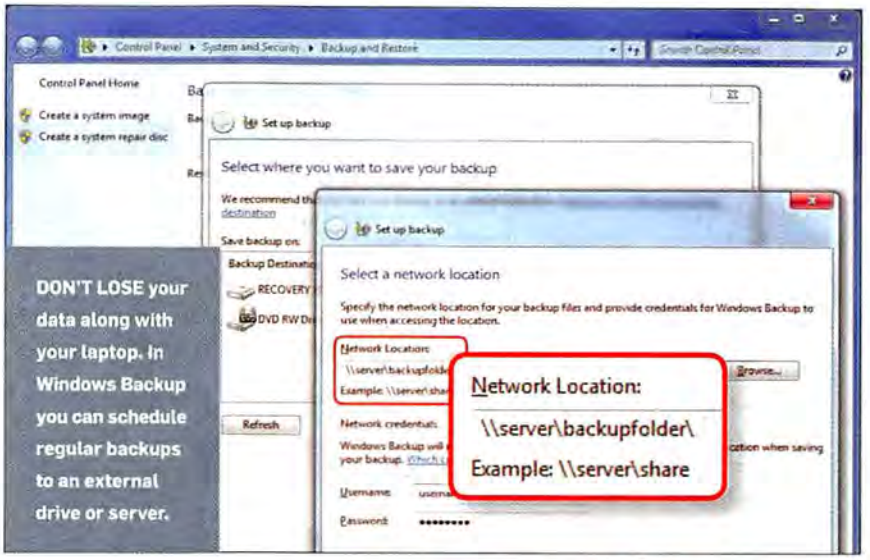
For $20 annually, WaveSecure enables you to track the location of your phone, monitor its call log, and detect whether someone has changed its SIM card, all via a Web browser. In the event that your phone is lost or stolen, you will quickly have a pretty clear idea of where it is and what it's up to.

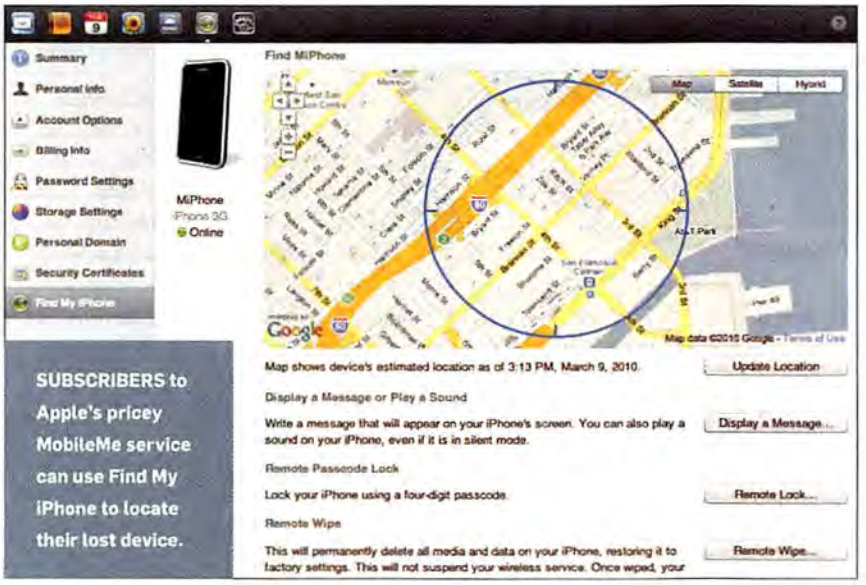
WaveSecure also lets you remotely back up the contents of your phone to the secure server and then wipe all of your data from the device. So even if the phone falls into the hands of a thief, none of your personal information will be at risk. After removing the data, you can either turn the location information over to the authorities in hopes of getting your phone back (don't count on it) or forget the stolen handset and use the insurance you bought from your carrier to purchase a replacement, and then download the backup of your data onto the new device.

Apple offers a similar tracking service, called Find My iPhone, for iPhone users. But you can get Find My iPhone only as a component of Apple's MobileMe service (find.pcworld.com/69861), which costs a whopping $99 per year (or $149 for a four-user family pack).

To its credit, the Find My iPhone interface is relatively slick and works very well. Like WaveSecure, Find My iPhone lets you track your phone's whereabouts and send a custom message to whoever may be holding it at the moment. It also allows you to wipe out the phone's contents remotely and lock the handset with a passcode remotely (in the event that you failed to set one up before losing the device).

Palm Pre users can obtain similar protection by signing up for Where Is My Pre (find.pcworld.com/69862). The premium version of this service, which costs $2 per month, enables you to view your phone's location on a map, send messages to the device, modify the phone's preferences remotely, and even take pictures with the phone's Webcam remotely to see who's holding it.





Protect Your Laptop From Loss or Theft

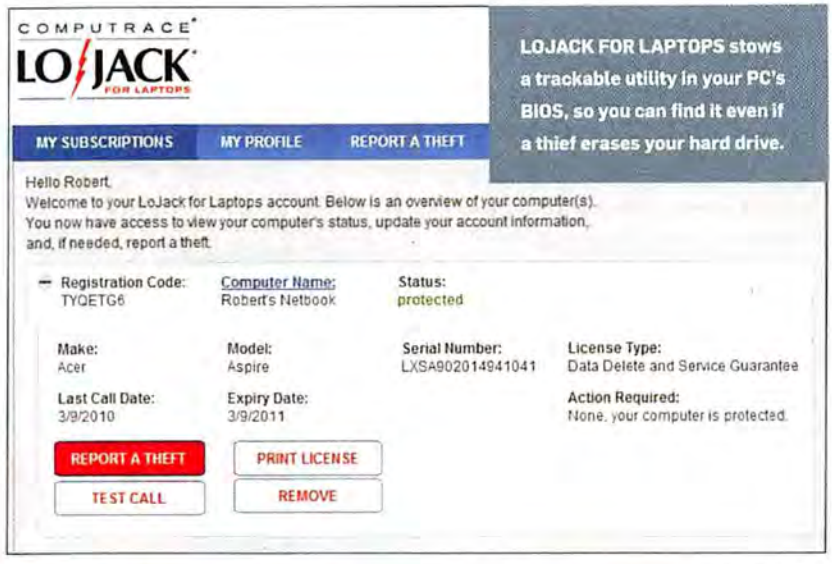
Losing your smartphone is bad enough, but losing your laptop can wreak serious havoc in your life. When your PC skips out on you, not only must you cope with lost data and the risk of having your information compromised, but you must also replace the laptop, which can be an expensive proposition. I'll explain how to improve your odds of getting your laptop back if it's lost or stolen, and share a few tips for securing your personal and business data.

