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Internet TV: Almost Ready for Prime Time

A FEW YEARS from now, we'll look back at today's hardware for watching Internet video on TV, and we'll laugh. That's not to say that the current technology isn't sophisticated—it is. The problem is that in order to view Web-based content in our living rooms (as opposed to on a PC monitor), we have to jump through far too many hoops. And that's why the Web-over-TV movement is still more of a minor uprising than a full-scale revolution.

We're in the midst of a transitional era, and no one understands that better than Harry McCracken. The founder of the tech site Technologist (and *PC World*'s former editor in chief), McCracken spent the better part of a month evaluating devices that marry the Web to television for his report, "The Connected TV: 12 Ways to Bring YouTube to the Boob Tube" (page 72). His conclusion: "There's still no one killer device that everyone is going to want."

The best Internet-video-to-TV options—such as Apple TV, Roku, and Vudu—are separate, dedicated boxes. For true mass-market adoption to occur, providers must offer home-appliance-style functionality: plug in, turn on, and tune in.

The More Things Change...

This assignment evoked a strong feeling of déjà vu for the author. In November 1997, as a fresh-faced young senior associate editor, McCracken wrote a *PC World* piece titled "Report From the Living Room: The New Set-Top Boxes." Back then, the technology was crude, with 33.6-kbps modems pushing a trickle of content onto small, boxy TVs. The results were predictably uninspiring.

Today, though, we have plentiful bandwidth, great networking, mega-HDTVs, and unlimited storage. So how

People have been predicting—and rooting for—the arrival of the connected television for years. Could that wait finally be over?

come no one (aside from hard-core techies) has made the transition yet?

In a word, *business*. The entertainment industry simply isn't comfortable with having the Internet on TV. The networks

sumers already have a cable hookup and a cable box plugged into their TV. With a flick of the switch, that connection could expose a universe of online content, without customers' having to patch in additional devices or mess around with a home network.

Sure, opening the floodgates might be a risky business move for cable providers, especially since the margins on Internet video are much lower than those from traditional broadcasting. But playing ostrich is far riskier. At some point, all of us will be getting our TV over the

Internet. If the barons of cable can't figure out how to carve themselves a slice of the pie, they'll be out of business. Just look at the withering newspaper industry, which was similarly slow to embrace the Web as a delivery mechanism.

Ultimately, the consumer will win when accessing broadband-based video—and a full slate of programming—takes minimal effort. McCracken sees promising signs here. First up is Yahoo's soon-to-be-released Connected TV platform, which will deliver a broad range of content directly to Yahoo-enabled sets, including a model from Samsung that should be available shortly. Equally promising, Comcast is prepping a Hulu competitor and has already inked deals with television manufacturers LG, Samsung, Sony, and Vizio. The future of broadband-based TV, it seems, just might rest in the living-room set itself.

And this time, we won't need to wait 12 years to get the TV we want. ●

Steve Fox is editorial director of *PC World*.



STILL WATCHING TV,
after all these years:
McCracken in 1997
(above) and today.

like the fat checks that conventional television advertising provides; the cable companies like the cash we fork over each month in subscriptions; and Hollywood likes the revenue that cable and TV send in for all that juicy, exclusive content. The cash cow could expire if consumers take the backdoor route and acquire content via broadband. That's why Web-on-TV content libraries are still very limited. The cable folks are keeping the good stuff—news, sports, premium movies—for themselves.

If it were more forward-looking, the cable industry would have a tremendous competitive advantage in bringing the Internet into the living room. Con-

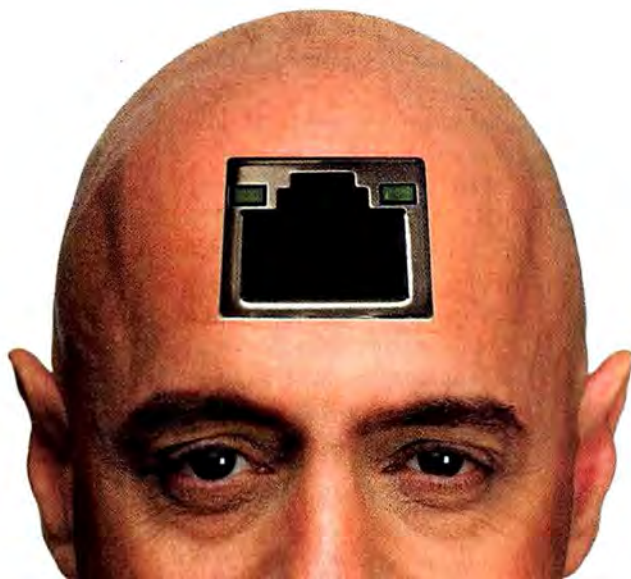


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March's story ranking Internet security suites encouraged readers to share their own takes on these products. Add your comments at find.pcworld.com/62517. Other articles on PC security and on the easy, unregulated purchase of dubious drugs online also drew passionate responses.

Security Suites

As a former user of Symantec's Norton Internet Security, I noted with some amusement that you rated it #1 ["Top Internet Security Suites," March]. It is indeed a very good tool; however, for reasons you didn't mention, I had to take it off my PC. It slowed my system to a crawl, and its outsourced customer service is nothing but a headache.

I use an older PC running Windows XP. I have a lot of space on my hard drive, but limited RAM by today's standards. Norton security software ran fine until the 2008 version. Then my PC slowed down, scans took an hour or more, and they finally just froze in the middle. My PC crashed, I brought it up, I ran a scan, and it crashed again.

I was on the phone to the call center every other night for two weeks. I was given three different explanations. I was told that nothing was wrong, or that I had a problem with the timing of updates, or that the next scan would fix itself. Finally I scrapped the whole thing and put on Webroot's Anti-Virus with Anti-Spyware. My PC now runs fine and I have had no security issues.

Norton Internet Security is a huge program, and it can run only on systems that have the capacity for it. My PC met

Symantec's requirements on paper, but it could not carry the program even when no others were running.

Norton Security—and perhaps some of the other large security programs reviewed—will do more harm than good unless you have a PC that can handle it in combination with whatever other power drainers are installed.

Evelyn Henry, New York

The Cost of GPS Updates

Your GPS buying guide in the February issue ["Buying Guide: Navigating the GPS Market"] was comprehensive and helpful. In future comparisons, however, I suggest that you also address the cost of updating installed maps on the devices. Having spent \$400 for a TomTom Go, I just discovered that downloading map updates from TomTom's Web site will cost me \$100 more. Had I known this prior to purchase, it might have influenced my decision.

Robert E. Thompson, Toccoa, Georgia

Online Drugs

I was deeply disappointed in *PC World* for publishing an editorial comment [Techlog] and an alarmist and superficial article on online drugs, focusing mostly on *Salvia divinorum* ["Online Drugs:

Mostly Legal, Maybe Lethal," *Forward, March*]. The article described *Salvia*'s supposed and unproven risks and expressed sympathy for various efforts to outlaw its availability.

No deaths have been proved to be associated with *Salvia*. It's highly unlikely that a 5-minute drug experience would have led to the teen suicide discussed in the article, which occurred a month later. It's easy to understand how a family struck by tragedy and guilt would jump on something to focus their blame, even at the cost of creating expensive and burdensome new laws and crimes.

These kinds of misguided laws have done little to curb the drug problem, instead taking a huge toll in the arrest and incarceration of individuals who represent no real risk to our society and its citizens. A far more sane and compassionate system would focus on the creation of rational regulations to protect the young and vulnerable, along with taxation of such products, with some of the revenues from those taxes dedicated to education.

Alan Cohn, Springfield, Oregon

[No. 2] BitDefender Internet Security is one of the best [suites], has a lot of features, doesn't create problems, protects very well, and has a reasonable price.

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Security Issues

In the "Reversible Redactions" item of March's "High-Risk Security Threats (And How to Fix Them)," you wrote that "Anyone armed with the full version of Adobe Acrobat can remove a black bar painted over text in a PDF file." Up through Acrobat 7.0, that was true. However, Acrobat Professional 8.0 (and, presumably, Standard 8.0) »

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PCW Forum

brought true redaction capability: Once Redaction is applied and the file is saved, the redaction cannot be removed, which is why Professional throws up a dialog box to save the redacted file under a new name.

For someone who deals constantly in public documents, as I do, the true redaction feature is a great time-saver.

Richard H. Gleick, Maitland, Florida

After reading "Card Skimmer Scams" [in "High-Risk Security Threats"], I was extremely aggravated. One key instruction for dealing with the problem was missing from the end of the article.

"Familiarize yourself with an ATM's outward appearance, and pay attention to the card slot itself: If you notice an unexpected part or sheath surrounding the card slot, either use a different ATM or make your transactions inside the bank." So, I'm not supposed to report something odd about the ATM slot or question an employee at the business?

Come on people, let's use our heads for something other than hat racks.

If you notice something like that, *speaking up!* If you don't, it may continue to go unnoticed, and others who are less observant (and at this point, a lot more unlucky) than you may be "had" by a scam. If you ask and it checks out okay, no harm no foul. If you don't speak up, a lot worse can happen.

Colby Wolford, Souderton, Pennsylvania

Pricey Store Cables

Yardena Arar describes how difficult it was for her to find an HDMI cable at a reasonable price in a local store [*Skeptical Shopper*, March]. Two words: Big Lots! Any time I need a cable, I can usually find it there for no more than \$10, and sometimes for as little as \$5: USB cables, DVI, VGA, HDMI, and more. I have never had a problem with a cable that I purchased at Big Lots.

Cameron Graubart, Tulsa

Your March *Skeptical Shopper* column lamented the unreasonably high cost of accessory cables for HDTVs in retail

stores. While the author ultimately found low-priced cables from a popular online supplier, she should have also searched eBay for these items.

I purchased two of these cables for \$5 each with free shipping from an eBay vendor. They arrived by USPS Priority Mail less than a week later. Both cables appeared to be high quality and they work fine.

Robert Engelhardt, Kailua, Hawaii

Let's face it, a major factor that contributes to the difference between in-store and online purchases is this: It's pretty hard to shoplift online.

Walt Elsna, Cincinnati

Optimizing a Vista Laptop

Thanks, *PC World!* I purchased a Lenovo T61 about a year ago. I had every reason to hate it: The larger battery sticks out the back and looks homemade; the ThinkVantage program was written for XP, so it did not work with Vista; the hard drive was cluttered with Microsoft trial-offer applications; and (worst of all) it came configured with Windows Vista Home Premium.

The thing was so slow, I hated it. I wanted my Acer laptop with XP back every time I booted up. I finally sat down with the last four issues of *PC World* and optimized my notebook. I could not believe the difference. I kept the Aero Glass because I like the way it looks, and I find some of the Gadgets useful, so I kept them. My startup time was cut in half. A little more tweaking, and it was a new computer.

We do not want computers that just do more, we want computers that work better. Almost anybody will have to admit that Vista as-is does not work better. Thanks again. You made my day.

Aaron Bruce, Hokes Bluff, Alabama

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Forward

Ten New Ways to Search the Web

BY EDWARD N. ALBRO

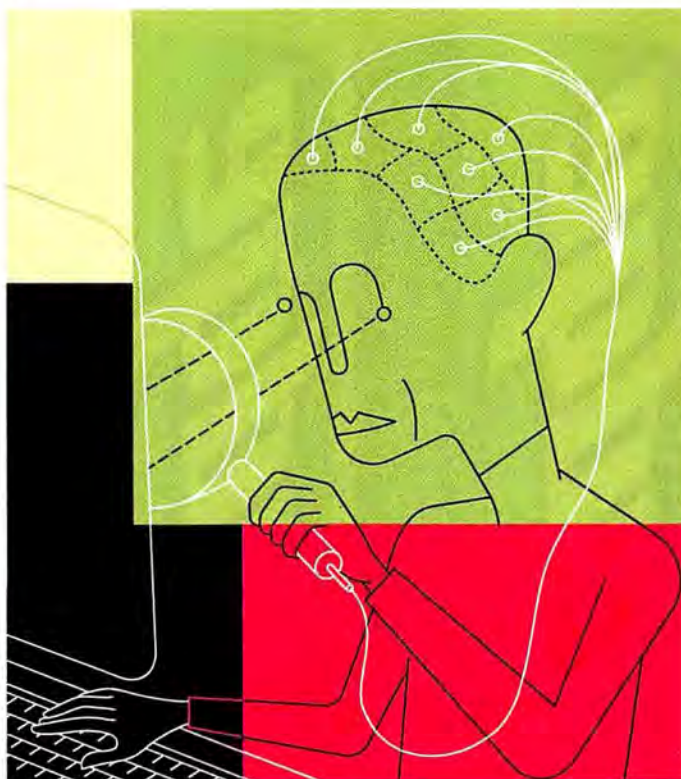
NO ONE BEATS Google at finding Web pages relevant to your keywords. But Google is impersonal: It isn't aware of your social networks, and it may not remember the subjects you care about.

A new breed of Web 2.0 services and applications aims to bring personal knowledge to new search tools. Some, like Ensembl and Primal Fusion, are Web services. Others, like Kutano and Evri, plug into your browser. Still others, like Sobees, are desktop apps.

Xmarks: Bookmark Wisdom

Xmarks (www.xmarks.com) comes from the people who make the Foxmarks bookmark synchronization add-on. You can interact with Xmarks in either of two ways. You can enter a site name at the Xmarks site, and Xmarks will let you know what other people think of it. A rating scale tells you how often it's bookmarked. Xmarks users can review the site, and Xmarks will tell

These new sites and services try to read your mind—and the minds of other Web users—in order to bring you exactly the information you're looking for.



you about related sites.

Another option is to install the Xmarks browser add-on (if you already have Foxmarks installed, it will be pushed out to you). When you search at Google, Microsoft's Live Search, or Yahoo, Xmarks will look at the re-

sults and offer further information about the three links per page that have the highest score—a number based on how many people have bookmarked the site and on the site's "bookmark velocity," which is a measure of how quickly people are add-

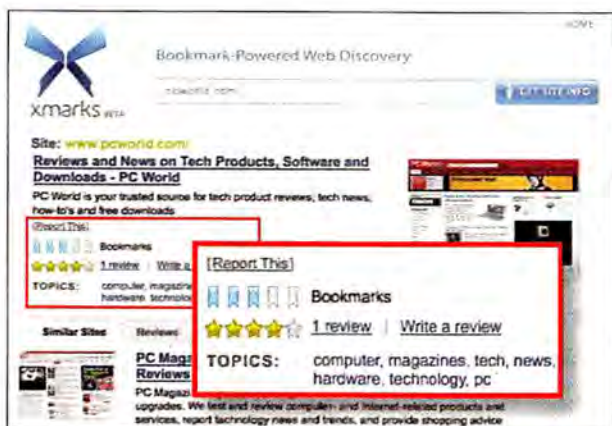
ing it to their bookmarks.

The add-on also puts a small icon in the address box of your browser. You click the icon to see the page's bookmark popularity and related sites.

Gazaro: Your Personal Shopper

Various services will search the Web on your behalf for good deals. But Gazaro (www.gazaro.com) analyzes the price history of a product and tells you whether the price a site offers is really a good deal, based on past prices. A flat-screen TV for \$1200 may be the best deal you can get now, but it's not a great deal if the same TV cost \$1000 a month ago. Armed with that information, you might decide to wait for the price to drop again.

Gazaro rates deals on a 1–10 scale, with a score of 8 or 9 meaning buy it now. The temptation for a site like this is to rate all the deals as great to push sales and reap more commissions. I saw many ratings of 5 or lower, though, so perhaps the site will resist grade inflation.



WHEN YOU USE the Xmarks service to enter another Web site's name, Xmarks shows you what other people have said about it.

Ensembl: News That Reads Your Mind

Sign up for a free Ensembl (ensembl.com) account, type in a subject like tennis, and it'll give you a list of recent tennis news stories. Over time, the site keeps track of the types of stories you read and gives you more of those, while eliminating the kinds of stories you delete. Eventually, the developers say, Ensembl will figure out that you're interested in tips on how to play tennis better rather than in reports of the latest pro tour results.

The early search results seem a bit primitive: Typing "technology," for instance, yields stories with the word *technology* in the headline, but misses stories that focus on technology but omit the word from the headline.

Primal Fusion: Thought Networking?

The buzz phrase at Primal Fusion (primalfusion.com) is "thought networking." What does it mean? Here's what I could piece together.

You give Primal Fusion a topic like "social networking," and it presents a tag cloud of semantically related

concepts such as reputation management or sharing. From these subconcepts you choose the ones you're most interested in learning about and the information sources you want to tap, like Wikipedia, Yahoo News, and Flickr.

You can then have Primal Fusion build a custom Web site with links to all of the information it has found on the concepts you've specified. Developers say they're working on functionality to let users automatically create an RSS feed or a document with the same information.

Evri: Content Finder

Evri (evri.com) is a service that aims to find content related to content you're already reading. You can go to Evri's site and type in the name of a person, product, or thing you're interested in, and—if the word is included in what seems to be a fairly limited database—Evri will show you a page of information sorted by type: a snippet of the Wikipedia entry in one corner, news stories in another section, and slider windows with related pictures and videos. You can explore related concepts through an



GAZARO, A SEARCH site that focuses on finding and assessing online bargains, rates prospective deals on a scale from 1 to 10.

interesting visual interface.

Not enough? You can take Evri everywhere you go by loading its browser toolbar. On the page you're viewing,

Evri will highlight every term that it has information for. Hover over the word, and Evri pops up a box with related news stories, con- >>

PLUGGED IN ALAN STAFFORD

AD-SUPPORTED OFFICE: Microsoft says it will release a free, ad-supported version of Office 14, due in 2010. Now if it could just make the ads appear on top of that darn ribbon bar....



GATES BANS IPODS: His kids will have to settle for Zunes and—shudder—Windows Mobile phones. Doubtless it was because Apple stuff is pricey; the economy is so tight right now.



PAPER, CANS, COMPUTERS: Netbook sales will double this year, says IDC. Makes sense when some cost less than an iPhone. Soon, you'll be able to drop one in a recycling bin.



YOUR AD HERE: AOL, Google, Microsoft, and Yahoo agree to the Internet Advertising Bureau's code for online ad targeting. Next: telemarketers who agree to call during dinner.



NO TALKING, KIDS! Amazon bends to the will of publishers, some of which don't want the Kindle 2 to read their titles aloud. Oh, great—who'll read my kids bedtime stories?



MMMM, DOUGHNUT: Facebook's home page redesign brings real-time status updates. It's an important change; when my tummy's growling, my fans need to know ASAP.



nections, images and videos.

But even with Evri's limited database, the amount of highlighting on the page is eye-numbing. I would stick with Evri's Web site instead.

How simple: Simply Too Much

Have you ever wished you could have 35 browser windows open on your screen simultaneously? Neither have I, which is why I wasn't overly impressed with Howsimple (howsimple.com).

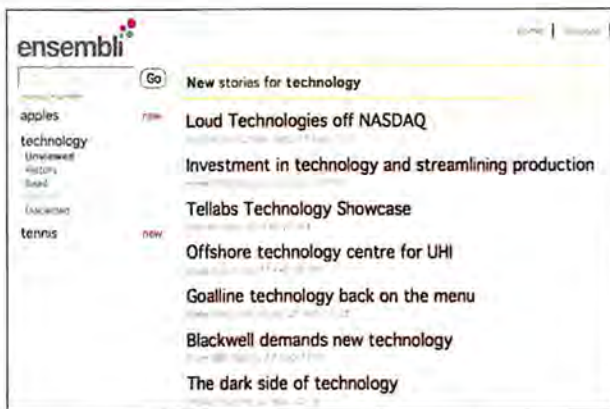
The system aggregates results from multiple search engines, but instead of just showing you a list of hyperlinks plus snippets of information from each link, it opens each site so that you can look at as many as 35 of them at a time—live.

I haven't tested this capability (the site is in private beta), but unless you have a huge display, an extremely fast connection, and great eyes, Howsimple may be Too Much Information.

Kutano: Comment
Anywhere

Kutano (kutano.com) is a browser add-on that lets you comment anywhere, even if the site you're visiting has no user forums.

Kutano's developers tout the idea that the company you're commenting on can't edit your posts because they live in a small window to the side of the one you're viewing. You don't have to limit your comments only to commercial sites, either; you can, as one Kutano rep noted, critique your ex-boyfriend's Facebook page without his being able to rebut you.



ENSEMBLI LEARNS your interests as it searches, but its results favor articles whose titles contain the search term (here, 'technology').

So is Kutano the ultimate expression of free speech, or is it a libel suit just waiting to happen? It could be both.

Jadoos: Controlling Your Social Networks

Jadoos (jadoos.com) is a browser widget modeled on a TV remote control; you click a button on the widget, and it automatically opens your Facebook or Twitter account. You don't have to remember the log-in information for the services. You can see activity in multiple IM accounts at once, and a ratings app pulls up other people's ratings of the product or service you're looking at in your browser. (Similarly, Kutano brings up other

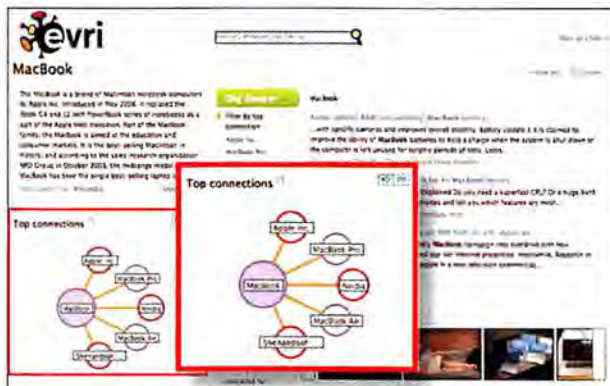
users' comments about the page you're viewing.)

Jadoos is an open platform. Its developers hope other coders will use it to create new apps. But since there are already so many widget platforms, it may have trouble catching the fancy of third-party developers.

Sobees: Aggregation on Your Desktop

Sobees (sobees.com) is designed to collect and categorize Web-based information. But Sobees does it in a desktop application instead of via a site or browser add-on.

The app is organized in modules. You can add a panel with Facebook updates, another with tweets



EVRI DISPLAYS CLUSTERS of content related to your initial search term, so you can explore these associated subjects more easily.

from the people you're following, and another with information related to a specific topic you're interested in. That panel might include such things as news stories, photos, and related tweets.

You can also use the So-bees app to upload information to multiple services—say, putting photos on both Flickr and Facebook at once.

7 Billion People: More Personalized Shopping

You can't try 7 Billion People (7bpeople.com) on your own. It's a service that the company hopes e-commerce sites will use to make shopping more personal.

Its developers say that 7 Billion People uses linguistic and behavioral psychology to analyze what you do on the Web and to deduce the kind of shopper you are.

The site's demo showed the service running on top of Amazon.com (though it noted that Amazon is not a customer). One company exec went into the site and immediately drilled down to the specs for a camera he was seeking, ignoring recommendations and reviews of other popular products. When he returned to the site, his experience was tailored to him: Specs were front and center, while most information about reviews and recommendations by other shoppers was buried.

I tend to be just a little bit skeptical of highly sophisticated artificial intelligence of the kind 7 Billion People uses. But if it can get that analysis right, the service could make online shopping more efficient for everyone.

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Five Underappreciated Microsoft Web Services

Because Microsoft is at times a blundering behemoth, people tend to overlook its successes. We tried its Web services and found five free gems.

WHEN YOU think of Web apps and services, Microsoft may not spring to mind. But the company has rolled out several of them lately that match or beat competing efforts from Google, Yahoo, and various tiny startups.

Here are five free treasures we've tried and liked.

Windows Live SkyDrive

Get 25GB of online storage free, no strings attached. Create folders on the site and upload files to it. Share folders with colleagues.

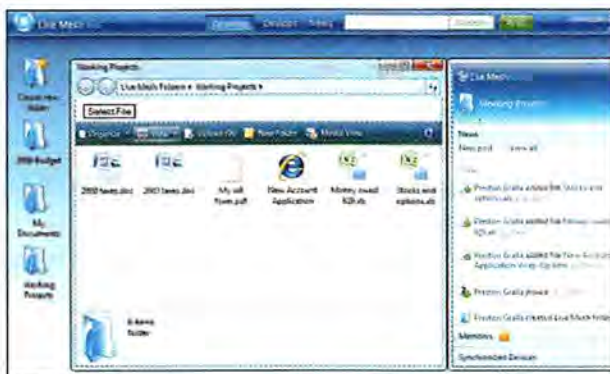
Windows Live SkyDrive (find.pcworld.com/58455) won't appear on your PC as a drive, so you can't save files directly to it within a program like Microsoft Word. But that's a minor point.

Google's rumored GDrive service sounds similar, but Windows Live SkyDrive is as good as online storage gets.

Windows Live Sync

Have multiple PCs and want to keep their files and folders synchronized? Try this service. Download and run a small app on each PC; then head to Windows Live Sync (find.pcworld.com/62518), and note which folders on which PCs should stay in sync.

When any of your systems are connected to the Internet, they will automatically sync the folders you've spec-



LIVE MESH ENABLES you to synchronize content in its folders to all of your PCs, and it supports remote control of any PC that you sync.

ified with one another. You can connect to any synced computer from any other machine to browse through the remote system's hard disk and to download files.

Live Sync serves as a conduit between PCs. It doesn't store copies of your files, but it doesn't limit the amount of data you can sync either.

Live Mesh

This free service lets you keep your files in the cloud. It's more powerful than Windows Live Sync, but a bit more complicated, too.

Instead of synchronizing files and folders from PC to PC, you create folders in Live Mesh (find.pcworld.com/62519) and then have your PCs synchronize with those folders. Afterward, you can access files and folders from any Internet-connected computer. You can limit the syncing to files modified in the last 30 days, for example, or to files smaller than 500MB. Live Mesh supports remote control of any PC in your

mesh. Thus far, Microsoft doesn't charge for storage or put a ceiling on stored data.

Virtual Earth 3D

This downloadable application (find.pcworld.com/62522) works with Windows Live Maps to give you dramatic and compelling 3D views of places around the world—better than Google Earth. Using simple controls, you can fly in and out of cities in full 3D. You can go on guided tours that other people create or make tours of your own, saving your tours for future visits or sharing them with other users.



VIRTUAL EARTH 3D, which requires a software download, isn't as widely used as Google Earth, but its 3D views are more compelling.

Office Live Workspace

This service (find.pcworld.com/62520) lets you create and share documents, schedules, to-do lists, and more. First you establish a shared workspace, choosing from 11 pre-built ones or creating your own. Each workspace comes with templates for PowerPoint presentations, Excel worksheets, Word documents, and other files. Group members can work on files and then save them for colleagues to see and edit. To edit Office documents, you must install a free Office add-in, but anyone can view them without it—or Office.

Why use this service rather than Google Docs or Zoho? One key benefit is direct integration with Microsoft Office: You can save files to your workspace within the Office suite, or use Office programs to edit files in your workspace. In addition, the template-driven approach to creating documents and workspaces is superior to anything you'll find in Google Docs or Zoho.

—Preston Gralla

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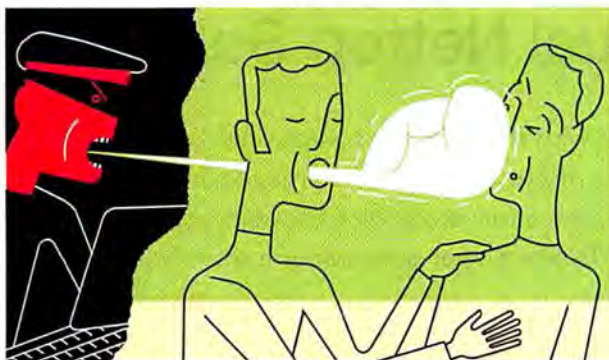
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Judge Kicks Notorious Spammer off Facebook

A FEDERAL JUDGE in San Jose, California, has ordered convicted spammer Sanford Wallace to stay away from Facebook. The social networking site sued Wallace and two other men in an effort to cut down on spam and phishing schemes.

In court filings, Facebook alleged that the three men gained access to legitimate Facebook accounts and then used those accounts as a springboard to spam the profile pages of the account holders' friends. News of the lawsuit was first reported by Inside Facebook, a Web site that focuses on the concerns of Facebook developers.



Wallace's spamming career dates to the 1990s. Last May a federal judge found him and a partner guilty under the CAN-SPAM act and ordered them to pay \$230 million for phishing and spamming MySpace users with links to gambling, ring-

tone, and pornography sites.

Facebook spam often appears to come from a friend, so it can be very effective, says Dave Jevans, chair of the Anti-Phishing Working Group. Since it's Web-based, it skirts traditional e-mail spam filtering tools. "Some

of the bigger guys can get a million people a day to look at their stuff," Jevans says.

Late last year, the judge in the Wallace case awarded Facebook a record \$873 million in damages after Facebook accused other spammers of using stolen log-ins to send more than 4 million spam messages. The company says it doesn't expect the spammers in that case to pay, but it hopes the judgment will serve as a deterrent.

Jevans agrees that lawsuits probably won't discourage the big-time Facebook spammers, but he says they could deter the little guys.

—Robert McMillan

BETA WATCH

EDWARD N. ALBRO



Cc:Betty: Make Any E-Mail a Message Board

Cc:Betty lets you transform any e-mail message into an online discussion thread, complete with storage for videos, photos, and files. You simply compose your message as usual, add any attachments, and then include betty@ccbetty.com in the cc ("carbon copy") field of your e-mail form. You and all of your recipients get a notification from the Web service letting everyone know that the e-mail message and its attachments now have a home on the Cc:Betty site. Your friends can reply to your e-mail in the usual way, or they can make a comment or upload new material at the Web site. Cc:Betty does its job quite competently, but whether this service solves any fundamental problem isn't clear to me. ccbetty.com

Home-Account: Fire Your Mortgage Broker


Home-Account aims to demystify the mortgage process and make it easy for you to refinance your home without using a mortgage broker. The service asks you a series of questions about your financial situation, checks your credit report, and then gives you a list of home-loan offers to choose from. The company says it does not receive commissions for matching consumers with loan companies. According to Home-Account, that means consumers will get the best deals, since lenders would rather obtain customers through Home-Account than pay commissions to mortgage brokers. Joining Home-Account costs \$10 per month. home-account.com



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Answer questions correctly and earn points toward a fabulous prize.

