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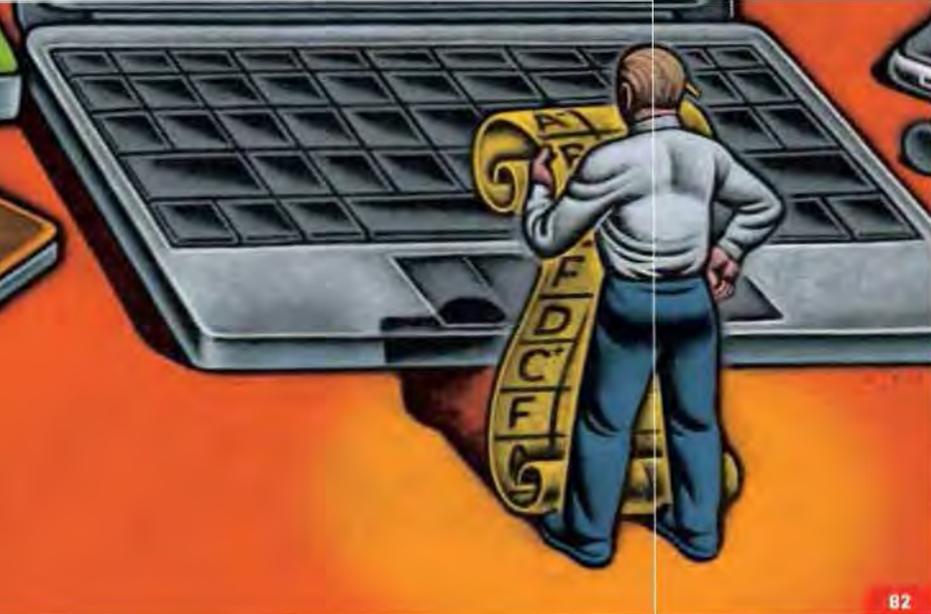
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In Support of a New Deal for High Tech

IT'S BAILOUT SEASON. Politicians are throwing out gaudy figures, lavishing once unfathomable sums on struggling U.S. industries and institutions. And in a move that harkens back to the Great Depression, president-elect Barack Obama is preparing to parcel out a cool 1.3 gazillion dollars for infrastructure upgrades. Primarily, that means writing checks for roads, bridges, sewer pipes, and the like, though Obama has cited the need to throw some money at Internet infrastructure as well.

I'm not going to debate the efficacy of cash infusions as a way to stimulate the economy; I'm an editor, not an economist. Besides, I hate potholes and sewage spills as much as the next guy. But as long as Washington has its checkbook open, let me put in a plug: The Internet should get a hefty allocation, since cash for high tech generally delivers more bang for the buck than money spent elsewhere.

After all, in the last century America invested heavily in tech and rode its achievements to the top of the inter-continental food chain. Groundbreak-

Our new president wants to jump-start the economy by funding infrastructure. Let's hope that includes cash for the Internet.

ing work in electrical engineering, transportation, biosciences, defense tech, and, especially, information technology drove meteoric growth. So, when the "global economy" became the "Internet economy" (thanks for all the seed money, Uncle Sam!), the United States found itself on top of the world.

Now It's the U.S. Falling Behind

Any advantage we once had is gone. Kaput. According to the Organisation for Economic Co-operation and Development (OECD), the U.S. is 15th in broadband penetration, trailing much of Europe, as well as South Korea and Canada (see find.pcworld.com/62095). Our 19th-place finish in broadband performance is even more pathetic. Our average download speed of 8.9 megabits per second is way behind Japan's (the champ at 93.7 mbps), not to mention those of tech powerhouses like New Zealand and Luxembourg. Our only top-ten finish: eighth most expensive.

The cellular picture is no better.

While Australia's telecom giant, Telstra, has just announced that it will be pushing 3G network speeds to 21 mbps, users in the good old U.S. are lucky to get one-tenth of that speed.

Second-class, overpriced connectivity is an inconvenience for everyday Americans; for U.S. businesses, however, it's a major economic drag, hampering our ability to compete globally. Blazing broadband opens the door to both technical innovation and new business ideas. Given the right infrastructure, a company might hit the jackpot by, say, developing new types of videoconferencing over broadband. Ditto for entrepreneurs with interactive digital content or mobile e-commerce offerings. Without a fully wired customer base, though, they're out of luck.

So what might a tech infrastructure buildout look like? Much like the 1936 Rural Electrification Act, it would need to concentrate on the "last mile." In this case, that would require running fiber-optic cable, or at least DSL, to every home. Our wireless infrastructure could use some TLC as well, which is why the U.S. should pony up for new cell towers, with multiple cells on each. The business issues would have to be resolved (lease, rental, a co-ownership agreement?), but that would just mean more work for the lawyers. The end result: Cellular speed and reliability would improve dramatically.

Meanwhile, if there's anything left after the Feds have checked under the cushions, I have one last, very partial, suggestion: How about a little cash for all the tech editors out there? ●

Steve Fox is editorial director of PC World.

IF YOU COULD DESIGN YOUR OWN LAPTOP...

OUR NEW BACK page, *MashUp*, features a laptop you can't buy, although you may wish you could. The idea behind the column is to create a mock-up of a mythical product pieced together from features found in real-world devices. For this month's installment, Senior Associate Editor Danny Allen worked with Bryan Christie Design to create a dream desktop replacement, complete with sliding dual screens and a full assortment of bells and whistles. Despite its fantastical nature, this Frankenlaptop is grounded in reality, all the way down to a "parts list" of the products that inspired its design. Like it? Hate it? Did we leave out a key feature? Tell us what you think at find.pcworld.com/62065. With luck, some manufacturer will use this page as a blueprint for its next laptop. If that happens, you can tell people you saw it here first.



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Articles on operating systems—such as the forthcoming Windows 7 (see last month's cover story and December's *Forward* preview) always seem to bring out the partisans. Do you have strong feelings about your current OS? Tell us about them by posting your comments at forums.pcworld.com.

Windows and Other OSs

We gave Vista a try for a year on a high-end multimedia PC. To say it was a debacle would be an understatement. I have recently switched the family to three MacBooks. The hassle factor is close to zero, and everyone is much happier. I am running XP (which I like) on a VMWare emulator on one MacBook for the small number of applications that don't yet have Mac variants. Still the same old Windows hassles there, but at least it isn't Vista! I'll consider a Microsoft operating system sometime in the distant future, but definitely not Windows 7 ["Microsoft Sets the Stage for Windows 7," December]. For the next few years, we're sticking with what works: Mac OS X.

Rick Cunningham, Oro Valley, Arizona

A few months ago I went from a dual-boot Vista/Ubuntu PC to a single boot of Linux Mint. I was a little unhappy at first that I couldn't go to a Microsoft boot and use some of my software. This forced me to discover Wine, the Windows emulator. My computer works better for me now than my dual-boot arrangement ever did. I can listen to my iPod music with Amarok, use Thunderbird to replace Outlook entirely, and

use Wine for playing with my BASIC Stamp. Open source is definitely our future, and I'm completely happy with my ability to say "I don't do Windows."

Jeremiah Grymstone, Tucson, Arizona

When I walk into a restaurant, I ask for a menu, and I don't expect pictures; I expect text, preferably in English, and an orderly outline of what is available. When I open an application on a computer, I expect a menu that lets me see my options. I don't want to have to figure out what task is performed when I click on an icon or picture. I want to read a menu just as I read a book. So I completely disagree with Microsoft's move to a non-menu-driven interface.

If I dropped my father in front of a Windows-based computer and a Mac, the first thing he would notice is a button that says Start. He would say, "Guess that must mean I start here?" (Although the button should've said Menu right from the start, no pun intended.) If my father then turned to the Mac, he'd say, "Looks pretty, but what do I do now?" Removing a menu is like removing my instructions. Long live menu-driven applications!

John E. Becker

President, Coral Springs Software

How Much Ink Is Left?

Regarding "How Much Ink Is Left in That Cartridge?" [*Forward*, January], I am not surprised at your results, since printer makers get the bulk of their money from ink refills rather than sales of the printer. But [issuing premature warnings or completely stopping printing] simply ought to be against the law. Manufacturers should be legally bound to disclose fully how much ink is left, to use more-accurate low-ink warnings, and to set a standard for the amount of ink [left unused] "to ensure quality."

We should also have some way to accumulate "empties" and recycle the ink into another cartridge.

Toulinwook, PCWorld.com comments

The article goes a step further than previous comparisons—but let's not stop there. Let's have test-based purchasing advice for the consumer! Establish a standard testing regime with the printer manufacturers, and publish the results.

Allan Thompson, PCWorld.com comments

About 'Vista SP2: Six Things You Need to Know' [find.pcworld.com/62020]: It looks like Vista SP2 will make Vista work much better. Thanks for the great article; I can hardly wait.

Adama, PCWorld.com comments

Seems the cartridges are, at best, designed to waste ink intentionally. Page yields aside, what kind of ecological impact is all this unused "buffer" ink having? Waste is waste.

Ambular, PCWorld.com comments

Future Tech: It's Coming Fast

The stuff in December's "Future Tech" sounds good. If you guys are right about even half of those things, you've made me a very ecstatic computer >>

A REVOLUTIONARY APPROACH TO INTERNET SECURITY.

The volume of malicious attacks we're facing online is growing at an astounding rate. And the nature of these attacks is changing, too. Now we're vulnerable when we go to places we trust — like Facebook, MySpace and Wikipedia. Cybercriminals have broken the code and are using those things we enjoy doing online against us. And there's no chance that this assault will slow down any time soon.

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PCW Forum

enthusiast. My prediction: Personal tech will be the field to be in for the next century—or so I hope.

I think that my favorite concept is the GPU/CPU hybrid. GPUs today are big, clunky, and cost-prohibitive for people who are on a budget but are looking for a gamer rig. Besides [the technology's potential for] conserving resources, imagine the advances in alternate-reality games. And 32-core cards could make *Crysis* look like a child's drawing on a refrigerator. It's not as far away as I once thought it was.

HeroufAvalon, PCWorld.com comments

Simpler Is Better

I know that most of your readers and all of your advertisers are into new everything. Your December issue is all about what's still coming. But I support business users—and I don't mean CEOs. The computers I install and service are almost all for clerks and accountants. They don't edit movies at work; if they get caught playing *Star Wars* or shopping online, they're gone.

These highly skilled clerks use one or two third-party applications plus Microsoft Word and Excel all day long. They handle accounting, schedule people (which can be quite involved), or order travel reservations. Their business is complicated, but not their PCs.

So far, almost all are still on Windows XP. It is easier to use, it needs less RAM, and most of these people get along fine with a 40GB hard drive. They buy PCs made to order from a local shop for less than \$300 each. Millions of such users are in small businesses and in the departments of every major corporation in the world. Microsoft either forgot them or never understood what they did.

There is a certain beauty in simplicity.
Cosmo Barone, Garnet Valley, Pennsylvania

Voice Recognition Recognized

Aoife M. McEvoy's article on Dragon NaturallySpeaking 10 in the December issue [*Reviews & Rankings*] is right on. I purchased the program, and love it. The application is especially good for

people who have some difficulty in spelling. It's a great program that I couldn't be more pleased with. I composed this e-mail message using the program, and it worked perfectly.