Record your assets: A cheap laptop may cost as little as $400, but many business users and gamers carry machines worth $1500 to $2000—or more. Regardless of how much money you spent on your laptop, it's wise to keep receipts related to your purchase, take a picture of your laptop, and register it on your homeowner's or renter's insurance policy. That way, losing your laptop won't have to be a huge financial burden on top of all the unavoidable hassles you'll face. (For more tips on dealing with insurance companies, see "Insurance Assurance" on page 90.)

Back up often: If you haven't been backing up your data as frequently as you should, don't feel bad—just go »

do it. Do it now. Do it weekly. But don't simply copy your files onto DVDs. Perform full system backups to a reliable, high-capacity external drive using Windows Backup or a similar backup utility. For a complete guide to using Windows Backup, see "Create Idiot-Proof Backups With Windows' Built-In Tools" (find.pcworld.com/69863).

Back up redundantly: In addition to getting into the habit of maintaining a local system backup on an external drive, it's smart to back up your most important data (or even your entire system) to a remote, cloud-based service such as Mozy (mozy.com). That way, if catastrophe strikes your home or your office, you'll still have all of your information saved in a separate, secure location. For advice on selecting an Internet backup service that meets your needs, see "Find the Right Online Backup Service" (find.pcworld.com/69864).



Install a Recovery App and Sign Up With a Tracking Service

If your laptop is stolen, you have about a 2 percent chance of getting it back. But your odds can drastically improve if you run a tracking and recovery app such as zTrace (ztrace.com) or LoJack for Laptops (find.pcworld.com/69865).

For about $60 per year, with tracking service, these apps hide in your PC's BIOS and periodically connect to the Internet to report their location. If »

Insurance Assurance

TECHNOLOGY CAN BE expensive. Fortunately, many homeowner's and renter's insurance policies cover lost, stolen, or damaged electronics. But cutting through the red tape and getting full value for your lost equipment takes some effort. Here's what you need to know.

First, be sure to keep records of all of your expensive purchases. Whether it's a shiny new laptop or a portable projector, any device whose value exceeds your insurance deductible is worth recording on your insurance policy.

At a minimum, keep your original purchase receipt in a safe place, and record the product's serial number along with it. You might want to take a photo of the device, too, and keep that picture with the receipt and the serial number. That way, even if you can't locate exact model information later on for some reason, you'll have a clear record of what it is you've lost.

For an industry that constantly deals with unforeseen events, insurance companies hate surprises. So call your insurance agent and arrange to add your devices to your policy. Giving the insurance company information about the date of purchase and the amount paid, as well as the model and serial numbers, will streamline the process of getting reimbursed if the device goes the way of the laundry sock.

If your equipment gets lost or stolen, you'll have to do some legwork before the insurance company will cut you a check. In particular, you may need to file a police report about your loss and provide a copy of that report to the insurance company. Though the police are unlikely to find your laptop (or even care that it is gone), the paperwork will demonstrate to your insurance carrier that you've tried to recover it. If you don't present it up front, your agent will probably contact you weeks after you file your claim to ask for one—and that will mean a longer delay before you get your money.

Do the work early, and you'll take a lot of the hassle out of the process of obtaining reimbursement for a stolen gadget.

ILLUSTRATION: EDWIN FOTHERINGHAM

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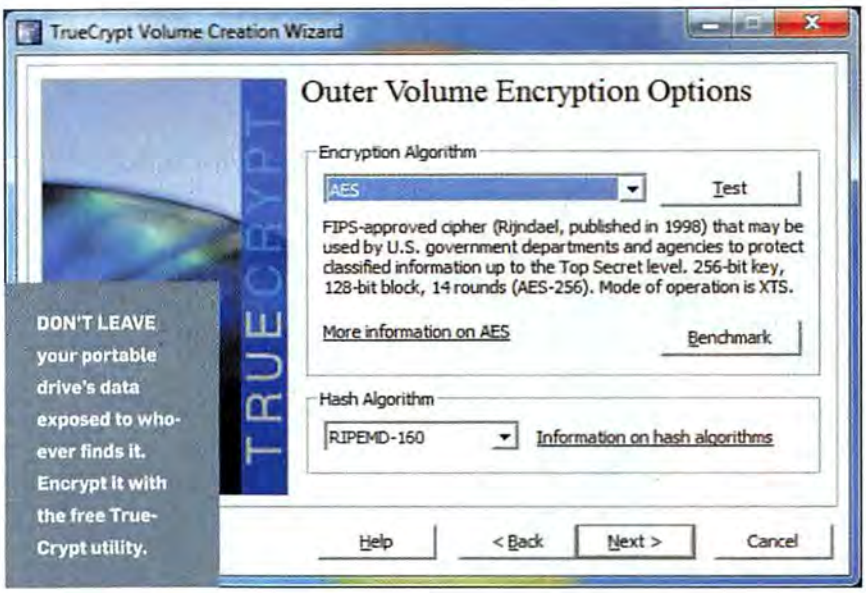
your laptop disappears, just contact the company to activate tracking and recovery services that will respond to a signal from your laptop and record its location with surprising accuracy, based on the IP address that it connects from.

Once either LoJack for Laptops or zTrace locates your laptop, the service will work with the appropriate law enforcement authorities to investigate the theft and reclaim your equipment. In addition, you can initiate a remote data wipe that immediately begins erasing everything on your hard drive in a manner that the local user can't interrupt or override. That way, even if the police never find your computer, your data won't fall into the wrong hands.

Of course, not everyone is dishonest, and your laptop might find its way into the possession of a well-intentioned soul who wants nothing more than to return it to you. For such an eventuality, it makes sense to label your laptop with your name, phone number, and e-mail address; a Good Samaritan who finds your laptop can then ring you up and arrange to reunite you with it.



DON'T LEAVE your portable drive's data exposed to whoever finds it. Encrypt it with the free TrueCrypt utility.

Protect Your Other Mobile Tech Gear

Laptops and cell phones aren't the only devices that can cause trouble when they stray from their owners. Losing e-book readers, media players, GPS devices, portable hard drives, and even thumb drives can be expensive in terms of both replacement costs and data loss.

Most specialized mobile devices can't run high-end tracking and recovery software, but you can make them less anonymous by labeling them with recovery tags. One approach is simply to print your name and phone number on a return address label and affix it to the device, but you may get better results from a professional asset-recovery service like StuffBak (stuffbak.com).