SmartyCard: Educational Baksheesh

Any parent who has struggled with a child whose grades aren't what they should be learns that a little bribery sometimes helps. Consider SmartyCard a bribery facilitator. Parents set up accounts that provide rewards—in the form of CDs, toys, video games, and books—for dutiful scholars. Kids take tests on subjects that are appropriate to their grade level (the site now serves those in grades 3 through 6). Acing a quiz on a topic like rounding off numbers earns your little Einstein points toward a reward. smartycard.com



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Built on our award-winning ESET NOD32® Antivirus, the latest generation of ESET Smart Security® provides your computer with advanced protection utilizing our unique ThreatSense® technology. ThreatSense disarms Internet attacks as they are released, not after the fact. And version 4 is our fastest solution ever, keeping your data and identity safe, without slowing you down while you work, or play.

Protects against malware
Gives no chance to hackers
Filters spam email

we protect your digital worlds™





New Shuffle Is Tiny and Buttonless

THE SMALLER the better? Apple's newest iPod Shuffle is only about half the size of the previous model, but it packs in a generous 4GB of memory. Though you can find plenty of minuscule MP3 players, Apple has taken minimalism to a new level: The redesigned Shuffle lacks buttons and a screen. Its controls are located on the included earbuds, housed in a tiny remote. In place of a screen, the Shuffle relies on text-to-voice technology, called VoiceOver, to identify songs and playlists.

Overall, the new Shuffle takes some getting used to. VoiceOver is an interesting idea, but the robotic voice can be startlingly intrusive when it pops up in the middle of a song. Also, as positioned, the earbud buttons are a bit awkward to control, especially if you're on the go. The Shuffle's makeover will surely appeal to some users, but Apple may have put too much thought into the form rather than the function this time around.

—Ginny Mies

GEEKTECH

Use Your iPhone as a Wireless Laptop Modem

I TRAVEL A LOT. And if you're a geek like me, trying to go a full day sans Internet access induces some severe withdrawal symptoms. Luckily, my iPhone, with all its Wi-Fi and 3G goodness, is there to feed my addiction while I'm on the road. But even though Apple's smartphone provides the best mobile browsing experience available today, its small screen and touch controls can't match the pixel real estate and tactile QWERTY speed (not to mention such luxuries as Flash compatibility, page caching, and tabbed browsing) of a laptop.

So the next time you're stranded without an open Wi-Fi network (but your 3G signal is going strong), you'll be glad you installed Addition's iPhoneModem 2 (find.pcworld.com/62515; free to try, full license is \$10). Unfortunately, Apple evidently deems the app to be in conflict with its App Store Terms and Conditions, so the software is available only for so-called jail-broken iPhones via Cydia. Here's a quick guide.

Caveat: Jailbreaking your iPhone opens up a world of possibilities, including the opportunity to use various apps that are disallowed in the App Store. But keep in mind that jailbreaking your iPhone is a legal gray area; it carries the risk of unforeseen problems and will void your iPhone's warranty, so proceed at your own risk. You can easily return your device to its original state with the 'Restore' feature in iTunes, however, wiping all traces of the jailbreak hack.

1. Jailbreak your iPhone: Download and install QuickPwn (find.pcworld.com/62512), an easy-to-use jailbreaking application for Windows and Mac (the latest version works with iPhone OS 2.2.1). Run the software and follow the on-screen instructions very carefully!

2. Install iPhoneModem by Addition: QuickPwn installs an application on your phone called Cydia, which is essentially an online store for apps that Apple decided not to set aside shelf space for at the official iPhone App Store (or that, for whatever reason, the developers chose not to release through Apple). Run Cydia, search for 'iPhoneModem by Addition', and install it. Note that the only way you can delete Cydia-installed apps is via Cydia's Manage Sources function. Now download and install the iPhoneModem helper application ([find.pcworld.com/](http://find.pcworld.com/62515)

Give your laptop access to the Internet without using Wi-Fi, by tapping your iPhone's 3G signal.

62515) on your laptop, and you're almost ready.

3. Set up the network: Run the helper app and press *Connect*. The helper app sets up an ad hoc wireless network that you can access via iPhone. By default it will create a network called iPhoneModem that won't have a password (you can change this in the Preferences of the helper app). Now open your iPhone's Settings and tap *Wi-Fi*. Make sure that Wi-Fi is turned on, and select the network 'iPhone-



Modem' (or whatever you called it). Type the password if you assigned one. Open the Modem app on the iPhone, and everything else will configure automatically. After a few moments the helper app and the iPhone app will confirm that a connection has been established, and you can browse with all the comforts of your laptop!

Shortcomings

Though 3G seems plenty fast on a phone, it feels a little slow on a laptop. Also, most major Web browsers work but 3G doesn't support all of them—or a lot of other Internet applications, for that matter. Even so, for all intents and purposes, you should be able to browse just fine.

—Mike Keller

Visit the Geek Tech blog at find.pcworld.com/62513 for additional tips and hacks.

Five Things We Love/Hate About Nintendo's DSi

THOUGH THE NINTENDO DS has been a bona fide hit since its launch in 2004, the company continually updates its handhelds. And with the newest iteration, the DSi, Nintendo has tacked on a number of additional features. So, when the DSi and its \$170 price tag reach store shelves in mid-spring, should you get in line to buy one? Let us enumerate the things we love—and hate—about this new mobile, dual-screen game system.

—Darren Gladstone ●

MUSIC PLAYER

LOVE: The music player is fully functional and can even record brief audio clips for subsequent remixing. That makes it great for budding DJs.

HATE: AAC playback only? It doesn't support the MP3 format! Not even iPods are that locked down.



SLICK DESIGN

LOVE: It trims the DS Lite's dimensions, yet slightly increases the screen size, incorporates a ThinkPad-like textured case, and adds an SD Card slot.

HATE: Kiss backward compatibility good-bye—the Game Boy Advance slot is gone. Such is the price of (forced) progress.



SHUTTERBUG

LOVE: Two diminutive cameras—one pointing outward, one pointing toward you (the user)—allow you to take pictures, and software lets you add effects and edit images.

HATE: The 0.3-megapixel cameras can support, at best, images suitable for Facebook (680 by 480 resolution).



DOWNLOADS

LOVE: Nintendo finally has a downloads store for DS games, accessible on the device via a wireless Internet connection.

HATE: You have to run applications from the DSi's internal storage. If you download an app and save it to a memory card, you must copy it back to the internal storage to use it.

STORAGE

LOVE: At last, Nintendo has decided to add internal storage for saving games on the device.

HATE: It's a meager 256MB. A single microSD card can easily stash 30 times that amount.





PCWorld

"25 Products
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March 2008



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Consumer Watch

Mobile VoIP Services: Should You Bite?

BY LIANE CASSAVOY

MOBILE VOICE-OVER-IP SERVICES promise to save you money by routing voice calls over your carrier's data network. We tested four, and found that though they're easier to use than the ones we tried two years ago (find.pcworld.com/62534), they're imperfect replacements for standard voice-call service.

Call quality remains iffy at best, and sometimes it's abominable. Also, most services charge per minute, so you'll save on domestic calls only if you have exceeded your regular voice plan's allotment. However, if you make international calls often, mobile VoIP can save you big bucks.

Of the services here, EQO had the best voice quality, but its rates were higher than the others. While Truphone's call quality varied, overall it had the best mix of quality and features, at a decent price.

Skype for Windows Mobile

This popular VoIP service (skype.com) comes in three mobile versions: Skype for Windows Mobile, Skype Lite for Java phones, and an Android edition. (An iPhone application is in the works, but at press time we had heard no word on when it will be released.)

I tested Skype for Windows Mobile 2.5, with mixed results. After trying in vain (with help from the company) to get the software running on one phone, an HTC Fuze, I easily downloaded and installed it onto another, a T-Mobile Shadow.

Like the desktop version, Skype Mobile allows you to make free calls to fellow Skype users, send instant messages, and

transfer files. You can also dial up non-Skype landlines or cell phones by using the fee-based SkypeOut service.

Skype says its service works best over Wi-Fi, but can function over a 2G or 3G cellular connection. I tested it on Wi-Fi, but the voice quality of SkypeOut calls was miserable. Voices were so broken up as to be unintelligible. At Skype's sugges-

tion, I tried using a headset; though the voices were louder as a result, the stuttering and breakups were just as frequent.

At least the rates are reasonable, starting at 2.1 cents a minute. Subscriptions are \$2.95 a month—and for \$9.95 a month, you can make unlimited calls to landlines in some 36 countries. (For details on one Skype user's account woes, see *On Your Side* on page 28.)

Truphone

Truphone (www.truphone.com) works on BlackBerry phones, the iPhone and iPod Touch, Nokia E- and N-Series devices, and the Android-based T-Mobile G1. I tried it on a first-gen iPhone, using the Wi-Fi connection. (On some devices you can use Truphone on a cell data connection.)

After I downloaded the free app from iTunes, it was ready to go in minutes. Calls to other Truphone users are free; the service also lets you access the major IM services and your Skype account (a boon for iPhone users waiting for the Skype client).

In my tests, the voice quality varied greatly. Some calls sounded hollow, while others suffered from a loud and distracting background hiss. But the service is usable, and it sounded far better than Skype for Windows Mobile.

It has two pricing options: TruStandard (no monthly

»

Cell phone VoIP services could save money, but the call quality still needs improvement.



Looking for additional tips on how to stay in touch for less cash? See "Get Your Cell Phone Charges Under Control" at find.pcworld.com/62543 for more on VoIP and other cost-saving services.



SKEPTICAL SHOPPER YARDENA ARAR

charge and rates starting at 5.1 cents per minute) and TruSaver (\$4 a month and rates starting at 2.1 cents per minute).

EQO

Still in beta, EQO (www.eqo.com) covers voice calls, SMS text, and IM. It supports AIM, Google, and Yahoo IM; photo sharing; free messaging to other users; RSS feeds; and posting or following EQO and Twitter status updates.

It works on various BlackBerry, LG, Motorola, Nokia, Samsung, and Sony Ericsson phones. I tried it on the BlackBerry Curve 8900. Installation is easy. To call a number, you enter it in the EQO interface; your phone then dials a local access number, which EQO uses to route your calls over its network.

EQO's voice quality was the best here, but still not as good as that of a standard cell phone call; voices sounded less than crisp and slightly hollow. Its rates are higher than the other services', starting at 2.3 cents a minute. Even calls to EQO users aren't free: They're half the cost of out-of-service calls.

Skuku

Made to eliminate international roaming fees for calls to the United States from overseas, Skuku (www.skuku.com) requires special hardware: either a USB stick or a handset into which you place the SIM from your GSM phone. Plug the hardware into a PC's USB port, and Skuku's software routes calls to its servers, which use your SIM info to place calls virtually from your U.S. carrier.

Skuku is also working on a Windows Mobile version of its software for GSM handsets (the app for HTC phones should be out this spring). I tested an early version on Wi-Fi, and found the quality so-so. Calls were fuzzy, with lots of static and a noticeable echo, but my callers and I could hear each other.

The mobile app will likely be free, with service charges similar to the PC app's (about \$2.50 a day or \$12.50 a month). It's good for travelers calling home, but roaming charges will still apply for calls from one foreign country to another.

Selling Netbooks With Phone-Style Plans

I'VE ALWAYS LIKED my laptops small and light, so I didn't take long to jump on the netbook bandwagon: I

bought an HP Mini 1000 shortly after it appeared late last year. But a recent ad campaign on PCWorld.com made me wonder if I hadn't jumped too soon.

RadioShack ads touted an Acer Aspire One with built-in mobile broadband for a mere \$100—as long as you agreed to a two-year, \$60-per-month data plan with the provider of said mobile broadband, AT&T. (Dell had a similar offer for its Inspiron Mini 9 in January; that one has expired, but the company still gives smaller rebates on the purchase of a Mini with an AT&T data plan.)

The Aspire One had been \$350, so the Radio Shack price just for the netbook represented a big discount. And since presumably anyone who buys a netbook with a built-in broadband adapter needs broadband service too, the deal doesn't sound half bad.

It does sound familiar. This is the way wireless carriers have sold phones in the United States for ages, subsidizing the cost of the phone in pursuit of the greater revenue you'll generate as a customer.

Costs Start to Add Up

Two years at \$60 per month (for up to 5GB of data) comes to \$1440—a healthy chunk of change for AT&T, even assuming that it's picking up the entire \$250 difference between the price of the Acer and the RadioShack offer (which it probably isn't). AT&T is happy with the response to the offer, says Glenn Lurie, AT&T president of emerging devices and resale.

For customers, the deal has the same downside as a subsidized phone purchase: It ties you to a network and a device. If,

AT&T is starting to subsidize netbook purchases for anyone who signs up for a two-year data plan. Sound familiar?

after a year, you want to sell your netbook and drop the service, you'll be stuck with an early-termination fee. Such charges are less draconian now—the fee starts at \$175 but falls \$5 for each month you stick around, so after a year you'd have to pay \$115. That's still less than the discount on the netbook, but it is off-putting. And if the netbook dies or you lose it, you're on your own for replacing it—at full cost.

Of course, such drawbacks don't stop most people from taking the subsidy for a new phone and making two-year commitments. Will you be more likely to find your netbook looking long in the tooth after a year than you are to find a phone outdated? Lurie says no, pointing out that most people are keeping PCs and laptops longer than they used to. On the other hand, you can argue that netbooks are a new category and likely to evolve more rapidly than phones do.

Pay-as-You-Go Alternative?

As an infrequent traveler, I'm not in the market for a \$60-a-month data plan. What I would like to have is pay-as-you-go mobile broadband service, so that when I do travel, I could benefit from a built-in mobile broadband card.

Lurie says I may get my wish: As netbooks become more mainstream, carriers will probably develop new data plans. "We're going to have to make sure we give customers a lot of choices," Lurie says.

If that does happen, I might just sell my Mini 1000 and jump on this new bandwagon. Even if the subsidy was small, the convenience of affordable and ubiquitous connectivity would be worth it.





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I HADN'T LOGGED in to my Skype account for a few months, so I forgot the password. When I tried to reset the password, Skype said that there was no e-mail address associated with the account. To verify my identity, I told the company that I could be contacted at any other instant messaging or e-mail service under the same user name. The Skype representatives told me that they couldn't verify my account with this information. I don't understand what the problem is. What else I can do?

Abraham Vegh, Philadelphia

OYS responds: According to a Skype customer service representative, Vegh originally registered his Skype account with an invalid e-mail address. The rep told us that the only way Skype could validate Vegh's identity and correct his e-mail address was via his purchase history. But since Vegh hadn't bought anything from the Skype store, the rep said Vegh would have to sign up for a new account and purchase a new online phone number.

To see whether entering an incorrect e-mail address is an easy mistake to make, we signed up for a Skype account. After you download the software, you are asked to enter your e-mail address. A note below the field says that "a valid e-mail is the only way to retrieve lost passwords." But the form has no secondary field to retype your e-mail address to ensure that you've entered it accurately. Skype also does not send an e-mail to your account for verification. We entered a bogus address, and Skype created our account; when we tried to change the password, we got the same message as Vegh did.

Our contact at Skype said that this issue doesn't happen frequently. We told her how simple it is to make an error, and we suggested that Skype should have some sort of e-mail verification. Skype is investigating the issue. In the meantime, Vegh will have to create a new account.

Web Host Won't Respond

Thomas Urso of Virginia contacted us after he was unable to get a hold of TotallyFreeWebsiteHosting.com. He had purchased a "Premier" Web site package, but had received no instructions on how to access his domain. TotallyFreeWebsiteHosting never replied to the e-mail mes-



sages Urso sent to customer support, nor to our multiple queries e-mailed to the same address. We could find no customer-support phone number on the site.

TotallyFreeWebsiteHosting.com is owned by Cheap Stuff, LLC. We left several voicemail messages with Cheap Stuff, using the number in its profile on the Better Business Bureau site (where it has an F rating). We also tried reaching a representative via an e-mail address listed on one of Cheap Stuff's subsidiary sites, but received no response. Shortly after our last attempted contact, however, the company got in touch with Urso directly and provided him with the information he needed to access his domain.

We recommend making sure that the online companies you do business with have some kind of contact information: a physical address, a telephone number, an e-mail address, and so on. In addition, look on other sites for customer evaluations of the company or service you're considering. If you do find user testimonials, do they seem authentic? Lastly, conduct a Web search for the company; from negative reviews to BBB ratings, you might be surprised by what you find,

FTC, BBB Issue Stimulus Scam Warnings

"I GOT A \$12,000 Stimulus Check in Less than 7 days. Get Yours!" This and similar ads have proliferated on Google since passage of the economic stimulus package. But both the Federal Trade Commission and the Better Business Bureau advise ignoring offers promising easy access to government money.

"The bottom line on this is, these are scams," says Eileen Harrington, acting director of the FTC's Bureau of Consumer Protection. In an investigation, *PC World* discovered several sites that offered to send "free" information on how to obtain government grants—but only after you paid a shipping and handling charge, agreed to pay hefty ongoing "membership" fees, and (in some cases) provided personal information. In return, Harrington says, all you're likely to receive is information that's already publicly available.

Our investigation of one such offer, on a site called "Jeff's Grant Blog," proved unsettling in that links on the site changed even as we researched the story. (For details, see find.pcworld.com/62533.) Within a few weeks, the site had vanished completely.

"We've received complaints from people who had to actually cancel their credit cards to keep from getting billed, because they couldn't get hold of anyone to cancel the service," says Alison Preszler of the Better Business Bureau in Arlington, Virginia.

Warning signs to watch for include the use of misleading language (such as statements that you "qualify for a free grant"); testimonials from people who can't be traced easily; and sizable fees that appear only in the fine print.

"These Web sites make it look like it's very easy and you just get a \$10,000 check for breathing," the BBB's Preszler says. "That's not how it works."

—JR Raphael ●



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An estimated 10% of drivers ride around with this light on—never a good idea, as it could indicate a serious engine problem. But professional automotive technicians charge up to several hundred dollars just to connect to your auto's on-board diagnostics computer (OBD2). Often they find minor problems such as a loose gas cap, but that doesn't make you feel better about wasting money for the information.

Now you can bypass the mechanic and obtain accurate diagnostics yourself with the easy-to-use, handheld CarMD®.

The CarMD device plugs into your car's standardized data port (usually found right under the steering column), giving you an instant display that all systems are go; there's a possible problem; or something's definitely wrong. If CarMD's light is yellow or red, you can connect it to your PC via a USB cable and log onto CarMD.com to discover the problem. If the problem requires service, CarMD's extensive database of diagnostic codes and likely repairs will arm you with accurate information about what the repair should cost, including fair parts and labor, in your region.

"Mechanics hate this tool!" says Dave A., a CarMD customer in Merrimack, N.H. "Ev-

ery time I had a 'Check Engine' light, CarMD diagnosed the problem ... they think they know better what is wrong with a vehicle because they are mechanics and I am not, but I walk in with my printed page of results and have the correct diagnosis. I love it!"

CarMD can make your car "greener" as well. The "Check Engine" light often indicates problems with the emissions system, such as a faulty catalytic converter. CarMD can diagnose problems that lower your mileage and pollute the environment.

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Business Center

Get Started With a Small-Business Server

BY ZACK STERN

YOUR SMALL office probably relies on more than one computer to get work done. For managing tasks across all of your company's PCs, consider using a small-business server. Initially, the main benefits of this central hub will be shared storage space and increased backup options. As your company's needs grow, however, you can use the server to design and test a Web site, host intranet services, and host your own Internet presence.

Choosing a Server

The cheapest servers have very low hardware requirements: A PC with a Pentium Pro CPU can handle an Ubuntu Linux-based server. Windows Small Business Server 2008 is a step up from that; you might be able to run it on a recent, unused PC, or you could buy a new server with it preinstalled.

Small Business Server 2008 is ideal for a staff of 24 or fewer people. With 25 or more employees, you'll likely prefer Windows Essential Business Server 2008. Vendors of hardware-and-software server systems usually help set them up, but you'll probably need an on-site or consulting IT pro to keep it running.

Windows Home Server is suited to sharing media and making simple network backups, but its limited scope

leaves you no room to grow. Mac OS X Server handles network tasks and administration for cross-platform companies well, especially if your operation is primarily Mac-based; its glossy Apple

free operating system comes in server and desktop versions, each of which can run the same applications. The server version is preconfigured with networking tools, including Samba file sharing and OpenSSH, and its kernel is optimized for responsiveness to server tasks. Beginners may find its command-line interface daunting, but enabling the Ubuntu desktop graphical interface is easy.

Download the free Ubuntu software, burn it to a CD, and run the installer. You need to understand a lot of networking basics—the concepts behind manual IP addresses, router hardware, and file-sharing permissions; hard-drive installation; RAM upgrading; and other hardware basics—before you begin. You should be able to figure out Ubuntu and configure the PC as you go along. If not, you may be better off buying a for-pay, preinstalled server and the tech support that usually accompanies it.

Unlike other servers, Ubuntu gives you complete control over the server. You also get a deep level of customization, including a library of Linux applications. In contrast, Windows Small Business Server can't function beyond Microsoft's options without the assistance of special plug-ins. Those add-ons might meet your business's needs, but the resulting setup lacks the openness of Linux. >>

Even the smallest businesses can work better, faster, and more securely by sharing files and printers through a server. Here's how.



style walks you through most of its services. For PC-centric organizations, a Windows server offers more automation and setup for Windows clients.

Ubuntu Linux-Based Servers

If you already feel comfortable running a network, you may be ready for a simple server that uses Ubuntu Linux. This

Considering setting up an Ubuntu server for free, but intimidated by Linux? Follow the instructions in our simple, unintimidating installation guide at find.pcworld.com/62535 to get started quickly.

Windows Small Business Server 2008

Windows Small Business Server 2008 is a new, entry-level business server designed for companies consisting of no more than 75 employees and no on-site IT staff. The server's wizard-heavy system asks plain-language questions about your needs and adjusts configurations based on your answers.

Think of Small Business Server as a preconfigured Windows Server installation. It includes nearly all of the same features, but you manage everything from a single console instead of installing packages. I found its installation process easier than Ubuntu's, but you still need some basic networking know-how to make everything come together.

Like other Microsoft products, Small Business Server comes in a confusing multitude of editions. The Standard Edition should amply cover most small-business needs, and it includes Exchange Server for calendars and e-mail. If you manage your own e-mail and Web services, however, I recommend growing into hosting them; without IT staff, I'd much rather pay another company for hosting. That said, Small Business Server connects to registrars to help you along if you have the dedicated bandwidth and the IT expertise.

The Premium Edition includes a second Windows Server license for installation on another PC or virtual machine, plus Microsoft SQL Server. An SQL server can help run network-based apps and may be useful for developing and testing Web sites and other connected services. But again, your Web host likely provides SQL services, too.

Small Business Server follows the per-license pricing structure of other for-pay server OSs. The base packages include five licenses to be divided per user or per PC. Additional per-user licenses cost \$77 for Standard Edition and \$189 for Premium Edition. The costs cover licenses for all of the server products included in the respective editions. Be sure to factor those extra costs into your decision.

NET WORK DAVID STROM



Find the Right Online Backup Service

USING AN ONLINE backup service makes a lot of sense: It gives you off-site peace of mind

and the security of knowing that someone else is keeping your data safe and sound. Unfortunately, selecting one isn't a snap. Though dozens of service providers focus on individual users, only a few services are designed specifically to handle the needs of enterprises and small businesses.

The first things that a business scouting out online backup services should look for are services that work on non-Windows machines (as well as on Windows systems), and services that allow business customers to use one

account to back up multiple PCs and multiple users. Three notable vendors offer these kinds of features: AmeriVault (amerivault.com), IBackup (www.ibackup.com), and Mozy Pro (mozy.com).

Other services, such as ElephantDrive Pro (elephantdrive.com), Jungle Disk (jungledisk.com), Tilana (tilana.com), and Zmanda (zmanda.com), impose no upper limit on storage. Still others, including Iomega's iStorage Professional Edition (iomega.com), OnlineBackupVault.com, and Storage Guardian (storageguardian.com), support an unlimited number of users. Additional features to look for include around-the-clock phone support, server operating-system support, mapped and network drive support, and a Web-based administration console that you can use to manage all of your employees' backups. Mozy Pro has all these capabilities. Backup My Info (backupmyinfo.com) offers extensive support for a wide variety of server OSs, along with native support for SQL Server and Exchange.

Though most of the free, consumer-oriented backup services on the Web

Not all online backup services offer the same level of business-data protection. Here's how to choose one wisely.

today tend to be stingy with the amount of storage they offer, some vendors do provide generous quantities of free storage for individual users. Microsoft, for example, has begun offering 25GB of free storage for Windows users of its Live SkyDrive service (skydrive.live.com). Even

more impressively, ADrive (www.adrive.com) offers 50GB of free storage. Most of the other services give you a gigabyte or less, but at least you can try them out for a few days to see how they work and to get a hands-on sense of their practical

limitations and a realistic idea of what they will end up costing you each month.

Another thing to ask about is how long the service keeps its backup archives and whether it distinguishes among various versions of the same file in its archives. Again, the opportunity to get first-hand experience with these types of issues is a compelling reason to try out the free version. A further benefit is that you can find out what steps are involved in recovering an accidentally deleted file.

Finally, an interesting variation on the whole genre of online backup services comes from a Columbus, Ohio, company called 3X Systems (www.3x.com). Its backup process includes a hardware appliance. You create the initial backup on your LAN and then move the appliance to a remote location—such as to a home broadband link or to another office—where you perform the incremental backups. This model makes a lot of sense because for most businesses the first backup takes several days, even when the data is being transferred across even a reasonably fast Internet connection.



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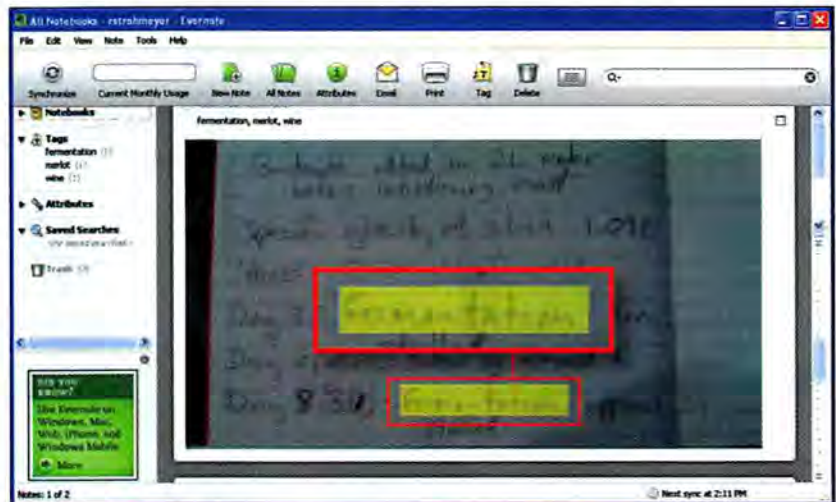
FOR MANY YEARS, I've searched for a great way to carry electronic notes with me. You'd think that there would be a number of options, but each one I've tried has lacked something important—most often ease of use and simplicity.

I want to be able to enter a note on my desktop, laptop, or phone, and keep it automatically synchronized with my other computers and portable devices.

Evernote (evernote.com) supports all of that, letting you capture information by typing a note, grabbing e-mail text, saving a clipping from a Web page (in whole or part), or taking a picture with a camera phone. Every note or image then runs through a text-recognition engine that lets you search text that appears inside a picture—on someone's business card, on a label, or even on a conference-room whiteboard.

Evernote stores the information it manages in notebooks, which you may make public or private. You may also add info by sending e-mail to a notebook.

A free account allows you 40MB of uploads per month and unlimited use of



UPLOAD A PICTURE of some text to the Evernote site, and the associated Evernote software will allow you to search the text that the image contains to locate important information.

the software. Evernote clients are available for Windows XP and Vista, Mac OS X, iPhone, Windows Mobile, and San-Disk U3 flash drives. You can also access your information from any Web browser.

On top of all that, if you pay \$5 a month or \$45 a year, you can store any type of file in Evernote, making it avail-

able across all supported platforms, and get 500MB of monthly uploads.

The Evernote applet, which resides in your taskbar, simplifies the work of pasting data to Evernote, grabbing a clipping, or searching within your notebook without launching a browser.

—David Coursey

A Svelte Scanner to Digitize Documents on the Go

WHEN TRAVELERS PACK their bags for a long trip, they often overlook their scanner. But a small, lightweight device like the Xerox Travel Scanner 100 can be an essential piece of mobile business gear, saving you from having to find a fax machine on the go, and dutifully digitizing documents, business cards, and receipts as you roam.

Weighing in at 10.6 ounces, the 11.4-inch Travel Scanner 100

slips unobtrusively into most laptop bags. And it's powered over USB, so there's no bulky brick to add to your load. The scanner turns your paper documents into searchable PDF files at the fairly crisp rate of 6 pages per minute for black-and-white at 200 dots per inch, and 4 ppm for color pages at 150 dpi.

Built by Visioneer, the Xerox Travel Scanner 100 is bundled with Visioneer OneTouch and Nuance PaperPort software, and NewSoft Presto BizCard for adding contact list entries automatically.

In my tests, the Travel Scanner 100 ate up every document and photo I threw at it, though sometimes a bit unevenly. But the built-in auto-straighten feature

fixed crooked scans without a hitch.

The scanner's Kofax VRS feature examines black-and-white scans of color documents, illustrations, or highlighted text, and autocorrects the gray tones to create a perfectly readable image.

Adding anything new to your laptop bag is hard. But if you have a few extra inches of room in your pouch, this handy scanner can easily earn its keep.

—Robert Strohmeier ●



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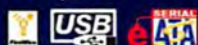
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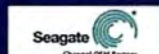
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Security Alert

The Conficker Worm: A Potential Threat to PCs

BY ERIK LARKIN

LAST YEAR THE first massive worm outbreak in years infected millions of computers worldwide, from French navy systems to British hospitals to countless businesses. Ironically, its brazen onslaught may mean little reward for its creators.

The Conficker worm, aka Downadup, hit the scene in late November, attacking a Windows flaw patched the month before. At the end of December, an update with new propagation tricks appeared. In just a few weeks, the variant achieved up to 9 million infections.

Today's malware, however, isn't meant to draw attention as the Sasser worm did (the last big outbreak, in 2004), but to make money quietly by sending spam and stealing financial data or sensitive documents. Conficker's impressive infection rate drew a swift and organized response from Microsoft, VeriSign, and security companies and researchers.