Blair LeBlanc, Saint John, New Brunswick

Cell-Phone Driving

Regarding your online story that even headset (hands-free) cell phones distract drivers [Editor's note: See *Consumer Watch*, page 32]: I think we're learning that talking to someone in another location takes a lot more brainpower than we'd realized. It didn't matter so much when we were tethered to a fixed phone box. But communicating with someone you can't see takes concentration. You have to listen harder and give more context. And the other party can't see when you turn your head to check the next lane, or when the car in front of you brakes, so they're innocently chatting away at inopportune moments.

If talking on a cell phone impairs you as much as being drunk, it's worth putting legal limits on DWY (driving while yakking). I've been guilty of DWY sometimes, but if it were recognized in law as the dangerous practice that it is, maybe people like me would forgo it; after all, we got along fine without cell phones in the car for years.

huttarl, PCWorld.com comments

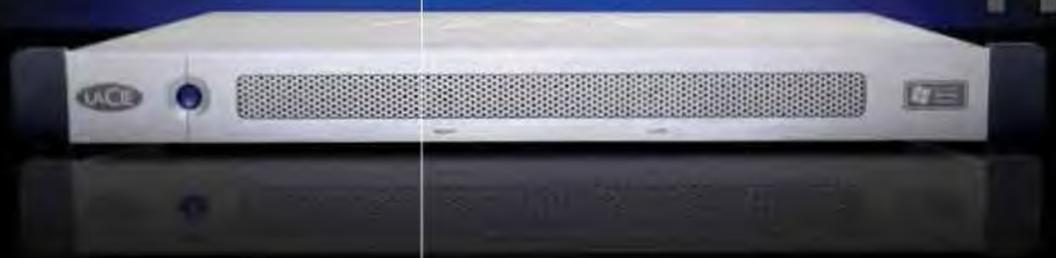
Cookies Folder Shortcut

Regarding Lincoln Spector's suggestion on opening the cookies folder in Vista (*Answer Line*, December): An easier solution is simply to type the expression `shell:cookies` in Start Search or in the Run dialog box. Similarly, you can find the sendto folder with `shell:sendto`.

*Mark Justice Hinton
Albuquerque, New Mexico*

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Forward

Hands-On With Vista Service Pack 2 Beta

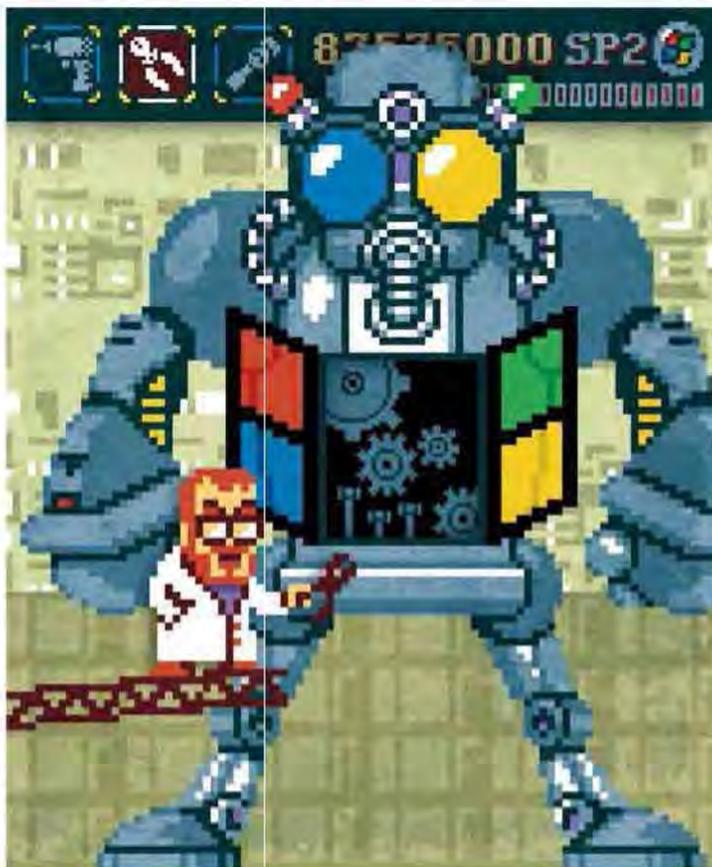
BY NICK MEDIATI

MICROSOFT ISSUED the first beta version of Windows Vista Service Pack 2 in the middle of December, with promises that it will release the final SP2 in the first half of 2009. You can install the beta on any Vista PC now, but as with any preproduction software—especially an operating system—you will have to weigh the potential for obtaining fixes against the possibility of introducing new problems.

Service Pack 2 promises some significant improvements, including adding the ability to record data onto Blu-ray discs (previously possible only through third-party software), as well as supporting the exFAT file system, which enables your computer to handle larger files than the old FAT32 and which lets you use UTC time stamps so that you can synchronize files across different time zones.

Service Pack 2 will also bundle Bluetooth 2.1, which

We put an early beta of Windows Vista SP2 through its paces and discovered that it contains several significant upgrades, though some will seem subtle to most users.



lowers Bluetooth power consumption and introduces improved device pairing, along with support for the Windows Connect Now (WCN) protocol for simpler Wi-Fi connections and faster

resumption of connections. In addition, the service pack will include Windows Search Engine 4, which speeds up background indexing (for faster search results), in part due to its type-ahead feature.

All three of those features are already available as downloads for Vista (and in the case of Search 4, for XP, too). Microsoft is including them with Service Pack 2 because the company wants SP2 to contain all of the updates introduced since Vista SP1 shipped, partly to ensure that users get all the security patches, and partly to give IT staffers a complete image that they can install on PCs without then having to install multiple updates.

Among the improvements in SP2 are better power-management efficiency and the usual eradication of various system bugs. For a more complete list of the pack's proposed improvements, see find.pcworld.com/62097.

We installed the beta software on an HP laptop; following are some of our impressions from installing and running it.

Before You Install

If you aren't already running Vista Service Pack 1, you can't install SP2 Beta. So if

It's not too late to buy a new computer that runs Windows XP: Dell will sell you an Inspiron with the classic OS for \$150 more than the same system with Vista. For details, see find.pcworld.com/62096.

you're running Vista and have not yet installed SP1, you will need to do so before installing SP2 Beta. It would be convenient if Microsoft provided a combo update so that Vista users could install SP2 Beta

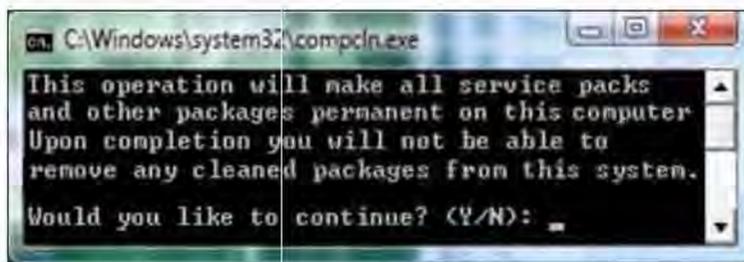
regardless of whether they had SP1, but I imagine that such a package would be a ridiculously huge download.

Microsoft gives you the choice of installing the beta by using a stand-alone installer, an ISO disk image, or Windows Update. To install it from the last option, you must first download and install a script so that Windows Update can "see" SP2 Beta, so to speak. For my testing, I used the stand-alone 32-bit installer, a 388MB file (which includes the beta of Windows Server 2008 SP2 as well).

Installing the beta is relatively painless. The installer states that the process can take over an hour, with multiple restarts; but on my test machine, SP2 Beta installed in about half an hour with only one restart.

It took me two tries to get the software to install, however. On the first attempt, I received an error a few minutes in, right after the installer tried to create a restore point; it informed me that 'a system reboot is required to roll back changes made'.

I wasn't entirely sure what changes needed rolling back, but I went ahead and restarted anyway (so I guess you can say that technically I restarted twice while installing the beta). After rebooting,



YOU CAN USE the Service Pack Cleanup Tool (bundled with Vista SP2 Beta) to save hard-drive space—but if you use it, you can't revert to SP1 if you encounter problems.

Vista installed a couple of earlier system updates, so I wonder whether the updates that were ready to install had something to do with the error. In any event, the second time was the charm.

New Service Pack Cleanup Tool

Bundled with SP2 Beta is the so-called Service Pack Cleanup Tool, also known as `compcln.exe`. This little utility is designed to remove older versions of system files that code in Service Pack 2 will replace, saving you some valuable hard-disk space.

A caveat about the tool: Once it has done its thing, there's no going back. You can't roll back to Service Pack 1 without erasing your hard drive, so make sure you really want to stay with Service Pack 2 Beta beforehand.

Prior to running the cleanup tool, I wrote down my test computer's free hard-disk space: 44.4GB. After I ran the cleanup tool, the drive's free space increased slightly, to 44.8GB. Over the next few minutes, though, available space decreased slightly, to 43.9GB.

To rule out the possibility that virtual memory might be influencing the free space, I restarted and noted the space again. It was 44.0GB—still less than where the hard

drive stood before I ran the cleanup utility. After a second restart of the PC, free space stood at 45.0GB.

Keep in mind, however, that your space savings may depend on how long you've had Vista installed on your PC. Though I saw merely a small increase in free space,

for example, one reader at PCWorld.com reported regaining over 10GB. If you installed Vista on your PC a year ago, you may have more previous versions of system files than if you installed it a month ago.

Possible Performance Improvements

Past tests have shown Vista to be at a disadvantage to Windows XP in most performance measures, including our own WorldBench 6 benchmark (see find.pcworld.com/62094 for the test >>>

PLUGGED IN ALAN STAFFORD



PROTECT OUR TUBES! Congressional study suggests creating a National Office for Cyberspace to regulate the Internet. First priority: Put a stop to Rickrolling.



WAL-MART GETS IPHONE: And undercuts Apple by \$2. The new "Save Money, Live Better" slogan makes good sense; if I buy 10 billion iPhones, I can live like a king.



I'M RUBBER, YOU'RE... Microsoft says it will reduce the amount of time it holds on to users' search records, if Google does too. Google says it will—if Microsoft will.



XP SUPPLY, DEMAND: Dell now adds a \$150 surcharge to install Windows XP on an Inspiron. I look at it as Dell (rather, Microsoft) paying me \$150 to run Vista.



BLACKBERRY STORM CLOUDS: The reviewers hate it; angry Blackheads cry bias, riot in the streets. Or were they Macheads mourning Apple skipping Expo?



NEW ANDROID PHONES: Samsung and Sony Ericsson are said to be working on handsets that run Google's OS. Is this the beginning of the end for Windows Mobile?



results). Consequently, performance continues to be a major concern of many Windows Vista users.

While Microsoft promises little in the way of performance enhancements in SP2, *InfoWorld* (one of *PC World*'s sibling publications) conducted preliminary tests of SP2 that showed improvements in Microsoft Office performance after the upgrade (find.pcworld.com/62093).

That speed boost in Office was very slight, and of course it's far too early right now to make a final determination of whether SP2 really does provide a bump in the OS's performance. But I find it encouraging to hear that the new service pack at least has the potential to make Vista run a little more smoothly than previous versions have.