For about $10, you can buy a preactivated aluminum asset tag from StuffBak, preprinted with a unique ID number, StuffBak's Web address and toll-free phone number, and a reward offer that gives whoever finds the device an incentive to return it. When the finder reports the device's ID number to StuffBak, the company will arrange for a courier to pick it up and return it to you.

StuffBak's labels come in various sizes, ranging from tiny circles for cell phones and thumb drives to large, highly visible tags for laptops to wraparound labels that you can affix to the zipper of a travel bag.

Portable hard drives can be particularly troublesome to lose, because you don't want to share the data on them with the world. To protect your business and personal information, consider using a robust utility such as the open-source TrueCrypt software (find.pcworld.com/69866) to encrypt the drive.

TrueCrypt creates a secure volume on your disk, encrypting data on the fly as your PC reads and writes from the drive. When you first access the drive after connecting it, you simply enter a strong password; thereafter, it functions just as any other drive does. But if the drive ever gets lost, anyone who tries to read what's on it will have difficulty doing so. TrueCrypt works on USB keychain drives, as well. ●

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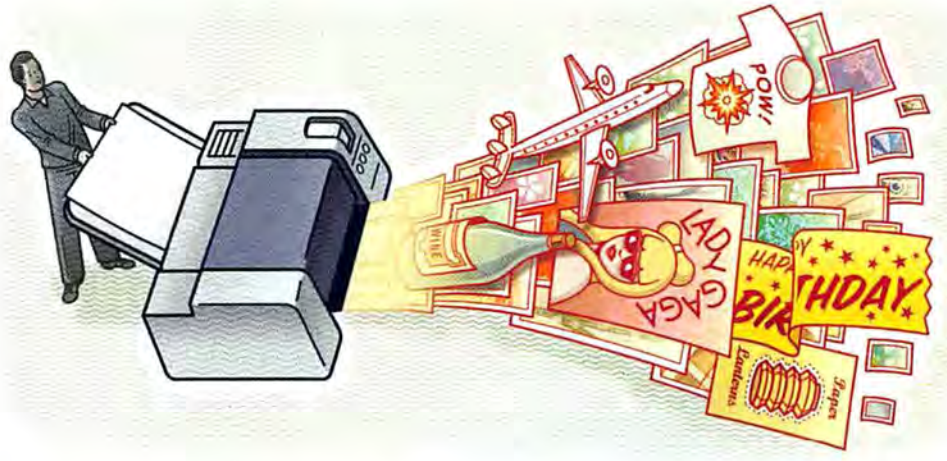
Here's How

Eight Creative Projects for Your Inkjet Printer

Printers can do a lot more than spit out business reports and family photos. These eight tips can help organize your life, decorate your space, and beat boredom—with an inkjet printer.

BY PATRICK MILLER



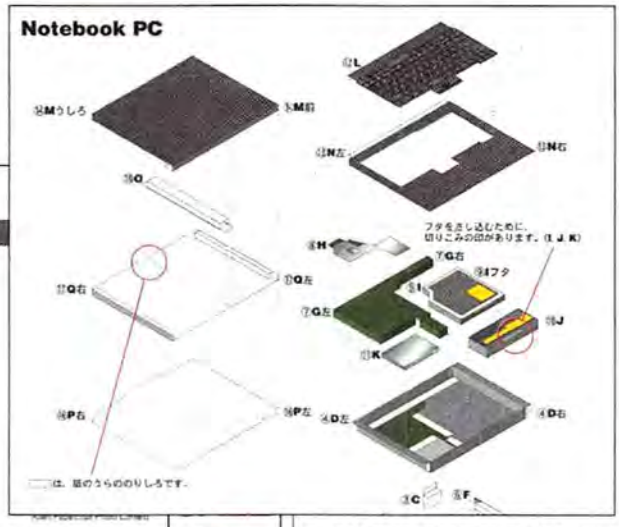
THINK YOUR HOME inkjet printer is good only for printing out boarding passes and driving directions? Give it a new lease on life. Here's how to use your printer to label things, play games, design a clothing line, and more. Whether you happen to be feeling productive, playful, crafty, or creative, there's a project here for you—and it won't require specialized (or expensive) equipment.

Note: For links to all of the applications and sites mentioned in this article, browse to find.pcworld.com/69850.

1. Make super models: You don't need to buy a huge kit or a set of expensive tools to start building models. Just look into papercraft, a do-it-yourself modeling community that uses only printers, paper, and tape. All you have to do is print out the model sheets, cut out the pieces, and follow the instructions; they can be as simple as a basic box shape or as complicated as the papercraft replica shown at lower left of a classic IBM Thinkpad laptop, complete with accurately modeled internal parts.

Paperkraft.net is a good place to start hunting for projects. This papercraft blog site is updated daily with all kinds of new models, including plenty of contributions based on retro tech, sci-fi, and video game themes. (My favorite is the official Street Fighter II set.)

2. Print posters: You don't need to break the bank at your local music store to plaster your wall with pics of your favorite band. Here's a faster, cheaper, and easier way: Just pull a few high-res



PAPERKRAFT.NET SHOWS you how to make a paper model of a classic IBM Thinkpad laptop.

ILLUSTRATION: PETER AND MARIA HOEY

images from Google Image Search, and feed them into a poster-printing app; then print out each of the images in letter-size sections from your printer, and assemble the full-size posters yourself.

Some inkjets can print full poster-size pages (look for the option in the Page Setup dialog box), but I prefer to use either Rasterbator (find.pcworld.com/69888) or Easy Poster Printer (find.pcworld.com/69889), two apps that can divide an image into easy-to-print letter-sheet-size chunks that you can tape together.

This approach is particularly useful for students who have a small budget for dorm decorations (and some extra printer credit at the end of a semester) and who really want some larger-than-life LOLcats on their walls. Of course, you'll have to shell out for photo-quality paper if you want your posters to have that glossy look, but it's still cheaper than buying posters from a store, and you won't be limited to the store's selection, either.

3. Get organized: Whether you need to label your file folders, affix name tags to your personal possessions, or simply remind yourself that a stapler is, in fact, a stapler, your printer can help you get the job done.

Load up any inkjet printer with a label sheet, and in short order you can guarantee that everything in your house or home office has a clean, organized look. With the right templates, your printer can push out everything from address labels to name tags. If you're using Avery label sheets (or cheaper brands with the same dimensions, like Worldlabel), be sure to grab the Avery Wizard app for Microsoft Office—the manufacturer-supplied templates can help you avoid misprints, thereby saving time and money.

EASY POSTER PRINTER is an application that lets you blow up an image into printable letter-sheet-size chunks that you tape together.