Too Big, Too Fast

"This was far more successful than [the worm's creators] wanted," says Vincent Weafer, vice president of Symantec Security Response. "The last thing a successful botnet wants is to generate attention." Weafer and other security experts theorize that Conficker was meant to be a first stage, to spread itself and then download the real payload onto victim PCs, likely creating a versatile botnet that could have performed a wide variety of nefarious, profit-making actions at the behest of its controllers.

But so far, after an initial upgrade in December that gave

Conficker much more power to spread, updates have allowed the worm only to take swipes at security programs it finds on the machines it infects, or to attempt to evade industrywide countermeasures. It doesn't yet steal data or passwords. The crooks may have gone to ground, Weafer suggests—perhaps to escape the heat and a \$250,000 reward offered by Microsoft for information leading to the arrest of those behind the worm.

Conficker is the biggest worm outbreak in years. Here's how to identify an infection, how to cure your PC, and how to keep it safe.



The malware may be relatively quiet now, but it still has the potential to cause major harm. Here's how to figure out whether the worm is already on your PC, how to disinfect your system if it is, and how to prevent infection in the first place.

How Conficker Spreads

Conficker originally went after the MS08-067 flaw in the Windows Server Service (see find.pcworld.com/62468), a flaw that attackers could target remotely, making it a big bulls-eye for worms. A Microsoft patch closed the hole last October, but many businesses and individuals don't patch quickly, or at all. Run Windows Update to be sure you have the fix.

The first updated Conficker variant let the worm spread using network shares; Conficker can guess, or "brute-force"

the cracking of, weak passwords protecting those shares.

Conficker will also infect removable media, such as a USB flash drive, and use Windows' Autorun feature to spread. Connect an infected thumbdrive to your PC, and the worm will attempt to infect your computer without your clicking on anything—unless you have disabled Windows' Autorun. Malware other than Conficker tries to exploit Autorun similar- ➤

ILLUSTRATION: TIM MARRIS

PCWORLD.COM

Yet another payment processor gets hit by a data breach; read the details at find.pcworld.com/62472. Also: What's the safest way to download software? Learn the answer at find.pcworld.com/62473.

ly, so many security experts recommend that Windows users disable Autorun.

Microsoft has instructions online at find.pcworld.com/62469 for turning off Autorun for supported versions of Windows (XP, 2000, Server 2003, Vista, and Server 2008), but the listed steps are a little involved. For Windows XP users, a small, downloadable program at find.pcworld.com/62471 will modify the Windows Registry to disable Autorun.

Is Your System Infected?

According to Patrik Runald, chief security advisor with F-Secure, Conficker will block an infected PC from reaching security Web sites. So a quick test for infection is to try visiting antivirus company sites, such as f-secure.com, kaspersky.com, symantec.com, and others.

If you can't pull up those sites, your computer is likely infected. If you have an antivirus program on your PC, Conficker probably hit your system before your program had been updated with the worm's signature, and is keeping the antivirus app from receiving updates. One option is to head to find.pcworld.com/62470 from another, clean PC to download a free removal tool from F-Secure. Run that tool on the infected PC, and update your antivirus program.

To stop further actions by Conficker, a coalition including F-Secure, Microsoft, Symantec, VeriSign, and others is trying to get the jump on the far-flung malware. Conficker originally compiled a list of 250 domain names every day—places to look for an update. The coalition attempts to snap up those domains before Conficker's authors do, to prevent the worm from finding a payload.

Though Conficker has now increased the list of potential daily domains to 50,000 to offset this countermeasure, the change shows that the coalition hurt Conficker enough for its makers to take action. And while keeping the coalition together if and when Conficker is no longer a threat "hasn't really been discussed," according to Runald, such a step could be a smart move in the ongoing fight against malware.

BUGS & FIXES ERIK LARKIN

Adobe Reader, IE 7 Holes Under Attack

IF YOU WERE an Internet crook, the following item would be music to your ears:

A zero-day flaw—a security hole with no fix available before attacks could be launched—exists in Adobe Reader and Acrobat, and can be exploited by a poisoned PDF file in an attempt to take over a vulnerable computer.

As Symantec reported in February, crooks have hit the flaw with small-scale attacks that e-mail PDF attachments to specific targets. Adobe says a patch should be ready for version 9 of both programs by the time you read this, with fixes for earlier versions to follow. Head to find.pcworld.com/62475 for Adobe's alert and a link to the eventual fixes.

Word Docs Target IE 7

Bad guys went after a bug in Internet Explorer 7 a week after Microsoft distributed a fix. Those attacks employed a malicious Word document, but the Internet Storm Center (isc.sans.org) has warned that crooks could also add hidden code to a hijacked Web site to create a drive-by download attack. You can install the patch for this browser flaw via Automatic Updates, or you can download it from find.pcworld.com/62476.

The same patch batch from Microsoft addresses a security vulnerability in the company's Visio diagramming software (described at find.pcworld.com/62477); an attack through this hole can be triggered if you open a hacked Visio file.

Plus: Read about new flaws in Firefox, RealPlayer, and Visio, and their fixes.

Meanwhile, Mozilla fixed six security holes in its Firefox browser, one of which was deemed critical. Firefox version 3.0.6 and later has the fixes; click *Help•Check for Updates* to make sure that you have the latest version. The same critical flaw can hit the Thunderbird e-mail program if JavaScript is enabled for e-mail (it's disabled by default, and discouraged by Mozilla). Version 2.0.0.21 closes the hole.

Media File Mayhem

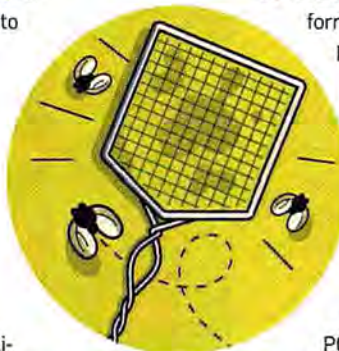
If you use RealNetworks' RealPlayer, beware of a risk involving malformed Internet Video

Recording (IVR) files.

According to security company Fortinet, simply previewing a poisoned IVR file in Windows Explorer could allow an attacker to run any command on a vulnerable PC. Versions 11 through 11.04 are at risk, while 11.05

and later are not affected. Check your version by clicking *Help•About RealPlayer*, and if you need to upgrade, head to find.pcworld.com/62478.

Finally, OpenOffice users should know that a default installation of the productivity suite's latest version (3.0.1) adds an old, insecure version of Sun's Java (Java 6 Update 7). According to the *Washington Post*, which originally reported the issue, the suite should work fine with the latest edition, Java 6 Update 12; remove your old Java versions and install the new one from find.pcworld.com/62474. The original report is at find.pcworld.com/62479. The OpenOffice team should have a new version (with an updated Java version) by the time you read this, and you can also get a Java-less install via peer-to-peer download from find.pcworld.com/62480.



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Spammers Play on Current Economic Fears

SPAMMERS ARE USING today's shaky economic conditions to their advantage, according to security vendor Symantec in its February MessageLabs Intelligence Report.

Spam declined by 1.3 percent to 73.3 percent of all e-mail in February, but soared to as high as 79.5 percent at the month's start due to a spike in botnet activity and to spammers' leveraging the financial crisis, the report states.

And in the same month, for the first time in more than a year, a spam trick

known as search engine redirects reappeared, tying in to the financial crisis. The "recession spam" messages contained text or headings such as "Money is tight, times are hard," and "Cheaper than you could imagine."

The new search engine spam comes with a twist, says Symantec, in that the message includes links to well-known search engines. Instead of automatically redirecting to the spam site, the links lead the user to a search for the spammer's domain, in hopes that the search

engine hasn't yet indexed the target site. Thus disguised, spammers can send mail that flies under the antispam radar, a Symantec spokesperson explains.

Phishers also exploited the financial climate, the report says, plying victims with fake correspondence from banks. "At a time when concerned consumers may not be surprised to hear from their banks, phishing attacks have risen to one in 190.4 emails, from one in 396.2 in January 2009," the report states.

—Joan Goodchild

PRIVACY WATCH

ERIK LARKIN



Will New Tracker Tools for Your Cell Phone Give You Away?

CELL PHONE APPS like Loopt (find.pcworld.com/62497) and the new Google Latitude (find.pcworld.com/62496) allow you to track your friends' physical locations, and be tracked in return. That can be a huge boon for meeting up on a Friday night—and a real nightmare for privacy if proper safeguards aren't in place.

I checked out both applications. For starters, neither will share your location with anyone until you explicitly agree to such sharing with each individual friend. So you can install either one and see how it looks without divulging where you are.

Also, after inviting a friend to share his or her location, or being invited to do so yourself, you can go back and change the setting to stop sharing your location with a particular friend and continue sharing with others, or stop sharing with anyone.

But what happens if you set up either app to share with friends, and forget about it? Or what if someone else puts it on your phone, without your knowledge, to track you?

In what's usually seen as a limitation, the iPhone doesn't allow running programs in the background—so Loopt can't update your location unless you open the app (Google Latitude, when it becomes available for the iPhone, should work similarly).

But most other cell phone platforms allow background processing to run silently—a potential problem. Within a few days of installing Loopt, however, you'll get an SMS notice so you'll know it's there. Loopt CEO Sam Altman also says that if you don't use Loopt for a while it will automatically stop sharing your location—likely within a week of nonuse. Google Latitude will display a pop-up noti-

Location-tracking apps for cell phones can be a privacy nightmare unless you take precautions.

cation on all phones save Android-based devices (whose users will receive an e-mail, Google says), but it won't automatically shut off.

Google does let you limit sharing to only your city-level location, and in both apps you can enter a (possibly false) location for yourself.

Both Google and Loopt say they do not store historical locations, only your last location. That's important in case someone—the government, say, or a civil litigant—seeks that data. Loopt says it will share that info only under a wiretap order. Google hasn't said it will do the same, but it does have a record of fighting government requests for its users' information.

My conclusions? Some things could be improved: First, you should be able to share your location only for a set amount of time—say, the next 2 hours, or from 6 to 9 p.m. on Fridays. Loopt says that ability will come in a future release, but Google isn't planning to announce anything along those lines.

Next, I think Google should have an auto-shutoff after a certain amount of time, in case you become forgetful. And it should explicitly declare it won't share your information without a wiretap order.

Of the two, you might try Loopt (ideally on an iPhone), since it has auto-off and will also come out with time-based controls.

But here's the kicker: As Kevin Bankston of the Electronic Frontier Foundation points out, the safeguards in place are only company policy, not a legal requirement. And policies can change. ●





SPECIAL ADVERTISING SUPPLEMENT

If you're a netbook user, you love the small size, the portability and the price. Yet when you're back home or at work, the netbook's small screen, keyboard and other limitations can be a pain to use.

Now with the USB Laptop KVM Switch with file transfer (GCS661U) from IOGEAR, you have a convenient solution. The KVM switch lets you control your netbook through your PC's larger monitor, better keyboard and mouse—by plugging into a USB port on each system. The same goes for transferring files or running programs from your PC on your netbook. The KVM Switch lets you control two computers by sharing the Keyboard, Video and Mouse.

IT departments use similar technology that costs from \$200 to \$500. An industry first, IOGEAR has introduced a portable KVM

switch for only \$99.95. The USB Laptop KVM switch lets you do the following:

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- Switch between computers with a single mouse click

If you have a netbook or a laptop and a second PC, the USB Laptop KVM Switch will make your life easier. It's a must-have for anyone with two computers.

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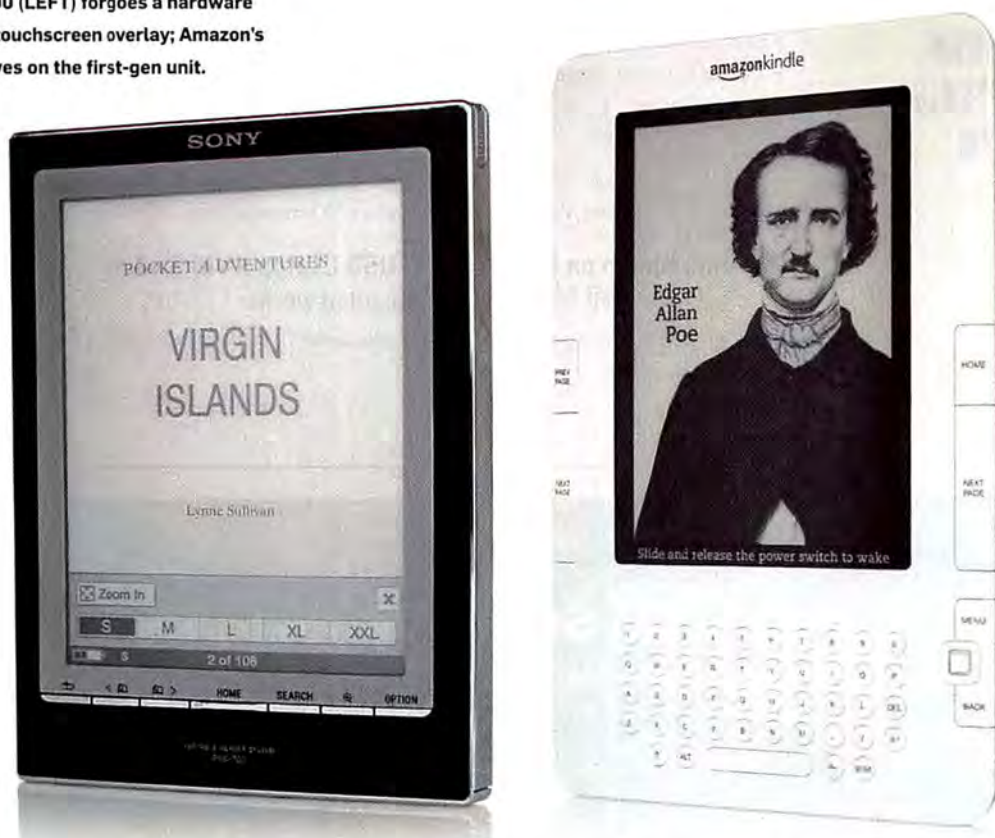


amazon.com

www.iogear.com

Reviews & Rankings

SONY'S PRS-700 (LEFT) forgoes a hardware keyboard for a touchscreen overlay; Amazon's Kindle 2 improves on the first-gen unit.



Amazon vs. Sony: E-Book Reader Face-Off

IT'S FINALLY HAPPENING: E-book readers are aiming squarely at the mainstream, thanks to new or updated offerings from heavyweights like Amazon and Sony.

We compared Amazon's second iteration of the Kindle with Sony's Reader Digital Book PRS-700, and discovered that one has an edge over the other. However,

With Amazon's and Sony's new readers, e-books are becoming more sophisticated. Our hands-on evaluation compares the two devices.

both remain pricey gadgets, even for avid readers who are ready to go paperless.

Amazon Kindle 2
The \$359 Amazon Kindle 2 is pretty inviting—it's a sleek, thin, curved tablet

you can easily hold. But despite the enhancements, some tweaks fall flat. And Amazon has hardly advanced the gadget beyond its single trick: reading digital books.

Still, by offering both built-in Sprint 3G wireless

(at no extra cost to users) and tight integration with Amazon's shopping engine, the Kindle handheld delivers a cohesive reading and shopping experience.

Frustrations remain, however. The Kindle's Web browser remains a "beta" buried under the Experimental menu option—along with MP3 playback and the



48 SAMSUNG MEMOIR



50 ASUS EEE PC 1000HE



52 CANON POWERSHOT G10



53 SEAGATE FREEAGENT Theater

new, highly touted text-to-speech feature. And you still must e-mail documents and PDFs to yourself at your Kindle e-mail address for the files to be readable—even with transfer of files to the Kindle 2 via USB.

The first-generation Kindle weighed 10.3 ounces and offered a paperlike E-Ink display that kept eyestrain at bay. It was also readable in sunlight; had a long battery life; and let you look up words on the fly, take notes, and highlight passages.

The Kindle 2 retains those capabilities, in a slimmer form (it's 0.36 inch thick); at only 10.2 ounces, its weight is just about the same.

The screen is the same size as that of the first Kindle—it's 6 inches, with 600 by 800 resolution—but its refreshed E-Ink technology provides 16 shades of gray, as opposed to the original 4.

Text on the Kindle 2 is slightly finer; letterforms are crisp, exhibiting less ink-like bleed-in. Images have far better gradations of shading.

The Kindle 2 redraws pages a shade faster than the Kindle 1 did, but the difference was tough to detect. The faster refresh lets you

navigate the screen in real time, and the joystick can now move through options directly on the display, highlighting your selection as you go—a huge improvement.

Unfortunately, the handy wireless-off switch is gone

entirely; you must turn off the wireless radio within the Home menu, instead.

The navigation keys have been completely redone. The new buttons depress inward, toward the screen—unlike the first Kindle's buttons,

which pressed outward. But the new unit's buttons must be pressed harder, and my hand tired more quickly than it did when using the original Kindle—I had to hover my finger in a specific place just to turn the page. >>

MOBILE APP

Kindle for iPhone: Handy E-Book Software

KINDLE E-BOOKS HAVE been limited to Amazon's own Kindle reader—until now. The Kindle for iPhone app (free at this writing; find.pcworld.com/62695) is a welcome addition. But it lacks an integrated Kindle Storefront gateway for buying e-books—a big strength of the Kindle 2—and doesn't support Kindle blog content, or magazine and newspaper subscriptions. It also has no dictionary feature.

Kindle for iPhone melds well with the Kindle service. You need just your Amazon.com account and password. You can access your archive of purchases on Amazon's servers and download e-books to your iPhone. But you can't initiate purchases within the app itself.

Downloading e-books may take a while if your iPhone uses AT&T's EDGE network



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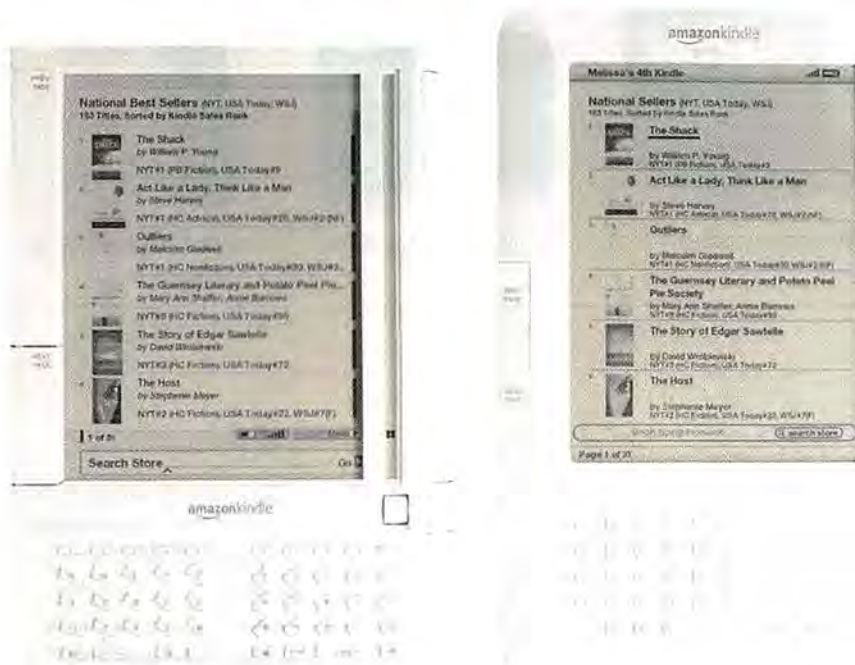
instead of 3G or Wi-Fi. With 3G turned on, however, e-books download fairly quickly.

The app is simple. The home screen lists the e-books you've downloaded to your iPhone, plus archived items. To open an e-book, click on its title. Instead of up/down scrolling, you swipe your finger left or right to change pages. With an e-book open, tapping the screen brings up the controls. The background is stark white; you can't adjust the contrast levels.

The iPhone's one advantage as an e-book reader: its full-color screen. Images definitely look better on the iPhone.

Kindle for iPhone is not really for serious e-book users, but it's a useful add-on for people who always keep their iPhone handy.

—Nick Mediat



THE SOMEWHAT QUIRKY keys of the first Kindle (left) have been completely redesigned on the Kindle 2 and are handier. The new Kindle also offers a sharper screen and 16 shades of gray.

The new, five-way navigation joystick is stiff, and its location is awkward. (The first Kindle's scroll wheel moved smoothly.)

The redesigned keyboard more closely resembles what you'd see on a cell phone with a QWERTY layout. Its circular keys are easy to press and incredibly handy.

One addition to the device is a text-to-speech capability. Accessible via either the menu or a keyboard shortcut, it has two digital voices and up to 3X reading speed, when fast-forwarding. I could see using it in a pinch (to

follow a recipe, say). But Amazon is letting publishers decide whether to allow text-to-speech for their titles, likely limiting the option.

The Kindle 2 powers up from USB, obviating an extra charger. The micro-USB port lets the Kindle 2 act as a USB mass-storage device. I'd have preferred a mini-USB port that could connect to more devices.

Instead of an SD Card slot, the Kindle 2 has 2GB of integrated storage. Amazon says audiobooks range from 40MB to 80MB, while a typical Kindle e-book ranges

from 700KB to 800KB. The company claims the device will hold over 1500 e-books.

You don't get a case in the package anymore—you must buy a third-party case.

Even with its flaws and foibles, I found that the Kindle 2's convenience makes it a good reader's companion.

Sony Reader Digital Book PRS-700

The Sony Reader Digital Book PRS-700 costs \$400. Though it possesses some strengths, it has encountered tough sledding going against the Kindle's overall

design and its integration with Amazon's bookstore. (But see the next page for a discussion of the Google-Sony e-book deal.)

The PRS-700 differs dramatically from the Kindle. It's not as tall, and it trades in a keyboard for a more compact shape. It has a touchscreen overlay atop its E-Ink electronic-paper display, which measures 6 inches and has a resolution of 600 by 800, just like the Kindle 2. But it looks larger. The screen also seemed easier on my eyes, though text isn't as sharp and graphics aren't as detailed as on the Kindle 2.

As a touchscreen fan, I didn't like having to press hard to make the touchscreen work. I could use my finger to select words and annotations, but not easily. The screen does support gesture motions; conveniently, I could swipe my finger left or right to change pages (even at an angle—neat), and swipe and hold my finger to jump through multiple pages at a time. Still, the pressure required to accomplish tasks seemed unnecessarily hard.

The PRS-700 comes with a stylus. The stylus's thinness makes it uncomfortable to hold for long, but you can also use it for gestures.

The unit's Home screen is

E-BOOK READER	Size and weight	Screen size and resolution	Display type	Storage	Audio playback	Book acquisition	Input method	Stated battery life
Amazon Kindle 2 \$359 find.pcworld.com/62499	• 8 by 5.3 by 0.4 inches • 10.2 ounces	• 6 inches • 600 by 800 pixels	E-Ink, 16-level grayscale	2GB internal	MP3 and AAC; text-to-speech reading of books (as permitted by publishers)	Via Kindle Store, using built-in wireless	QWERTY keyboard	4 days (wireless on); 2 weeks (wireless off)
Sony Reader Digital Book PRS-700 \$400 find.pcworld.com/62532	• 6.7 by 5.1 by 0.4 inches • 10 ounces	• 6 inches • 600 by 800 pixels	E-Ink, 8-level grayscale	256MB internal, plus SD Card and Memory Stick Pro slots	MP3 and AAC	Via ebookstore, sony.com, using a USB connection to a PC	Touchscreen	2 weeks

divided into four main touch buttons: Continue Reading, Books, Collections, and Notes; three more buttons at the bottom of the screen access audio, pictures, and settings. The unit's physical buttons reside below the screen, in a neat row: Return, Page Back, Page Forward, Home (conveniently larger than the other buttons), Search, Enlarge, and Option (for accessing context-sensitive menus).

Books are listed by title and author, with an alphabetical bar along the right to help you navigate. You can sort by title, author, or date loaded; and display either in a list (default) or by thumbnail (three across, for nine books on screen). Sounds navigable, right? Wrong. I



THE PRS-700 HAS a power switch, memory card slots, and a stylus on the top; on the jam-packed bottom are a light switch and USB port.

wanted to push buttons alongside the screen, not way down at the bottom.

One thing I loved was the ability to switch orientation from portrait to landscape. Another is that the perimeter of the screen has an LED light: The illumination it provides can be a lifesaver at times—one of my gripes with the Kindle 2 is that you can't use it in an environment without ambient light (such as in a darkened airplane with the seat lights off).

The built-in memory holds

up to about 350 books; the unit can also access books stored on memory cards (at the top are two slots—one each for a Memory Stick Duo and an SD Card).

Sony supports only PCs (not other devices) with its eBook Library 2.5 software, a required download to shop for and transfer books purchased from ebookstore.sony.com. Sony is now partnering with Google to offer public-domain books (see below). Its Reader also works with Adobe PDF documents (with

reflow), Microsoft Word documents, other text documents, and even EPUB files and Adobe Digital Editions. (A lack of native, non-Kindle file support remains a major weakness of the Kindle 2.) The PRS-700 also supports MP3 and MP4 audio files—use the headphone jack to rock out while reading.

Particularly in its new deal with Google, Sony scores some hits with the PRS-700. But it needs a more responsive touchscreen and better navigation controls. And the lack of integrated wireless makes using the Reader—and finding and buying new reading material—far less intuitive and impulsive than with the Kindle. In short, this round goes to Amazon.

—Melissa J. Perenson

E-BOOK COMPETITION

Google and Sony Team Up to Fight Amazon's Dominant Kindle

DESPITE ITS attractive design and competitive price, the Sony Reader has been overshadowed by its main competitor, the Amazon Kindle.

A Google-Sony partnership announced in March is changing that, however. More than half a million public-domain books published before 1923 will be available for free to Reader customers through the Sony eBook store. The titles were digitized as part of the Google Book Search effort, and since they are free of copyright entanglements, Google and Sony probably won't encounter any legal challenges from the publishing industry.

Does the pact give Sony Reader a competitive edge over Kindle? In the number of available titles, it does: about 600,000 versus Kindle's 245,000. Then again, the



UNDER A NEW partnership, Google and Sony will offer, for free, over half a million pre-1923 titles—including many classics—as e-books.

terms of the Google-Sony arrangement allow the search giant to strike a similar deal elsewhere. So why hasn't Google already done so with Amazon? Perhaps the "free" aspect of Google's pitch was unappealing to Amazon, which intends to make a profit by selling \$5-to-\$10 e-books to Kindle owners; Sony may be more inter-

ested in moving hardware.

The Google-Sony deal should be good news for e-book fans. Amazon may be forced to reciprocate. Other readers could become more affordable.

But Sony still has a lot of work ahead of it. First it needs to improve the Reader's user experience. Unlike the Kindle, which downloads content wirelessly via Sprint's data network, the Reader uses

a clunky, outdated PC-centric interface.

What does Google get out of the deal? Initially, its free e-books won't come with advertising, but I suspect that will change. (Google Book Search costs money.) Will we see ads for Civil War memorabilia in the margins of *The Red Badge of Courage*?

—Jeff Bertolucci

Samsung Memoir: More Camera Than Phone

THE SAMSUNG Memoir is a touchscreen smartphone with an 8-megapixel camera. Priced at \$250 with a two-year T-Mobile contract, the 4.1-by-2.1-by-0.5-inch, 4.4-ounce Memoir looks more like a digital camera than like a mobile phone. Though dressed in black plastic with silver trim and a leatherlike grip, it feels a bit chintzy.

Memoir | Samsung

Testing incomplete; rating pending
Excellent camera features but mixed call quality and no Wi-Fi.
List: \$250 with two-year contract
find.pcworld.com/62531

A gorgeous, 2.6-inch LCD touchscreen occupies most of the handset's face, with Talk, Back, and End buttons below, and the camera lens and flash opposite. On the left spine are a microSD slot (to expand the device's storage to 16GB) and a proprietary headphone jack; on the right spine are a volume rocker, a dedicated camera button, and a lock button.

The Memoir's camera has 16X digital zoom and a Xenon flash, plus an array of special features and settings.

The phone can upload your photos directly to on-



THE MEMOIR has a touch interface and an 8-megapixel camera.

line photo services, but it has no Wi-Fi connectivity.

Photos taken in bright sunlight were stunning, but indoor shots were mediocre, even with the flash on.

Call quality over T-Mobile's 3G network was a mixed bag. Voices sounded natural

and clear enough, but a faint background hiss marred all of my calls, and one call to a landline was dropped.

Camera-phone fans will love the Memoir, but its average multimedia features and lack of Wi-Fi won't satisfy smartphone aficionados.

—Ginny Mies

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Lavasoft App Struggles With Spyware Detection

THE LATEST edition of Lavasoft's Ad-Aware Pro supplements its antispyware scans with an antivirus engine; but the app is hard to use, and on test scans it missed a lot of malicious files—including adware and spyware.

In tests by AV-Test.org, Ad-

Aware Pro found only 83.6 percent of 111,833 samples of Trojan horses, spyware, and other malware. It caught 96 percent of remote-control "backdoor" malware, but only 77.4 percent of Trojan horses and 78.3 percent of adware and spyware.

In contrast, the best performers in recent tests successfully blocked around 99 percent of malware samples.

Sections of the interface display the program status, allow for easy scheduling or execution of scans, and provide access to some real-time protection such as watching



THE AD-WATCH portion of Ad-Aware Pro 8.0.2 stands on guard against malicious processes and unsafe Web sites in real time.

for attempts to access Web sites known to be unsafe. But Ad-Aware doesn't scan a file when it's saved to disk, as antivirus programs do.

Ad-Aware's poor showing in malware detection means you'll have to run another

security program to obtain effective protection. But considering that antivirus programs can get rid of spyware, cookies, and adware, too, Ad-Aware's \$40 extra layer doesn't seem worth it.

—Erik Larkin

70
GOOD

Ad-Aware Pro 8.0.2 | Lavasoft
Blocks bad Web sites and scans for viruses; malware detection is poor.
List: \$40
find.pcworld.com/62530



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Desktop Replacements Keep You in the Game

PCW Test Center

IN THE PAST few years, obtaining a good portable rig for playing computer games on the road meant ponying up the price of a used car. And even then, you had to deal with the fact that mobile GPUs lag behind their desktop counterparts.

The current crop of power laptops (aka desktop replacements), however, boasts several strong gaming machines. Eurocom's D901C Phantom-X, for instance, rocks WorldBench 6 with a score of 133 (but also hammers wallets at \$5950). Toshiba's not-quite-



THE ACER ASPIRE 8930 makes mobile gaming fairly affordable.

as-pricey Qosmio X305-Q708 (\$4099) trails with a WorldBench 6 score of 100. Want to save a little cash and still be a mobile player? Consider Acer's Aspire 8930. This multimedia laptop earned a mark of 94 on WorldBench 6, it costs just \$1699, and it can handle playing most of today's popular games (just not at the highest settings).