More-Efficient Sidebar

Microsoft states that Sidebar gadgets will use fewer system resources, too. In my nonscientific testing, I monitored the Sidebar's memory use on two PCs side-by-side: the HP laptop running Vista SP2 Beta and a Dell OptiPlex desktop running Vista SP1, both with 2GB of system memory.

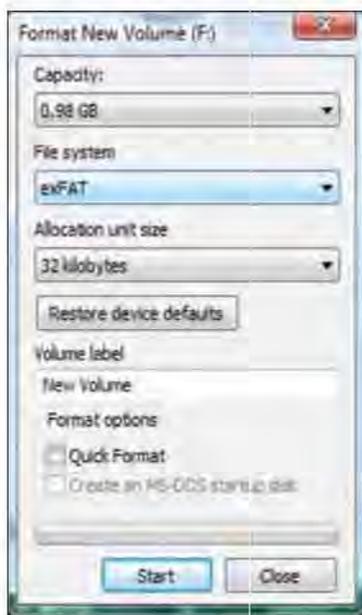
To ensure that my comparison was as fair as possible, I removed all Sidebar gadgets, restarted, and then added the same set of gadgets on both systems. I allowed the two PCs to run for a few hours, during which time I performed the same tasks with the gadgets on both machines, adding some, removing some,



REFLECTING ITS SUBTLE improvements, Vista SP2's only indication that it has been installed comes in one small line in the About screen.

changing settings, and poking at them every so often.

In the end, SP2 Beta did show an improvement, though again it was minor. At first SP2 Beta's Sidebar actually used slightly more memory than SP1's, but eventually SP2 Beta gained a small advantage. Over an afternoon, SP2 Beta's Sidebar used maybe two or three fewer megabytes of memory than its SP1 counterpart.



VISTA SP2'S SUPPORT for the exFAT file system lets you use UTC time stamps to synchronize files across time zones.

Naturally, the difference you see on your system will depend on which gadgets you have open. And if you have your computer running for days at a time, the difference may be more obvious, but in my relatively short-term casual tests, it was slim.

Blu-Ray Burning

New to Vista SP2 Beta is the ability to burn Blu-ray discs without any additional software. Armed with a LaCie external USB Blu-ray burner and 15.5GB of data, I tried out this new Windows feature, too.

In most respects, burning a Blu-ray disc is virtually identical to burning an ordinary CD or DVD: You pop in a disc, name it, decide on the formatting options you want, add files, and burn it.

A note about formatting: Vista gives you the option of formatting a Blu-ray disc—or a CD or DVD, for that matter—as a “mastered” disc (once you record on it, the files are there permanently) or as a Live File System disc (which remains writable).

In theory the Live File System option should not be available for BD-R (recordable) discs, which can be written to only once, and should be presented only for BD-RE (read/erase) discs. But in my trials, I found that Vista SP2 Beta tried to make Live File System an option for BD-R discs, too. That seems to be a bug, and we hope it will be fixed by the time SP2 goes final.

Windows burned the disc just fine, though it took quite a while, requiring well over an hour to burn my 15.5GB of test data. And after burning each Blu-ray disc, Vista presented me with a message saying “There was an error burning the disc. The disc might no longer be usable.” Fortunately, in each case Windows could read the burned disc without any apparent difficulty.

SP2 Beta: Hold Off, or Go for It?

In all, Vista SP2 appears to be more of a tune-up than a feature-oriented release. For the most part, the fixes and new additions are under the hood. If your biggest frustration is with how Vista works in general, SP2 likely won't quell your annoyance.

Though I haven't encountered any major bugs—and I have yet to see any reports of serious problems, as of this writing—you may want to play it safe and hold off installing SP2 Beta on your main machine. That said, Beta 2 unquestionably makes for an improved Vista experience, and SP2 should be a must-have upgrade when its final version debuts.

Android Devices Likely From Asus, Sony Ericsson

ASUS, SONY ERICSSON, and Toshiba could launch, as soon as next summer, less-expensive cell phones based on Google's Android mobile operating system. Having joined other large handset manufacturers (such as LG, Motorola, and Samsung) in the Open Handset Alliance, the three are prepared to deploy Android-based devices within the coming year.

In 2008 Sony Ericsson had no prominent smart phone offerings—that is, unless you

New cellular phones powered by Google's mobile operating system could arrive by summer, giving consumers smarter handset choices.

count the Xperia 1, which the company finally released after teaser pictures and specs had appeared online for almost a year. And now that the Windows Mobile-powered phone is out, not many people are rushing to



purchase it. For their part, both Asus and Toshiba released Windows Mobile devices of their own, too; and aside from the powerful Asus P565, they didn't see much success either.

Clearly, the common denominator underlying the three phone makers' tribulations is Windows Mobile. A majority of users seem to be falling out of love with Microsoft's mobile operating system, driving down sales of handsets based on it (for more on cell phone OSs, see page 54).

The current economic climate likely also factored into the three companies' decision to join the alliance. For product developers,

Google's Android is a free alternative to Windows Mobile. Because of Android's open-source nature, Google doesn't require royalties from phone manufacturers that use Android on their handsets. As a result, phone makers will be able to produce cheaper smart phones and sell more devices—an attractive benefit at any time, but especially during this market downturn.

Of course, the companies' efforts mean that consumers will have more smart-phone choices. Currently the only Android phone available is the T-Mobile G1 (find.pcworld.com/62099), which has a promising future. With more phone companies entering the Android camp, however, we will see more diversity—for instance, Sony Ericsson could launch a multimedia-oriented phone, something akin to an Android Walkman, while Toshiba could target business users with its new handsets.

—Daniel Ionescu

Make Some Extra Bucks: Sell Your Unwanted MP3s

YOU MAY HAVE sold off unwanted CDs and DVDs at a garage sale or at its online equivalent, eBay. Now, you can sell off unwanted MP3s.

A Web startup called Bopaboo.com has created a digital marketplace where you can easily set up your own store for music downloads. You simply upload the music you want to sell and set a price. Bopaboo visitors can then browse through your offerings and purchase songs.

The only catch: No music wrapped in DRM (digital rights management) technology is allowed. For that reason you won't be able to sell any music files that you purchased from Apple's iTunes Music Store, unless you bought unprotected iTunes Plus songs. Bopaboo keeps 20 percent of the take in exchange for the service.

A big question mark looms

over the legality of Bopaboo's system. How will the service prevent people from trying to resell the same songs over and over? Bopaboo CEO Alex Meshkin says that the company has technology in place to disallow



users from selling a song more than once. This method apparently takes a digital fingerprint of every uploaded file—an algorithm similar to the one used in Gracenote's song identification.

We've yet to see whether Bopaboo's "Stop illegally sharing and start legally selling!" tagline will insulate the company from being sued into oblivion by major recording labels or the watchdog RIAA. Still, the service sounds like a good idea.

—Daniel Ionescu

CHIPS

32nm Intel CPUs on Schedule

INTEL HAS ANNOUNCED that it has completed development work on manufacturing technology that will allow it to produce chips with circuitry measuring a scant 32 nanometers—or a billionth of a meter—in size, by the fourth quarter of 2009.

The manufacturing development also means that Intel will—for the fourth consecutive time—match its "tick-tock" strategy, a target of introducing an entirely new microprocessor architecture alternating with new production technology roughly every 12 months.

—Dan Nystedt



Facebook Connect Appears Bound for Success

FACEBOOK LAUNCHED its Web-wide sign-on system, Facebook Connect, in early December. The added features have the potential to simplify and enrich social networking in a revolutionary way. Here's a look at what it does and how it works.

The Comparisons

Facebook Connect allows you to use your Facebook ID and password to sign in to third-party sites. In that regard it's kind of like OpenID, another Web-wide sign-on protocol, but Facebook's implementation of the idea has a far greater chance to take off on a large scale.

The reason? The system is easy to use, understand, and control—and users won't have to perform any extra work to find it or make it function. Of course OpenID lets you enter a single user name and password to sign on to numerous sites, too—but just ask typical Internet surfers whether they know what it is or how it's supposed to be used.

Facebook Connect, on the other hand, has visibility on its side. As the most visited social network worldwide, according to ComScore traffic measurement data, Facebook has a massive audience already connected and ready to roll. And with 100-plus partners expected to be on board within Connect's first weeks, that audience will have plenty of places to go. Sites such as CBS, CNN, and CitySearch have signed up; My.BarackObama.com is said to be implementing the

We examined Facebook's latest killer feature, Facebook Connect, and what the Web sign-on system can do for you. It looks like a winner.

system, as well. And countless other Web sites and blogs are certain to follow.

Two-Way Connection

So what can Facebook Connect do for you? Let's say you're visiting CitySearch. Rather than having to create a CitySearch account, you click the Facebook logo at the top of the page. If you're already signed in to Face-

The content shows up on Facebook as if it were any other Wall posting. The full extent of your activity appears, too, along with a link that people can follow.

Blogs, Digg, and More

Facebook Connect can also let you link any blog or Web site posting to your profile. I tested it using TechCrunch, which has the Connect sys-



THROUGH FACEBOOK CONNECT you can easily sign in to other Web sites, and link your activity there with your Facebook profile.

book, the site picks up your ID and asks for your privacy preferences, and you're in.

Afterward, a basic version of your Facebook profile appears, with your name and photo displayed on screen automatically. You can see your friends' activity, too.

But the real power for social Web users comes in the interaction. You can, for example, post a restaurant review on CitySearch, and—if you choose—you can have the review post to your Facebook Wall at the same time.

tem set up. After a click on the site's Facebook logo, I was signed in. Then I could leave a comment with everything from my Facebook identity in place—no need to enter an e-mail address, upload a picture, or deal with any other hassles. And as with the CitySearch scenario, I could opt to have the comment show on my Facebook profile, as well. The setup will help users' social networks expand far past a single site, and in the simplest possible way.

Another upcoming addition to the roster of partners that could prove useful is Digg. Once Digg adds Facebook Connect—which is expected to happen around the time you read this—you'll be able to sign in with one click and vote stories up using your Facebook ID.

Discovery Channel, Hulu, and the Web site of the *San Francisco Chronicle* are implementing the system, as well.

The system does bring up some privacy issues, but you have the power to address them. If you don't want your data shared with a particular site, don't sign up with it.

Or if you want to use your Facebook account at a site but not have the information relayed to your profile, just check the appropriate box when you sign on initially. It's a major shift from Facebook's failed Beacon experiment, and it's one area where Facebook Connect has a distinct advantage over Google Friend Connect, which launched the same day as Facebook's feature.

So far, Facebook says, the sites involved in early testing have reported a 50 percent jump in user engagement. For people who are really into social networking and use Facebook—and let's be honest, that's a massive number of folks nowadays—Facebook Connect will offer a powerful new layer of interaction across the Web. It may not be the first system of its sort, but it could be the first one to make a significant splash.

—JR Raphael

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Used PCs Sought for Copies of Windows XP

SOME USED PCs are being purchased not for the hardware but because people want to get their hands on a copy of Windows XP, according to industry analysts and hardware suppliers.

Many computers have been disposed of because Windows Vista has created a demand for systems with greater hardware capabilities, a Gartner study concludes. In 2007, about 197 million PCs were discarded, of which 44 percent were put up for sale secondhand.