Street-Cred Labels

But why stop there? Your stack of burned discs with barely legible permanent marker tags are so 1998. Give your carefully crafted mix CDs extra street cred with print-out disc labels. If your inkjet printer is one of several models from Epson or HP (qualifying machines include the HP Photosmart D5360 and C5280, and the Epson Artisan 50/710/810 and Stylus Photo 1400 and R1900), it may come with a special tray that supports direct printing onto special CD/DVD disks, saving you the hassle of having to buy separate disc labels and the risk of messing up an optical drive if the label comes off or becomes stuck.

Home brewers and vintners, meantime, will want to grab some waterproof labels to class up their operation a bit—how can you impress people as a do-it-yourself beer or wine snob if you label your bottles with masking tape and Magic Marker?

4. Get your (old-school) game on: An inkjet printer may not be much of a match for an Xbox 360 or a PlayStation 3, but with a little imagination on your part, it can be a pretty solid game machine in its own right. Lots of simple print-and-play games like word searches, crossword puzzles, and dot-and-boxes sheets are readily available on Google if you're looking for a low-tech way to amuse yourself (or the kids) during long car rides. HP even has a printable version of tabletop football available, in case you feel your finger-flicking field goals need more flash.

RINGMASTER IS ONE of many paper-formatted games from BoardGameGeek.com that you can download and print out for playing.

But vatious printer games cater to the more discriminating gamer, as well. Start by hunting through BoardGameGeek.com, a Web site devoted to the art (and craft) of making and playing board games, many of which are free to download, print, and play. Use the site's Advanced Search button, click *Filter on Board Game Category,* and then check the *Print and Play* box to see a full list of games with instant gratification.

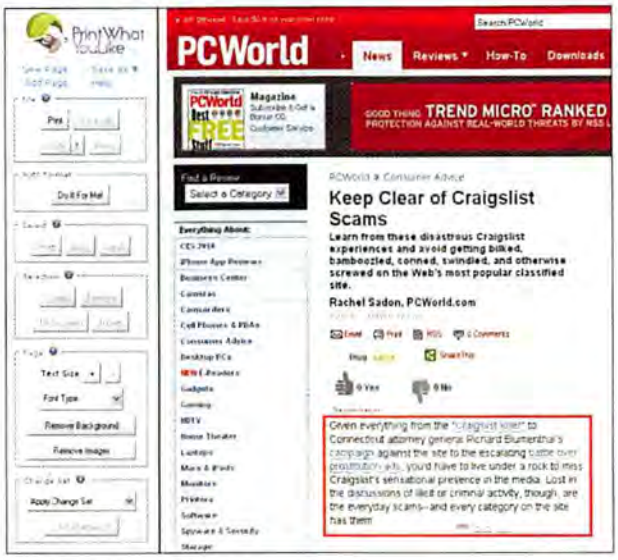
Your printer can supplement your existing gaming habits, too. Dungeons and Dragons enthusiasts can use the D&D Character Builder app (find.pcworld.com/69887, free demo available) to keep track of their characters and loot, complete with readily printable character sheets. Feel like getting back into Magic: The Gathering, but don't want to fork over obscene amounts of money for cards? The MagicCards.info site can link you to printable proxy images of every card in every series, so you won't need to take out a second mortgage to play again.

5. Conserve ink on your Web printouts: By now, any decent Web page should have a link to a "printer-friendly" ver- »

sion of its content, especially for things like reservations, e-tickets, articles, and maps.

Save Paper, Too

Sometimes, though, these printer friendlies just aren't that great. Maybe you're running low on ink but the page won't print without the images, or maybe the formatting is off and you're faced with wasting paper. Never fear, PrintWhatYouLike.com is here. Plug in a URL (or use the handy-dandy bookmarklet), and the site will open a copy of your desired Web page, with a sidebar that lets you pick and choose which text fields, images, and other page elements to print and how it should look.



THE SIDEBAR (at left) at PrintWhatYouLike.com is a tool that allows you to pick only those elements of a Web page you want to print.

6. Design your summer line: Funny T-shirts may be plentiful, especially from online stores such as Threadless or BustedTees. But at $20 pop, the cost-to-chuckle ratio is laughable. Making your own out of plain T-shirts and iron-on inkjet transfers is significantly less expensive: Iron-ons cost about $6 apiece.

Do-it-yourself designs can be a great way to liven up your T-shirt wardrobe without spending more than you do on work clothes—and if you find that some of your designs have staying power, you can arrange to get those T-shirts printed in a more permanent form elsewhere. (Visit find.pcworld.com/69851 for additional tips on T-shirt design and printing.)

You don't need to stop at T-shirts, either. Most iron-on transfer sheets work with any fabric blend that is at least 50 percent cotton, which means that you can print your own tote bags, trucker caps, and more.

HP'S CREATIVE STUDIO for Home invites site visitors to download printable materials for party themes and home decorating projects.

7. Throw a party: *Party* may not be the first word that springs to mind when you think of inkjet printers. But the Internet hosts a mind-boggling array of free (and printable) party decorations: Canon's Creative Park, Epson's CreativeZone, and HP's Creative Studio for Home are good places to start looking online for party kits for everything from pirate parties to Kung Fu Panda lanterns. You can also download plenty of home decorations to spruce up your home or party venue, including a collection of projects by Martha Stewart. Banners, invitations, place settings, nametags—they're all downloadable for kid parties and adult parties alike.

8. Take close-up photos: If you have a multifunction printer that comes with a built-in scanner, here's how to move beyond boring old document scanning: Use the MFP to take close-up shots, just by putting things directly on the scanner glass. This technique is known as *scanography*, and the results can be both beautiful and bizarre.

Art From Scanners

Scanners typically have a rather shallow depth of field (about half an inch at most), and they take much longer to process an image than a digital camera does, so the clearest images come using flat inanimate objects, like flowers and leaves, which can yield a very vivid high-resolution image in a way that a camera cannot.

Scanner limitations can be used for other artistic effects, as well. Scanning a human face, say, will obscure most of the face in shadow (due to the field depth), and if the subject moves, the image will be "wavy" and distorted.

From this point forward, what you decide to scan—or print, or design—we leave up to your imagination.

A SCANOGRAPHY IMAGE by artist Christian Staebler illustrates the medium's potential for beauty and strangeness.

Fact or Fiction? Six HDTV Myths Demystified

Shopping for an HDTV? Complexity, confusion, and potential pitfalls await. We look at six of the most confounding HD concepts to help you avoid the hokum and buy with confidence.