—Darren Gladstone

MORE ONLINE

Visit find.pcworld.com/62693 for in-depth reviews, full test results, and detailed specs for each laptop in our chart.

PC WORLD TOP 10 POWER LAPTOPS

MODEL	PCW Rating	Performance	Features and specifications
1 BEST BUY HP HDX18 \$1890 find.pcworld.com/62486	85 VERY GOOD	<ul style="list-style-type: none"> WorldBench 6 score: 102 Good Overall design: Very Good Tested battery life: 2:42 	<ul style="list-style-type: none"> 2.8GHz Core 2 Duo T9600 18.4-inch widescreen 9.1 pounds BD-ROM
BOTTOM LINE: As a desktop replacement, the HDX18 performs well—and makes your actual desktop look snazzier.			
2 HP Pavilion dv7t \$1650 find.pcworld.com/62487	83 VERY GOOD	<ul style="list-style-type: none"> WorldBench 6 score: 98 Good Overall design: Good Tested battery life: 3:01 	<ul style="list-style-type: none"> 2.53GHz Core 2 Duo T9400 17-inch widescreen 5.5 pounds BD-ROM
BOTTOM LINE: The heavy-duty Pavilion dv7 delivers strong performance, but falls a little short in multimedia quality.			
3 Acer Aspire 8930 \$1699 NEW find.pcworld.com/62698	81 VERY GOOD	<ul style="list-style-type: none"> WorldBench 6 score: 94 Good Overall design: Very Good Tested battery life: 2:54 	<ul style="list-style-type: none"> 2.53GHz Core 2 Duo T9400 18.4-inch widescreen 8.8 pounds DVD±R DL/DVD±RW
BOTTOM LINE: The Aspire 8930 is a great combination machine, providing good gaming for under two grand.			
4 Lenovo ThinkPad W700 \$3809 find.pcworld.com/62488	79 GOOD	<ul style="list-style-type: none"> WorldBench 6 score: 99 Good Overall design: Superior Tested battery life: 2:52 	<ul style="list-style-type: none"> 2.8GHz Core 2 Duo T9600 17-inch widescreen 9.0 pounds DVD±R DL/DVD±RW
BOTTOM LINE: Offering workstation power in an understated package, the W700 is built for road-ready graphics artists.			
5 Eurocom D901C Phantom-X \$5950 find.pcworld.com/62489	79 GOOD	<ul style="list-style-type: none"> WorldBench 6 score: 133 Superior Overall design: Good Tested battery life: 1:19 	<ul style="list-style-type: none"> 3GHz Xeon X3370 17.1-inch wide screen 12.0 pounds BD-ROM
BOTTOM LINE: The Phantom-X is versatile and packs plenty of power, but it suffers from a lackluster layout and design.			
6 Micro Express N570 \$2899 NEW find.pcworld.com/62697	78 GOOD	<ul style="list-style-type: none"> WorldBench 6 score: 109 Very Good Overall design: Good Tested battery life: 2:08 	<ul style="list-style-type: none"> 2.53GHz Core 2 Extreme QX9300 17-inch widescreen 9.2 pounds BD-ROM
BOTTOM LINE: Micro Express's power-hungry but feature-starved N570 comes through with gaming goods but little else.			
7 Gateway P-7811FX \$1400 find.pcworld.com/62491	77 GOOD	<ul style="list-style-type: none"> WorldBench 6 score: 90 Fair Overall design: Good Tested battery life: 3:15 	<ul style="list-style-type: none"> 2.26GHz Core 2 Duo P8400 17-inch widescreen 8.9 pounds DVD±R DL/DVD±RW/-RAM
BOTTOM LINE: The P-7811FX is a full-fledged gamer's bargain notebook loaded with an abundance of ports and options.			
8 Lenovo ThinkPad W700ds \$4764 NEW find.pcworld.com/62696	77 GOOD	<ul style="list-style-type: none"> WorldBench 6 score: 98 Good Overall design: Very Good Tested battery life: 2:58 	<ul style="list-style-type: none"> 2.53GHz Core 2 Extreme QX9300 17-inch widescreen 11.0 pounds DVD±R DL/DVD±RW
BOTTOM LINE: Lenovo's idea of latching a second screen onto a huge laptop sounds good, but it's not fully realized here.			
9 Alienware M17 \$1999 find.pcworld.com/62490	73 GOOD	<ul style="list-style-type: none"> WorldBench 6 score: 84 Fair Overall design: Very Good Tested battery life: 1:52 	<ul style="list-style-type: none"> 2.26GHz Core 2 Duo P8400 17-inch widescreen 9.5 pounds DVD±R DL/DVD±RW
BOTTOM LINE: With the M17, Alienware, known for pricey power machines, offers a good gaming laptop at a reasonable price.			
10 Toshiba Qosmio X305-Q708 \$4099 find.pcworld.com/62492	73 GOOD	<ul style="list-style-type: none"> WorldBench 6 score: 100 Good Overall design: Good Tested battery life: 1:24 	<ul style="list-style-type: none"> 2.56GHz Core 2 Extreme Q9300 17-inch widescreen 9.5 pounds DVD±R DL/DVD±RW
BOTTOM LINE: Toshiba's Qosmio X305 has lots of style and even more power, but it could use a more practical physical design.			

CHART NOTE: Prices and ratings are as of 03/06/09.

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Updated Netbook Gets Better, Less Expensive

PCW Test Center

THOUGH Asus's redesigned Eee PC 1000HE resembles last year's Eee PC 1000, it upgrades everything from the keyboard to the CPU—all while trimming the price to \$400.

The new model has a cut-out keyboard and a trackpad

that's just spacious enough for comfort. The unit's 10.1-inch backlit LED display is bright and reproduces color well; its glossy coating helps images pop nicely, though the highly polished bezel can be a bit distracting.

This 10.3-by-7.4-by-1.4-inch netbook weighs 3.2 pounds, in large part due to its 8700mAh battery, which delivered 7 hours, 9 minutes of performance in our tests.

Loaded with Intel's 1.66-GHz Atom N280 CPU, the Eee PC 1000HE we tested earned a score of 35 on WorldBench 6—an average

THE EEE PC 1000HE's cut-out keyboard creates a wide gap between keys, for a great look and feel.



score for a netbook. The Asus machine also carries 1GB of RAM, a 160GB hard drive, 802.11b/g/n Bluetooth wireless, and three USB 2.0 inputs.

The audio is surprisingly strong for the unit's size. Other notable features are InterVideo WinDVD software and 10GB of online storage free for 18 months.

In the end, the Eee PC 1000HE represents a fairly substantial jump over the Eee PC 1000. In fact, it is among my favorite netbooks, and one that I highly recommend you check out. Considering that you can find it for as little as \$380, you could do worse.

—Darren Gladstone

88
VERY GOOD

Eee PC 1000HE | Asus

Smart netbook improves on the earlier design and is priced to move.

Street: \$400

find.pcworld.com/62536

PHOTOGRAPH: ROBERT CARDIN

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FileMaker Pro Version 10 Raises the Status Bar

FILEMAKER PRO, already the most accessible relational database going, gets even better in version 10 (\$299).

The revamped Status bar—the application's primary interface—now allows you to add buttons for common functions such as Print, Ex-

port, and Duplicate, and to remove unwanted buttons.

The Pro version of FileMaker supports up to nine simultaneous local network users (on Windows or Mac), or five Web users. The company says that it made only small performance tweaks in version 10; but in my tests, scripts and apps ran about 15 percent faster than in version 9. A complex script that imports about 28,000 records from an Oracle database, manipulates them, and then generates various reports took 53 minutes to complete in FileMaker 9, and only 45



ONE KEY CHANGE in FileMaker 10 is that the Status Bar interface has moved from the left side to the top, with added feature options.

minutes in FileMaker 10.

New features include the abilities to save frequent searches in the Status bar, to create dynamic reports (with the changes reflected in grouped reports right away), and to connect directly to SMTP servers so you can send an instant e-mail blast to your contact database.

Still missing is the ability

to create charts and graphs within the app. But third-party add-ons address that need, and Excel integration features let you draw charts from that program, too.

FileMaker Pro 10 upgrades an already-great database tool with usability improvements. Once you try it, you won't want to go back.

—Becky Waring

86
VERY GOOD

FileMaker Pro 10 | FileMaker

Ease of use and powerful features make this relational database tops.

Street: \$299

find.pcworld.com/62538

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Canon's Advanced Point-and-Shoots Score

PCW Test Center

ARE YOU getting ready for summer travels and lots of picture taking? An advanced point-and-shoot camera from our Top 5 chart could serve you well.

This month the Olympus SP-570 UZ (\$450) captures the top spot; it earns high marks for its 20X optical zoom and great image quality. The camera's focal range makes it great for taking both wide-angle pictures and detailed close-up shots.

Elsewhere on the chart, Canon's \$400, 20X optical-zoom PowerShot SX10 IS (at number two) and its rock-solid sibling, the \$500 PowerShot G10 IS (at number four) continue Canon's

tradition of delivering top-flight performance. Also offering very good image quality and battery life is Fujifilm's \$300, 18X optical-zoom FinePix S8100fd (at number three).

The PowerShot SX10 IS won't fit in your pocket, but it is lightweight and has a swiveling, foldable LCD screen that lets you grab shots from unusual angles (and take video, as well).

The stylish PowerShot G10 IS offers 14.7 megapixels, the most here; but noise and soft focus can creep in, especially in low-light shots. Overall, however, the camera is a pleasure to use.

The FinePix S8100fd is a



THE STYLISH POWERSHOT G10 IS is one of two new advanced point-and-shoot models from Canon—and it offers 14.7 megapixels.

good choice if you want one camera for all occasions.

Keep an eye out for deals on the models featured on

our chart. A number of new cameras are on the horizon, so prices of the units ranked here will drop as retailers make room for a fresh crop.

Among the models to watch for: the Olympus SP-590 UZ, which ups the ante with a 26X optical zoom; the much-anticipated Fujifilm FinePix F200 EXR, which will compile high-dynamic-range photos in-camera; the Sony Cyber-shot DSC-HX1, a 20X optical-zoom model with a nifty auto-panorama feature; and the Casio Exilim EX-FS10 and Exilim EX-FC100, each offering the cool high-speed burst mode found in the EX-F1 on this chart.

Also awaited: megazoom (20X and up) advanced cameras from Kodak, Nikon, Pentax, and Sony. Stay tuned to read our reviews of these forthcoming models, or visit our site's cameras section at find.pcworld.com/62704.

—Tim Moynihan

PC WORLD TOP 5 ADVANCED POINT-AND-SHOOT CAMERAS

MODEL	PCW Rating	Performance	Features and specifications
1 BEST BUY Olympus SP-570 UZ \$450 find.pcworld.com/60987	87 VERY GOOD	<ul style="list-style-type: none"> Image quality: Very Good Overall design: Very Good Battery life: Superior Number of shots: 500+ 	<ul style="list-style-type: none"> 10 megapixels 20X optical zoom (28–520mm) 31 scene modes 4.7 by 3.3 by 3.4 inches
BOTTOM LINE: The king of the high-zoom cameras gives you sharp long-distance pictures and good ergonomics.			
2 Canon PowerShot SX10 IS \$400 NEW find.pcworld.com/62550	83 VERY GOOD	<ul style="list-style-type: none"> Image quality: Good Overall design: Very Good Battery life: Superior Number of shots: 425 	<ul style="list-style-type: none"> 10 megapixels 20X optical zoom (28–560mm) 11 scene modes 4.9 by 3.5 by 3.4 inches
BOTTOM LINE: The SX10 IS is a great camera to carry around: Lightweight, it zooms up to 20X and provides decent video.			
3 Fujifilm FinePix S8100fd \$300 find.pcworld.com/60991	81 VERY GOOD	<ul style="list-style-type: none"> Image quality: Very Good Overall design: Good Battery life: Superior Number of shots: 459 	<ul style="list-style-type: none"> 10 megapixels 18X optical zoom (27–486mm) 13 scene modes 4.3 by 3.1 by 3.1 inches
BOTTOM LINE: Also lightweight, this Fujifilm unit has a zoom lens that plays well at both wide-angle and telephoto extremes.			
4 Canon PowerShot G10 IS \$500 NEW find.pcworld.com/62669	81 VERY GOOD	<ul style="list-style-type: none"> Image quality: Very Good Overall design: Superior Battery life: Superior Number of shots: 458 	<ul style="list-style-type: none"> 14.7 megapixels 5X optical zoom (28–140mm) 17 scene modes 4.3 by 3.1 by 1.8 inches
BOTTOM LINE: The G10 IS is a fun and stylish camera, but its soft focus and low-light performance are disappointing.			
5 Casio Exilim Pro EX-F1 \$1000 find.pcworld.com/60992	81 VERY GOOD	<ul style="list-style-type: none"> Image quality: Very Good Overall design: Very Good Battery life: Superior Number of shots: 500+ 	<ul style="list-style-type: none"> 6 megapixels 12X optical zoom (38–432mm) 26 scene modes 5.0 by 3.1 by 5.1 inches
BOTTOM LINE: This pricey but innovative camera shoots full-resolution bursts at up to 60 frames per second.			

CHART NOTES: All prices and ratings are as of 3/3/2009.

MORE ONLINE Visit find.pcworld.com/62705 for in-depth reviews, full test results, and detailed specs for each camera in our chart.

Hard-Drive Honchos Test the Media Player Market

BOTH SEAGATE'S FreeAgent Theater and Western Digital's WDTV transfer photos, home videos, and music from your PC to your TV. Each device works with ordinary hard drives: You plug a USB hard drive into your PC, transfer the media, and then plug it into the player. While both do an admirable job, the WDTV edges out Seagate's offering, and its inclusion of HDMI makes it more appealing.

WDTV

Western Digital's \$110 WDTV lets your HDTV play media from any USB storage device (flash drive or external hard drive), without needing a streaming network device to bridge the gap between a storage drive or PC and a TV.

The unit can connect to any standard-def or high-def TV; it has composite audio/video connectors, HDMI, and optical audio output, as well as two USB ports.

Though it ships without a



THE WDTV CAN handle video, audio, and image files in a wide range of popular media formats.

hard drive, it can work with any hard drive, not just Western Digital models. It can read disks formatted for Windows or for Mac OS X.

The WDTV outputs video at up to 1080p resolution and can play a wide array of popular media formats.

Setup is easy: You hook the WDTV up to your TV, power it up, plug in a USB storage device, and you're done. The device finds your media in real time, and displays it in specific categories. Navigating the intuitive menu system is simple and works as expected, and the WDTV offers several playback options. For example, you can zoom in and pan around on photos, and you can create slideshows. My one gripe involves the menu system's sluggishness: Its lag was just annoying enough to qualify as a nagging flaw.

Unlike the Seagate player, the WDTV lacks media transfer software. Dragging and dropping files isn't difficult,

but a media-syncing app would streamline the process. Western Digital does include ArcSoft Media Converter software for converting media files into formats that the WDTV can play.

If you want to skip the home-networking approach and connect a media-filled hard drive to your television, the WDTV is a good bet. Full 1080p support and HDMI connectivity make it an especially viable option for home-theater users.

FreeAgent Theater

Seagate's hard-drive-based FreeAgent Theater lets you view tons of content from your PC on your TV. If you take home entertainment seriously, however, you may prefer other options.

The device is reasonably easy to set up: Hook it up to your TV, plug it into an electrical outlet, and connect a USB hard drive, thumbdrive, or digital camera. At its base price (\$129) the FreeAgent Theater does not include a hard drive; however, you can purchase it with a 250GB (\$100) or 500GB (\$150) FreeAgent Go hard drive.

The FreeAgent Theater's PC syncing software lets you transfer photos, music, and movies from your computer to a hard drive. Plug in the hard drive, and the software will automatically sync your PC's media collection to the external drive. A cradle for receiving FreeAgent Go portable hard drives simplifies media transfers.

The compact player has playback-control buttons on

top, a USB port on the front, and a dock to accept a FreeAgent Go drive. The back hosts component and composite outputs, and S-Video-out, but no HDMI-out.

After you plug in a drive and switch it on, the device is ready to use. Select the drive, and you can access any compatible media file. The menu interface lets you sort content by device and narrow it down by category.

The FreeAgent Theater won't play unprotected AAC audio files, which excludes any files ripped from CDs at



SEAGATE'S FreeAgent Theater supports HD video (up to 1080i) and Dolby Digital 5.1 audio.

iTunes' default settings and any iTunes Plus (DRM-free) song files. MPEG-4 video will play only if it uses the DivX, Xvid, or AVI codec.

For many users, the FreeAgent Theater offers an easy way to release media held hostage on their PCs. For high-end users, though, the player's lack of HDMI output may be a deal-breaker.

—Nick Mediat

79
GOOD

FreeAgent Theater | Seagate

Home-theater buffs won't like this media player's lack of HDMI.

Street: \$129

find.pcworld.com/62722

82
VERY GOOD

WDTV | Western Digital

Support for HDMI and 1080p make up for its sluggish interface.

Street: \$110

find.pcworld.com/62721

Nextar Portable GPS Device Points the Way

NEXTAR'S \$330 Q4-md GPS device is easy to use, looks nice, and delivers (mostly) sensible routes.

It offers a 4.3-inch touchscreen, Tele Atlas maps of all 50 states and Canada, a points-of-interest database with 1.6 million entries, a

year's subscription to MSN Direct, a pouch, power adapters, and a stylus.

Once you enter an address, it calculates the route quickly and starts the directions right away. During setup you can pick the route type (easy, economical, short, or fast). After the unit has calculated your route, though, the only clear way to alter the course is to reenter the setup menu, select another route type, and reinput the address.

The spoken directions are sufficiently loud; the device pronounces street names too. Overall, it offered good



NEXTAR'S Q4-MD GIVES logical options on its 4.3-inch touchscreen.

routes, aside from the occasional glitch (once, it said to exit a highway, only to tell me to turn right back on). It always got me to my destination quickly. Inserting a via point—an interim stop along the route—is easy.

The device has an SD slot,

and it can play MP3s and show images. Unlike some high-end rivals, it does not offer lane assistance. It does show you road signs as they appear; and at confusing intersections, it grays out signs that you should ignore.

—Liane Cassavoy

84
VERY GOOD

Q4-md | Nextar

GPS device is solid, but it isn't quite on a par with high-end competitors.

List: \$330

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Apple's Safari 4 Beta Speeds Up Web Browsing

APPLE HAS issued the first beta of Safari 4, its latest Web browser for Windows and Mac OS X. The beta download, available at find.pcworld.com/62712, consumes about 107MB of disk space.

The new Top Sites feature displays your favorite or most visited sites. You can set it as your home page or as the page you see upon opening

Safari 4 | Apple

Beta software; not rated

Fast and clean Web browser offers enhanced history, search, and zoom. Free

find.pcworld.com/62510

a new tab. Google's Chrome has a similar feature, but Safari offers a 3D display and an iPhone-like ability to rearrange sites. Pages that have updated since you last visited them bear a blue star.

Cover Flow now lets you flick through recent pages as you do album art in iTunes. The Full History search feature digs into the text of all pages you've browsed. And with Full Page Zoom, you can zoom in and out without distorting page layout or losing quality; Mac users had a similar feature before, but now PC users do too.



YOUR FAVORITE WEB sites appear in an attractive 3D display in the new Top Sites page, which you can designate as your home page.

I can't verify Apple's claim that Safari 4 is the world's fastest browser, but I can say that it feels faster, and the page-loading time is shorter. The new version of Safari also supports HTML 5, which lets Web-based apps store information locally without

an Internet connection.

The speed improvement alone should give Microsoft and Mozilla cause for concern. Add in the other nifty features and the eye candy, and Safari 4 should give them plenty to think about.

—Daniel Ionescu

SPECIAL ADVERTISING SUPPLEMENT



No data: Two words no one wants to hear or say, knowing that for every minute, hour or day your computer is being serviced by a professional data recovery service, that means no data access for you. Time spent at a data recovery service translates into added expenses and lost productivity for you and your company.

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The upgraded **R-Undelete** is an inexpensive, easy-to-use and powerful file undelete solution for FAT and NTFS file systems. **R-Undelete** Version 4.0 now features file recovery from damaged and/or deleted disk partitions. An improved wizard-style interface makes it easy for even inexperienced users to recover data.

For those who need the mission-critical capability to completely restore their systems after a major crash, **R-Drive Image** allows users to quickly create a compressed disk image of a hard drive and easily back up images in various removable media such as CD-R(W), Iomega Zip or Jazz disks. **R-Drive Image** also saves time and expense by allowing you to set up one system manually, then create an image of that system for deploying the identical system on multiple computers.

Ease of use is also a highlight of **R-Crypto**, the R-Tools data encryption system utility that protects a user's confidential information and personal data against unauthorized access, whether on a desktop, notebook or removable data storage device. **R-Crypto** encrypts and decrypts data in real time and is fully transparent to the user. R-Tools also offers **R-Wipe&Clean**, which automatically keeps applications free and clear of harmful clutter.

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Color Inkjets Offer Varying Levels of Value

PCW Test Center

WHEN MONEY IS tight, simplicity and value become higher priorities—and you can find both in a plain, stand-alone inkjet printer. But inkjets are not all created equal: The three new models we reviewed this month may be fairly close in price, but they couldn't be more different in features, performance, and long-term costs.

HP's Photosmart D7560, ranked second, cost just \$149 at press time, yet it offers a touchscreen LCD on the control panel, plenty of media slots, and a labeling mechanism for CDs and DVDs. It produced impressive print quality and good

speed in our tests, too. Though it's an average-priced printer, it gives you a lot for your money—especially if you use its high-yield inks.

Like the D7560, the Canon Pixma iP4600 is intended for the home photo-printing market. It debuts in the third spot on this month's chart. But this model, which costs a mere \$100, presents some trade-offs. We liked its photo quality and speed, and its inks are reasonably priced. On the other hand, it printed on plain paper very slowly; and although it's a photo printer, it offers no media



HP'S \$149 PHOTOSMART D7560 has a touch-screen LCD and produces high-quality prints.

slots—what's up with that?

Epson's WorkForce 40, in fourth, is directed at small and home offices. It has a place in our Top 5 for one big reason: It was crazy-fast at printing plain text in our tests, posting an incredible

speed of 18.4 pages per minute. The next-fastest printer we tested managed just 13.8 ppm. The WorkForce 40 also has great connectivity (USB, ethernet, Wi-Fi), and a low purchase price of \$130.

So what's the problem? Everything else. Most small and home offices are on a strict budget, but the WorkForce 40's standard-size and high-yield inks are very expensive; only its extra-high-yield black cartridge offers any true savings. And the printer produces grainy-looking images on plain paper, the medium that offices use the most.

If these three models tell us anything, it's that selecting even an ordinary inkjet printer isn't simple. At the least, choose a printer that fits your printing patterns. If you print a lot, look for a model with separate or high-yield ink cartridges. If you print relatively little, you may find lower-yield cartridges sufficient—remember, however, that they tend to be the priciest per page.

—Melissa Riofrio

PC WORLD TOP 5 COLOR INKJET PRINTERS

MODEL	PCWRating	Performance	Features and specifications
1 BEST BUY HP Photosmart D5460 \$100 find.pcworld.com/62493	85 VERY GOOD	<ul style="list-style-type: none"> Text quality: Good Graphics/photo quality: Very Good/Superior Tested speeds (ppm): 11.4 text/3.4 graphics 	<ul style="list-style-type: none"> 33 ppm text 31 ppm graphics 9600-by-2400-dpi maximum resolution
BOTTOM LINE: Budget-minded photo enthusiasts will like the premium features tacked onto the D5460's basic chassis.			
2 HP Photosmart D7560 \$149 NEW find.pcworld.com/62349	84 VERY GOOD	<ul style="list-style-type: none"> Text quality: Superior Graphics/photo quality: Good/Superior Tested speeds (ppm): 11.8 text/3.3 graphics 	<ul style="list-style-type: none"> 33 ppm text 31 ppm graphics 9600-by-2400-dpi maximum resolution
BOTTOM LINE: A clean design and fast, high-quality output make the D7560 a photo printer well worth considering.			
3 Canon Pixma iP4600 \$100 NEW find.pcworld.com/62350	81 VERY GOOD	<ul style="list-style-type: none"> Text quality: Very Good Graphics/photo quality: Good/Superior Tested speeds (ppm): 7.3 text/2.6 graphics 	<ul style="list-style-type: none"> 26 ppm text 21 ppm graphics 9600-by-2400-dpi maximum resolution
BOTTOM LINE: The photo quality and speed are pleasing, but the lack of media slots and the merely decent text speed are not.			
4 Epson WorkForce 40 \$130 NEW find.pcworld.com/62351	81 VERY GOOD	<ul style="list-style-type: none"> Text quality: Fair Graphics/photo quality: Fair/Good Tested speeds (ppm): 18.4 text/5.1 graphics 	<ul style="list-style-type: none"> 38 ppm text 38 ppm graphics 5760-by-1440-dpi maximum resolution
BOTTOM LINE: The WorkForce 40's pricey inks produce fuzzy text and grainy prints—hardly a good deal for a small office.			
5 Canon Pixma iP2600 \$50 find.pcworld.com/60716	80 VERY GOOD	<ul style="list-style-type: none"> Text quality: Very Good Graphics/photo quality: Very Good/Superior Tested speeds (ppm): 8.5 text/1.9 graphics 	<ul style="list-style-type: none"> 22 ppm text 17 ppm graphics 4800-by-1200-dpi maximum resolution
BOTTOM LINE: Home users and students should love the iP2600's prints—and its price, too—but they'll need a little patience.			

CHART NOTES: Prices and ratings are as of 3/3/09. Speeds are in pages per minute (ppm).

MORE ONLINE

For more information on the color inkjet printers reviewed here, including testing details, see find.pcworld.com/62549.

Video Chat Services Let You Converse Face-to-Face

VIDEO CALLS ARE a great way to communicate. You can talk to and see remote colleagues, clients, friends, and relatives. You can trade files, leave messages, and text chat, as well. And with ooVoo or Skype, you can do all of that (and more) for free.

These Voice-over-IP services also let you place calls to landline and cell numbers, a feature you must pay for. (Advanced features, such as multiparty videoconferencing, are other paid options. You can't call 911, however.) In my tests, Skype's audio and video quality came out slightly ahead of ooVoo's.

ooVoo 2.0

The free version of ooVoo supports voice and video calls with other ooVoo users, and lets you have two or three people on a call. You can record video messages, set up a video chat room, and share files (up to 25MB), too.

The app, decked out in black and silvery-gray hues, makes finding what you need easy. In the default video-call

window, the well-designed, angled video screens are the same size and sit side by side.

Video streams were generally smooth with little distortion, though the skin tones seemed bland. Audio quality was mostly solid: Voices were clear, but I noticed a considerable amount of echo.

Unfortunately, the free version of ooVoo sports garish ads that span the bottom of the videoconferencing window. Ads appeared in the text chat windows, too.

Friends who do not have ooVoo software installed can now call you over the Web. Within ooVoo, you click a button and type your buddy's e-mail address and a message. Your pal can then call you, via their browser. As long as your friend has a Webcam, the same video-call window pops up, and the experience is identical to that of a regular video call.

Skype 4.0

The latest Skype feels slicker and spruced up. But it also seems cluttered, and it gob-



THOUGH SKYPE 4.0 offers improved video and audio quality, its new interface feels cluttered, with more details on display.

bles up more desktop space.

Skype 4.0 shows contacts and conversations in a single pane. You can split the pane, but the separated halves still feel bulky. More stuff is on display by default, and the panes are larger to hold all of it. For example, during a call, you get a box with your photo (or icon) plus a message window and buttons for your Skype account and personalization options.

Some new features work well. The Conversations tab lets you flit around from video calls to voice calls to IM chats. And I like being able to engage in a video call right off the bat; previously Skype users had to initiate a voice call and then launch the videoconferencing portion.

The company claims that audio and video quality have improved—and in my tests, voices did sound slightly sharper than before. I never heard words breaking up and sounding stuttered, as I did with previous versions.

Video quality was good, too. The stream had minimal

choppiness, and just a couple of brief freeze-ups. Also, the colors appeared richer and less washed out.

That said, some current Skype users might want to pass on this upgrade: Version 4.0 doesn't allow you to start new public chats, though you can continue to participate in your existing chats. (Skype says that it plans to reintroduce public chats in future updates.)

—Aoife M. McEvoy



THE FREE OOVOO offers an attractive and sleek interface for video calls, but incessant and obtrusive ads mar the experience.



ooVoo 2.0 | ooVoo

Offers good voice and video quality and features three-way calling. Free (basic service)
find.pcworld.com/62525



Skype 4.0 | Skype

Latest version has better sound and video, but its new interface is bulky. Free (basic service)
find.pcworld.com/62524

NEO Find Outlook Tool Tames E-Mail

NEO FIND, a \$15 download, brings faster searches and additional organization to Outlook e-mail. The program creates an index of all your messages, which permits speedy searches and enables you to sort your mail by the correspondent or by related messages (a "conversation") with the click of a button.

Unfortunately, you can't reach those useful features within Outlook. NEO Find runs separately, launching automatically when you start Outlook. (You'll have to shut it down manually, however.) And although you can read, reply to, or forward your e-mail within NEO Find, you can't compose a new message; for that, or to access your calendar, contacts, or other features, you'll need to switch back to Outlook.

If you tend to run e-mail searches frequently, the inexpensive NEO Find utility could help you manage your inbox. But it's too bad that the app's creators didn't roll everything it offers into the existing Outlook window.

—Erik Larkin



NEO Find | Caelo Software

Outlook utility digs up e-mail swiftly, but requires a separate window.

List: \$15

find.pcworld.com/62526

DOWNLOAD THIS

Uncover the 'Bugs' Hidden in Web Sites

THE BEST SOFTWARE doesn't just handle a task—it broadens your horizons. And these three programs do just that. A Firefox plug-in tells you how the Web sites you visit are monitoring you. A system monitor gives you a window into your PC. And in an early version of a promising game, you become a floating blob with amoeba-like absorption powers. Now that's something you probably never imagined. Pricewise, all three applications are a dream come true: None of them cost a cent.