Many consumers and businesses prefer used PCs loaded with XP because they still have older copies of applica-

tions that typically don't run properly on newer Vista-based PCs, says David Daoud, research manager at IDC. Notably, Intel announced earlier in 2008 that XP would be the dominant OS for most of its employees for the foreseeable future.

"The other main reason we see people staying with XP is for standardization. Having five PCs that are Vista and five [that are] XP can create training issues and compatibility issues," says Josh Kaplan, president of PC services provider Rescuecom.

Buying a used PC is an inexpensive way to secure



an XP license, Daoud says. The other alternative would be to buy a new business-class computer with Vista and then downgrade it to XP, which can be expensive.

Though lower prices make used PCs attractive, shoppers must ensure that they

are buying hardware that carries a genuine XP license. Many resellers are bundling illegitimate copies of XP so that they can sell their used PCs at lower prices, says Charles Smulders, coauthor of Gartner's study.

Microsoft usually provides a certificate of authenticity for display on branded PC hardware, which helps users identify a genuine copy of XP. The certificate can be on or inside the hardware, and on Windows CDs. Users can also validate Windows licenses on Microsoft's Web site.

—Agam Shah

BETA WATCH EDWARD N. ALBRO



Freckle: Dead-Simple Time Tracking

All contractors love to get paid, but few like keeping track of their hours so that they can bill accurately. Freckle is an easy-to-use online service for tracking work. Entering data requires filling just three boxes: the first for the amount of time you worked, the second for the client or project name, and the third for tags. Those tags can identify the job number, a description of the work, or anything you like. Freckle, which has a bare-bones free option and paid accounts starting at \$24 per month, can quickly tell you how much time each member of your company has spent working on a specific project. One big problem: Freckle lacks a feature that lets you enter the time you start a project and the time you finish it. letsfreckle.com

Qitera: Full-Page Bookmarks

Some folks are word people, while others do better with pictures. If you're of a visual bent, Qitera may be the online bookmarking service for you. Similar to Delicious and so many other services, Qitera gives you a browser button for saving pages that you come across while surfing. But when you go to your Qitera page, you can look at those links as a gallery of full-size images of Web pages, instead of as a simple list of text links. You can also comment on pages and share them with friends. The free service looks useful, though sometimes it represents pages with large blank spots where it apparently couldn't capture the data presented. qitera.com



QITERA, AN ONLINE bookmarking service, allows you to see your Web bookmarks in a format similar to iTunes' Cover Flow.

Clerk Dogs: Video Recommendations

When Netflix recommends a movie, you may like it or hate it, but you can't change it. The free Clerk Dogs is more interactive. Put in a movie, and Clerk Dogs lists others with the same characteristics. Don't like the suggestion? Click *Mash It*, and tweak the traits of your target movie. Push down the 'Crude Humor' slider, and the pick changes from *Zoolander* to *The Money Pit*. Turn up the romance, and the choice becomes a DVD of the *Friends* TV series. The database seems limited for now, but it's fun to play with. clerkdogs.com

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Is Google a 'Bandwidth Hog'?

AN ANALYST WITH ties to the telecom industry claims that Google uses more bandwidth than it pays for.

"It is ironic that Google, the largest user of Internet capacity, pays the least relatively to fund the Internet's cost," wrote Scott Cleland, president of research firm Precursor, in a report.

Richard Whitt, Google's Washington telecom and media counsel, noted that since Cleland's firm is paid by phone and cable companies, he is not a neutral party. "To say that Google somehow 'uses' consumers' home broadband connections shows a fundamental misunderstanding of how the Internet actually works," Whitt wrote in a rebuttal.

Google, Microsoft, and other Internet site operators oppose broadband providers such as AT&T and Verizon, which want to offer faster network performance to companies that pay more.

"We don't fault Mr. Cleland for trying to do his job," wrote Whitt. "But it's unfortunate that the phone and cable companies funding his work would rather launch poorly researched broadsides than help solve consumers' problems."

—Sharon Gaudin

GEEKTECH

How to Fix Your Display's Pesky Stuck Pixel

HERE'S A HOT tip that might just breathe new life into an old LCD monitor that has seen better days. I recently ordered a new LCD to complement my new gaming desktop. When it arrived, I went through the ritual of assembly, tearing off clingy plastic pieces and covers of crinkly Styrofoam wrap. A few minutes later, the stand assembled and the cables properly seated, I pressed the power switch and watched my new homebrew rig crunch through its gray-black syntactic startup routines.

And then I spotted it, slightly north of center and to the right: a stuck pixel.

One tiny little blip of light, a stubborn wink in a sea of black—and for me, a total deal-breaker. When you realize you have one on your shiny new monitor, it's like a kick to the gut, accompanied by a twinge of shame at caring so much about something that's so physically inconsequential.

Except it isn't, at least not if you're as visually obsessive as I am. Though stuck pixels certainly aren't dead pixels (which can't be fixed), I still can't

see past them. They're like gouges in a Monet, but worse. Paintings (generally speaking) don't move. Images on LCDs do, and that motion draws even more attention to these tiny, mocking points of unwavering brightness. Try playing games like *Doom 3* with one, on those levels where you're hunkered down in the dark behind steel pipes somewhere. You'll notice it then—and once you've seen it, it's like a scab that you just can't seem to leave alone.

In the past, I'd have just boxed up the LCD (or even the laptop—this has happened to me on at least two MacBook's) and returned it. That remains your best option if the LCD is still under warranty, or covered by a store's return policy. But this time I was feeling adventurous: I hit the Web and ended up reading a "How to Fix a

Before returning a pixel-speckled LCD screen, consider what a soft cloth and your fingertip can do.

Stuck Pixel on an LCD Monitor" guide posted on WikiHow (find.pcworld.com/82081). I had heard about "massaging" a stuck pixel to coax it to start functioning, but the trick had always sounded like voodoo to me. Until now.

The Pressure Method

Following along, I tried a free browser-based Java applet called JScreenFix (www.jscreenfix.com), which, according to its site, "repairs stuck pixels through rapid, repetitive operation and resonance." After 10 minutes of running the applet, and another couple of seconds perform-

ing an on-off screen massage (the "Pressure Method"), I made my screen stuck-pixel-free.

Having placed a soft cloth on my finger, I pressed down moderately on the afflicted area while powering the screen off and on, and presto! Good-bye, little red



JSCREENFIX DELUXE'S PIXEL-ISOLATION tool promises to help unstick pixels; grab a fully functional trial online.

dot of death. In the event that JScreenFix works for you before you have to "get physical," you might feel so thankful that you'd pay for the deluxe version, which claims to let you target problem areas while alleviating blotchy burn-in.

WikiHow's alternative "Tapping Method" involves displaying a black image on screen (making the stuck pixel easy to see) while gently tapping on the stuck pixel just enough to see a quick white glow after contact.

One caution: The fix I discovered has the potential to cause *more* stuck pixels, so consider it best attempted as a last resort. But it isn't voodoo after all. Just a bit of patience and a little hands-on fiddling, and you *could* make your LCD screen as good as it was the day you bought it.

—Matt Peckham

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The Strangest Sights in Second Life

DIMENSION-TRAVELING slugs with hideous fangs. Walk-through ceilings. Really bad hair. Welcome to Second Life, by far the most popular virtual world. I went

in search of the strange and unexpected in Second Life, and I wasn't disappointed.

People do some bizarre things in Second Life: They build avant-garde structures

and environments, they re-make themselves with odd faces (or bodies, or clothing), they fly, they get stuck in walls and fall through floors, they role-play, they

switch genders, they play pranks. They do what they can't do in real life. Here are some of the strangest visuals that I encountered.

—Mark Sullivan ●



ROSIE BARTHELMESS (silver shorts) and her buddy Isadora Graves (pants) teleport; apparently teleportation doesn't always work right.



HERE'S SECOND LIFER Lilith Ivory being devoured by a dimension-traveling slug with fangs. Seems like a bad way to start the day.



ZOMBIES RAIN DOWN, seeking their favorite food. Second Life avatars have no brains to speak of, though, so the undead went hungry.



YOU CAN WALK around at the bottom of icy lakes, such as this one in Koreshan Pointe Amusement Park. That's a sea monster over there.



ROSIE SIMCA SAYS, "I found a neat nail salon, and thought it a good idea to get my nails done. Then this creature comes out of nowhere."



THIS VISION BY SL artist AM Radio is an installation called "Beneath the Tree That Died." A mysterious telegram lies on the road.

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Consumer Watch

Stop Your Electronics' 'Vampire Power' Waste

BY JR RAPHAEL

HERE'S AN OFFER that's too good to refuse: Score an extra couple of hundred bucks, help the environment—and do so while barely lifting a finger in the process. Interested?

The secret lies in an often overlooked but easily correctable problem. Put simply, you're paying electric bills for stuff you aren't using. As long as they're plugged in, your PCs, peripherals, and home electronics eat up energy—and in no small amount, either—when you think they're turned off.

Your In-House Dracula

In industry parlance, this phenomenon is often called "vampire energy loss," and it's easy to see why. Like the blood-drinking creatures of the night, your devices are sucking down power while you sleep—albeit without the bite marks.

"Pretty much anything that's plugged in these days is drawing some current," says Mark Bernstein, managing director of the University of Southern California's Energy Institute.

Experts estimate that this standby energy drain accounts for anywhere from 5 to 10 percent of an average home's annual power usage. Convert that percentage into dollars, and the price tag comes out to around \$4 billion every year in wasted spending across the United States, the U.S. Department of Energy estimates. For most families, that means a minimum of \$130 a year—more than some people spend on a typical month's electric bill.

I'll be the first to admit that I'm an energy hog when it comes to electronics. So I enlisted the best energy gurus—

and yes, the best energy gadgets—to help assess my home's energy vampires. The first challenge: finding the culprits.

"There's no way for consumers to even know which devices draw a lot of power while off," points out Alan Meier, a senior scientist with the Lawrence Berkeley National Laboratory's Energy Analysis Department (LBNL developed and supports

the useful Home Energy Saver Web site, hes.lbl.gov). "They look entirely the same."

That's where P3 International's Kill A Watt EZ (find.pcworld.com/61983) can help. Available online and in home repair stores for \$40 to \$50, the device shows how much energy an item is consuming and how much it's costing you. My personal household survey started with remote controls. I have ten of them, no less, which was the first sign of trouble.

"Any time you see a remote, that means there's some standby power consumption [by the device or devices it controls]," Meier says. The worst offender was a plasma TV, which, the Energy Department estimates, burns through a whopping \$165 a year in standby power consumption alone. But I

identified several other remote-controlled power wasters as well, including my cable box (\$10.33 a year), my older CRT TV set (\$5.16 a year), and my VCR (\$3.10 a year).

And these were only the first wave of culprits. Here's a list of other energy drainers that we discovered in my home, together with the annual cost of their standby energy consumption (based on applying the national average electricity cost of 11.8 cents per kilowatt-hour to the electricity consumption of each device, as measured by the Kill a Watt EZ): >>

You can save a few hundred bucks a year by unplugging electronics that aren't in use.



ILLUSTRATION: ASAF HANUKA

PCWORLD.COM

How much electricity do you use making toast every morning? 'Power Plug Meters Help Save Money, Energy' (at find.pcworld.com/62008) reviews power-consumption meters that can tell you.