IF YOU'RE BUYING your first HDTV or an upgrade from a starter set, your new television may deliver a better picture than the one you're used to. But picking the right HDTV can be confusing, especially given the cavalcade of claims that surround HDTVs. Some were true for first-generation sets but have little relevance now, some remain valid, and some were never true.

I'll highlight several of the most prominent assertions made on showroom floors and explain the realities, along with tips on buying an HDTV, selecting the best content, hooking up the set at home, and more.

1. 'HD' means a specific quality standard.

FALSE

Though "HD" does stand for "high definition," HDTVs come in several resolutions; and in any event, a set's resolution doesn't completely determine the exact image quality you'll see on your screen. For one thing, screen sizes vary. Other factors affecting the picture include the transmission—over the air, via cable, by satellite, or from the Internet—and the original source material.

These variables help to explain why you can get high-def content from Amazon, Hulu, iTunes, Netflix streaming, a Blu-ray disc, and other sources, and yet encounter wildly different picture quality.

The basis for the broadcast signal standards is ATSC (Advanced Television Systems Committee), and even that has many options.

If you have an HDTV set and a digital tuner, ATSC governs your over-the-air signal. ATSC content may be in either standard-definition (4:3 or 16:9 aspect ratio) or high-definition (16:9 aspect ratio) format, with the resolution varying accordingly. A standard-definition transmission consists of 4:3 images transmitted at a resolution of 640 by 480 pixels.

The most familiar of the HD resolutions are 720p (consisting of a 1280-by-720-pixel frame) and 1080i (composed of 1920-by-1080-pixel images). The *p* stands for "progressive scan," meaning that the TV set creates the image by continuously redrawing the frame, line by line. The *i* stands for "interlaced," meaning that halves of the full frame are shown 60 times per second, but your eyes combine them into a full-frame image reproducing itself at a rate of 30 frames per second. At the same resolution, an image in progressive format looks better than an interlaced one.

Over-the-air broadcast standards top out at 720p and 1080i, but you can obtain the full 1920-by-1080-pixel frame in 1080p from Blu-ray discs, certain Microsoft Xbox 360 models, and Sony PlayStation 3 consoles.

Compression and bit rate also factor into picture quality. A Blu-ray disc should look better than a cable TV feed of the same content at the same resolution—the disc has more bandwidth than the cable broadcast.

When choosing for picture quality, remember: 1080p is at the top, 720p and 1080i look similar, and anything below them won't be as good. Keep those terms in mind—they're official standards, not marketing terms.

WHETHER YOU SHOULD buy a 1080p HDTV (at the top of the quality chain) depends largely on the size of the screen—and your budget.

2. DRM can prevent content from playing on your HDTV.

TRUE

Digital rights management (DRM) tools prevent you from copying copyrighted content. In most cases, HDCP—High-bandwidth Digital Content Protection—is the benevolent cop. HDCP is a handshaking protocol that provides a foundation for DRM. (The actual DRM can vary or be hidden, so look for HDCP labeling.) To avoid any problems, though, you need to use the correct gear.

HDCP works with Blu-ray discs, digital downloads, and other content sources. The technology checks for an unbroken digital connection from your content source to your TV. If the digital connection breaks off—perhaps because you connected to an unauthorized splitter or are using an analog feed—HDCP will detect that fact. In such situations, using DRM enforcement, HDCP can throttle your show quality or stop you from watching at all.

To ensure—or to be as sure as possible—that DRM won't prevent you from watching shows, connect an HDMI or DVI cable between your source and your TV or monitor. (If you use HDMI, then by default you have an HDCP-protected connec- »

tion, and you're good to go. But if you try to use a monitor or an older HDTV with DVI as a display device for protected content, verify in their manuals that both devices support HDCP.) If you need to connect to a splitter, receiver, or other device in the middle, make sure that it supports HDCP, too.

3. You're in imminent danger of burn-in from letterboxing and on-screen graphics.

FALSE

Burn-in is no longer a serious issue for HDTVs. Years ago, static graphics from network TV logos, video games, and letterbox bars could wear unevenly on a TV. If you left your set on and tuned to a station showing such stationary elements for hours at a time, you might have seen them lingering when you tried to watch other content. First-generation plasma screens were most susceptible to this effect.

LCDs and other types of TV display haven't exhibited this issue, and recent plasmas have incorporated effective countermeasures. If you're buying a new set, don't worry about burn-in.

Plasma TV watchers may encounter temporary image retention—which can look the same as permanent burn-in—but this is not a major problem. Static images imprint themselves in a way reminiscent of permanent burn-in; but in this case, the pattern fades away with normal use. To speed up the process, play a station that's showing snow (static), use a PC utility such as JScreenFix (jscreenfix.com), or activate the TV's built-in mode to clear the problem.

4. Brand-name cables are worth the cost.

FALSE

Don't buy cables on the basis of their brand name. A cable's connector type, length, and gauge are the most important factors in signal quality.

Choose a digital cable if possible—either HDMI or DVI (almost all new HDTVs will include a digital connection). Such cables can carry a 1080p signal (if your content supports it), will play nicely with DRM, and won't pick up interference the way an analog cable can.

If you don't have a digital connection, you can still obtain signals at up to 1080p via component cables. The resulting picture quality should still be first-rate. But if you drop down to a lesser cable type—S-Video or a single, composite RCA cable—say good-bye to your HD signal. At a minimum, your HD-compatible devices should have component, DVI, or HDMI ports. In addition, they probably have S-Video and composite ports for compatibility with older sets; avoid those ports.

Whatever your situation, get the shortest cables that can make the connection you need. Extra loops may pick up interference and distort analog signals; also, if the cabling runs over entire rooms, the extra length may degrade image quality.

Thicker cables can improve quality, but the difference is greatest in speaker wire. Consider buying thicker-gauge cabling if it must run 50 feet or more.

You can save on cables at a site such as Monoprice.com, where you can expect to pay a few dollars for nearly any cable type, rather than $20 to $50 for a single, brand-name HDMI cable.

5. A TV with a faster refresh rate can look better than a slower TV.

TRUE

In the past few years, vendors have marketed TVs with refresh rates of 120Hz, 240Hz, and beyond. These sets can interpolate frames between the ones you'd normally see, thereby smoothing out fast screen motion through enhanced picture processing.

PCWorld's HDTV testing has demonstrated a correlation between high refresh rates and smoother image quality in TVs. But we occasionally see high-refresh-rate TVs whose images look more jittery than those on 60Hz sets. That discrepancy occurs because smooth motion performance depends on the combined operation of the panel's refresh rate and the software algorithms inside the set.