Ghostery

This free add-on for the Firefox Web browser searches the sites you visit for "Web bugs" capable of quietly tracking your visits, and then alerts you to their presence. When the program discovers a Web bug, it displays a small pop-up naming what it found. If you're at all interested in knowing how sites might track you on the Internet, you'll like this little sleuth. You can configure how long the pop-up displays, and whether it appears at all.

You can also choose to send statistics about the Web bugs you find for use in a GhostRank, which the add-on's creator says will contribute to a census of Web bugs across the Net. The statistics are anonymous, so they won't include personal information. find.pcworld.com/62528

—Erik Larkin

CS Fire Monitor

Are you the type of computer user who loves monitoring every aspect of your system's operation? If so, CS Fire Monitor is your new best friend. This no-cost utility can track and graph just about everything your machine does, from bandwidth consumption to CPU usage, RAM use, and plenty of other functions.

The program delves deep into your system and gives you an exceptional amount of detailed information about your hardware and

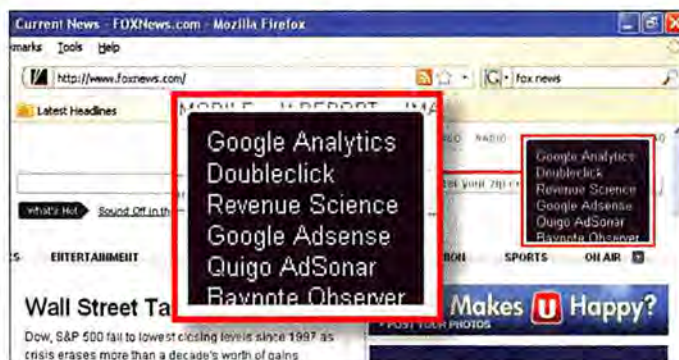
software. In addition to monitoring system variables, the program will create reports about your hardware and your bandwidth use.

If you're a geek for this kind of thing, you'll love CS Fire Monitor—the utility is perfect for communing with your inner nerd as well as with your PC. find.pcworld.com/62527

—Preston Gralla

Osmos

Most video games in the classic arcade mold inundate you with high-speed action, and they require you to have ultrafast reflexes and to adjust to a constant barrage of fast-changing images. Osmos goes the other way: It rewards patience, finesse, and precision, and does so in a fascinating, fun, and involving way.



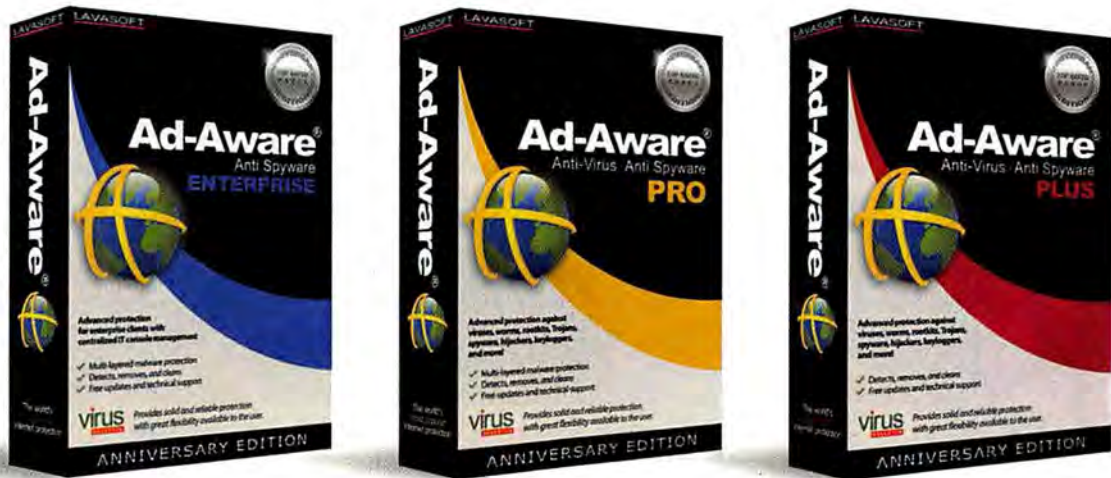
THE GHOSTERY ADD-ON for the Firefox Web browser tells you what visit-tracking 'Web bugs' lurk on the pages you view.

In Osmos, you play a...sort of...blob...thingy. Maybe you're a ball of plasma—I don't know. You move around by ejecting matter from yourself. As you move, you shrink. Your goal is to absorb any item in the area that's smaller than yourself, while avoiding being absorbed by any item larger than yourself.

See the challenge? Since you shrink as you move, you might end up smaller than your target by the time you reach it. The early levels feature "repulsor" blobs, which will force you away if you move too slowly; to get to them and eat them, you have to burn a lot of fuel. Osmos is an original and fun game. Though it's still at a somewhat early stage of development, it has amazing potential. find.pcworld.com/62529

—Ian Harac

A Clean Sheet



and the fastest

A Clean Computer you'll ever have,
not like those other
security apps which
slow your box down!

Experience the Core Competence of Ad-Aware!
Blocking - Detection - Removal - Clean-up

Don't want to pay for your security software? **Get it Free!** with TrialPay. Get a full-powered version of Ad-Aware Plus - Anniversary Edition by taking advantage of one of the offers at TrialPay. Visit www.lavasoft.com/pcworld for more information.

LAVASOFT
WWW.LAVASOFT.COM

The Best Free Stuff

You've Never
Heard Of

By now, you're familiar with the *biggest free* online apps and services. So we went looking for the *hidden gems* that people will be talking about next year. No matter *your interest*, you're sure to find plenty of *great tools* here. »

by PRESTON GRALLA
AND ADAM PASH



Streamline Your Social Sites

Social networking is great for keeping tabs on your friends, but what about all the time you sink into it? The effort you devote to social networks can consume your day faster than you can pick up pals on Facebook. Here are seven ways to make your experience less complex.

BEST BET **Digsby** is excellent for aggregating your entire online social life, wrapping social networking, IM, and e-mail into one tight little package. This multitasking download integrates AIM, Facebook, Gmail, Twitter, and tons more, all from the comfort of one unified system tray application. www.digsby.com

For people who want to know where their friends (or kids) happen to be at any given minute of the day, **Google Latitude** acts like a LoJack for their loved ones.

Accessible from your cell phone or browser, Latitude displays where all your friends are located on a Google Map. find.pcworld.com/62668

It's always exciting to see that someone has written a comment on your Facebook wall, but if you're tasked with doing actual work at some point during the day,

the deluge of e-mail notifications from social networks can be a huge time sink. **NutshellMail** consolidates messages from the likes of Facebook, Twitter, and secondary e-mail accounts into one scheduled digest, so you can get a snapshot of your popularity. nutshellmail.com

Rather than managing profile information, **Ping.fm** (registration required) is all about managing your status. Set



TWEETDECK IS YOUR control center for searching Twitter tweets and monitoring those of your friends.

this service up with your Facebook and Twitter accounts, for example, and a single update automatically posts a new status update on Facebook as well as a new tweet to Twitter. Multiply that function by more than 30 supported social networking sites, and you could save some serious time. ping.fm

Interested in hunting down your college roommate, or perhaps a long-lost love? People search engine **Pipl** scours the Web to find every last fingerprint that the person you're seeking has ever left behind online, down to every photo, address, and blog post it can unearth. Pipl even supports reverse people lookups by e-mail address, user name, and phone number. pipl.com

Social networks have turned cyberstalking into a national pastime, but who has time to check all the possible places your crush may be socializing online? Web service **Spokeo** (registration required) searches the farthest corners of 41 social networking sites to uncover the deep, dark secrets of your friends and loved ones. We hope that you're proud of yourself. www.spokeo.com

If you're nuts for the popular social networking and microblogging service Twitter, you've probably outgrown using Twitter's Web interface to write and track tweets. **TweetDeck** is a no-cost download that puts Twitter on steroids, letting you easily track particular search terms, group your friends, shrink unwieldy URLs, and more, all from one centralized window. www.tweetdeck.com

pc tweaks

Engineer a Better PC Experience

DOWNLOAD ¹	What it does	The bottom line
BEST BET Wubi Ubuntu Installer	Easily installs Ubuntu Linux on your PC as a dual-boot option.	Linux without installation pain—or a new PC.
RocketDock	Adds a Mac-like dock to a Windows PC to provide quick access to commonly used apps.	Excellent docking software makes Vista more fun to use.
StartUpLite	Streamlines your PC's startup function with just a few mouse clicks.	Revs up your machine and eliminates unnecessary system overhead.
360Desktop	Structures your desktop as a continuous 360-degree band that provides lots of space.	Breathtaking vistas that don't require you to buy a bigger monitor.
Ultimate Windows Tweaker	Contains 150 ways to tweak Windows Vista through one interface.	Organization into seven categories gives you easy access to tweaks.
Vista Services Optimizer	Kills unneeded services running in the background in Vista.	Everyone complains that Vista is too slow—here's how to speed it up.

¹All of the downloads in this chart are available at find.pcworld.com/62691.

Padlock Your PC

Your PC is under attack on all fronts. These offerings will help you beat back the bad guys. (Visit find.pcworld.com/62671 for links to the downloads in this section and in the box below.)

BEST BET **Avast Home Edition:** The big names in security software charge you big bucks for big suites full of big, bloated software. This excellent antivirus software download does everything the major players do, but for free. It scans your system for malware and eliminates what it finds, and it gives you seven different types of "shields" to keep you safe from harm, including one

Stop Spyware Cold

a-Squared HiJackFree: Spyware can evade even the most rigorous cleaners, so you need more than one antispyspyware utility on your PC. HiJackFree is a great download to use in concert with your main antispyspyware app. It checks for spyware and then eradicates it. For the geeky, it offers additional tools, such as for viewing what programs are using your TCP ports, and for examining programs that run on startup.

SpywareBlaster: This download helps you ensure that your system won't get infected with spyware in the first place. It works differently from most of its rivals, restricting the actions that potentially dangerous Web sites can perform. It also guards against dangerous ActiveX controls and repels tracking cookies.

SuperAntiSpyware: Here's an excellent antispyspyware tool that does a thorough job of scanning your system for dangers and then whacks any it finds. This download scans not just your files and memory, but also your Registry. It doesn't offer real-time protection, though.

Become an Instant Efficiency Expert

Here are five programs and services that will help you work more effectively.

- BEST BET** **OpenOffice.org:** Don't pay hundreds of dollars for Microsoft Office—download this superb, newly revamped suite for free. www.openoffice.org
- Flowgram:** Create Web-based multimedia presentations with this service, and share them with colleagues and clients, or relatives and friends. www.flowgram.com
- Gubb:** This service keeps track of to-dos, projects, phone calls, and more. You can use it for your personal life as well. www.gubb.net
- PrimoOnline:** This service helps you create PDFs without software. It can work with documents (more than 300 different types) or Web sites. online.primopdf.com
- Remember the Milk:** With this service (registration required), you can remember to do anything...even buy milk. It's suitable for many platforms, including BlackBerry, iPhone, Gmail, and Windows Mobile. www.rememberthemilk.com

that protects you from dangers (such as drive-by downloads) that might be lurking on Web sites, one that guards against peer-to-peer attacks, another that stops instant messaging threats, and so on. And amazingly, it does all of that without taking up much RAM or system resources.

Attack Trace: Worried that the bad guys are targeting your Web site? This service checks whether your site is under assault. find.pcworld.com/62670

Comodo EasyVPN Home: This download allows you to create secure peer-to-peer networks over the Internet for sharing information, chatting, and so on. Everything sent over the network is encrypted, so no one else will be able to snoop on what you're doing.

EULAnalyzer: Hidden in some software

end-user license agreements (EULAs) are indicators that the application may be spyware, or that it might invade your privacy in other ways. This downloadable analyzer examines EULAs and warns you about potential dangers.

Online Armor Personal Firewall: This is the best personal firewall you've never heard of. It provides solid protection, but unobtrusively. Lots of firewalls pester you constantly when you first install them, asking about any program that wants to access the Internet. This software starts out by allowing known safe applications to access the Web and bothers you only about the programs that it's unsure about. It also has a clever "Safer mode" that will allow certain apps to run with stripped-down privileges. ➤



AVAST HOME EDITION offers several shields for protection against specific threats to your PC.

e-mail/phone

Clever Ways to Connect via Voice and the Web

Looking to improve how you communicate? Check out these great choices in e-mail and phone services. (Go to find.pcworld.com/62678 for access to the downloads in this section.)

BEST BET Google's e-mail app releases its best new features in **Gmail Labs**. Visit the Labs option in the settings to access cool things such as Offline Gmail and Gmail tasks. It works in Internet Explorer 7.0 or later, Firefox 2.0 or newer, Google Chrome, and Safari 3.0 or higher. find.pcworld.com/62677

The **Affixa** download sets your Web-based e-mail program (such as Gmail or Yahoo Mail) as the Windows default for quick and easy handling of mailto: links and file attachments.

So you finished the big report at 3 a.m. but you don't want your boss to know how late you stayed awake? Keep up the



Unmask Blocked Calls!
With TrapCall, you'll *always* know who's calling.



TRAPCALL REVEALS the phone number for any blocked call you get.

appearance of professional cool by using **DeferredSender** (registration required), a service that delivers e-mail messages exactly when you want them sent. www.deferredsenser.com

If your inbox is packed with attachments, try **Postbox**, a downloadable desktop e-mail application that's chock-full of awesome tools for organizing messages and attachments alike.

While you're on business trips, you can see and talk with loved ones easily via the **Skype 4.0** VoIP download, which offers improved video and sound quality (for more, see page 57).

The simple, effective **TrapCall** service (registration required) shows the number behind virtually any call. www.trapcall.com

smartphones

Help Your Smartphone Become Your New Laptop

Whether you're on the go or on the sofa, the downloads and services here will make your phone experience more enjoyable and productive. (Go to find.pcworld.com/62683 for links to the downloads in this section and in the box.)

BEST BET **Shazam**: Before the music track you're currently listening to finishes playing, leaving you humming it for the next three days without knowing its name, consult Shazam. This app for iPhone and Android analyzes the audio, identifies the song, and offers a link for buying the track. find.pcworld.com/62672

Box.net: As sophisticated as the iPhone is, it still isn't great at file storage and management. This iPhone app works in conjunction with the Box.net Web site, allowing you to store and access up to 1GB of files and documents from your iPhone.

Evernote: Snap a camera-

phone pic or record an audio or text note-to-self, and the Evernote mobile app for iPhone and Windows Mobile (registration required) syncs your creation to the Web and desktop versions of Evernote's note-taking tool (see page 34). If your picture has text, this download will even transcribe what it sees.

Google Mobile: You can query the search giant with its mobile



search box, for Android, BlackBerry, iPhone, and Windows Mobile. And if you have an Android handset or iPhone, Google

Mobile will even support search by voice. Welcome to the future.

Pageonce: This download for iPhone and BlackBerry (a two-week free trial is available for the latter) is like an obsessive personal assistant who keeps track of the tedious details of your life—your

checking account balance, your remaining cell phone minutes, packages headed your way—and makes everything accessible through one nice, simple interface.

Remote: Quite possibly the coolest free app currently available in the iTunes Store, the Remote program turns your iPhone (or iPod Touch, for that matter) into a wireless iTunes remote control. Jaws will drop when you pull this one out to DJ at a party.

smartphones

Out and About: Find Food Fast

CheckPlease: Take the hassle out of dining out with this pocketbook-friendly iPhone app. It splits the bill faster than your cheapskate pal can say, "I forgot my wallet."

OpenTable: The handy mobile version of the valuable online service finds restaurants in the neighborhood and makes reservations in a flash. This iPhone app helps when you need to convince your significant other that, no, you didn't forget the reservations. find.pcworld.com/62676

Yelp: You've used Yelp in your browser, but now you can fire up the iPhone app to find a nearby coffee shop, restaurant, or bar, and then read reviews and get directions.

Supercharge Your System

Improve PC performance with these tools. (Go to find.pcworld.com/62679 for links to the downloads here and to the right.)

BEST BET Advanced SystemCare

Free: This download can speed up your system by fixing your Registry, removing spyware and junk files, killing unnecessary programs that open at startup, and more. It even provides a one-click option that automatically finds all problems and fixes them. (This program also installs the Yahoo Toolbar by default—so if you don't want that, uncheck the appropriate box during the installation process.)

Clipboard Help and Spell: Windows' Clipboard is anemic, nearly useless, and exceedingly simple. Power it up with Clipboard Help and Spell, which maintains a list of the text items you copy to it so that you can retrieve them later. This download also checks spelling and organizes clips in folders.

Recuva: Have you accidentally deleted a file, removed it from the Recycle Bin, and then realized that you actually want to keep it? Despair not—this download will do its best to help you recover the file. The application scans your system for files that have been deleted, lists whatever it encounters, and shows you the likelihood that you can recover each file. Simply select the files you want to recover, and the software will go to work. (Recuva installs the Yahoo Toolbar by default. If you don't want that, uncheck the corresponding box during the installation process.)

ScreenToaster: If you need to record what happens on your screen for any reason—to show how an application works, for example—try this simple-to-use Web service. Head to the site, press <Alt>-S, and ScreenToaster re-



records every action you take. Press <Alt>-S again, and it stops. You can edit what you record (including adding titles and audio) and then upload the video to the ScreenToaster site or to YouTube, or download it to your PC.

www.screentoaster.com

photo programs

Deluxe Digital Images

Use these freebies to decorate, detail, and enhance photos and screenshots. (Visit find.pcworld.com/62684 for links to the downloads in this section.)

BEST BET **PhotoPerfect Express:** You may not have the trained eye of a professional photo editor, but after downloading PhotoPerfect Express, you won't need it. In this straightforward program, you can create stunning images through several simple point-and-click optimizations that make your photos pop.

Jing: This download captures screenshots and video screencasts of your computer's desktop with elegance and ease, and then allows you to share the results quickly and easily online. Rather than attempting to describe to friends and coworkers

what you're currently seeing on your machine, you can show them.

PhotoFunia: Want to pretend that you're famous? Plaster your skillfully superimposed face all over iconic (and not-so-iconic) images with this Google service. www.photofunia.com

Skitch: This service (registration required) annotates images—either screen shots you take with it or any photo you drag into it—with a variety of attractive text fonts, arrows, and shapes; it's just the thing for getting your point across with style. Once you're finished drawing, you



WITH PHOTOFUNIA, YOU can insert your face into all sorts of famous and funny images.

can share your Skitch creation on the Web with the click of a mouse. skitch.com

Sumo Paint: This impressive Web-based service packs all the layered image editing goodness of Photoshop into one incredible Web application—perfect for a little advanced photo editing from the comfort of your cubicle. www.sumopaint.com >>

system utilities

Drive Dominators

Defraggler: Not happy with the defragmentation utility that came with Windows? Neither are we. Defraggler is better than Windows' defragging utility in several ways. First, this download scans your disk faster, which anyone dealing with a large hard disk will welcome. In addition, it can defragment individual files as well as your entire hard disk, and it's more entertaining to watch than the built-in utility.

Drive Manager: If you have multiple drives on your PC, including USB thumbdrives, media card readers, CD and DVD drives, and network drives, life is complicated. This download simplifies things. It quickly identifies all of your drives, and shows you their type. Also, you can view each one's capacity, how much of each is used, and other vital details. If you have SMART-enabled drives, you can peer deeply into them, seeing their temperature, model, and serial number, plus more information.

Visionary Video Helpers

In this group you'll find nine innovative ways to discover, transfer, and organize videos. (Go to find.pcworld.com/62681 for links to the downloads in this section.)

BEST BET DVD Flick: Normally, burning video files to a DVD that you can run in your DVD player is notoriously difficult, unless you're ready to bust open your piggy bank. This no-cost download, however, burns virtually any video file to a playable DVD with ease.

Embedr: This simple but smart service creates embeddable video playlists,

corn and nothing to watch. reruncheck.com

Splicd: Feel bad about making friends suffer through a 5-minute-long YouTube video just so they can appreciate the pratfall at 4:43? With this service, you can link directly to the good part when you share YouTube videos. www.splicd.com

TV.com: Hulu's video service was big in 2008, but it now has some stiff competition from the CBS-owned TV.com. This service is part Hulu, part IMDb, and all television-streaming goodness. www.tv.com

Wowbrary: Looking to save some seri-

ous cash on entertainment in the midst of the current financial

apocalypse? This service (registration required) monitors your local library for new DVDs (along with books and CDs) so that you can be first in line to get your hands on a fresh release. www.wowbrary.org

XBMC: Initially developed to run on the original Microsoft Xbox (hence the name, Xbox Media Center), this download is a robust media player and entertainment hub. The software can run on Linux, Mac OS X, Windows, and Xbox.



WITH EMBEDR, YOU can easily whip up a continuous playlist of your favorite videos.

allowing you to fashion the perfect combination of online video clips into one long-playing video. embedr.com

HandBrake: This download converts DVDs to PC- and mobile-friendly formats so you can get your *Lost* fix during your commute, whether on your iPod or on another video-capable device.

KickYouTube: Ever wish that you could download a YouTube video to carry with you on your cell phone, iPod, or PlayStation Portable—or just to save on your PC? This service converts YouTube videos to virtually any device-friendly format, on the fly. All you have to do is add the word *kick* to the front of any YouTube URL. kickyoutube.com

RerunCheck: TV lovers often ask, "Is my favorite show a new episode or a rerun this week?" Jump onto this site for the answer, or sign up for weekly e-mail reminders so you'll never suffer the heartbreak of a warm bowl of pop-

music/audio

Mighty Music Managers

Here are services and apps that can help you wrangle your audio files. Though you won't find any sources offering gobs of free songs here, you may be surprised at the incredible free tools that are available to improve the way you listen to music. (Go to find.pcworld.com/62682 for links to the downloads in this section.)

BEST BET Songbird, a new open-source downloadable media player, is customizable and jam-packed with inventive features. For example, since Songbird is both a music player and a Web browser, you can add songs to your local library directly from music blogs while you read about the music. getsongbird.com

If you're ready to move your music life to the cloud, consider

MixTape.me. This service lets you create, listen to, and share playlists. It has the look and feel of a desktop player but exploits the flexibility of the Web, integrating artist bios, lyrics, and music videos. (Full disclosure: MixTape.me is the pet project of author Adam Pash.) mixtape.me

The **Mojo** download makes sharing iTunes libraries among friends who aren't on the same local network simple. No matter where your friends' music sits, you can download their songs and playlists through Mojo.

Do you love blogs? Do you find synthesized speech soothing? **PimpMyNews** (registration required) is a service that converts blog posts into a podcast for "reading" on the go. www.pimpmynews.com

Rejuvenate and transform your aging iPod or other MP3 player with **Rockbox.** This downloadable MP3-player firmware can breathe new life into a player.

If your iPod is the main reason you use iTunes, try **SharePod**, a download that copies songs between your iPod or iPhone and your PC for iTunes-free music management.

Not ready to abandon the comfort of Apple's popular iTunes player? You can still beef up its features. Download **TuneUp** and clean your messy iTunes metadata on a Mac or PC. It automatically adds correct song information and album art. >>



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Intel® Core™ i7 Processor

(8MB L3 Cache, 1066MHz)
Extreme i7-965 3.20GHz \$2489
i7-960 2.93GHz \$2029
i7-950 2.66GHz \$1745

Asus® Intel X58 Chipset MB Supporting 3 Way SLI™ and CrossFireX™
Genuine Windows Vista™ Home Premium
Corsair® 6GB DDR3-1333 Tri Channel Memory
1TB 7200RPM SATA-II 3.0Gb/s 16MB Cache Ultra Fast HD
NVIDIA® GeForce® GTX 285 1.79GHz supports SLI™ mode
LG® 4X Blu Ray Player & 22X DVD+-RW Drive
High Definition 7.1 Surround Sound & 600 Watt Subwoofer Speaker System
Logitech® Keyboard and Optical Wheel Mouse
CM Storm Sniper Gaming Case w/ See Through Window 800 Watt Power
Asetek Liquid Cooling System
Free 802.11G Wireless PCI Network Adapter

\$995

GAMER INFINITY HD 4850



Intel® Core™ i7 Processor

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Extreme i7-965 3.20GHz \$1729
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Intel® X58 Chipset MB Supporting CrossFireX/SLI™
Genuine Windows Vista™ Home Premium
Corsair® 3GB DDR3-1333 Tri Channel Memory
500GB 7200RPM SATA-II 3.0Gb/s 16MB Cache Ultra Fast HD
ATI Radeon™ HD4850 512MB in CrossFireX™ mode
LG® 22x DVD+-RW Drive
High Definition 7.1 Surround Sound & 600 Watt Subwoofer Speaker System
Logitech® 104 Keyboard & Optical Wheel Mouse
Next Zero 2 Full Tower Gaming Case / 580 Watt Crossfire™ Power
Free 802.11G Wireless PCI Network Adapter

\$699

GAMER INFINITY SLI™ GT



Intel® Core™ 2 Duo Processor

(12MB Cache, 1333MHz FSB)
Quad Q9650 3.00GHz \$915
Quad Q9550 2.66GHz \$865
Quad Q9400 2.66GHz \$815
(8MB Cache, 1066MHz FSB)
Quad Q8300 2.50GHz \$775
Quad Q8200 2.33GHz \$755
(6MB Cache, 1333MHz FSB)
E6600 3.16GHz \$655
E6500 3.16GHz \$775
E6400 2.83GHz \$755
E7400 2.50GHz \$699

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XG XtremeCool Silent & Overclocking Proof CPU Cooling System
Free 802.11G Wireless PCI Network Adapter



Intel® Centrino® 2 Technology
• Intel® Core™ 2 Duo Processor
• Intel® PM45 Chipset
• Intel® WiFi Link 5300 802.11 A/G/N



\$1235

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Intel® Core™ 2 Duo Processor

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P9600 6MB L2 Cache, 2.80GHz \$1395
T9550 6MB L2 Cache, 2.66GHz \$1349
P8700 3MB L2 Cache, 2.53GHz \$1275
P8600 3MB L2 Cache, 2.40GHz \$1235

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17" WXGA TFT Display 1600x1050 pixels, 8x DVD+-RW Drive
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NVIDIA® GeForce® Go 9800 GT 512MB
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3x USB 2.0 Ports, 1 PCMCIA Type II Slot, 3 Hours Battery Life,
Weight only 7.6 Lbs, Free Carrying Case

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Upgrade Your Office

The services listed below can help you sync PCs, share large files on the Web, and eradicate snail mail, among other tasks.

BEST BET **Windows Live Sync:** Having a tough time keeping files and folders on multiple PCs in sync? It's a snap for this Microsoft service (registration required). Install the software on each PC and tell the service which folders to look at and how to synchronize them—it does the rest.

(For more on the Microsoft offerings in this section, see page 18.) sync.live.com

Drop.io: Sharing files is a breeze on this site. Just create a name for your "drop," upload files to it, and then give access to your colleagues. Each drop includes thumbnails of the files you upload, so people can preview them before downloading. drop.io

5min: Want to get advice on using your iPhone effectively, or on asking your boss

for a raise? Or maybe you'd prefer to leave work behind a bit and learn how to play the bass, or how to master the Pilates abs core workout routine. This service hosts hundreds of how-to videos of 5 minutes or less. It's a do-it-yourselfer's dream. www.5min.com

GreenPrint World: This clever download scans everything you print and removes any wasted pages, such as a Web page containing a single line of text. It also removes ads and lets you take out other unwanted pages or images. It will even track how much paper and money you save. find.pcworld.com/62685

Live Mesh: Here's a Microsoft service (registration required) that lets you sync PCs and Net-connected devices, and share files among them. You can sync devices to what you have in the mesh, too, and you can control devices remotely. The site is sometimes confusing to use, but it's very powerful once you get accustomed to it. www.mesh.com

PrintWhatYouLike: Another tool for saving paper is this online editor, which helps you print any Web page minus junk, ads, extra space, and images. You can save the page as a PDF or HTML file as well. www.printwhatyoulike.com

SkyDrive: This Microsoft service (reg-



MICROSOFT'S WINDOWS Live Sync offers simple folder and file syncing.

istration required) lets you store up to 25GB of files and access them on any Internet-connected PC. You can also share

the files. What's the catch? There isn't one. skydrive.live.com

Zemanta: If you're a blogger, this Firefox add-on will help you juice up your posts, enhancing your blog with automatically created links, pictures, and more. find.pcworld.com/62686

Zoho Mail: This often-overlooked Web-based mail service (registration required) provides pretty much all the features you'd expect. Everybody can use more than one e-mail address and mail service, and this is a great addition. mail.zoho.com

Zumbox: Had your fill of the U.S. Postal Service? Would you prefer to have bills, statements, and offers sent to you electronically instead of by snail mail? That's the promise of this service (registration required). Tell participating businesses to send items to you via Zumbox, and you'll get them there rather than in your physical mailbox. zumbox.com >>

mobile apps

Enhance Your On-the-Go Life

SERVICE/DOWNLOAD	What you can do with it	What it works with
BEST BET Google Sync www.google.com/mobile	Wirelessly synchronize your Gmail contacts and Google Calendar events between your cell phone and the cloud. Any contact or calendar changes you make on your phone automatically push to your Google account, and vice versa.	Cell phone, Web browser
Dropbox ¹	With this download you can enjoy dead-simple file syncing between any number of computers and the Web. It even supports file versioning, so you can recover an older version of a file if the current version is lost or corrupted.	Web browser, Windows/Mac/Linux
LastPass ¹	Manage all of your online passwords through this handy browser plug-in. This download automatically fills in saved log-ins and forms at the click of a button, and syncs your data to any PC you regularly use.	Web browser
PortableApps.com Suite ¹	Packed with a handful of popular open-source apps (the Firefox browser, OpenOffice.org office suite, and Pidgin chat client), this downloadable suite runs directly from a thumbdrive, so you can run it on any PC.	Flash drive, Windows
Qipit www.qipit.com	Your phone is a versatile communications beast, but with this service, it's also a formidable mobile scanner. Snap a picture of any document and send it to Qipit, and it will turn the image into a nicely formatted PDF.	Cell phone
Slydial www.slydial.com	Running late but afraid to call and talk directly to your boss? Dial this service (registration required) and enter the phone number—Slydial makes the call go straight to voicemail so you don't have to deal with pesky questions.	Cell phone
Tatango www.tatango.com	Toss your phone tree in the trash. Through this service (registration required), you can send mass text or voicemail messages from your phone or PC to large groups for easy, instant communication.	Cell phone, Web browser
TripChill www.tripchill.com	Forward any airline itinerary e-mail to this smart service (registration required). It will send real-time alerts via e-mail or SMS to keep you on top of last-minute delays, cancellations, and gate changes as soon as they happen.	Cell phone, Web browser

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browser add-ons

Build Up Your Browser

The following tools can make both Internet Explorer and Firefox more useful. (Visit find.pcworld.com/62694 for links to the downloads in this group.)