SKEPTICAL SHOPPER YARDENA ARAR

- Desktop computer: \$6.20
- Laptop (fully charged): \$2.06
- LCD computer monitor: \$1.03
- Wireless router: \$4.13
- DSL modem: \$5.16
- External USB hard drive: \$2.06
- Computer speaker system: \$5.16
- Inkjet printer: \$4.28
- DVD player: \$3.60
- Powered subwoofer: \$15.50

Even things like cell-phone chargers tack on an extra couple of bucks when left plugged in, with nothing attached. (Again, these figures are based on my devices; your costs may vary.)

Guilt-Free Fixes

You can cut your costs and reduce your carbon footprint by unplugging items when they're not in use. But that's not always feasible: An unplugged DVR won't record your favorite show in your absence; and nobody wants to deal with the hassle of plugging and unplugging a dozen gadgets several times a day.

Fortunately, several devices address these issues. "Increasingly, we see power strips becoming smarter, more flexible, and capable of doing some of the tedious work for you," Meier says.

Models such as Bits Limited's Smart Strip power strips (\$30 to \$50, find.pcworld.com/61985) can monitor electricity use and automatically cut power to devices in vampire mode. WattStopper/Legrand's Isolé Plug Load Control (\$90, find.pcworld.com/61982) incorporates a motion detector and turns electronics off when a room is unoccupied for several minutes. The Belkin Conserve surge protector (\$40 to \$50, find.pcworld.com/61984) lets you cut power to devices with a wireless controller.

All these models offer at least two "always on" outlets, enabling you to leave items such as digital video recorders and routers continuously connected. You can also check prospective electronics purchases for the Energy Star sticker, which indicates that they draw significantly less power than nonstickered competitors do when they're not in use—as much as 60 percent less.

Planning Ahead for Your Tech Trade-Ins

LESS THAN A year after buying my first Palm Treo smart phone, I sold it on

eBay for almost two-thirds of the original price and used the proceeds on a brand-new handset. Since then, I've recommended selling not-so-old gadgets to pay for replacements.

But my home is still littered with aging electronics—digital cameras, a notebook, other cell phones—that I never got around to auctioning. This isn't just poor financial management; it's potentially bad for the environment, too, because I'm tempted to simply toss all this junk in the trash.

A service called Guaranteed Buyback, from TechForward, addresses both of these problems. It will buy your used (up to two years old) tech products, and either refurbish and resell them or dispose of them in environmentally friendly ways. It'll even pay for shipping and send you packaging materials.

But you must commit to the deal (and pay a small fee for it) within 30 days of purchasing the original product.

Available from retailers such as Amazon.com, CompUSA, and Tiger Direct, as well as from TechForward's own Web site (www.techforward.com), Guaranteed Buy-Back lets you know up front what you'll pay and what you'll get back, assuming reasonable wear and tear. Plan fees for the nine categories of electronics that it covers (laptop and desktop PCs, digital cameras and camcorders, MP3 players/iPods, LCD monitors, flat-screen TVs, Blu-ray Disc players, and GPS devices) depend on the type and pretax cost (at the register, not after mail-in rebate) of the device, ranging from a low of \$20 for digital cameras, GPS devices, and MP3 players to \$250 for flat-screen TVs that cost more than \$2,000. (Cell phones aren't covered,

You have a closet full of outdated gadgets, don't you? Here's a way to keep the pile from growing—and stay green.

in part because carrier subsidies tied to calling plans muddied the economics.)

Plan fees factor in shipping costs, and the depreciation schedule is the same for all devices: If you return the product within six months of purchase, the plan pays you 50 percent of the pretax purchase price. Buyback prices then drop by 10 percent every six months—down to 20 percent at 18 to 24 months, when the plan expires. If you buy the service via one of TechForward's resellers, that store may send you a gift card, but

otherwise you'll get a check.

If TechForward judges the product you return to be in poor condition, the buyback price drops by 50 percent. If the device isn't working, the company says it will do what it can to return some value to you; and if it can't, at least the thing will die a

green death (and you won't be out the shipping cost either). Equipment returned in excellent condition earns a 15 percent bonus. You're under no obligation to avail yourself of the service—you're free to try doing better with your last-generation iPod on eBay—but you won't get your plan fee back. When you're ready to cash in, you contact TechForward by calling, sending e-mail, or going to its Web site.

This service is ideal for people who like to keep their electronics current and are willing to yield some cash for convenience and a clear conscience environmentally.

And TechForward's prices are competitive with trade-in programs offered by retailers such as Best Buy and Radio Shack, and vendors such as HP and Toshiba. In short, TechForward's Buyback Guarantee looks like a pretty good deal.





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Consumer Watch



ON YOUR SIDE GINNY MIES

I BOUGHT A SanDisk E280 MP3 player from Micro Technology Service that was not working when I received it. SanDisk's customer support told me to e-mail its RMA Compliance team with a receipt to get an RMA [Return Merchandise Authorization] number to return it—but when I e-mailed the paperwork from Micro Technology Service, SanDisk told me that I had sent in the wrong receipt. Although I have sent the company copies of the receipt multiple times, SanDisk still won't give me an RMA number.

Walter Alburn, Montello, Wisconsin

OYS Responds: As many manufacturers do, SanDisk replaces defective products under warranty if you obtain an RMA number for each item before you return it. To get this number, however, you must provide proof of purchase from the seller.

Our contact at SanDisk said the Micro Technology Service shipping invoice that Alburn submitted did not state whether the player was new or refurbished (Micro Technology sells both). SanDisk's warranty covers only new products; without this information, the company wouldn't grant Alburn an RMA number.

After we spoke to SanDisk, the company contacted Alburn for the info (he had indeed purchased a new player). It not only sent him an RMA number for a replacement, but upgraded him to a better model, the Sansa Fuze, at no charge.

When shopping on a reseller site, check whether a product is new or refurbished before buying. Most companies offer very limited warranties (or none) for refurbished products, so it's important to have proof from the seller that the item is new. Also, be sure to submit the correct paperwork: A proof of purchase will list the invoice, product, and serial numbers as well as the amount you were charged.

Money Exits Canada

Dennis Harrison from Markham, Ontario, contacted us after he was unable to update to the newest version of Microsoft's Money personal finance software. Harrison also couldn't find the product in local stores and had heard rumors that Microsoft was discontinuing it in Canada.

Microsoft confirmed that it doesn't plan to release an updated version of Microsoft Money in Canada at this time. It ad-



vises Canadian customers to visit Sympatico/MSN Finance (finance.sympatico.msn.ca) for money management resources (they won't be able to download bank transactions, however). Intuit's Quicken 2009 software does support transaction downloads from Canadian institutions.

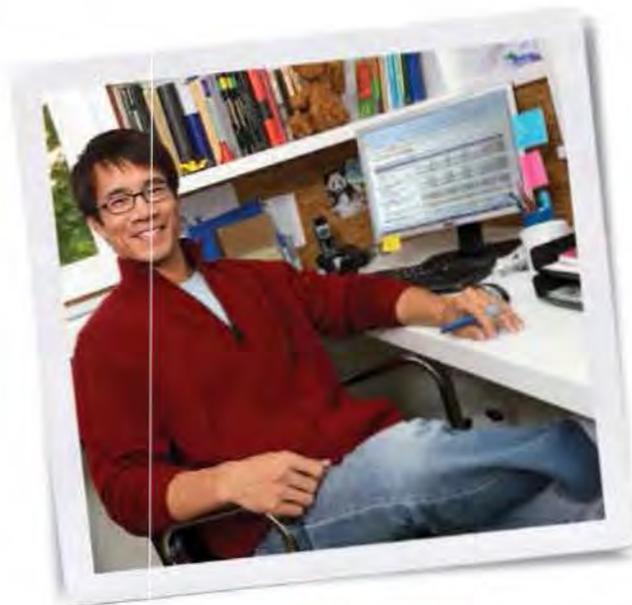
Another Battery Brouhaha

The U.S. Consumer Product Safety Commission has again announced a voluntary recall of lithium ion batteries. Made by Sony and used in several Dell, Hewlett-Packard, and Toshiba laptop models, the batteries (including some replacement units) can overheat, posing fire and burn hazards. In 19 reports of batteries that overheated, fire resulted in 17 instances, causing minor damage in 10 of them, and two people suffered minor burns.

The CPSC has posted a list of models affected, plus contact info for vendors, on its Web site (find.pcworld.com/61981). If your model is listed, remove the battery and use the notebook's AC adapter until a replacement arrives. A similar recall in 2006 affected millions of laptops; this one involves only about 35,000 in the United States and another 65,000 elsewhere.

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Consumer Watch

Hands-Free Devices Still Distract Drivers

CELL PHONES DISTRACT car drivers more than talkative passengers do, and hands-free devices don't make for safer driving, according to a study published by the *Journal of Experimental Psychology: Applied*. Even worse, drivers talking on mobile phones are as impaired as those whose blood alcohol level just exceeds legal limits for driving.



Using driving-simulation tests, University of Utah researchers Frank Drews, David Strayer, and Monisha Pasupathi determined that hands-free gadgets such as Bluetooth headsets are just as distracting as a phone held to the ear. Talking on a cell phone slowed the average reaction time of adult drivers aged 18 to 49 to the same level as that of drivers aged 65 and older, the study found. (The university's news release about the study is at find.pcworld.com/62006.)

Passengers, even chatty ones, are far less distracting because they can point out hazards or remind drivers of upcoming exits, and are more likely to stop talking or talk less when driving conditions change. Because they're in the car, they are also more likely to notice that the driver needs to focus.

Two videos from the study show the risks of driving while on the phone. In one, drivers using a hands-free device for a phone chat inadvertently pass a highway exit they had been instructed to take. In another, drivers talking with a passenger take the exit because the passenger alerts them to do so.

The research reinforces earlier reports that the use of hands-free devices does not necessarily prevent a person's driving from deteriorating—even though several states have laws allowing the use of such units for phone calls in cars.

—Jeff Bertolucci ●

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viewing angles
- VGA, DVI (HDCP) signal connectors
- 300 cd/m² brightness
- 5ms response time
- Two 1.0W integrated speakers
- Height, tilt and swivel adjustments
(ET.CB3RP.002)



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(PS.V570Z.057)

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(Total Protection Upgrade runs concurrently with limited warranty and limited warranty extension)
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for Notebooks with 3-Year Limited Warranty
(Total Protection Upgrade runs concurrently with limited warranty)
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Each of these upgrades prepays freight from the Acer repair depot and excludes extension of the International Traveler's Warranty.

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

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

³ Genuine Windows® XP Professional can be installed in place of, not in addition to, Genuine Windows Vista® Business.

⁴ The 60-day trial of Microsoft® Office Ready is available with Genuine Windows Vista® Business only, not with Genuine Windows® XP Professional.

⁵ For next-business-day response customer call must be received by 4:00 p.m. Central Time. Next-business-day response does not apply to service calls missed for reasons outside the control of Acer, such as airport closures or parts shortages. Next-business-day response and on-site service applies to the continental U.S. and Canada only and may not be available in all locations. In those areas where on-site service is provided, a technician will be dispatched, if necessary, following efforts to resolve the problem by telephone support.