As 3D-capable TVs come to market, refresh rate will play an increasingly important role in picture quality. One technique used to produce 3D effects requires input and playback of a 120Hz signal. (Practically all current TVs accept only a 60Hz signal, regardless of their advertised refresh rate.) Look for 3D branding and a 120Hz input in those cases.

6. If you don't buy a 1080p HDTV, you're wasting your money.

FALSE

In all likelihood, you want a 1080p HDTV—and you should be sure to get that resolution if your set has a diagonal screen size of 32 inches or greater, since you'll be able to see the additional resolution on a big screen from across the room. Furthermore, there's no reason to avoid a 1080p HDTV if it doesn't cost substantially more than sets with alternative resolutions, given that 1080p is becoming ubiquitous. If the difference is within $100, I recommend going for a 1080p set if your budget can handle it.

But on a smaller HDTV, you probably won't see any improvement in picture quality from 1080p versus 720p. And you may not even have any 1080p sources to exploit: Over-the-air broadcasts and most cable feeds top out at 1080i.

If you are getting one of the bigger sets or are connecting 1080p sources such as a Blu-ray player, a Microsoft Xbox 360, or a Sony PlayStation 3, a 1080p set is your best bet. But in many other situations, a 720p set will perform just as well for all practical purposes.

—Zack Stern

Open Frequently Used Folders With Two Clicks

SO YOU'VE MADE the move to Windows 7—but are you really taking advantage of all the little tricks that this operating system has to offer?

For example, I'm a huge fan of the Windows Explorer icon that has finally taken up permanent residence on the taskbar, because this icon provides one-click access to my folders and libraries.

But did you know that this icon has other tricks up its sleeve? By right-clicking it, you summon a pop-up list (or Jump List, in Windows 7 parlance) of the folders you most frequently access. Left-click the folder you want, and presto: It opens instantly.

That's much, much faster than any of the old ways of finding your favorite folders. And speaking of favorites, you can easily make any folder a "permanent" part of the Jump List—just mouse over it and click the little pushpin icon that appears on the right edge.

Now that particular folder will appear in the Pinned section of your list. So even if it's not a frequently used folder, you'll always be able to open it with just two clicks. (You can remove, or "unpin," it just as easily by clicking the pushpin again.)

Keep in mind that all this listing and pinning will not make any changes to the contents or locations of your folders; this trick merely gives you an easier way to gain entry to them.

—Rick Broida

IN WINDOWS 7, to set quick access to a folder, simply mouse over it and click the pushpin icon to keep it on your Jump List.

ANSWER LINE **ASK YOUR QUESTION AT FORUMS.PCWORLD.COM**

What chores should I do regularly to keep my computer healthy?

—Ruption18, PCWorld.com forums

HERE ARE the regular PC maintenance tasks I recommend.

Daily: Back up your data every day. You don't want to lose yesterday's work any more than you want to lose last week's. See "7 Backup Strategies for Your Data, Multimedia, and System Files" (find.pcworld.com/69433), and use one of the first three strategies.

Weekly: Scan for malware. No real-time antivirus program is perfect, so to be on the safe side, get a second opinion every week by scanning with another security program—something reliable and free, and it doesn't need to provide real-time protection. I recommend either Malwarebytes' Anti-Malware (find.pcworld.com/69870) or SuperAntiSpyware (find.pcworld.com/69869). I use both, running one the first week and the other the second.

Monthly: Defrag your hard drive. Over time, files become fragmented, split over multiple physical parts of the drive. Fragmentation can slow your PC and render lost files less retrievable.

Windows comes with a perfectly fine defragger. In Windows Explorer, right-click the C: drive and select *Properties*. Choose the *Tools* tab, and then click the *Defragment Now* button.

XP users get a button to start the defrag. Vista and Win 7 add an option to schedule the defragging. For more on Vista defragging (information that's also applicable to 7), see find.pcworld.com/69871.

Monthly: Scan your hard drive for errors—problems with the disk that could make parts of it unreadable. Do this chore when you defrag—both tasks start on the C: drive Properties' Tools tab.

To scan the drive, click *Check Now*. Check both options, and then click *Start*. An error message will tell you that Windows can't check the disk while it's in use. Click *Schedule disk check* (Vista or Win 7) or *Yes* (XP). Next time you leave your computer for a few hours (perhaps overnight), reboot. The scan will take a considerable amount of time before the drive is ready for regular use.

Twice a year: Back up your hard drive as an image—it could be a lifesaver. For more details, see Strategy 5 in "7 Backup Strategies for Your Data, Multimedia, and System Files," mentioned above.

—Lincoln Spector

AS A COMPLEMENT to a real-time antivirus app, use a free security program like SuperAntiSpyware to scan your files once a week.

Fix a Computer That Won't Stay Asleep

MY BUDDY DOUG had a problem with his laptop: After putting it to sleep (that is, into Standby mode), he'd come back a while later to find it wide awake.

Such behavior has countless possible culprits: an accidental swipe of the mouse, a scheduled system task, or a setting in Windows' power options.

Doug pored through those options, but no sleep or hibernate setting seemed to remedy the situation.

Here's another place to look: the settings for the ethernet adapter. (Doug's machine was plugged directly into his router.) Follow these steps to see if it fixes the same issue on your PC:

1. Open Windows' Device Manager (right-click *My Computer,* click *Manage,* and then click *Device Manager*).

2. Click the plus sign next to *Network adapters,* and then find the ethernet adapter for your system. (On mine, the adapter is called Broadcom NetLink Gigabit Ethernet.)

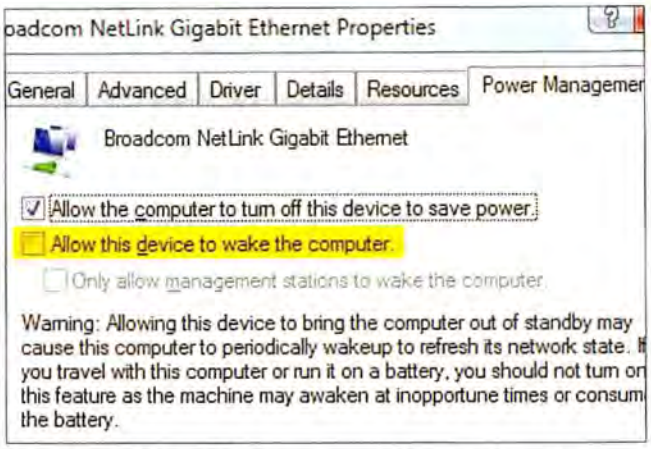
3. Right-click the adapter name and choose *Properties.*

4. Click the *Power Management* tab, and then clear the checkbox next to *Allow this device to wake the computer.*

5. Click *OK,* and then restart the computer.

This may or may not solve your PC's insomnia, but it did the trick for Doug. Internet access—either inbound or outbound—was causing the PC to wake from Standby mode. Disabling the ethernet adapter's support for that capability should allow the system to stay asleep.