BEST BET **List.it:** This nifty little Firefox 3 utility (registration required) hides away until you need to jot down notes or call up already created notes. Simply press a hotkey, and a sidebar appears that allows you to type in text or look at previous entries. If you run this add-on on multiple computers, you can synchronize notes among all of them. find.pcworld.com/62680

Feeds Plus: Internet Explorer has a very good RSS reader built in—but you can make it even better. This download lets you read all of your feeds in one location so that you don't have to read a single feed at a time. The tool also notifies you when your favorite feeds have added new content.

FireFTP: The venerable file transfer protocol (FTP) isn't dead—it's still a great way to access



MINIMAP SIDEBAR QUICKLY shows you the location of any address you find on the Web.

vast file repositories, and to send and receive large files when your ISP prohibits you from sending them via e-mail. This superb Firefox add-on lets you use FTP right within the browser. Setting up new accounts is simple, and the add-on gives you all the FTP tools you'd expect, including the ability to create remote directories.

Google Preview: With this great Firefox add-on installed, you can see thumbnails of the Web pages that appear in Google search results, to help you decide which sites to visit.

IE7Pro: This do-it-all add-on for Internet Explorer rivals some of the best Firefox add-ons, and then some. You can manage your tabs better, block Flash



browsers

Give the Web a Workout

SERVICE/DOWNLOAD	What it does	Why you need it
BEST BET Qitera www.qitera.com	With this service (registration required), you can save Web sites and content online, and share your saved items with others.	Who can remember all the nifty things they find on the Web?
Glue www.getglue.com	This Firefox add-on (it works with iPhone too) shows what other users think of Web pages—and the material on them—as you surf.	Input from friends and other Web users can help you make decisions.
KidZui find.pcworld.com/62691	A child-oriented downloadable browser, KidZui creates a safe and immersive environment for exploring the Web.	Offers a fun experience for children, plus useful controls for parents.
Zigtag zigtag.com	Through this service (registration required) you can "tag" favorite pages, share them, and view friends' shared pages.	You can discover great stuff on the Web, and piggyback on others' finds.

time management

Savvy Scheduling Assistants

Keep your grip on appointments and billable hours with these freebies.

BEST BET **Google Calendar Sync:** If you use both Google Calendar and Outlook's calendar, and you can't figure out where you need to be when, use this download to synchronize the two calendars and straighten out your schedule. find.pcworld.com/62687

FreeConference: You can schedule and make conference calls for free with this service (registration required). www.freeconference.com

MyHours.com: Do you do consulting, project work, or other kinds of jobs for which you need to monitor your time and costs? Through this simple-to-use site (registration required), you can track billable hours and create useful reports and timesheets. www.myhours.com

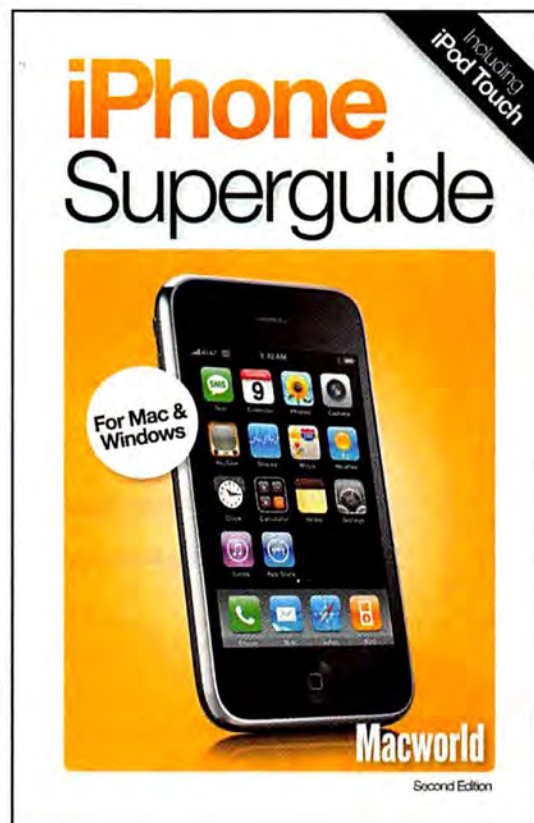
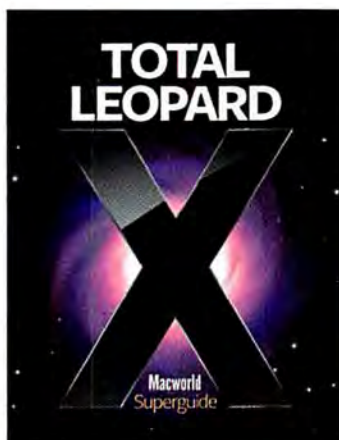
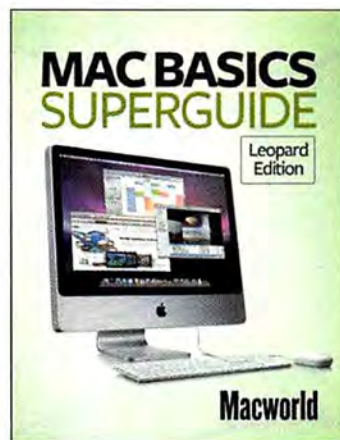
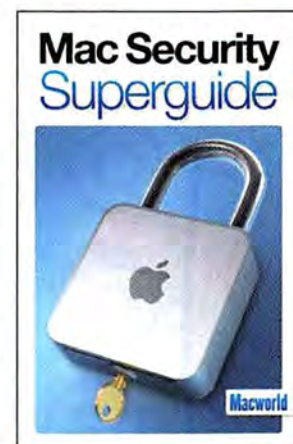
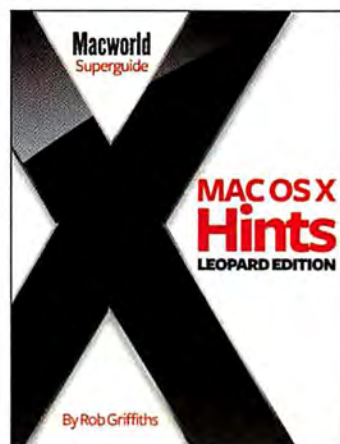
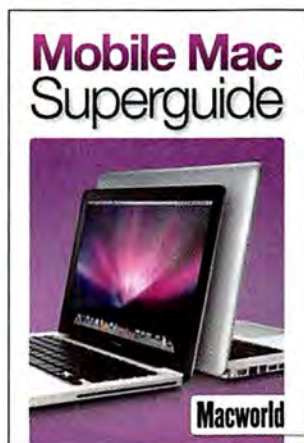
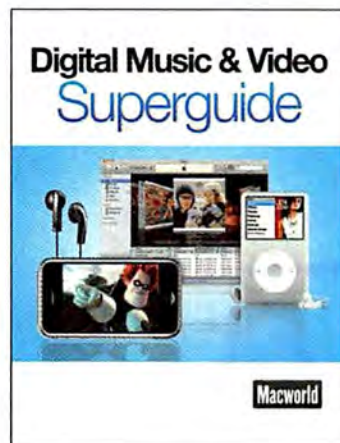
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ads, automatically scroll Web pages, automatically refresh pages, instantly fill in forms...and that's just a start. IE7Pro is a must-have download for anyone who wants to get more out of IE.

Minimap Sidebar: You come across a physical address on a Web page and you want to see it on a map—but you don't want to take the time to copy it, open a mapping site, and paste it in. This Firefox add-on simplifies the whole process. Whenever you encounter an address in a Web page, drag it to this little app in the sidebar, and the tool will map it for you, right there, without your having to leave the current site.

Video DownloadHelper: Come across an online video that you want to save to your local disk? Press a hotkey, and this simple Firefox add-on will download the clip for later viewing. ●

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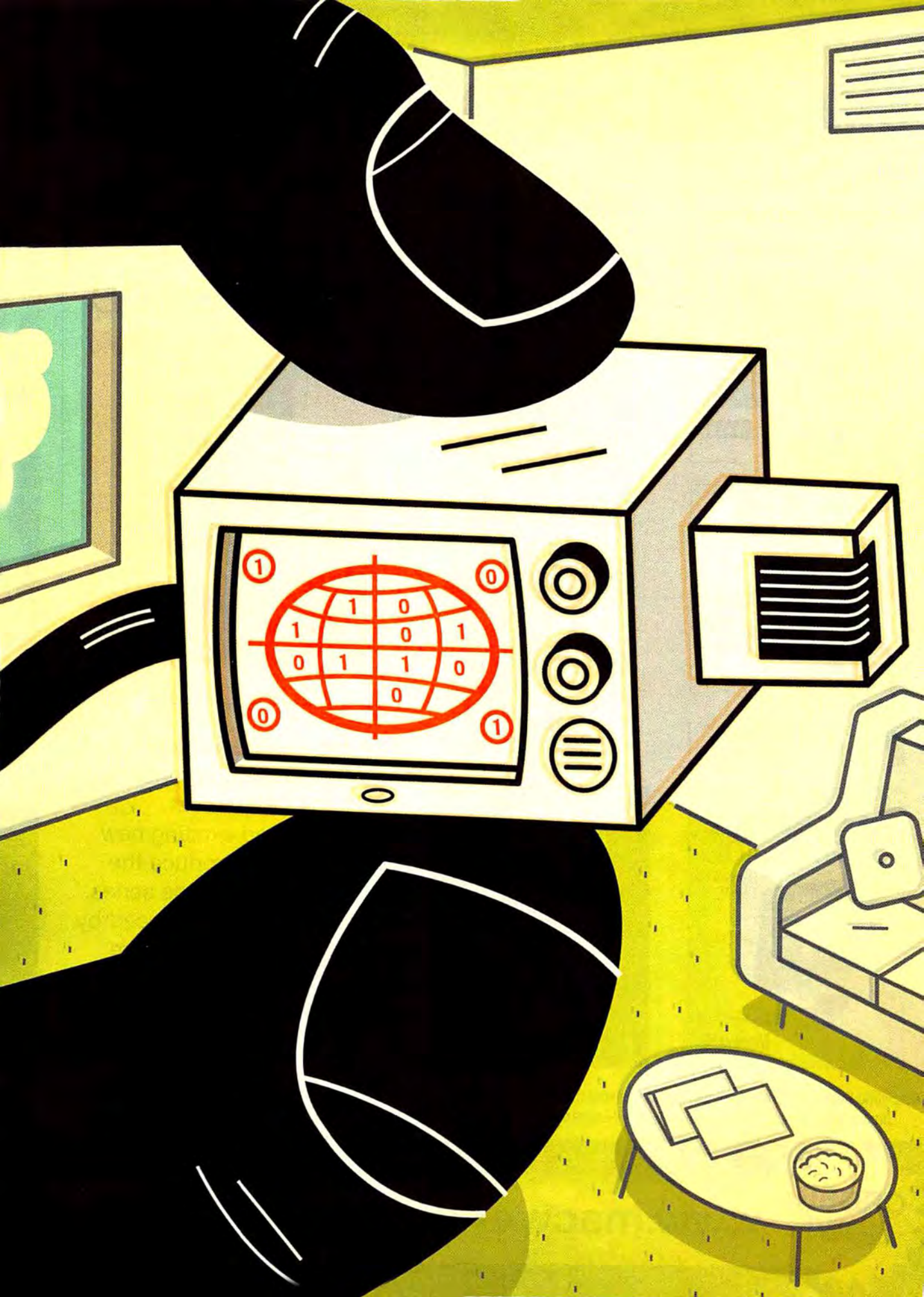


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the connected tv

12

Ways to Bring YouTube to the Boob Tube

All sorts of devices are offering ways for you to enjoy Internet video and other connected services on your living-room TV. We evaluate 12 of the most popular and most innovative options, with the pros and cons of each.

BY HARRY McCracken

ILLUSTRATIONS BY
HARRY CAMPBELL



the latest movies. Classic TV.

Specialty news and information. Completely stupid, completely irresistible YouTube clips. The Internet is an awesome source of on-demand video. But even though the best screen in your house graces a nice

big television set, chances are that you do your consuming of online video scrunched over a laptop or desktop PC.

Enter a bevy of boxes designed to hook a television up to an Internet-enabled home network via a wired or wireless connection. Put one in your living room, and you can watch Net video on your expansive flat screen from the comfort of your Barcalounger, remote control in hand. Some of these gadgets are primarily devoted to another TV-related task—Blu-ray movies, gaming, or digital video recording—and offer Internet video as a bonus. Others are video boxes first and foremost, and either contain a hard disk for storing downloaded movies or stream them across the Net as you watch.

For this review, I spent time with a dozen such devices, focusing on features that let them connect directly to the Internet. (Consequently I didn't try products that require a PC to serve as middleman, such as Windows Media Center Extenders. Also, I didn't judge the products that I did use on their other features; many include options for enjoying video, photos, and audio that are stored locally on your home network.)

In the end, three boxes that emphasize Internet video above all other multimedia features impressed me the most: Apple TV, Roku, and Vudu. Among the other contenders, TiVo HD's video-on-demand options make for a reasonable complement to its core capabilities for digital video recording. And even though the Xbox 360 and PlayStation 3 sport relatively modest Net video features, they're certainly good enough to keep you entertained when you want to take a break from gaming.

Instant Partial Gratification

One virtue above all others makes Internet video appealing: speed. Unlike cable, satellite, the video store, or DVD-by-mail services from Netflix and Blockbuster, the Internet provides instant access to your choice of thousands of movies, and it lets you make those choices to suit your schedule—including new movies the first day they hit DVD. (For TV shows, you still have to wait until the day after they first air.)

For the most part, you pay only for what you watch. Fees range from a buck to rent a TV episode from Amazon Video

apple, roku, and vudu make on-demand internet video easy

DEVICE	Overall Internet video experience	Internet streaming/downloads					BitTorrent	Media on home network
		Movie purchase and rental	TV show purchase	Netflix	YouTube	Music service		
Apple TV	Excellent	Yes	Yes	No	Yes	iTunes	No	Yes
Roku Digital Video Player	Excellent	Yes	Yes	Yes	No	None	No	No
Vudu Box	Excellent	Yes	Yes	No	Yes	Pandora	No	No
TiVo HD	Very Good	Yes	Yes	Yes	Yes	Rhapsody	No	No
LG Electronics BD300	Good	¹	¹	Yes	Yes	None	No	No
Microsoft Xbox 360	Good	Yes (rental only)	Yes	Yes	Yes	None	No	Yes
Sony Bravia Internet Video Link	Good	Yes	Yes	No	Yes	Slacker	No	No
Sony PlayStation 3	Good	Yes	Yes	No	Yes ²	None	No	Yes
Panasonic TH-50PZ850U Plasma TV With Viera Cast	Fair	³	³	No	Yes	None	No	No
Popcorn Hour A-110	Fair	No	No	No	Yes	Live365, Radiobox, Shoutcast	Yes	Yes
SageTV HD Theater	Fair	No	No	No	Yes	None	No	Yes
Verismo VuNow Hi-Def PoD	Poor	⁴	⁴	No	Yes	None	Yes	Yes

CHART NOTE: Products are listed by quality of overall Internet video experience; products with the same rating on this measure are listed alphabetically. FOOTNOTES: ¹CinemaNow, to be added to future models, will provide this capability. ²In beta. ³Amazon Video on Demand, to be added soon, will provide this capability. ⁴CinemaNow, to be added soon, will provide this capability.

on Demand to \$24 to buy a new-release high-definition movie from Vudu. The only devices here that involve monthly charges are those that support Netflix Watch Instantly, an all-you-can watch service that's included in the cost of a Netflix subscription. And most offer at least some freebies, such as YouTube and video podcasts.

Not that Internet video is ready to render other entertainment options obsolete. For one thing, there's plenty of stuff you might want to watch that isn't available yet. For example, Apple TV and Vudu have the choicest movie selections, but while they have *Aliens*, *Aliens 3*, and *Alien vs. Predator*, they don't offer just plain *Alien*.

Even when a title is included in a site's online listings, you may not be able to obtain it in the form you want.

Some titles are available only for rental; others, only for purchase. (When you rent a movie, you typically have 30 days to begin watching it; once you do, a 24-hour viewing window kicks in.) And just because a service offers high-definition content doesn't mean it has the film you want in high-def—or that the high-def is up to your standards. Only Vudu's premium HDX format tries to go head-to-head with the image quality of a good Blu-ray transfer.

On the other hand, my worries that broadband and networking issues would pose a major impediment to smooth, reliable playback proved to be unwarranted. I was pleasantly surprised at how trouble-free most of these boxes were, even when I transmitted video over my 802.11n Wi-Fi network rather than over a wired connection. (See "Is Your Living Room Ready for Internet Video?" on page 77 for some tips on how to optimize your setup.)

Box or No Box?

Got an entertainment center that's already chockablock with other gear, such as a cable box, an AV receiver, a DVD player...maybe even your old VCR or your new Slingbox? If so, you may be drawn instinctively to a device that includes multiple functions rather than one that handles Internet video only. After all, every box you cram into your setup eats up space, adds to the tangle of cables, and depletes your supply of AC outlets.

Nevertheless, once I tried all my options, I concluded that the best boxes designed principally for Net video—Apple TV, Roku, and Vudu—do it far better than those that merely dabble in it. They offer superior selections of content, and their remotes and on-screen interfaces are better tailored to the task.

I was most disappointed by the only device that eliminated the need for a box altogether: a 50-inch Panasonic plasma TV with integrated support for Panasonic's Viera Cast service. That's because the only Internet video it offered was YouTube. Viera Cast will become a lot more interesting once Panasonic adds Amazon's Video on Demand service, which it plans to do this spring.

Even more interesting: LG, Sony, Samsung, and Vizio all plan to make sets that support Yahoo's promising Connected TV platform, which lets TVs run Internet-savvy applets such as video and audio players. That will eliminate the need for consumers to cross their fingers that their TV's manufacturer will sign its own deals with a full quorum of content providers. The first Yahoo-enabled sets, from Samsung, should be ready by the time you read this.

The day may not be too far off when gadgets like the ones in this review are obsolete, because every TV will be a capable Internet TV. For now, though, if you're serious about watching Net video on your television, you'll want to find room in your budget and in your living room for the right box.



hdtv with built-in internet connectivity

Panasonic TH-50PZ850U Plasma TV With Viera Cast

- Web content: Picasa Web Albums, YouTube
- Network connection: Ethernet
- Price: \$1800 (no hard drive)

An appealing idea underlies the Viera Cast Internet features built into several Panasonic plasma HDTVs (including the 50-inch model I tried) and upcoming Blu-ray Disc players: Why buy and install an external box when you can get a TV that has an ethernet jack and Internet-related features as standard equipment? Here's why: Viera Cast in the form that I tried it is too basic to compete with any of the stand-alone devices here. It lets you watch YouTube, it has rudimentary support for Google's Picasa photo service (if you unplug the TV, it forgets your Picasa log-in info), and it links to weather reports, stock information, and business headlines. And that's all.

The good news is that Panasonic plans to add a feature that will instantly boost Viera Cast's appeal: support for Amazon Video on Demand's 40,000-item movie and TV streaming service. It won't offer high-definition content or Disney releases, but for some people, it should be compelling enough to dispense with a box. Panasonic says to expect Amazon by the end of spring. »

add-on for sony bravia televisions

Sony Bravia Internet Video Link

- Web content: Amazon Video on Demand; Slacker music service; Yahoo Video; YouTube
- Network connection: Ethernet
- Video outputs: HDMI
- Price: \$300 (no hard drive)

Though Sony designed this paperback-size module specifically for use with its Bravia TVs, the only real advantage I noticed is that you can neatly fasten it to your Bravia's backside. Your TV's remote controls the Video Link, but navigation is far less intuitive with it than with the more customized, less button-laden remotes that come with Apple TV, Roku, and Vudu.

The Video Link's content lineup is quite good: You can buy and rent titles from Amazon; and the device provides video sites such as Blip.tv, Yahoo Video, and YouTube, plus plentiful specialty content, from Farnet horror movies to Epicurious cooking clips. At \$100 or so, this box would be a good deal—but it's priced at \$300. Apple TV costs \$70 less, offers high definition, and includes a hard drive for local storage of your video purchases; matched against that competition, Sony's box is too pricey and limited to win my recommendation.



blu-ray player

LG Electronics BD300

- Web content: Netflix, YouTube
- Network connection: Ethernet
- Video outputs: Component, composite, HDMI
- Price: \$350 (no hard drive)

A Blu-ray player like LG Electronics' \$350 BD300 invites you to build a library of movies captured in gorgeous high definition. But doing so will probably take a while, and it certainly won't be cheap. That's why the Internet video built into this box—especially the unit's support for the 12,000+ movies and TV shows of Netflix Watch Instantly—makes sense. Netflix subscribers can stream all they want at no extra charge; it's a low-cost way to ensure that you're never left without something to watch, even though Netflix's high-def content isn't in the same zip code as Blu-ray in terms of image quality. You also get access to YouTube, in case you're in the mood for footage of tap-dancing parakeets or clips of old TV shows.

The BD300 is one of the few media streamers on the market that doesn't support wireless data transfers, either standard or as an option, so you need to make provisions for bringing a wired ethernet connection to your TV. At press time, the BD300 was making room on store shelves for a new model, the similar BD370, which rounds out its Internet offerings with the one thing that the BD300 notably lacks: big-studio movie and TV shows, including new releases, courtesy of CinemaNow.



stand-alone streaming box

Apple TV

- Web content: iTunes Store movies, TV shows, and music; podcasts; YouTube
- Network connection: Ethernet, Wi-Fi
- Video outputs: Component, HDMI
- Price: \$229 (40GB hard drive), \$329 (160GB hard drive)

What is Apple TV? Essentially it's a big, flat, screenless iPod that you can connect to your TV and home network. The iTunes Store gives it access to 2500 standard-definition and high-definition movies and 30,000 TV episodes, as well as the Net's largest selection of music. You also get an unusually generous supply of free entertainment and information: YouTube, of course, and plenty of standard-def, high-def, and audio podcasts. A minimalist, six-button remote—second only to Vudu's in intuitive simplicity—controls everything.

Apple TV is deeply rooted in the Apple entertainment ecosystem, and it supports only a handful of Apple-approved formats. The product is at its best if you run iTunes on a PC or Mac and you have an iPod or an iPhone. If you do, your movie and TV purchases will silently sync between computer, gadget, and the box's hard drive, so you can enjoy them whether you're in couch-potato mode in your living room or on a cross-country flight.

Even if you're not otherwise an Apple freak, you're likely to find this box awfully entertaining. But if you're late to the flat-screen TV era, take note: Apple TV is tailored for HDTV use (it lacks old-style composite and S-Video jacks).



stand-alone streaming box

Vudu Box

- Web content: Movies, podcasts, TV shows, YouTube
- Network connection: Ethernet (Wi-Fi optional)
- Video outputs: Component, composite, HDMI, S-Video
- Price: \$149 (250GB hard drive)

In multiple ways that are evident across its hardware, software, and service, Vudu has put together an uncommonly slick user experience. The remote is superb: Its thumbwheel makes even alphanumeric data entry tolerable. High-definition titles deliver full 1080p resolution (most boxes are designed to handle only 720p), and some titles are available in HDX—a format that requires you to download the whole movie to the box's roomy hard drive before you begin watching, but then delivers video quality that competes with Blu-ray. Vudu was the first box to let you buy as well as rent some high-def titles, and it's still the only one that lets you pay a fee to extend rentals beyond a 24-hour viewing window.

Vudu makes 7000 movies available, which is close to triple the number you will find on Apple TV. I did notice some gaps in the offerings, however: There's no *Napoleon Dynamite*, for instance, as well as no Bond films and only a smattering of TV episodes. (Porn, however, is present—in a section that shows no specific titles unless you request them, and that can be hidden altogether.)

Unlike most other types of Internet video that you pay for, Vudu purchases are available only on the box itself: There's no way to watch them on a computer or on a handheld device. »



is your living room ready for internet video?

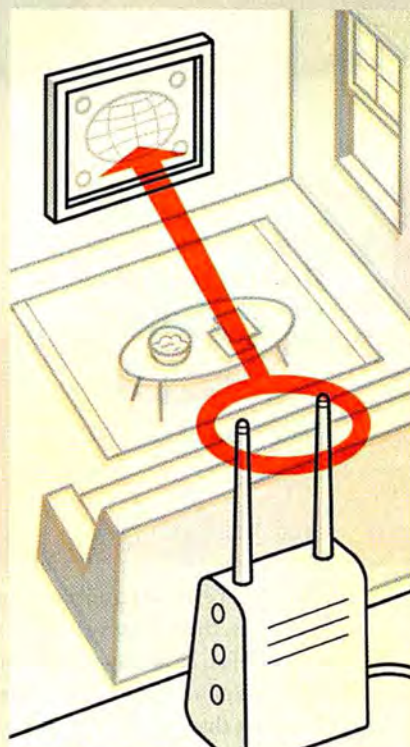
ONCE UPON A TIME, all you needed to tap into the wide world of TV was a TV (though a good set of rabbit ears didn't hurt). Internet video—which involves pumping video fast enough to avoid pauses, hiccups, and other glitches—is way more complicated. So keep the following technical issues in mind before you cut up your Blockbuster card.

1

Broadband

The recommended minimum download speeds for the gizmos I used range from 1.5 mbps to 3 mbps. (Upload speed isn't an issue with Internet video.) More is preferable, since many devices gauge your connection's performance and provide better quality over faster pipes. The key factor, though, isn't what your ISP claims it provides but what it actually delivers—especially if it's prone to periodic slowdowns.

Try a broadband measuring service like the one at Speedtest.net to double-check your real-world speed. That's especially important for diskless devices like the Roku, which stream video as it arrives rather than storing it locally for later playback.



2

Home Network

The best type of network for video streaming is speedy, reliable ethernet—except for the part about smashing holes in your walls and snaking cable everywhere. Powerline adapter gear such as Netgear's \$100 HDXB101 Powerline HD Ethernet Kit offers a simple alternative that uses your home's electrical wiring to bring the network from wherever your modem and router reside to your TV.

You're most likely to have a wireless network, however. Most of the gadgets that I tried support Wi-Fi, at least as an option. You'll want 802.11g at a bare minimum, and 802.11n if the video box you buy supports it. Wi-Fi is prone to performance and range problems that wire-based networks lack. But truth to tell, I was pleased at how well decent-quality video traveled over my 802.11n network.

3

The TV Itself

You want a flat-screen HDTV the size of a medieval tapestry, right? Maybe, if you're planning to watch Vudu's high-quality, high-def 1080p titles. But most Internet video is limited to standard-def, and many HDTVs do a lackluster job of stretching it to occupy their extra pixels. You think YouTube looks lousy on your laptop? Try watching it on a 50-inch-diagonal screen.

Images can look sharper on smaller screens. On my 19-inch Toshiba LCD, even less-than-optimal video was reasonably watchable. And nearly all of the devices I tried sport composite (aka RCA) and S-Video connectors as well as newer component and HDMI ones, so you can hook them up to older TVs.



stand-alone streaming box

Roku Digital Video Player

- Web content: Amazon Video on Demand, Netflix
- Network connection: Ethernet, Wi-Fi
- Video outputs: Component, composite, HDMI, S-Video
- Price: \$100 (no hard drive)

If VuDu is the Lexus of stand-alone Internet TV boxes, then Roku's gizmo is the equivalent of an economy subcompact that delivers more features and better performance than you'd expect. It's small—only about the size of a club sandwich—and it's the least-expensive device here. Nevertheless, the Roku Digital Video Player offers access to a treasure trove of options for both movies and television episodes through two services: Netflix Watch Instantly and Amazon Video on Demand. (Admittedly the only high-definition content in this treasure trove is a small collection of medium-quality HD from Netflix.)

Everything about the Roku is delightfully straightforward, from the super-simple remote control to the extremely helpful way that the Netflix and Amazon services show you thumbnail previews as you fast-forward through a video. The Roku lacks a hard drive, so it streams video straight off the Internet and onto your TV; in my test with a 6-mbps cable connection, the picture didn't hiccup even when I was watching Netflix HD. The downside of the device's diskless design: When you fast-forward or fast-backward, the box takes a few seconds to catch up.

stand-alone streaming box

Popcorn Hour A-110

- Web content: Video podcasts, YouTube, more
- Network connection: Ethernet (Wi-Fi optional)
- Video outputs: Component, composite, HDMI, S-Video
- Price: \$215 (hard drive is optional and not included)

If you like to salt away gigabytes of media files on your home network, the Popcorn Hour A-110 may be just what you need to hook up to your television: It can stream video and audio in a cornucopia of formats. It has room inside for a hard drive, though it's sold without one; if you install a hard drive, the box can download files (legal or otherwise) directly from the BitTorrent peer-to-peer network for TV playback.

Beyond BitTorrent, however, the Popcorn Hour A110's features for Internet video and other media—all of which involve free content, not purchases or rentals—feel random and unfinished. On the plus side, Popcorn presents you with tons of stuff: YouTube, Flickr, podcasts, radio streaming, and even access to Gmail and RSS feeds.

But there's no discernible logic to the organization, and some of it simply doesn't work adequately (for instance, the audio was out of sync on the YouTube videos I played). And whoever designed the on-screen interface must have razor-sharp vision: Much of the text is so tiny that I felt as if I were trying to read the hard part of an eye chart.

stand-alone streaming box

Verismo VuNow Hi-Def PoD

- Web content: Live TV, video podcasts, YouTube, more
- Network connection: Ethernet (Wi-Fi optional)
- Video outputs: Composite, HDMI
- Price: \$149 (no hard drive)

There are at least two reasons why this gizmo is so small (it fits inside a shirt pocket): It has no hard drive (the PoD does sport two USB ports for thumb-drive storage), and it offers only HDMI output. Like Popcorn Hour, it can snag BitTorrent downloads, and it supports many media formats that you may have sitting on your home network.

The features for streaming Internet video, however, feel like a rough draft. Even shows that are available in high-def are shown in standard definition, in an oddly undersize window. (You can expand it via the remote.) CinemaNow movie purchases and rentals are labeled "Coming Soon" in the box's menus. The Live Internet TV menu's 88 streaming stations include interesting items like international news channels, but also crud like off-brand shopping networks. The PoD's video search feature couldn't play all of the videos it found. Did I mention that the \$15 Wi-Fi adapter supports only WEP security, not the more modern and robust WPA?