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Business Center

Set Up a Cross-Platform Network Easily

BY SCOTT SPANBAUER

AS YOUR COMPANY grows and you add employees, computers, and an office to house them, you'll need to establish a network to connect your staffers to one another and to the Internet. At this point, however, maybe your startup crew uses a collection of Macs and PCs, with the graphics specialists favoring OS X, the software developers relying on the tools that come with Linux, and everybody else preferring Windows. Fortunately, the three operating systems can communicate and co-exist on a single network. By using suitable off-the-shelf equipment and the various operating systems' built-in tools, you can connect your heterogeneous hardware to the universe in short order.

Hooking Up Printers

Printers that connect directly to the network via ethernet constitute one of the most brilliant innovations ever. Simply plug a printer in and turn it on—and soon you have a device that's available to every computer on the network.

To find and install a network printer in Windows, go to Control Panel, open *Printers and Faxes* (just plain *Printers* in Vista), click *Add a printer*, and use the network-printer option in the resulting dialog box to browse for the printer on

the network. In XP, network printers may not show up if your computer's workgroup name differs from the one to which the printer belongs. To locate the printer, join its workgroup.

Have PCs running Windows, OS X, and Linux? Don't worry: The three operating systems can easily communicate on a single network.



In OS X 10.5, open *System Preferences*, choose *Print and Fax*, click the lock icon to allow changes, and then click the plus sign to add a printer. If your desired printer doesn't appear in the Default list, you might find it listed under the Windows category, which allows you to select printers shared on any local Windows workgroup. Choose

the printer you want, and click *Add*.

To install a printer in the popular Ubuntu Linux distribution, choose *System Administration Printing*, click *New Printer*, select the printer in the resulting list, and then click *Forward* to select the correct driver and install the printer.

Share Your Files

Like printers, storage can be much more useful when it's networked. In the past, sharing files meant dedicating an entire computer to the job. These days, NAS (network-attached storage) devices—often no larger than an external hard drive—provide always-available disk space to anyone on the network via the lingua franca of file sharing, the SMB (Server Message Block) protocol.

To connect to an SMB share within Windows—whether on a NAS device or on another computer sharing it through SMB—open *My Network Places* and browse the shares available on the current workgroup.

As it does with printers, Windows XP will display only the shares available on the workgroup you are a member of. To view files shared on the local network via SMB in OS X, browse through them in the Finder; you can locate available servers listed under 'Shared' in the window's left pane, or simply choose *Go > Network* in the menu. If you're >>

ILLUSTRATION: KEITH MEGLEY

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Think Macs and PCs can't play nice together on your company's network? Integrating Macs into your business isn't as complicated as it might seem. Read our advice at find.pcworld.com/62011.

using Ubuntu, choose *Places•Network*.

As with shared printers, not all storage has to be attached directly to the network. Windows (both Vista and XP), OS X, and Linux all allow you to share files stored on your computer with other users on the network, as well as to browse file shares on other systems. To share files in Windows, first enable file and printer sharing (as detailed above). In XP, browse to the folder you want to share, right-click it, choose *Sharing and Security*, and then check *Share this folder on the network*. If you want other users to be able to edit, delete, and create new files in the folder, check *Allow network users to change my files*. Click *OK* to finish.

By default, Windows Vista requires users to provide a log-in name and a password before they can gain access to its file shares. If you'd like to share files with anyone on the network without having to create a user account and a password for each person, set 'Password protected sharing' to *Off* in the Network and Sharing Center before you attempt to share files or folders. To share a file or folder in Vista, right-click the item, choose *Share*, select *Everyone (all users in this list)* from the list of users and groups available to share with, click *Add*, and then click *OK*.

To share files in OS X, open System Preferences, click *Sharing*, put a check mark on *File Sharing*, and click *Options*; then select the shared home folders (if any) that you want to share via SMB (public folders are shared by default), check *Share files and folders using SMB*, enter the account password for any checked home folder when prompted, and click *Done*. To share a folder with everyone on the network in Ubuntu Linux, select the folder in File Browser, choose *File•Properties*, select the *Share* tab, check *Share this folder* and *Guest access*, and click *Create Share*.

After following all of the above steps, you should have your company's network up and running. Now your employees can focus on advancing your business to the next level.

NET WORK RICHARD MOROCHOVE



SugarCRM Gets You Closer to Customers

IN TRYING ECONOMIC times, it's critical to keep in close contact with customers, so you can capture elusive revenue opportunities. Customer relationship management apps such as SugarCRM (www.sugarcrm.com) help ensure that your sales stay on track.

Like most CRM programs, SugarCRM monitors contacts, appointments, and opportunities. On top of that, it displays better-than-average graphs that reflect your progress in meeting sales quotas. You can modify the app's terminology, as well as its look and feel, so that it's right for your business.

Though its CRM capabilities are more robust than those of Microsoft Outlook or Sage's Act contact manager, it doesn't provide all the integrated financial capabilities (such as tie-ins to invoicing) that you get in an online service such as NetSuite.

I looked at the hosted version of SugarCRM, which offers accounts that are reasonably priced for a small business, starting as low as \$40 per user, per month. SugarCRM is also available as packaged software—including a free open-source edition—that you can install on your company's own server.

Using SugarCRM

SugarCRM's flexibility is sweet. You can change its appearance, and you can decide which components, called "dashlets," you wish to display. You can also change the names of assorted fields to customize them for your business.

The user panel is thoughtfully laid out, with tabs that direct you to charts, a calendar, contacts, sales opportunities, marketing campaigns, sales leads, and more.

SugarCRM allows you to track customer interest in your company's goods and services, and to monitor progress from

Track contacts, appointments, sales opportunities, and more with this online customer relationship management app.

the initial lead. You can track the potential sales and likelihood of a deal, with best, likely, and worst-case scenarios.

SugarCRM Integration

The application can import contact data from popular programs such as Outlook,

Act, and the online CRM service Salesforce.com.

Autosync with Outlook is also supported, permitting you to modify your contacts and calendar appointments in either SugarCRM or Outlook and transfer the changes to the other application.

Plug-ins for Microsoft Word and Excel (the latter currently in beta testing) allow you to use Word templates and Excel spreadsheets to prepare special reports and analyze data to your heart's content.

Which SugarCRM Is Best?

SugarCRM is available in hosted and on-site editions. The hosted options are Professional On-Demand (\$480 per user, per year) and Enterprise On-Demand (\$900 per user, per year). Professional has most of what a small business requires in CRM. Enterprise adds advanced offline client synchronization, more-sophisticated reporting, and support for Oracle databases.

On-site alternatives that you can install on your own server (which I didn't review) include both Enterprise (\$449 per user, per year) and Professional (\$275 per user, per year), along with the free Community edition. All editions other than Community require a five-user minimum order.

If you're seeking more customer contact tracking capabilities than Microsoft Outlook provides, SugarCRM could deliver what you need. The no-cost Community edition lets you try it out risk-free.





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Send Massive Files Directly From Outlook

LARGE E-MAIL ATTACHMENTS suck up bandwidth and clog both your outbox and the recipient's inbox. What's more, since many mail servers balk at sending and/or receiving large files, your big batch of photos, killer PowerPoint presentations, or other items may be stopped in their outbox tracks.

Because of those limitations, I'm partial to services like YouSendIt (www.yousendit.com), which let you send big files without any hassles. Just head to the site, enter the names and e-mail addresses of your recipients, and then choose the file to send. After it uploads, the recipients get an e-mail containing a link that downloads the file.

Of course, that entails a lot more steps than just attaching a file to an e-mail—which is why I'm now using YouSendIt's Outlook plug-in. This freebie allows

me to use the service without going to the Web site or even leaving Outlook: I can 'Attach by YouSendIt' any file I would normally attach to an e-mail, or have the plug-in automatically kick in for files larger than a designated size (say, 5MB).

The service also provides a new plug-in for the Microsoft Office suite that works in much the same fashion as its Outlook plug-in but operates within the confines of Word, Excel, and PowerPoint. Neat stuff.

YouSendIt isn't the only file-sending game in town: Loads of other services match, or even exceed, its capabilities.



THE YOUSENDIT PLUG-IN for Microsoft Outlook can automatically deliver large files through the YouSendIt service.

(Drop.io comes to mind.) I've always had good luck with YouSendIt, however, and the convenient plug-ins are icing on the cake. You have to register to use them, but in return you receive a free YouSendIt Lite account that allows you to send files as large as 100MB.

—Rick Broida

Asus's N10Jc Netbook Is Designed for Business

ASUS CALLS ITS N10Jc mini-notebook (find.pcworld.com/62007) a "corporate netbook." At first glance the N10Jc seems like a do-over of the company's Eee 1000H 80G XP, albeit with some superior components and design. It strays very close to ultraportable laptop territory, despite bearing a price (\$650) that's inexpensive for an ultraportable (but steep for a netbook).

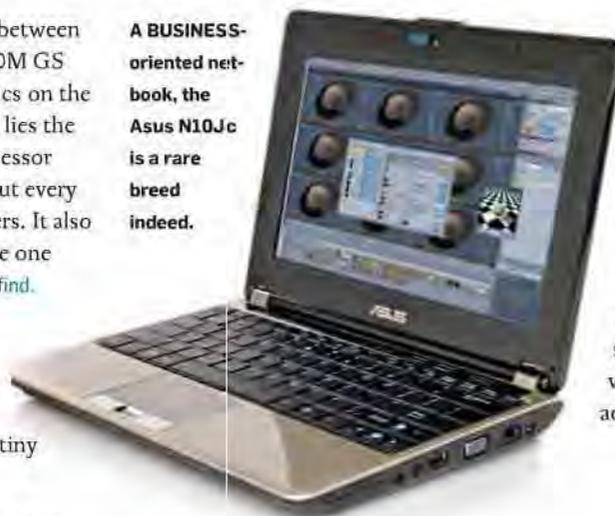
This model lets users toggle between a discrete nVidia GeForce 9300M GS GPU and the integrated graphics on the motherboard. Under the hood lies the same 1.6-GHz Intel Atom processor and 1GB of RAM that just about every other mainstream netbook offers. It also has a 160GB hard drive, like the one that the Lenovo IdeaPad S10 (find.pcworld.com/61818) carries.

Though the unit we received for testing came with a six-cell battery, it weighed only 3.5 pounds (the tiny

power brick adds another 0.2 pound). The machine has two battery modes: a power-hungry high-performance mode, and a power-saving mode.

The N10Jc represents a major step forward from Asus's line of Eee mini-notebooks, which debuted last year—and it proves that netbooks of this class don't have to be cheap toys.

A BUSINESS-oriented netbook, the Asus N10Jc is a rare breed indeed.



At its native 1024-by-600-pixel resolution, the N10Jc's 10.2-inch screen looks crisp, bright, and manageable. The keyboard is exceptional for the system's class; the big, fingertip-size buttons have just the right amount of give and spacing. The touchpad and metallic mouse buttons deserve praise, too.

Asus squeezes in an ExpressCard slot and an HDMI port for presentations. Since the N10Jc is a business machine, audio takes a back seat to work-related features. Along with a fingerprint reader and Protector Suite QL, you get, for security, a basic biometric lockdown feature to guard your data.