—Rick Broida



UNCHECKING A SETTING for your ethernet adapter that lets Internet access wake your computer can keep Sleep mode uninterrupted.

ANSWER LINE

ASK YOUR QUESTION AT FORUMS.PCWORLD.COM

Why does my PC sometimes slow to a crawl? What should I do about it?

—Shermlindcastle, Answer Line forum

FIRST, CHECK FOR an infection—the most dangerous (but not the most likely) possible cause. It's relatively easy to identify and fix.

If your PC is infected, your regular, always-on antivirus program has failed and may be compromised. Try the free version of either Malwarebytes' Anti-Malware (find.pcworld.com/69870) or SUPERAntiSpyware (find.pcworld.com/69869). Better yet, try both.

If the scans don't find anything, chances are your PC isn't infected. But your Registry could be corrupted, and a scan of that should be your next step. In fact, such a scan solved the reader's problem: CCleaner (another excellent, free program; find.pcworld.com/63017) found 200 Java errors. The fix was to uninstall and reinstall Java.

No luck so far? Start searching your memory (your brain's, not your computer's). When did the problem start? What did you do to the PC just before that? Did you install anything new? Did you allow Windows or an application to conduct a major upgrade?

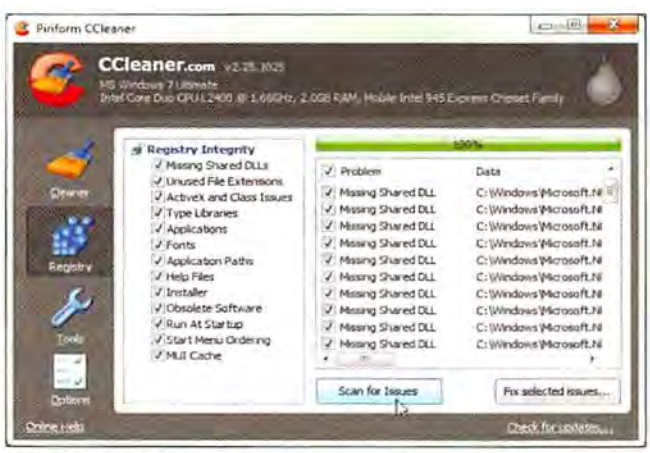
Also, note what programs are running, and what peripherals you're using, when it happens. Keep a journal—on paper.

Another idea, suggested by forum moderator Scott Maxwell, is to keep an eye on your system's processes: When things are fine, right-click the taskbar and select *Start Task Manager.* Click the *Processes* tab, and then click the *CPU* column heading once or twice to put the most demanding processes on the top. Keep Task Manager running at all times. Then, when your PC slows down, check the Task Manager window to see what is at the top of the list.

When you've identified the culprit, find out if the program has an update or a bug fix; if it has none, complain to the manufacturer.

Or uninstall it. Don't use the program's own uninstaller (or Control Panel's removal tool—it just launches the program's uninstaller). That may disable the program but leave behind the problems. Instead, use the free, portable version of Revo Uninstaller (find.pcworld.com/64314) or the $30 Total Uninstall (find.pcworld.com/69872). The free version of Revo can't handle 64-bit apps, and Total Uninstall is better when an uninstall requires a reboot.

—Lincoln Spector



CCLEANER IS A free utility that can scan and clean up your Windows Registry (if it's corrupted), allowing your system to run faster.

Found! Handy New Shortcuts for Microsoft Word Documents

THIS MONTH I have three tips for working better in Word. One is a convenient way to move paragraphs; another lets you quickly add temporary, dummy text; and the third removes unwanted hyperlinks (but, of course, leaves the text of the links in place).

Let your keyboard move paragraphs, use a shortcut to add dummy copy, and remove unwanted hyperlinks from pasted text.

Move Paragraphs Via Your Keyboard

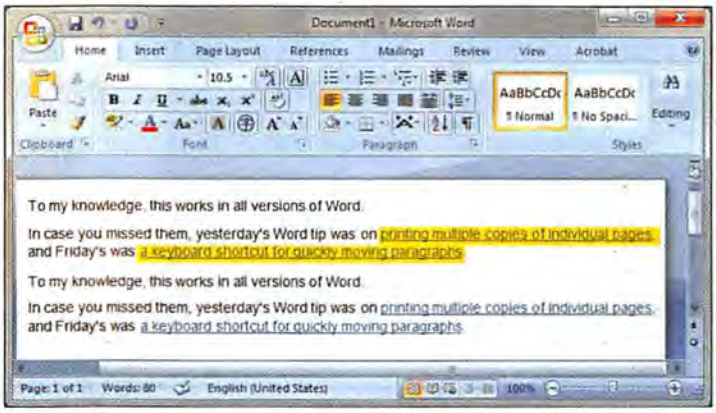
Every time I think I've mastered all the coolest keyboard shortcuts, along comes another that I somehow missed.

For example, like many folks, I spend a lot of time working in Microsoft Word. And I thought I knew all the best shortcuts, such as using the <Home> and <End> keys to jump my cursor around a document—to say nothing of the venerable cut/copy/paste/undo commands.

But here's a great pair of shortcuts for people who prefer to keep their fingers on their keys and off their mouse: **<Alt>-<Shift>-<Up Arrow>** and **<Alt>-<Shift>-<Down Arrow>**.

When you place your cursor anywhere inside a paragraph and then press either of these key combinations, that paragraph jumps up or down, effectively switching places with the paragraph that previously was above or below it.

Neat, huh? Well, I can't take credit for this one. My buddy Dave clued me in to the joys of instant paragraph transposition.



A KEYBOARD TRICK strips multiple unwanted hyperlinks out of Word text: Select the paragraphs containing the links, and press <Ctrl>-<Shift>-<F9>. This maneuver doesn't otherwise change the formatting of the selected text.

Quickly Add Filler Text to Your Document

Ever need to add some filler text to a Word document—you know, the "lorem ipsum dolor" stuff that you routinely see in document mock-ups, presentation materials, and the like?