This summer Netgear plans to start selling its own version of the VuNow box, which it says will feature a different design, some additional video services, and support for WPA security.

station identification

AMAZON VIDEO ON Demand, Netflix Watch Instantly, and YouTube are three services that many of the TV boxes reviewed in this story can use to deliver Internet video to connected PCs and Macs. Here's what each service has to offer.

1

Amazon Video on Demand

Available on: Roku, TiVo, Sony Bravia Internet Video Link

Cost: Varies; TV shows are typically 99 cents to rent and \$1.99 to buy; new movie releases are typically \$3.99 to rent and \$14.99 to buy; other movies are typically \$2.99 to rent and \$9.99 to buy.

Amazon's online video store has scads of titles for rental or purchase; movies show up on the day of DVD release, and TV shows arrive the day after they air. The service also has one great big hole: No Disney releases (think *No Country for Old Men* or *Wall-E*) are available. At press time, everything was offered in merely adequate standard definition, though reportedly Amazon is readying high-def offerings.

Once you've rented or bought a video, it goes into a video library that you can then stream to any Amazon-compatible device—including a PC or a Mac. The service lacks the iPod/iPhone compatibility of Apple's iTunes, but you can download your purchases onto a handful of other phone and media-player models.

2

Netflix Watch Instantly

Available on: Roku, TiVo, Xbox 360, LG BD-300

Cost: Included in Netflix subscription (starting at \$8.99 per month)

If you're the type who makes a beeline for a video store's new releases section, Netflix's streaming service probably won't impress you; for the most part, the newest, hottest titles aren't here. But if you like to rummage around for older items to catch up on—and for obscure stuff you've never heard about—you may go gaga for the 12,000 items it does offer, all available for unlimited viewing.

Picture quality isn't stellar for either standard-definition content or the 200-odd high-def items. But everything about this service is both simple and convenient, from the 2-minute setup to the way it shows thumbnail previews of what's ahead as you fast-forward. Rather than browsing for movies on the box itself, you do so at Netflix.com in a Web browser, where you add items to a queue that you can access from the box, from a PC, or from a Mac. This isn't much of a hassle, since searching is so much easier with a keyboard and mouse than with a remote control.

3

YouTube

Available on: Everything here except Roku

Cost: None

It's possible to lose yourself in an extended jag of YouTube watching on a television—and that's not surprising, given the millions of user-generated videos, random clips, and smattering of longer-form items. No other service offers so much to see, and everything is free. But after spending time watching the Google-owned video megasite through multiple boxes, I have concluded that it's most addictive on a computer. For one thing, much of its content doesn't even qualify as standard definition, so stretching it onto a 50-inch HDTV can be hard on the eyeballs.

Because most YouTube clips are short, you spend a considerable amount of time browsing for new items to watch. Unfortunately, however, nobody has come up with a truly pleasing way to search for videos via a remote control. With the possible exception of Vudu, every box I tested made finding videos slow and tedious—not words that I would normally associate with YouTube.



stand-alone streaming box

SageTV HD Theater

- Web content: Google Video, various video and audio podcasts, YouTube
- Network connection: Ethernet
- Video outputs: Component, composite, HDMI, S-Video
- Price: \$200 (no hard drive)

SageTV's box is packed with features for playing media from other locales on your home network. The device is a media extender that can play back high-definition broadcasts you've recorded with SageTV Media Center software on a Windows PC, Mac, or Linux system. In addition, it gives you access to videos, photos, and music stored on PCs and servers on your home network and recorded in an array of formats.

The HD Theater can connect directly to the Web, too, which means that you'll have plenty of opportunities to peruse YouTube, Google Video, and dozens of video and audio podcast feeds. SageTV divvies these up by subject, with categories for news, comedy, sports, home and garden, and more.

On the other hand, the SageTV HD Theater doesn't offer Amazon, Netflix, or any other service that delivers movies and TV shows from the Internet to your TV. And the interface is less than polished, with a maddeningly cumbersome on-screen keyboard and with columns of content that are so narrow that the title *Entourage* breaks onto two lines. Media geeks may well like SageTV's other features, but Apple TV and Vudu easily trump it when Internet content is the name of the game. >>



gaming consoles

Microsoft Xbox 360

- **Web content:** Movies, Netflix, TV shows; YouTube
- **Network connection:** Ethernet (Wi-Fi optional)
- **Video outputs:** Component, composite, HDMI
- **Price:** \$299 (60GB hard drive), \$399 (120GB hard drive)

Internet video is just a sideshow on this gaming console. In fact, you don't get it at all unless you spring for Gold-level Xbox Live membership (at \$50 per year). But the Xbox does pack one appealing feature that the PS3 lacks: Netflix Watch Instantly. As on the Roku Digital Video Player and TiVo HD, it lets Netflix subscribers gorge on a fun, eclectic smorgasbord of movies and TVs, and it couldn't be much simpler to set up and use.

If you have an Xbox equipped with a hard drive—either the \$300 Pro or the \$400 Elite—you can download movies and TV programs from Xbox Live's Video Marketplace. That service gives you access to a decent selection of new releases and other items unavailable in Netflix. The ones I sampled looked and sounded good. But movies are available only for rental, not for purchase. And to find a particular title, you must plod through an alphabetical list; there's no search feature, and no way to look up items by star or director.

gaming consoles

Sony PlayStation 3

- **Web content:** Movies, TV shows
- **Network connection:** Ethernet, Wi-Fi
- **Video outputs:** Component, composite, HDMI, S-Video
- **Price:** \$399 (80GB), \$499 (160GB)

Sony's pricey, powerful PlayStation 3 is a gaming console first and a Blu-ray player second. That means its Internet video features are at best a distant third. Still they're enough to save you a trip to Blockbuster: You get a respectable selection of movies and TV shows, including new releases and high-def versions. The shows I sampled had among the best image quality I saw on any of these devices, and the generous hard-disk space means that you can store hours of entertainment on the device itself for jitter-free playback. Also, unlike the Xbox 360, the PS3 lets you buy movies as well as rent them.

But this box puts significantly less Internet entertainment at your fingertips than its rivals do. There's no Netflix, no YouTube...nothing that doesn't involve a rental or purchase fee, except preview clips from its for-pay offerings. And even if you use the PS3's TV-style remote rather than a game controller to navigate around its menus, you'll find browsing and paying for movies more tedious than on a video-first device like Apple TV or the Roku player.

digital video recorder

TiVo HD

- **Web content:** Amazon, Disney, Jaman, Netflix, podcasts, YouTube, more
- **Network connection:** Ethernet (Wi-Fi optional)
- **Video outputs:** Component, composite, HDMI, S-Video
- **Price:** \$299 (160GB hard drive), \$599 (1TB hard drive)

This DVR has added so much stuff to its Video on Demand menu that you could stay entertained for months without recording a thing. No other device here offers so much for-pay and free variety: Amazon, Netflix, Disney releases, YouTube, international and independent movie rentals from Jaman, music videos, and more. About the only thing missing is much HD—Amazon is SD only.

TiVo's interface is famously intuitive, but I found its video-on-demand experience a tad disjointed. The interfaces of the various services vary, including whether you watch in TiVo's Now Playing area or the service's own subsection. With TiVo's wireless adapter, progressive downloads to the hard drive ran sluggishly: The box said I'd be able to start watching 15 minutes after I bought something, but then it would plead for another hour of download time.

The TiVo HD isn't the ultimate Internet TV experience, but for TiVo aficionados, it's surely a welcome bonus. ●



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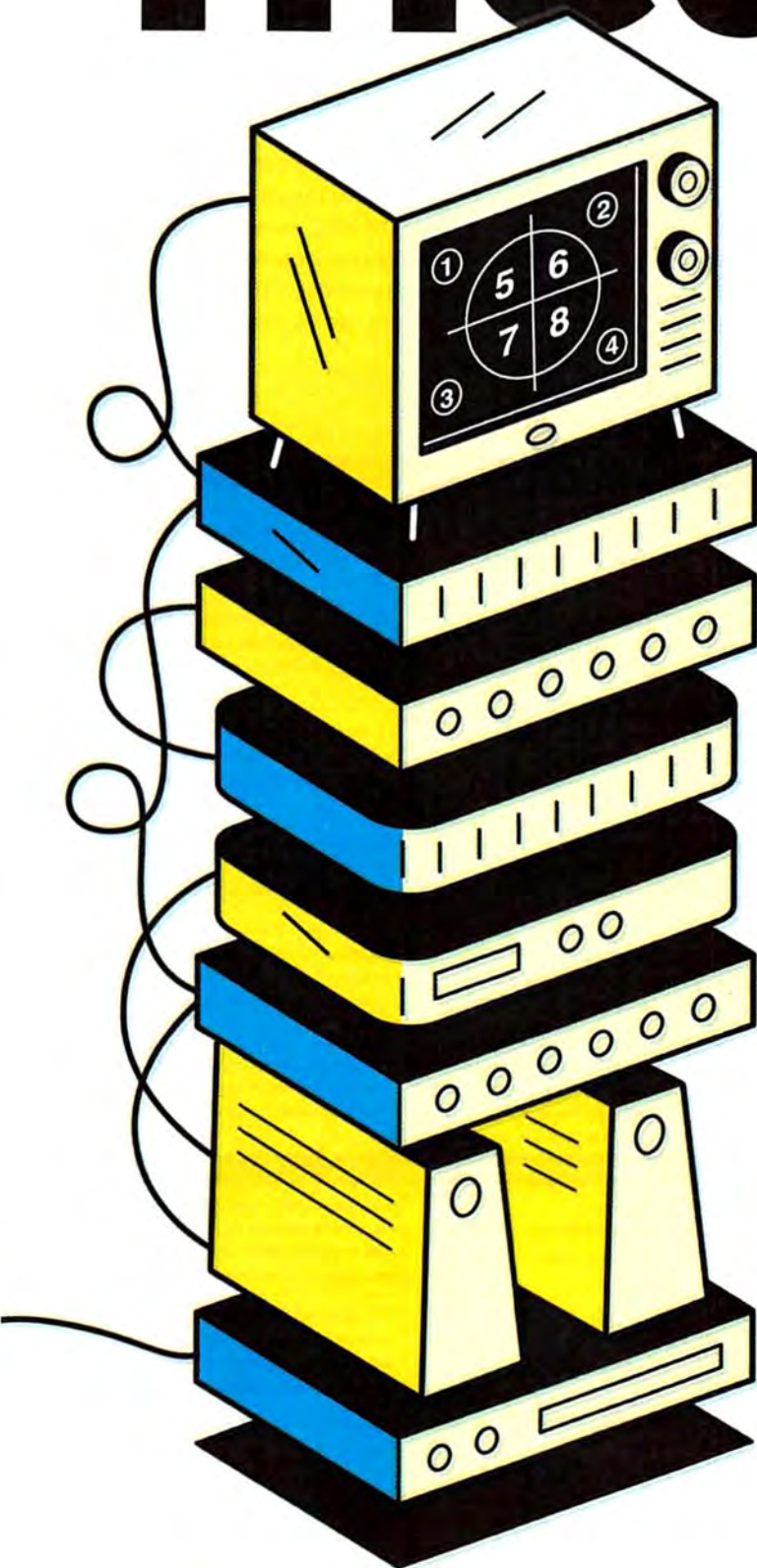
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made-for-tv media Drives



These specialized devices offer a ton of storage space and let you play music and view pictures and video on your TV. Though such products have some limitations, we found a few models that qualify for star status.

BY JON L. JACOBI AND
MELISSA J. PERENSON



**PCW Test
Center**

TESTING BY
WILLIAM WANG

ILLUSTRATION BY
HARRY CAMPBELL

you've been a digital pack rat, collecting music, photo, and video files over the years. Now, you want to access your media from the comfort of your living-room couch, so you can view it on the wide-screen HDTV at the center of your home theater. Whether you want to kick back and relax to the strains of Stravinsky, or relive

your vacation through photos and videos, the media-centric storage devices we've found will help you get files off the drive and onto your TV or stereo.

Most of the units we spotlight here are network-attached storage (NAS) boxes with features that make them especially media-friendly. Two are hard drives onto which you load media via

USB and then attach to your TV as you would a DVD player or DVR (a little like the Popcorn Hour A-110, featured in "The Connected TV" on page 72).

Over the Network

The most elegant way to share audio, photo, and video files between your PC and your television is to use the NAS

together with what's generally referred to as a Digital Media Adapter (DMA). The DMA connects to your TV via HDMI, composite, or component video outputs; and it connects to your network via ethernet or wireless. Once on the network, it can stream media from your network hard drive—assuming the NAS box has a UPnP (Universal Plug and Play) media server embedded (most do). Many network storage boxes, including three models reviewed here, are certified by the Digital Living Network Alliance (DLNA)—an extra layer of certainty that your networked devices will talk to one another. (You can also use a video game console connected to your

drives for digital media in the living room

NETWORK-ATTACHED STORAGE DRIVE	PCWRating	Performance	Features and specifications	Bottom line
BEST BUY Synology Disk Station DS209+ \$700 find.pcworld.com/62702	82 VERY GOOD	<ul style="list-style-type: none"> Overall performance: Superior Copy files: 216 seconds File search: 305 seconds 	<ul style="list-style-type: none"> 1000GB Gigabit ethernet Cost per gigabyte: \$0.70 	Superfast NAS device has tons of robust server-level features and streams photos, music, and videos perfectly.
HP MediaSmart Server ex487 \$675 find.pcworld.com/62692	80 VERY GOOD	<ul style="list-style-type: none"> Overall performance: Superior Copy files: 231 seconds File search: 194 seconds 	<ul style="list-style-type: none"> 1500GB Gigabit ethernet Cost per gigabyte: \$0.45 	This highly capable unit's Windows Home Server software blesses it with features, but curses it with unnecessary complexity.
Western Digital My Book World Edition 1TB \$200 find.pcworld.com/62700	76 GOOD	<ul style="list-style-type: none"> Overall performance: Good Copy files: 332 seconds File search: 333 seconds 	<ul style="list-style-type: none"> 1000GB Gigabit ethernet Cost per gigabyte: \$0.20 	Excellent streaming performance is the highlight of this ultrastylish, single-drive box, but parts of the interface still need refining.
Linksys by Cisco Media Hub NM410 \$430 find.pcworld.com/62707	74 GOOD	<ul style="list-style-type: none"> Overall performance: Fair Copy files: 404 seconds File search: 404 seconds 	<ul style="list-style-type: none"> 1000GB Gigabit ethernet Cost per gigabyte: \$0.43 	The Media Hub is a terrific, easy-to-use choice for streaming media, but the device is a poky performer at data transfers.
Iomega Home Media Network Hard Drive \$200 find.pcworld.com/62699	73 GOOD	<ul style="list-style-type: none"> Overall performance: Fair Copy files: 408 seconds File search: 321 seconds 	<ul style="list-style-type: none"> 1000GB Gigabit ethernet Cost per gigabyte: \$0.20 	Iomega's network-attached box has a simple yet elegant interface and streams media smoothly, but it's slow at file copying.
ZyXel Central Digital Media Library NSA-220 Plus \$220 (no drives included) find.pcworld.com/62701	71 GOOD	<ul style="list-style-type: none"> Overall performance: Fair Copy files: 365 seconds File search: 314 seconds 	<ul style="list-style-type: none"> Sold as enclosure only (tested configuration: 320GB) Gigabit ethernet Cost per gigabyte: n/a 	This dual-drive unit offers great features and streaming, but has average data performance; its interface is well thought-out.
STAND-ALONE MEDIA DRIVES	PCWRating	Performance	Features and specifications	Bottom line
Iomega ScreenPlay Pro HD \$280 find.pcworld.com/62713	Unrated	Performance not tested ¹	<ul style="list-style-type: none"> 1000GB Gigabit ethernet and USB 2.0 Cost per gigabyte: \$0.28 	Extremely competent multimedia drive can record video as well as sort and port media to your TV at up to 1080p, but the controls are poorly conceived and the remote is complex.
Iogear Portable Media Server Player GMD2025U120 \$280 find.pcworld.com/62710	Unrated	Performance not tested ¹	<ul style="list-style-type: none"> 120GB USB 2.0 Cost per gigabyte: \$2.33 	Though the output is only at 720p, portability and ease of use make this drive the perfect (albeit not cost-effective) lightweight multimedia companion for the road.

CHART NOTE: Prices are as of 3/13/09. FOOTNOTE: ¹The stand-alone media drives are intended for use with media only; their data performance is unrelated to their role as media devices, whereas the network-attached drives can be used for data and media streaming.

television, such as the Sony PlayStation 3 or the Microsoft Xbox 360, to stream the media from a NAS to your TV.)

NAS boxes with UPnP media servers, such as the models highlighted here, also offer other media-centric features like an iTunes server; simply store your songs on the drive, and the iTunes server will create a shared iTunes library that shows up automatically under the Shared heading of the iTunes navigation panel on your PC—or via your DMA. This little trick saves you the hassle of adding songs to every iteration of iTunes on your network. (For more on NAS units, see our latest *Top 5 Network-Attached Storage Devices* chart at find.pcworld.com/62714).

Stand-Alone Alternatives

A few hard drives make it easier to access your media from your TV without using a network as a conduit. The advantage of this approach is that you don't have to hassle with wireless connections or string network cables throughout your home.

Not included here but worth noting is LaCie's slickly designed LaCinema Black Max. This box, not yet shipping at the time of this writing, can record video to its 1TB hard disk and output directly to your television. Look for our full review of the LaCie device at find.pcworld.com/62723 once the product ships.

Already have a hard drive you want to hook up to your TV? Seagate's FreeAgent Theater dock and Western Digital's WDTV each work with any drive, and connect directly to your television (see "Hard-Drive Honchos Test the Media Player Market" on page 53).

stand-alone

Iomega ScreenPlay Pro HD

- \$280
- Connects via 10/100 ethernet or USB
- Outputs video at 720p and 1080i
- HDMI, component, and composite video outputs
- Composite and coaxial S/PDIF audio outputs
- Remote and on-unit controls

You can attach this Windows-only, stand-alone, single 1TB hard drive and NAS to your TV and play media.

But as much as we liked the unit's on-screen interface, we found its remote difficult to use, with its slew of tiny, similarly styled buttons whose functions aren't consistently applied. And none of the controls on the drive itself seem to let you back out of menus.

The ScreenPlay will output full 1080 video via HDMI, component, and composite jacks; audio output can be either analog or digital. You can also record video directly from a video source.

The unit worked very well with the media types it supported, including MP3, JPEG, and DivX. Network copying performance from a PC to the device was adequate. It doesn't connect to the network as a regular NAS device would—you can't configure it via a browser. However, this is the only network-connected drive here that has a 10/100 ethernet connection.



stand-alone

Logear Portable Media Server Player GMD2025U120

- \$280
- Connects via USB
- Outputs video at 720p
- Component and composite video outputs
- Composite audio outputs
- Remote and on-unit controls

This Windows-only device is a small, self-contained, non-networkable, external 2.5-inch hard drive that you attach to your PC's USB port, copy media files onto, and then connect to your TV or other display to render them. The whole deal—drive, cables, remote, carrying case, and all—easily fits into a briefcase or backpack. It lacks an HDMI output, but you can hook it up via component or composite jacks on a TV—far more common inputs on hotel sets than HDMI or DVI, at any rate.

Though the unit ships with a remote, the box itself has a full complement of controls to manage playback and navigate the on-screen menu. Holding the drive in the palm of your hand like a remote and pressing the buttons is not all that uncomfortable. Just be careful not to drop it—the case has a spinning hard drive inside that will almost certainly sustain damage in a fall.

The Logear played all of its supported file types (including MPEG-1, MPEG-2, Xvid, DivX, MP3, .wav, and JPEG) without any glitches. The one on-screen error we received was when we tried to play a 1080p DivX file whose resolution exceeded the Logear's 720p output capability.

One inconvenience: The on-board video electronics apparently consumes a fair amount of power, so the drive requires its AC adapter to operate, even when plugged into a PC's powered USB port. >>





network

HP MediaSmart Server ex487

- \$675
- Four USB ports, one eSATA port
- Uses folder duplication in lieu of RAID
- UPnP and DLNA
- iTunes server, remote access (not supported by Windows Vista Home or Windows XP Home)
- PC and Mac (not for setup)

The HP MediaSmart Server ex487 has four drive bays—two that each contain a 750GB drive, and two for upgrades. It's the only unit here that uses Microsoft's feature-packed but sometimes slow Windows Home Server operating system, which uses folder duplication instead of RAID to span disk storage (which is about 1.3GB total).

The product streamed media, including high-definition video, smoothly, although we needed to bypass expired-certificate errors for some media types before viewing anything. The box has an iTunes server and remote access, but you can't use the latter with a Windows Vista Home or XP Home system. It can work with Macs on your network, but you must do the initial setup on a PC.

The HP MediaSmart Server—like the Linksys and Synology boxes—will stream music and photos across the Web to a PC's browser. The Home Server OS is easy to use, but the MediaSmart offers no clear advantages over the other devices and costs more.

network

Linksys by Cisco Media Hub NMH410

- \$430
- Two USB ports
- RAID 1, JBOD
- UPnP and DLNA certified
- CompactFlash, SD Card, Memory Stick, and XD Picture Card slots
- Web server, FTP, remote access (via service for one year)
- PC and Mac (not for setup)

This Linksys box offers the friendliest media-serving Web interface here. It's the only unit besides the Synology and HP devices that lets you play and view media on your PC via the Web-based configuration interface; it can play video as well as audio files and photos.

The dual-bay Media Hub has one drive (a 1TB Western Digital Green Power model). You can configure it as either RAID 1 or JBOD, and you can install a second drive in the other bay. The product also provides CompactFlash, SD Card, and Memory Stick slots up front, making it especially enticing to digital photographers in need of network backup.

The Media Hub was the only device on which we experienced no problems when streaming high-definition 1080p video across a 10/100 wired ethernet connection. The Linksys Media Hub is one slick media-serving machine—the best of the lot for its assorted media features and its ease of use.

network

ZyXel Central Digital Media Library NSA-220 Plus

- \$220 (enclosure only)
- Two USB ports
- JBOD, RAID 0, RAID 1
- UPnP and DLNA certified
- iTunes server, FTP, remote access; auto-upload direct to Flickr and YouTube

ZyXel's product proved to be a more than capable media server, dishing out HD video and everything else with nary a glitch. This two-bay device is sold as an enclosure only, but it can pack up to 3TB of storage. It supports RAID 0, RAID 1, and JBOD configurations.

As with every NAS unit except the Windows Home Server-based HP MediaSmart, you configure the ZyXel using your Web browser.

The NSA-220 Plus is fairly straightforward; like all the boxes in this roundup, it has USB ports for connecting additional hard drives or flash drives, or even a digital camera or printer. At the front is a button for automatically copying content from a USB device to the NAS. A nice touch: The NSA-220 Plus can help you upload media to Web services. For example, after stepping through a bunch of configuration screens, you can set up the device to automatically upload photos or videos placed in designated folders to either Flickr or YouTube, respectively.



network

Western Digital My Book World Edition 1TB

- \$200
- One USB port
- UPnP and DLNA certified
- iTunes server, remote access (via MioNet)
- PC and Mac
- Capacity gauge

Western Digital's entry, a handsomely styled single-drive NAS box, streamed normal and high-resolution media perfectly in tests. It also proved easy to configure, via attractive basic- and advanced-mode browser-based configuration pages (the latter mode handles the settings governing the media-serving portion of the device).

The My Book includes WD Anywhere Backup for continuous backup, and TwonkyMedia from Packet Video for serving up photos, music, and video.

We did have one complaint: Western Digital's implementation of the TwonkyMedia configuration pages seemed tacked on and didn't render properly in Firefox (some of the controls were partially obscured). Also, considering its mainstream consumer audience, the My Book World Edition has too many deep settings exposed, from MAC addresses to Shoutcast nodes for the open-source Icecast Internet radio server (though we found no way to stream Internet radio with the My Book).

network

Iomega Home Media Network Hard Drive

- \$200
- One USB port
- UPnP and DLNA
- iTunes server, print server
- PC and Mac

The slim, well-ventilated Iomega Home Media Network Hard Drive isn't fancy, but this 1TB drive serves up media with the best of them.

As with most NAS boxes, you can configure the unit via a Web browser. In this case, though, the interface is a sterling rendering that strikes the right combination of being easy on the eye and being easy to use. Two simple steps get you through the media server setup: You expose folders with media content to the DLNA (UPnP) and/or iTunes server (you accomplish this on the Folders page via two buttons next to each folder), and you choose who has rights to access specific folders.

The device's embedded EMC LifeLine software incorporates the TwonkyMedia server; the media server performed flawlessly in tests, delivering music, photo, and video streams smoothly and without interruption. The product also comes with EMC Retrospect Express Backup and Disaster Recovery software, for handling the less-glamorous data chores. A forthcoming Iomega firmware update will add remote-access capabilities to the device.

network

Synology Disk Station DS209+

- \$700 (1TB), \$490 (enclosure only)
- Three USB ports, one eSATA port
- JBOD, RAID 0, RAID 1
- UPnP
- iTunes server, FTP, print server, Web server
- PC and Mac

The Synology Disk Station DS209+ has lots of benefits: a compact, two-bay design, user-accessible drives, speedy performance, and RAID 0, 1, and JBOD configurations (it supports up to 3TB of storage; we tested the 1TB RAID version in a mirrored RAID 1 setup).

When we first tested the device, it refused to serve high-definition WMV files to the DMAs (Xvid and others worked fine). Synology provided updated firmware (version 2.1-0833, which should be publicly available by the time you read this), curing the problem. The unit served audio and images smoothly.

The DS209+, like HP's MediaSmart Server and Linksys's Media Hub, allows access to music and photos over your network or the Web, in this case via its built-in Photo Station 3 and Audio Station apps (the latter supports iTunes streaming, too). You can keep photos and music on your server, and you and your friends can access them from anywhere simply by browsing to the NAS device's address—without interfacing with a social networking site. ●

Here's How

Reinstall and Restore Your Windows PC

BY LINCOLN SPECTOR

MAYBE YOUR PC won't boot. Or it could be infected with some kind of persistent malware. Perhaps Windows puts up a Blue Screen of Death every time you type the word *aardvark*.

No matter what kind of trouble your computer is having, someone will probably tell you to reformat your hard drive, reinstall Windows and your applications, and then restore your documents, photos, and music from a backup.

That advice isn't always good, though, and incompetent tech support people use it to get customers off the phone. But if nothing else fixes a problem that you find impossible to live with, starting over from scratch may be the best solution.

Don't take that step until you've tried everything else, however. If your PC refuses to boot, see "Diagnose and Repair an Unbootable XP or Vista PC" (find.pcworld.com/62504) and "Six Downloadable Boot Discs That Could Save Your PC" (find.pcworld.com/62506) for better options. If Windows boots and then horribly misbehaves, check for malware, remove unneeded autoloaders, and update your drivers. You might even consider clean-

Eliminate problems and improve performance by reinstalling Windows from scratch. This simple guide can help you do the job quickly.

ing the Registry—not something I advise lightly, however; see "How Best Do I Clean My Registry?" (find.pcworld.com/62537) for instructions.

If (after doing all that) you determine that you must wipe out and reinstall Windows, follow these eight steps to make the process as safe and painless as possible.



MOST NEW PCs come with a restore disc, making it easy to return your system's software to the same condition it was in when you originally pulled the machine out of the box.

Step 1: Find and Know Your Restore Tool

Before anything else, you will need some sort of bootable environment that can restore or reinstall your Windows OS—and not to worry, you probably do have one. All PCs that ship with Windows come with one of the following options.

A restore disc is a bootable CD or DVD that can restore your hard drive to the exact contents it had when the PC left the factory. This means that in most instances the recovery disc will destroy all of your data—documents, photos, and so on—while “saving” your system.

Alternatively, some manufacturers don't ship a separate restore disc with your PC, but instead install software on the hard drive that you can use to create your own restore discs.

If your computer did come with a restore disc, but you can't locate it, see “How Do I Restore Windows If I've Lost My Restore CD?” (find.pcworld.com/62511).

A restore partition should be lying hidden on the hard drive. You access it by pressing a particular key combination at boot time. Check your documentation to learn whether you have one and (if so) how to access it. This partition does the same thing a restore disc does.

An actual Microsoft Windows CD or DVD is the best restoration tool of all, of course, but unless you happened to buy an upgrade to a newer version of Windows,

you probably don't have one—hence the alternatives that I have identified above.

Step 2: Gather Everything Else You Need

Make sure that you have all of the following items before you take any further action.

- **A driver backup:** See “How Do I Back Up My Drivers?” (find.pcworld.com/62523) for the necessary instructions.

- **Backup media and software:** You'll want an external hard drive (or better yet, two of them), some blank DVDs, and backup software. I'll cover some additional details later, in steps 3 and 4.

- **Your applications:** For every program you use that didn't come installed on your PC, you need the CDs they came on, their serial numbers, their registration codes, and so on. If you downloaded an application, make a backup of the download file or check to be sure that you can easily download it again.

- **Time:** In reality, this project will probably take only a few hours, but you should leave yourself a day of wiggle room in the event that you can't locate an important driver or software disc. In any event, it is best to tackle this project at the start of a long holiday, or at least over a weekend, to avoid disrupting your work or business if

something goes wrong.

• **A good book or some other diversion:** You're going to spend a chunk of time in front of a non-working computer. If the machine is a laptop, plop it down on the coffee table so that you can watch a little TV while the installers are running.

Step 3: Create an Image Backup of Your Hard Drive

In the unlikely event that something goes wrong (for instance, you forget to save a copy of an important presentation you need for work on Monday), you'll be glad you made an image backup of your hard drive in its current state so that you can quickly and easily restore everything to that state. Resist the temptation to skip this step, as it really is your most reliable safety net.

What should you back up to? An external hard drive—they're fast, cheap, and easy to work with. For best results, pick one that's at least twice the size of all the data you have. If your 160GB hard drive has 90GB of data

on it, a 200GB external drive will make a good choice. With 500GB and 1TB drives now readily available and reasonably priced, though, I suggest that you go as big as you can afford; that way you can save more than one copy of your files to the drive, or even use its roomy storage to back up multiple PCs.