The Asus N10Jc succeeds in many ways, but its price tag should prompt you to consider whether you would be better off advancing to a full-fledged laptop.

—Darren Gladstone

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ScanSnap has simplified my life...”

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“**It is totally user-friendly.** I love the way it effortlessly turns files into PDF formats that are small enough in size that they can be easily stored and emailed.”

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Security Alert

Economies of Scale in the Spam Business

BY ERIK LARKIN

"BARAK OBAMA Is on the Verge of Death!"

This header on a piece of pre-election spam had credibility problems (spelling the candidate's first name correctly might have helped), but it got people's attention. It was one of a slew of junk-mail blasts that used campaign-related topics to trick unwary readers into opening the message. This particular missive carried an image that, when clicked, transported credulous recipients to an online pharmacy site.

Hacker's Smoke

Other pre-election spam promised nude pictures of a candidate's wife, blamed the death of a (perfectly healthy) public figure on President Bush, or warned that "The State is in peril." Each example (captured by antispam company Cloudmark) shows spammers trying to make their mass-mailings more enticing by fronting them with fake headlines about prominent people in the news. But who falls for this garbage?

The good news is that few people do. An infiltration of spam networks by researchers offers a rare glimpse into spam "conversion rates"—the percentage of people who respond to each displayed online ad, piece of direct mail, or spam sent. According to the study, "Spamalytics: An Empirical Analysis of Spam Marketing Conversion" (find.pcworld.com/62088), only 1 in 12.5 million pieces of spam ended up snaring someone foolish enough to buy from a fake online pharmacy. But even that minuscule re-

sponse rate is enough to reward spammers with a tidy profit.

A host of quiet cookie trackers and other tools help marketers gauge the conversion rate for banner ads and the like, but such numbers for spam are normally very difficult to obtain. To overcome this problem, computer science researchers at University of California campuses in Berkeley and San Diego effectively hijacked a portion of the Storm botnet, which uses a huge network of malware-infected PCs to send spam and conduct other dirty business.

New research adopts an analytical approach to the question, "How many suckers does it take to make a spam operation viable?"



A Better Mousetrap

The researchers captured some of the work orders sent across the botnet's control network and surreptitiously substituted Web links of their own into the spam content. When clicked, the modified links brought up sites that mimicked the spammer's pharmacy site, complete with a shopping-cart checkout, or downloaded and installed a harmless file in place of the bad guys' Storm malware. The computer users in question would otherwise have wasted real money (and possibly exposed their credit card numbers to further fraud), or been infected by real malware—strengthening the researchers' case that their actions were ethical and helped

to prevent harm, even as they gathered fascinating data.

From March 21 through April 15, 2008, the study tracked 347 million pieces of e-mail hawking pharmaceuticals and 124 million more attempting to infect computers with malware. Only a tiny fraction reached addressees' inboxes, and the researchers found that "the popular Web mail providers all [did] a very good job at filtering the campaigns we observed." >>

ILLUSTRATION: RICHARD MIZIA

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Countless pieces of spam flood our inboxes every year. How much does the inundation cost you? Visit find.pcworld.com/62090 to find out how to calculate spam's drain on your bank account (if you dare).



BUGS & FIXES STUART J. JOHNSTON

Microsoft Defeats a Seven-Year-Old Bug

MICROSOFT recently released two new patches, one of which fixes a security hole

that the company has been trying to plug since 2001. Amazingly, no one exploited the hole during those seven years.

Previous patches had mitigated the problem, so Microsoft rated its severity level as Important, the second-highest rating on the company's four-tier scale.

This bug primarily affects Windows XP (which some 700 million people still use) and Windows 2000. For Windows Vista, the risk is only Moderate, Microsoft's second-lowest rating, and the bug affects a key authentication protocol for a network technology called System

Message Block (SMB). Exploiting the security hole would let an attack program capture user or program credentials, granting a successful attacker full control over the compromised PC.

Why did it take so long to fix?

"[In 2001] we said that we could not make changes to address this issue without negatively impacting network-based applications.... For instance, an Outlook 2000 client wouldn't have been able to communicate with an Exchange 2000 server," Christopher Budd, a security program manager at Microsoft's Security Response Center, said in a blog post. If you don't get patches installed automatically, you can obtain this patch and more info at find.pcworld.com/62083.

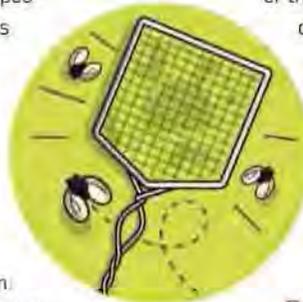
The second patch blocks three security holes in all currently supported versions of Windows: Vista (including Service Pack 1), XP SP2 and SP3, and Windows 2000 SP4, as well as 64-bit versions of Windows.

The flaws relate to Windows' XML Core Services, which let Web developers write Web applications. As a user, you may not interact with these services, but they're on your PC anyway. One bug (rated Criti-

Plus: Mozilla's latest Firefox patch fixes a new bunch of vulnerabilities.

cal by Microsoft) affects only XML Core Services 3.0. The other two (both of them rated Important) affect later versions.

Be sure to apply this patch pronto. If you have automatic updates enabled, the patches should arrive automatically. But patches want to install themselves at once, usually followed by a reboot. Rather than tolerate the interruption during a busy day, I have my system set so I can pick when I want to do the updates. If you're like me, or for some reason didn't get the automatic download, get the patch at find.pcworld.com/62084.



Patches for Firefox

As Firefox grows in popularity, white- and black-hat hackers are poking around more intently in search of security holes. One result: Firefox 3 has released two different patches in the past two months. The second, version 3.0.4, fixes four sets of newly discovered bugs that the browser's volunteer developers rank as critical.

The update fixes holes in the browser's engine, in its session restore feature, and in two network functions. The only workaround prior to the update was to disable JavaScript, which would have caused many sites to stop working properly. Depending on your version of Firefox, download version 3.0.4 (or 3.0.5, released at press time) or 2.0.0.18 to get the fixes.

There are no known attacks yet, but don't put off patching. From inside the browser, go to *Help* • *Check for Updates*.

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Chump Change?

Of the people who did receive the spam, 28 attempted to buy items from the researchers' fake site (all but one of them went for "male-enhancement products"). The average take of \$100 or so pulled in from those visitors might sound like a pittance, but the study's authors estimate that if the Storm botnet sent the pharmaceutical spam at the same rate throughout the year and enjoyed the same success rate, the annual revenue would add up to a tidy \$3.5 million dollars. Even after the authors subtracted operating costs such as hosting Web sites and botnet command servers (a cost they couldn't be sure of), they found that potential profits were large.

It's disheartening that the economics of spam mean that it won't be going away any time soon. But a recent good-guy win offers an uncommon ray of hope in the fight against the black hats.

Botnet operations like the Storm worm need a place to host their command centers, which distribute orders—send spam, launch an Internet attack, and the like—to their army of bot-infected PCs. "Bulletproof" hosting providers offer that service, and typically ignore complaints from investigators who try to get them shut down. But recently, one major hosting center proved not so bulletproof.

The companies that provided Internet access for the McColo Corporation data center, a host in San Jose, yanked that access in November after the *Washington Post* shined a light on the black ops taking place there (find.pcworld.com/62088). The move had an instantaneous, drastic effect on spam levels. Matt Sergeant, a senior antispam technologist at MessageLabs, says that junk e-mail in his company's spam traps fell to about a third of its normal level immediately after McColo's servers were cut off.

Sergeant and others expect the spam to return as spammers find new hosts. "But even if spam levels go back up as of tomorrow," he says, "it's absolutely a victory. Billions and billions of spam messages weren't sent."

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Security Alert

PRIVACY WATCH ERIK LARKIN



Latest Foxmarks Browser Add-On for Firefox Tackles Password Backups

IF YOU'RE AMONG the multitude of people who rely on the Firefox browser to remember their Web site passwords (and I do), here's something you might like. The popular, free Foxmarks add-on (find.pcworld.com/62087) now has a feature for synchronizing and effectively backing up the passwords that your browser stores, in much the same way as it does for your bookmarks.

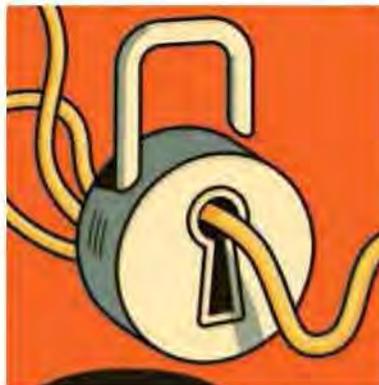
It's dead simple to set up Foxmarks so that whenever you add a bookmark to your browser at work, the new addition will automatically be synced to your browser at home, and vice versa. For example, if you install Firefox on a new PC, you can install the add-on and give it your Foxmarks account information; and all of your usual bookmarks will be available almost immediately. You can also log into my.foxmarks.com to view and organize your saved bookmarks.

Password syncing works in much the same way—except, of course, that passwords are much more security-sensitive than bookmarks. So I did some investigating to make sure that the company had taken the proper precautions. My conclusion: It appears to have done so.

For starters, when you enable password syncing (it's switched off by default; to turn it on, go to *Tools*•*Foxmarks*•*Foxmarks settings*), the program will ask you to enter a personal identification number in addition to your Foxmarks user name and password. Foxmarks uses that PIN, which is really just another password, to encrypt your saved browser passwords with 256-bit AES (automatic edit summaries) encryption before sending them over an SSL connection to the Foxmarks servers. Firefox saves the PIN on your PCs (so be sure to use a so-called Master password in Firefox to protect it), but it never sends the number to Foxmarks.

When you set up Foxmarks on another

The most recent version of the popular Foxmarks utility permits you to sync passwords stored on your browser.



browser, you'll have to supply the PIN in order to pull down and decrypt your synced passwords. If you ever forget your PIN, you can go to Foxmarks' settings in your browser and reset the value there, but taking this step will wipe out any passwords that are saved on the Foxmarks servers. Once you have established a new PIN, however, Foxmarks will resync the passwords from your PC. Consequently, if you have set up only one browser to work with Foxmarks and you lose that browser as a result of a hard-drive crash or some similar misfortune, you won't be able to restore your passwords if you can't remember your PIN.

I also checked to confirm that the new version of Foxmarks doesn't permit access to your passwords via its Web site, as it does to your bookmarks. Though such access is quite useful for bookmark management, it would present a major security risk for passwords.

Finally, if you operate your own Web site and have set up either WebDAV or FTP access, you can use your own server to handle bookmarks and passwords instead of sending the data to Foxmarks. For more information on that advanced feature, see find.pcworld.com/62085. ●

A hand is shown pointing at a glowing green button on the lid of a laptop. The button has the text 'GoToMyPC' on it. The background is a light, neutral color.

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Microsoft costs sourced from Ferris Research white paper: *The TCO of Microsoft Unified Communications*, November 2008. The full report is available at www.unison.com/ferris.

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Reviews & Rankings



Smart Phone OS Smackdown

THE "SMART" IN smart phones comes from the software they run. Today's smart phones are pocketable, Net-connected personal computers, and the OSs they use have a huge impact on their power and their personality. Buy a phone, and you're committing to a platform just as surely as you are when you choose a PC or a Mac.