A secret Word 2007 shortcut makes adding such filler content surprisingly easy. Just type either of the two following lines:

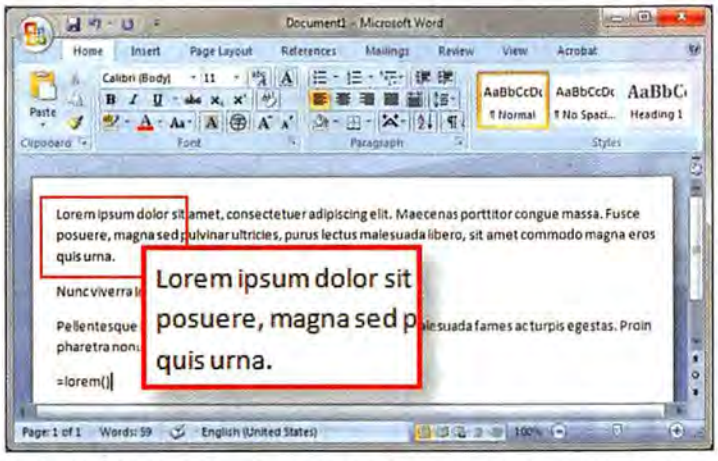
=rand()

=lorem()

and then press **<Enter>**. The first of these lines will generate three paragraphs' worth of random text, and the second will produce three paragraphs of *Lorem ipsum* gibberish. You can repeat the shortcut as necessary to add more filler text to your document. In Word 2003, the =rand() shortcut will yield three paragraphs of "The quick brown fox..." filler text, but =lorum() won't do anything.

No filler text? You may need to venture into Word's settings and enable a particular option. Here's how to proceed in Word 2007:

1. Click the *Office* button, and then click *Word Options*•*Proofing*•*AutoCorrect Options*.
2. Enable the checkbox next to *Replace text as you type*.



WITH 'REPLACE text as you type' enabled in Word 2007, typing '=lorem()' will insert dummy text into a document—useful in mock-ups and presentations.

Strip Hyperlinks From Pasted Text

I often copy text from e-mail messages, Web pages, and other online sources into Word documents; but besides obtaining the text, I always get a bunch of unwanted hyperlinks for Web pages and e-mail addresses.

I could select *Edit*•*Paste Special*•*Unformatted Text* instead of **<Ctrl>-V** to paste unlinked content into Word at the outset, but what if linked text is already there?

One approach is to right-click the linked items one by one, and choose *Remove Hyperlink* from the resulting menu; but that's a slow way to get rid of multiple links.

Thankfully, there is a fast, easy, and automated alternative: Select the entire block of text, and then press **<Ctrl>-<Shift>-<F9>**. Presto: The hyperlinks are gone, with only the unlinked text you want (on some PCs, the former link text may be underlined and in color).

To my knowledge, this works in all versions of Word. ●

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The Back Page

Preorder...and Wait

APPLE MAY HAVE generated online hysteria back in March when it started accepting preorders for the iPad, which was slated to start shipping on April 3. But it seems Apple's got nothing on Buy.com, which will allow you to preorder the DVD of *The T.A.M.I. Show*—as long as you're willing to wait, oh, roughly 27 years to take delivery. Thanks to sharp-eyed reader Dick Frank for spotting this Web gem.

Android Style

Google's iconic Android robot seems to be popping up everywhere these days, which inspired the wits at GDS Digital to give the Android treatment to other cultural icons. You can see more GDS Digital work at usfst.com and cxo.eu.com.

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Plugged In

Geek Appeal According to an online survey, women prefer pudgy geeks over hard-bodied musclemen. According to every singles bar in America, this survey is horribly wrong.

Google Grid Google gets the go-ahead to buy and sell energy in the U.S. How long before we see targeted ads every time we turn on a light?

What a Doll Mattel introduces Computer Engineer Barbie. Reportedly, they'd have come out with IT Pro Ken, too, if only management had been okay with adding a dongle.

What's That Again? YouTube adds an auto-caption feature for most videos. Or "U2 beds an older ketchup feet your foremost biddy owes," as the new feature might put it.

Net Intelligence Three-quarters of Web users believe that the Internet makes us smarter, according to a recent online poll. Who would have guessed *that* many people had never visited YouTube? ●

—JR Raphael and Steve Fox

Have an idea for a Back Page item, from an offbeat screenshot to a wild Windows hack? Send your suggestion to TheBackPage@pcworld.com. You'll earn a small slice of fame, our undying gratitude, and a nifty *PCWorld* mug.

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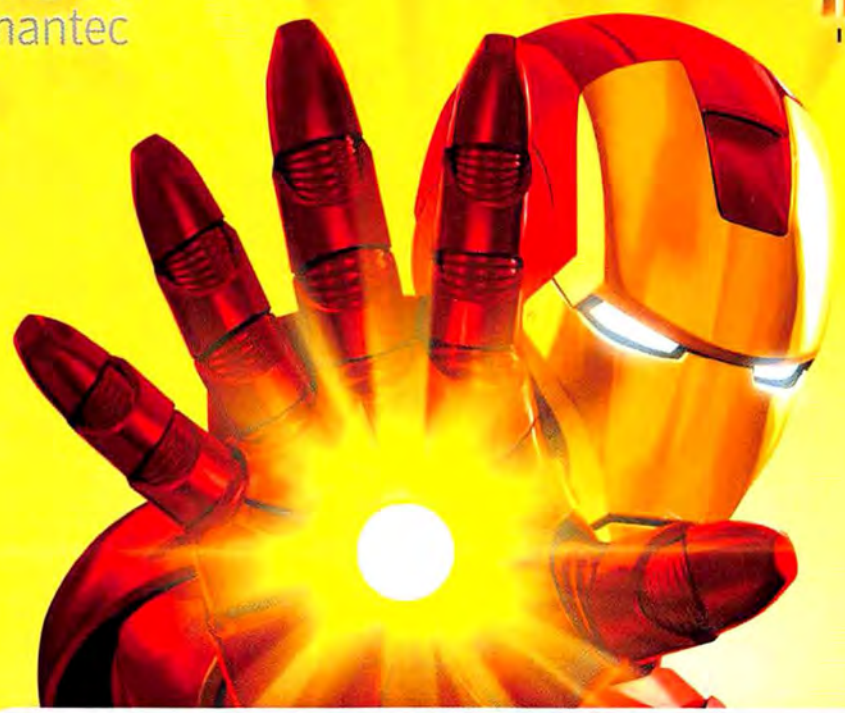

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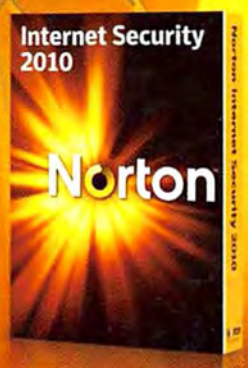

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