And what software should you use? Norton Ghost (find.pcworld.com/62353) and Acronis True Image (find.pcworld.com/43138) are the two best-known image-backup programs, but they aren't the only ones. Check your regular backup program (you do back up regularly, don't you?)

for an image-backup feature, quite likely labeled Disaster Recovery. The backup software that came with your external drive might have something similar, too.

Both Vista Business and Vista Ultimate have built-in image backup. To use this feature, click *Start*, type **backup**, select *Backup Status and Configuration*, and press **<Enter>**. Click *Complete PC Backup*, and then choose *Create a backup now*.

For everybody else, free options are available. I recommend using Runtime Software's DriveImage XML (find.pcworld.com/62355).

Remember, though, that

an image backup is useless if you can't boot from a CD or a DVD to restore it. Both Ghost and True Image come with tools for creating just such a disc. If you opt to use Vista's backup tool instead, make sure that you have either a true Windows Vista DVD or the Vista Recovery Disc (find.pcworld.com/60793) available for recovery purposes. You can recover a DriveImage XML backup via the Ultimate Boot CD for Windows (find.pcworld.com/62040).

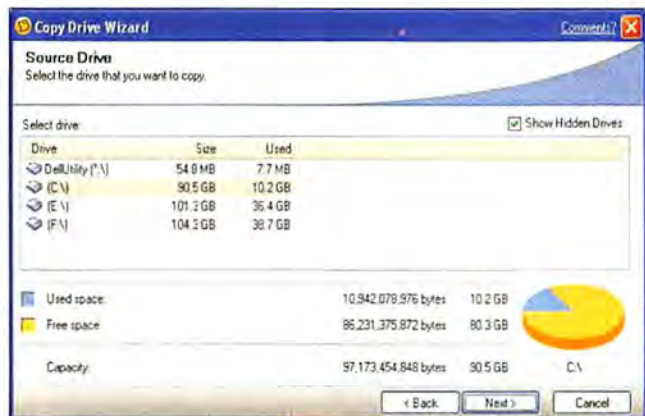
Step 4: Make a Data Backup

Yes, in step 3 I just had you create a backup of everything on your hard drive, including your data. But the purpose of that first backup was to add an extra layer of security. This second, data-only backup will make restoring your data, once you reinstall Windows, easier.

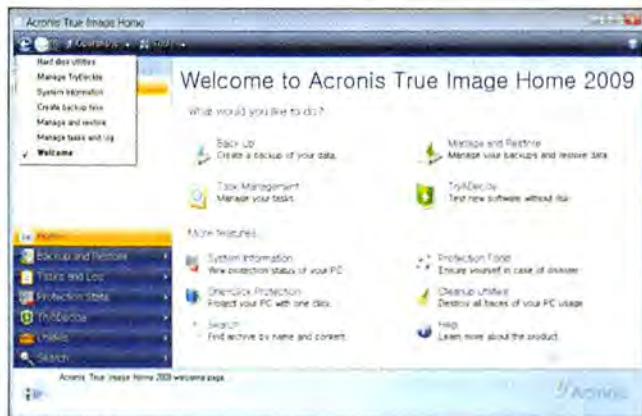
See "What's the Best Way to Back Up What I Need to Back Up?" (find.pcworld.com/62521) for two lists (for XP and Vista) of Windows' >>



DRIVEIMAGE XML is a great, and free, option for creating disk-image backups in Windows (only Vista Business and Vista Ultimate have such a utility built in).



NORTON GHOST ENABLES you to back up your entire hard drive as an image file, using Ghost's wizard and just a few clicks of the mouse.



ACRONIS TRUE IMAGE is another excellent option for backing up and restoring your hard drive, as well as for cleaning up drive clutter.

Here's How

data-holding folders. But don't worry about the software I recommend in that article—at the moment, you just need to drag (copy) those folders to a safe location.

That location can be, once again, an external hard drive. If you're as paranoid as I am, you'll ideally use an external drive different from the one employed for your image backup. That's safer than putting all of your backups onto one hard drive. If you have only a few gigabytes of data files, burning them to DVD is a good, cheap solution.

Step 5: Reformat, Restore, and Recover

Now comes the main event. I can't give you specific, accurate instructions for using your recovery tool, because I don't know what recovery tool you have. Just boot into it and follow the prompts. They are all designed to be as simple as possible.

Step 6: Make Windows Your Own

Congratulations. You now have a new version of Windows, configured exactly the way Microsoft and/or your system vendor likes it (or the way they liked it at the time you bought your PC).

This is a starting-point version of Windows, so you have to configure it, remove any preinstalled junk, install your own software, and generally make it yours once again. This is, in my opinion, the longest and most

annoying part of the job, and in step 7 I'll tell you how to avoid it in the future. But for now, do the following.

a. In Control Panel's Users applet, create log-ons for yourself and any other users. You'll need to have at least one administrator-level user.

b. Remove any bundled programs that you don't want to keep. I recommend using the free version of Revo Uninstaller (find.pcworld.com/62049) for this job.

c. Restore your backed-up drivers (see the beginning of step 2). You probably can

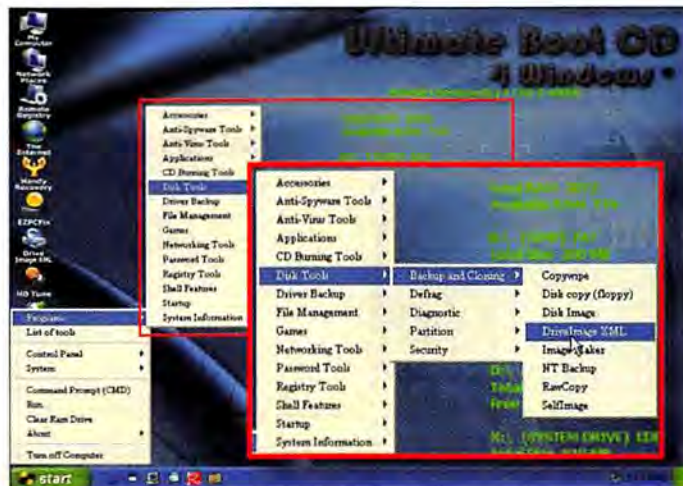
skip the drivers for anything that came with your PC, as your restore tool likely creates a version of Windows already set up with them.

d. Download and install any Windows updates.

e. Starting with your security software, install all of the programs you use that didn't come with the PC. Update them, and then configure them to your liking.

f. Rearrange the Start menu to suit your preferences.

g. Select the wallpaper, screen saver, power settings, and so on, of your choice.



AS THESE MULTIPLE menus indicate, Ultimate Boot CD for Windows comes with backup tools and a variety of other handy system-recovery features.

Step 7: Create Another Image Backup

No, I'm not kidding. This step isn't strictly necessary, but if you ever have to restore Windows to the same PC again, you can simply back up your personal data, restore this fresh and clean image backup, and put your data back in its place.

Where the restore tool restores Microsoft's or your vendor's Windows configuration, not yours, this image will serve as

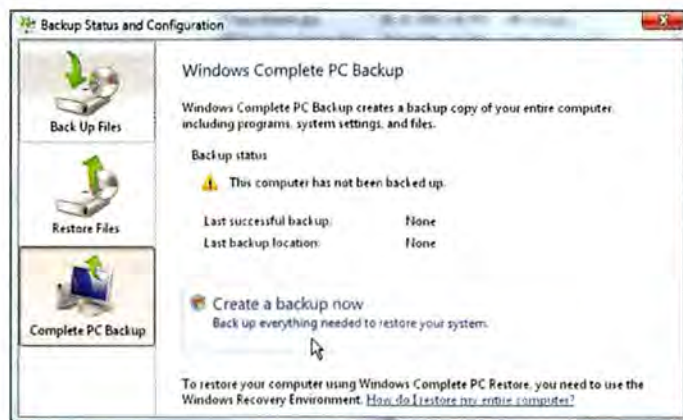
your own, customized restore tool—so you can skip step 6 the next time around.

Because you have not yet copied your data back to the hard drive, this image will be relatively small. You should put the image on a series of writable DVDs rather than on an external drive, label the discs clearly with today's date (and as being a series of restore discs for Windows, of course), and store them away in a safe place.

Step 8: The Final Touch

With Windows ready and recoverable, restore your data from the data backup with a few simple drags and drops. In the unlikely event of damage to the data backup, you can restore it from the image backup. Keep both backups around for a month or so, just in case you missed restoring an important file.

And that's it. Now, finally, you can sigh, relax, treat yourself to something decadent, and get on with your life.



USE WINDOWS' BUILT-IN backup tool to create a complete image backup of everything on your newly restored hard drive. That way, you can quickly reset your system to a completely functional state if something later goes awry.

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Make Vista Look, Feel, and Act More Like Windows 7

Want the bells and whistles of Windows 7's new interface without having to wait for the real thing? These easy tweaks will give Vista that next-gen makeover now.

BY RICK BROIDA

LET'S BE REALISTIC: Windows 7 is going to be pretty much like Windows Vista with a fresh coat of UI paint and a few needed bug fixes. Granted, some of the new interface features are pretty slick, which is why software developers have already started cranking out copycat tweaks for Windows Vista (and, in some cases, for XP). So if you don't feel like waiting until the end of 2009, you can trick out your current version of Windows to look and act much like Microsoft's lucky 7.

(Note: Some of the homebrew utilities mentioned here are unsupported, or still in their beta-testing stage, or both. I've used them all successfully—but be aware you proceed at your own risk.)

A Better User Account Control

Vista's most vilified feature, User Account Control, will be a little less obnoxious in Windows 7. Unlike the Vista version, which offers you only the option of either constant pestering or no protection at all,

UAC in Windows 7 will let you choose from four security levels that dictate how often it will bug you. Norton User Account Control (find.pcworld.com/62541) is a free, and "experimental," download from Symantec's Norton Labs that similarly lets Vista users replace the stock UAC with a version that provides fewer duplicate intrusions, a 'Don't ask me again' option, and useful details on the security alert. Or try UAC Snooze (find.pcworld.com/62540), a system tray utility that puts Vista's UAC to sleep for a designated period—something that can be mighty helpful if you plan to do some system tweaking and you don't want to be bothered with obnoxious confirmation prompts every single step of the way.

The Taskbar

Windows 7 has drawn raves for its overhauled taskbar, which sports big, inviting icons and lets you "pin" frequently used apps and documents. You can get an almost identical taskbar in Vista with just a few clicks.



A SIMPLE REGISTRY tweak will strip the text from taskbar items, leaving you with wordless—but big and inviting—Windows 7-like icons.



THE EXPERIMENTAL BUT effective Norton User Account Control replaces Vista's UAC with something a little smarter.

For starters, right-click the taskbar and then click *Toolbars•Quick Launch*. You will see a batch of small icons next to the Start button. Next, make sure the taskbar is unlocked by right-clicking it again and clearing the check mark next to *Lock the Taskbar*. This step adds a handle to the right side of the Quick Launch toolbar; drag it to the right to make more room for icons.

Finally, make the icons bigger and more 7-ish by right-clicking the taskbar a third time (in an open area, not directly on an icon) and then choosing *View•Large Icons*. To add desired programs, folders, or even documents to your improved taskbar, you simply drag and drop 'em.

You can take one last, optional, step: When you mouse over a taskbar icon in Windows 7, it produces a pop-up thumbnail preview of the corresponding program (if

the app is running). To produce the same effect in Vista, install EnhanceMyVista Free (find.pcworld.com/62544; a freebie, as the name implies); open it and click *Customization•Taskbar*, and then enable *Iconize your Taskbar*.

The Taskbar, Part 2

Windows 7 uses nothing but icons on the taskbar, even for currently running programs. If you'd like to do away with the text that traditionally accompanies taskbar icons, a simple Registry tweak will make it happen.

1. Click *Start*, type *regedit*, and press *<Enter>*.
2. Find and click the *HKEY_CURRENT_USER\Control Panel\Desktop\WindowMetrics* value.
3. In the right pane, right-click in an open space and choose *New•String Value*.
4. Name the new string *MinWidth*, and then set the value to *-255*.
5. Exit the Registry Editor, and restart your PC.

Now you'll have only icons in your taskbar. If you don't

like the look after all, you can just return to the Registry and delete the newly created entry.

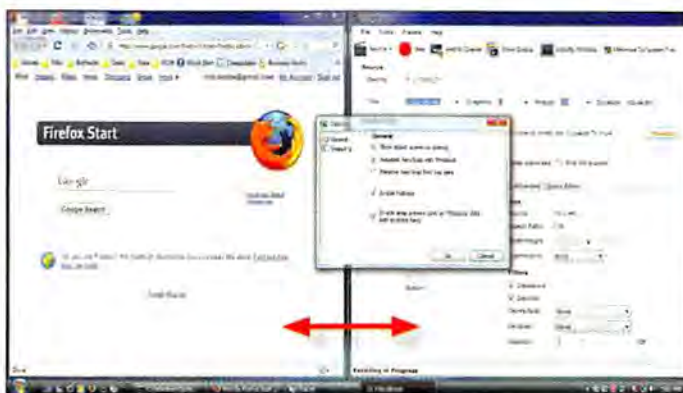
Shortcuts

I love keyboard shortcuts because they allow you to perform mundane, repetitive tasks quickly without taking your fingers off the keyboard. So I'm glad to see that Windows 7 brings some new keyboard shortcuts to the party. For example, you can press **<Windows>-<Space>** to make all your open windows transparent, or **<Windows>-<Home>** to minimize all windows except the one in use.

Sound good? Then follow the steps below to enable some of these same shortcuts in Windows Vista.

First, go grab the tiny Windows 7 Shortcuts utility (find.pcworld.com/62545); this freebie adds half a dozen of 7's best shortcuts to both XP and Vista. Besides the two above-mentioned tricks, Windows 7 Shortcuts will enable several other quick key combinations:

- Press **<Windows>-<Up Arrow>** to maximize the currently selected window.
- Press **<Windows>-<Down Arrow>** to minimize the current window to the taskbar, or to restore the window to its previous size if it's already maximized.
- Press **<Windows>-<Left Arrow>** to dock the currently selected window to a bar on the far left side of your screen.
- Press **<Windows>-<Right Arrow>** to dock the current window to the right side of the screen.



WITH AEROSNAP, WINDOWS dragged to the left or right side of the screen automatically become resized to half-width—useful on wide monitors.

Window Tricks

Windows 7 makes window management much easier than it is in any previous version of the OS, starting with docking: Just drag a window to the left or right side of the screen to “dock” it there at half the screen width—a terrific option with a wide-screen monitor. (You can drag the window away again to restore it to its former size.) Use a free utility called AeroSnap (find.pcworld.com/62546) to bring this nifty little trick to either Windows Vista or XP. AeroSnap even maximizes windows when you drag them to the top of the screen, just as Windows 7 does.

The upcoming Windows 7 OS also promises to give users the shakes: When you click and “shake” any open window, all other open win-

dows automatically minimize themselves. Shake the lone window a second time, and the rest pop back open. You can get this same feature with Lifehacker's Aero-Shake utility (find.pcworld.com/62542), which lets Windows Vista and XP users get their shake on, too, though not quite as smoothly.

Finally, you can try Aero Peek (find.pcworld.com/62547; this will download a .zip file), which mimics Windows 7's new “show desktop” feature: Mouse over an icon in the system tray, and all your open windows immediately turn transparent. Aero Peek doesn't give you that transparency, and you have to click to activate it, but it does leave behind “ghost” images of where your windows were. (A second click restores them.) Or just press

<Windows>-D, which minimizes and restores all your open windows in much the same way.

'Shut Down' Button

When you click the Windows 7 Start button, you'll see an actual ‘Shut Down’ button rather than a cryptic icon—an icon that, in Vista, puts your system to sleep instead of turning it off.

But you can change the icon's function. Here's how.

1. Click **Start**, type **Power Options**, and press **<Enter>**.
2. Click **Change plan settings** for your selected power plan, and then click **Change advanced power settings**.
3. Expand, first, the ‘Power buttons and lid’ tree, and then the ‘Start menu power button’ tree.
4. Change the setting from **Sleep** to **Shut down**.
5. Click **OK**; close the remaining windows.

Now, when you click Vista's little power icon in the Start menu, it will truly shut down your computer.

ISO-Burning Capabilities

Windows 7 will be able to burn ISO images to CDs, so you can easily crank out your own bootable discs. Why XP and Vista failed to include this feature is a mystery, but you can solve that with another free download. To burn discs in Windows XP or Vista, just install ISO Recorder (find.pcworld.com/60794). It's a straightforward utility, and it offers more features than Windows 7's burn tool does.



TWEAK WINDOWS VISTA'S Shut Down icon (highlighted) so that it actually shuts down your PC, just as the button will in the forthcoming Windows 7.

Change the Dates in Your Digital Photos

IN THIS DIGITAL age, I have virtually instant access to every photo I've taken over the past 15 years. But that makes the accuracy of a photo's metadata all the more important. A misdated picture can be hard to find.

If you notice that a photo has an incorrect date, you can modify it in Windows Vista. Open the folder containing the photo, right-click the file, and choose *Properties*. The Created date should be under the General tab, but you can't do anything there. Instead, click the *Details* tab. Find the Origin section (it should be located near the top); you should see the 'Date taken' field. Click on the date and change it to anything you like.

Note that you can't change the time a photo was taken. This is usually not a big deal, but if you were on vacation in a different time zone, your photos are offset by the time difference between home (where you set the camera's clock) and where you shot the photos. You have a way to fix that, though you may have to grab some extra (but free) software for the job.

All you need is Windows Photo Gallery. It comes with Windows Vista; for Windows XP, you can download, from the Windows Live site (home.live.com), a freebie called Windows Live Photo Gallery. (Vista users, you may want to switch, too.)

The download allows you to do two things Windows



IN WINDOWS VISTA, you can change the date in the metadata of any photo by going into the Details tab of the photo's Properties menu.

doesn't: Change the time associated with the 'Date taken' field, and batch-edit the 'Date taken' field for several photos at once.

To do either, open Photo Gallery and select one or

more photos. Then right-click and choose *Change Time Taken*. In that dialog box, you can modify the date or correct the associated time to a different time zone.

—Dave Johnson

ANSWER LINE

ASK YOUR QUESTION AT FORUMS.PCWORLD.COM

Can I increase on-board graphics memory?

—Owusu Clement, via e-mail

CHANCES ARE, YOU can't improve your PC's on-board graphics—at least not if you're going to stick with motherboard graphics. Video built onto the motherboard is fine for e-mail, business apps,

and even (if you're patient) occasional video editing. But for serious gaming or heavy video chores, you really need a separate ("discrete") graphics card.

Still, you might be able to improve your situation just a

THE BEST WAY to add graphics memory to your PC is to install a new graphics card that has an ample amount of memory built in. This nVidia GeForce 9600 GSO board, for example, comes with 512MB of video RAM.



bit. Some PCs with on-board graphics—not all, by any means—let you set aside some of the main memory for better video. Of course, that means you'll have less RAM available for other uses, but you can always upgrade your machine's RAM modules.

To find out if your PC has this memory-splitting ability, check the documentation or call the manufacturer. Or go into your hardware settings (sometimes called BIOS settings or CMOS settings). I

can't give exact directions here, but when you boot your PC, one of the first messages on your screen should say something like 'Press the XX key for settings.' Press the indicated key, and then hunt in the menus for an appropriate option. What if the option isn't there?

If you're using a desktop computer, consider buying a new graphics card. Check *PC World's* reviews for recommendations, and see our "How to Install a Graphics Board" video at find.pcworld.com/62548.

Laptop users (and I'm one) are out of luck. A lack of update options is a cost of portability.

—Lincoln Spector

Encrypt USB Flash Drives With a Free Download

I HAVE a desk full of USB flash drives I'm prone to lose if I take them out. It's not that I care much about losing the hardware; most of the drives are small freebies from trade shows. But I do care about the data that's on them—data not just anyone should see. You likely have the same problem. Solution: Use TrueCrypt to create an encrypted area on your drive. It's like buying a fancy, encrypted USB thumbdrive, only cheaper. And the extra effort necessary to encrypt the drive is minimal. Now my data stays protected even if I lose the drive I've stored it on.

Download TrueCrypt from find.pcworld.com/61859 and



THE TRUECRYPT UTILITY supports, among others, the Whirlpool encryption hash algorithm, which is an international standard in data security.

install it to the USB drive. (Keep things neat by installing it within its own folder.) Open TrueCrypt, and pick *Create Volume*. Leave the first option, *Create an encrypted file container*, selected, and click

Next. Choose *Standard TrueCrypt volume*, and click *Next*. Navigate to the root of the USB flash drive, and then type a file name for the container. This file container will house the items that are

encrypted. Click *Save*.

Now click *Next*. Leave AES encryption on and pick the Whirlpool hash algorithm (see the screenshot). Click *Next*. Enter how much space you want for encrypted items; click *Next*. Enter a password; click *Next*. Follow the final prompt, and click *Format*.

Open TrueCrypt to mount the encrypted area. Choose *Select File*, pick the encrypted file area, and click *Open*. Highlight an unused drive letter, and click

Mount. Enter the password. Windows will mount the encrypted area to that letter.

Be sure to click *Dismount* in TrueCrypt before yanking the flash drive out of the PC.

—Zack Stern

ANSWER LINE

ASK YOUR QUESTION AT FORUMS.PCWORLD.COM

How do I back up the Windows Registry?

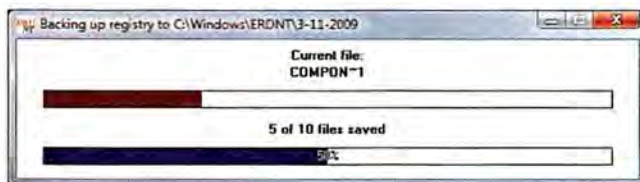
—Frankie, via the PCW forums

BACKING UP THE Windows Registry isn't as important as backing up your data (including photos, music, and documents), but it's still a good idea. If Windows starts acting seriously weird, restoring the Registry to a point when it was healthy could save a lot of grief.

Windows provides two methods for backing up your Registry. The first is Windows' built-in, semiautomated system backup tool, which protects a number of important files besides the Registry. Windows is supposed to create a restore point (translation: backup) every day or so automatically, but don't trust that to happen. To create your own restore point in XP, select *Start•All Programs•Accessories•System Tools•System Restore*. Select *Create a restore point*, click *Next*, and follow the wizard. In Vista, click *Start*, right-click *Computer*, and select *Properties*. Click the *System protection* link, and then the *Create* button.

In either XP or Vista, restore via *Start•All Programs•Accessories•System Tools•System Restore*, and follow the prompts.

The second method is to use Windows' Registry editor. To launch the editor, select *Start•Run* (just *Start* in Vista), type *regedit*, and press *<Enter>*. To make a backup, select *File•Export*. For the 'Export



THE FREE ERUNT utility allows you to back up any portion of your computer's contents—including the Windows Registry.

range; select *All*, and otherwise select and click as needed.

This method creates a .reg file; all you need do to restore is to double-click it and confirm that you want to change the Registry.

But restoring the entire Registry from this backup doesn't always work. Even when it does, it will not restore any new keys that were created after you made the backup.

And now, the best solution, and my favorite: Forget Windows' tools and use a free utility called ERUNT (find.pcworld.com/61672).

Launch ERUNT by right-clicking it and selecting *Run as Administrator*. Each of its backups consists of a folder containing several files. One of them is ERDNT.EXE, the restore program.

Note: If a restore fails, reboot into Safe Mode and try again. This improves the chances that a restore will work—but no guarantees.

—Lincoln Spector



RICK BROIDA'S HASSLE-FREE PC

Three Simple Solutions to Everyday Windows Annoyances

THIS MONTH, I have fixes for three of the most irritating Windows hassles—tricks for making your mouse's scrollwheel work properly in windows where it refuses to behave, for popping out memory cards without facing those bothersome warning messages, and for shutting down your PC with a single press of the power button.

Make Your Scrollwheel Work in Every Window

Something is broken in Windows. (Insert your own joke here.) Specifically, mouse-wheel scrolling doesn't work the way it should—you can't just point your cursor inside a window and start scrolling. Instead, you must click in that window first to bring it into "focus."

Madness! Fortunately, I've found an easy fix: WizMouse, a free utility that makes your mouse's scrollwheel work wherever you point your cursor. The program performs exactly as advertised: Just point your mouse at a window and spin that scrollwheel—no need to click first. It sounds like a minor thing, but I hadn't realized how much this click-first business annoyed me until I started using WizMouse (find.pcworld.com/62539). Optionally it can also add wheel-scrolling capabilities to programs that don't support it.

Skip Windows' 'Safely Remove Hardware' Utility

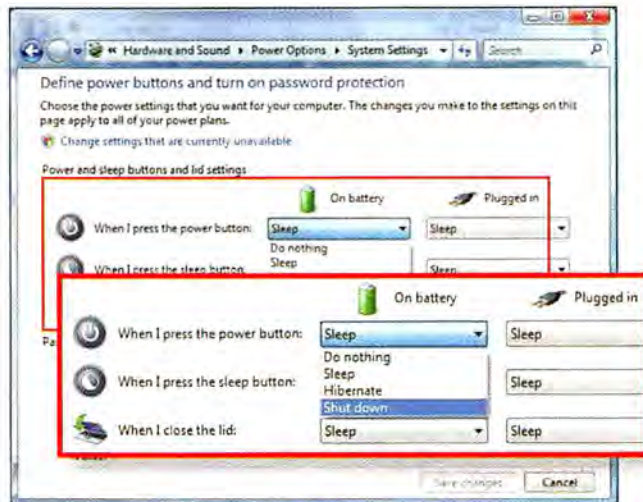
A reader named Dane wrote in seeking help with this hassle: "After using Safely Remove Hardware for an SD card, I have to reboot my computer before it will recognize another SD card. Is there a way for the PC to accept the card without rebooting?"

Windows' Safely Remove Hardware (SRH) option stops all read/write activity on a removable drive (such as an SD card), thereby preventing damage to data when you unplug the drive. When you use SRH on a memory card, you're actually "safely removing" the card reader. That's why Windows refuses to recognize subsequent cards until you reboot (and the system redetects the reader).

But you can stop using SRH for memory cards by changing the settings for the reader so you can safely remove a card. Here's how:

First, right-click the icon for the card reader and choose *Proper-*

Get a fix for mouse scrollwheels, simpler system shutdowns, and a fast eject for memory cards.



IN THE POWER Options control panel, you can change the behavior of your computer's power button through the drop-down menus.

ties. Click the *Hardware* tab. Click the drive name (which may be something like 'Generic SD/MMC USB Device'), and then click the *Properties* button. Next, click the *Policies* tab to reveal your two options: 'Optimize for quick removal' and 'Optimize for performance'. Choose the former, and then click *OK* as needed to exit all dialog boxes. If the options are grayed out, switch back to the *General* tab and click the *Change settings* button to gain administrator rights.

If you don't want to mess with settings, just make sure that you have closed any program(s) that might be accessing your card, and confirm that the reader's activity light isn't flashing; then pull the card. That's how I roll, and I've never encountered a problem.

Change the Function of Your PC's Power Button

Most PCs I see have one thing in common: Pressing the power button puts them to sleep (into standby mode) instead of shutting them down—even though many of them also have dedicated "sleep" buttons. Fortunately, a laptop's power button can be programmed to make the unit sleep or hibernate—or shut down.

In Vista, click *Start*, type **power**, and then click *Power Options*. In the left-hand sidebar, click *Choose what the power buttons do*. Two pull-down menus should appear alongside *When I press the power button*. One of these is for you to use when the laptop is running on battery power; the other, for when it's plugged in.

Choose the setting that you want for each scenario. Click *Save changes*, and you're done. Note that this screen also permits you to alter the functions for the sleep button (if your laptop has one) and for what happens when you close the laptop's lid. ●



SELECT 'OPTIMIZE FOR quick removal' from the Policies tab of your flash drive's Properties menu to eject drives without being hassled.

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MashUp*

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Zooming In on the Ideal Point-and-Shoot

FLIP-OUT TOUCHSCREEN

We'd take the big, bright AMOLED screen on Samsung's TL320 and double it up: One would flip out and rotate to aid overhead shots, and a touchscreen under it would preview edits and upload images.

What would you want?
Go to find.pcworld.com/62719 and brainstorm with us.

STYLE

The ultimate point-and-shoot would have to look good. We'd take the slick, slim, solid-color look of Canon's PowerShot SD780 IS—even the lens is the same color as the camera body—along with Canon's easy controls. All we'd add is a textured grip.

LENS

Think tilt-shifting pocket megazoom. Panasonic's compact Lumix DMC-ZS3 offers a 12X optical zoom lens with an ultrawide 25mm equivalent on the wide-angle end. We'd add the DSLR-grade Nikkor ED glass found in the Nikon Coolpix P90 and—if possible—make it a tilt-shift lens.

WI-FI

For instant uploads, we would want Wi-Fi as in Sony's Cyber-shot DSC-G3 and the Eye-Fi card. Better yet: 3G connectivity, so no hotspot is needed.

CAMERA FEATURES

How's this for an all-star team? The Fujifilm FinePix F200EXR's sensor and high-dynamic-range photos. The Casio Exilim EX-FC100's high-speed burst mode. AVCHD video recording, as in the Lumix DMC-ZS3. Gigs of internal storage, like Sony's Cyber-shot DSC-G3. And of course, both full manual and easy automatic controls, to appeal to any level of photographer.

PARTS LIST



Cyber-shot DSC-G3 | Sony
What we took: Wi-Fi connectivity, 4GB flash drive, huge touchscreen, in-camera features.
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FinePix F200EXR | Fujifilm
What we took: Extreme Super CCD EXR sensor and high-dynamic-range processing.
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Lumix DMC-ZS3 | Panasonic
What we took: 12X optical zoom, 25mm wide-angle lens, HD video recording in AVCHD format.
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PowerShot SD780 IS | Canon
What we took: Slim dimensions, slick looks, and Canon's easy-to-master controls.
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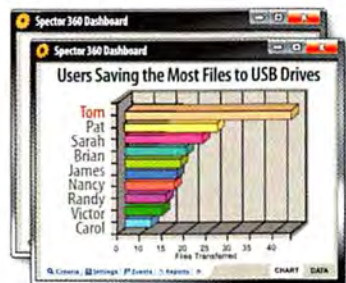
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- 2 Which employees spend the most time surfing web sites and see EXACTLY what they do on them.
- 3 What employees search for on Google, MSN, Yahoo and more.
- 4 Which employees are posting resumes on Monster.
- 5 Who is leaking company confidential information via chat, web mail or removable media.



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