MORE ONLINE

For cell phone news stories, reviews, and tips, visit PCW's Phones Product Center at www.pcworld.com/products/phones.

When you buy a new cell phone, you aren't just purchasing the hardware—you're committing to an operating system, too. We tested five OSs.

To see how today's smart phone OSs stack up, I spent time with five leading ones, as experienced on phones that show them to good advantage: Apple's iPhone OS (which I tried on the iPhone 3G, using AT&T's network), Google's Android (on T-Mobile's G1), Microsoft's Windows Mobile (on HTC's Touch Diamond, using Sprint), Nokia's S60 3rd Edition on Symbian (on the company's N96, sold

only in unlocked form), and RIM's BlackBerry OS (on the company's own BlackBerry Bold, using AT&T).

I judged the five operating systems on their capabilities, ease of use, and visual panache, and considered both their standard apps and third-party programs.

The Winners

The two most impressive operating systems were the two with the briefest histo-

ries: Apple's iPhone OS and Google's Android.

Both are built for Internet-centric devices, both are functional and fun, and both make extending a phone's capabilities with new applications extremely easy. Right now, iPhone OS beats the newer, rougher Google OS; over time, though, Android's open-source design and lack of restrictions on third-party developers could give it an edge over Apple's relatively locked-down approach.

Among the old-timers, the BlackBerry OS is doing a solid job of preserving the



60 DELL STUDIO XPS

62 OPTOMA PICO
Pocket Projector62 PURE DIGITAL
Flip MinoHD66 MAGELLAN
Maestro 4350

68 PENTAX OPTIO S12

strengths that made the platform popular in the first place while keeping up with the times. In contrast, I regret to report, both Windows Mobile and S60 3rd Edition are aging badly.

Apple iPhone OS

What it is: iPhone OS is a pocket version of the Mac's OS X, shrunk down and redesigned for the iPhone 3G (find.pcworld.com/61993).

How it works: As you zip your way around the iPhone 3G's multitouch interface with your fingertips, hardware and software blur into one pleasing experience. With other OSs, it's all too easy to get lost in menus or forget how to accomplish simple tasks; iPhone apps are remarkably sleek and consistent. The OS's most infamous omission is a cut-and-paste capability—but to tell the truth, I haven't missed that feature yet.

How it looks: Terrific. Everything from the sophisticated typography to the smooth animation effects contributes to the richest, most attractive environment ever put on a handheld device.

Built-in applications: The apps you get work extremely well—especially the Safari browser, which simplifies navigating around sites that were never designed to be viewed on a phone. The OS's music and video programs are of iPod caliber, too. As a productivity tool, however, the iPhone lacks depth: You can't search through e-mail, and you get no applications for editing documents or managing a to-do list.

Third-party stuff: Thousands of programs are available today, just a few months after Apple opened up the iPhone to other developers; and



THE BEST IPHONE apps, like Evernote, are slick and useful—and many are free.



THE WEB BROWSER in Google's Android makes viewing pages straightforward, and it's a close competitor to iPhone OS's Safari.

downloading them directly via the App Store is a cakewalk. The best ones, such as Facebook and the Evernote note-taker, are outstanding—and free. But the limitations that Apple puts on third-party applications—they can't run in the background or access data other than their own—place major obstacles in the way of everything from instant messengers to office suites. And Apple, the sole distributor of iPhone software, has declined to make available some useful applications that developers have submitted.

Bottom line: iPhone OS is easily the most enjoyable and intuitive phone operating system in existence, but its growth may

be stunted unless Apple manages to keep its control-freak tendencies in check.

Google Android

What it is: Google's new cell phone OS is an ambitious open-source platform intended to invite customization by handset companies. So far it appears on just one model, T-Mobile's G1 (find.pcworld.com/61827).

How it works: On the G1, Android feels like an iPhone/BlackBerry mashup. Much of it employs the touch screen, but you get a trackball and Menu, Home, and Back buttons, too. The customizable desktop is a plus. Overall, it compares well to older platforms but isn't as effortless as the iPhone.

The Android desktop is reminiscent of those in >>

desktop-PC OSs such as Windows Vista and OS X Leopard. You can arrange shortcuts and install widgets such as clocks and search fields.

How it looks:

Android isn't an aesthetic masterpiece like iPhone OS, but it is fresh

and appealing, and it makes good use of the G1's high-resolution screen.

Built-in applications: The programs are tightly integrated with Google services such as Gmail and Google Calendar—the first thing you do when you turn on the phone for the first time is to give it your Google account info. (That's fine as long as you're not dependent on alternatives such as Microsoft Exchange.)

Android's browser lacks the iPhone's multitouch navigation, but it's otherwise a close rival. The best thing about its music features is the ability to download DRM-free songs from Amazon. The only videos it can play are YouTube clips, alas.

Like the iPhone, Android comes with a utility that makes finding, downloading, and installing third-party apps exceptionally easy.

Third-party stuff: Developers are just beginning to hop on the Android bandwagon. The Market service allows you to download programs directly to the phone from Google; unlike with the iPhone, you can also snag apps from third-party merchants such as Handango.

Bottom line: Android's



THE BLACKBERRY BOLD introduces a new, much-improved browser that offers good rendering fidelity.

potential is gigantic, especially if it winds up on scads of phones. On the G1, it's a promising work in progress.

RIM BlackBerry OS

What it is: This OS runs RIM's BlackBerry smart phones, including the new Bold (find.pcworld.com/61990) and Storm (find.pcworld.com/62029).

How it works: The basic concepts behind the BlackBerry interface have changed remarkably little in a decade. And why should they? In its own way, the BlackBerry interface is as logical and consistent as the iPhone's: On most models you perform almost every function in every app with a trackball, a Menu button, and a button that backs out to the previous screen.

Master those actions, and you can whip around inside the OS with extreme speed. (I haven't tried the Storm, which replaces the standard controls with an iPhone-style touch screen.)

How it looks: The BlackBerry OS is fairly text-centric and mundane, although recent handset models such as the Bold dress it up with crisper fonts and slicker icons.

Built-in applica-

tions: The BlackBerry's e-mail and calendaring applications still set the standard for efficient design and reliable real-time connectivity with widely used messaging systems such as Microsoft Exchange.

The latest flavor of the BlackBerry interface is fancier and more colorful than previous versions, but it retains the simplicity and consistency that first made BlackBerries popular.

The Bold introduces a much-improved Web browser that rivals iPhone OS and Android in its ability to display sites the way their designers intended; its music and video apps are serviceable enough but still secondary to the productivity tools.

Third-party stuff: Once upon a time, BlackBerry users had few programs to choose from, but recently the market has boomed; Thousands, from productivity apps to games, are avail-

able now. Windows Mobile and S60 have even more-bountiful collections, though.

Currently BlackBerry provides no over-the-air storefront comparable to Apple's App Store or Google's Android Market. RIM's BlackBerry storefront is expected to launch in March 2009.

Bottom line: The BlackBerry OS is an old dog, but it's a smart one—and one that's proving itself capable of learning new tricks.

Microsoft Windows Mobile

What it is: As its name says, this is Microsoft's mobile edition of Windows. Version 6.1 ships on a dozen phones from HTC, Motorola, Palm, Samsung, and other makers.

How it works: Surprisingly, Windows Mobile acts as full-strength Windows does, complete with a Start menu and system tray. That isn't a virtue—who wants to squint at tiny icons? The HTC Touch Diamond (find.pcworld.com/61839) covers up part of Microsoft's stylus-oriented interface with a fingertip-driven system, TouchFLO, that is nowhere near as elegant and intuitive to use as iPhone OS.

How it looks: It's workmanlike. But it falls far, far short of iPhone OS's surface gloss.

Built-in applications: The version of Internet Explorer on current phones is profoundly archaic; the Touch Diamond dumps it for Opera Mobile. (Microsoft has released a new version of IE, but it isn't yet on any phones.) On the other hand, the >>

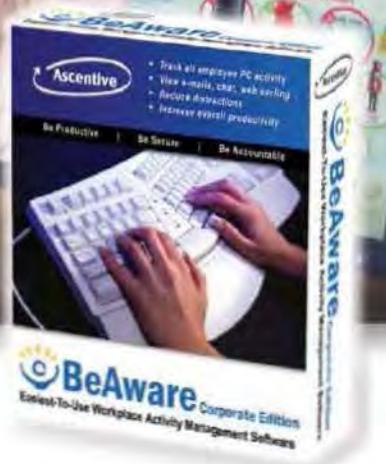


WINDOWS MOBILE BRINGS a desktop-PC-style File Explorer to your phone.

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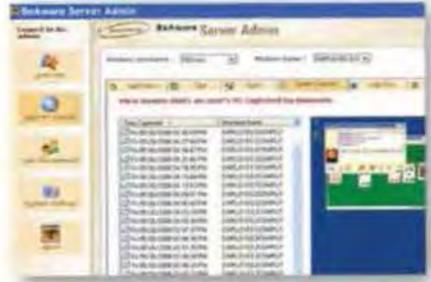


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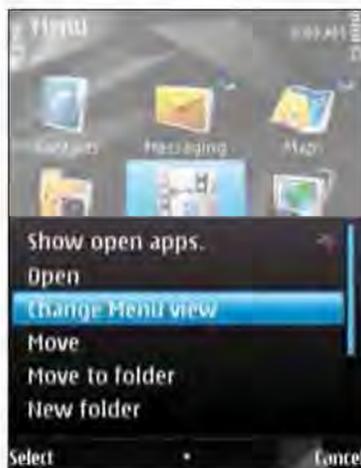
productivity applications—basic versions of Word, Excel, PowerPoint, and Outlook—are not bad.

Third-party stuff: The best thing about this operating system is the sheer variety of available applications in every category. Utilities such as Lakeridge Software's Wis-Bar Advance allow you to tweak the interface's look, feel, and functionality, compensating for some of its deficiencies. But you get no built-in application store à la iPhone OS and Android.

Bottom line: Windows Mobile has fallen behind the times on multiple fronts. The next major overhaul isn't expected until late 2009 or 2010; by then, version 6.1 will be all but irrelevant.

Nokia S60 3rd Edition on Symbian

What it is: S60 3rd Edition is the version of the venerable Symbian mobile OS used in various smart phones, not only from Nokia but also from LG and Samsung.



How it works: S60's interface dates from when even the smartest phones sported only a numeric keypad and a

S60 3RD EDITION, for phones without touch screens, has you wade through menus.

few other buttons, and it tends to make you shuffle through menus one laborious item at a time. (The BlackBerry OS does a far better job of making non-touch-screen devices fast and efficient.)

How it looks: It's pretty old-fashioned by today's standards, with blocky fonts and retro icons.

Built-in applications: The programs vary from phone to phone. The Nokia N96 (find.pcworld.com/62082) that I tried has a reasonably comprehensive suite; and judged purely on available features, they're respectable. The browser, for instance, has a zoom-in/zoom-out interface that's theoretically similar to the one in iPhone OS's Safari. But the clunky interface leaves them feeling less powerful than the apps on any other phone I tried.

The S60's fonts and icons are serviceable, but they add to the operating system's out-of-date look.

Third-party stuff: A profusion of apps is available at sites like Handango—one of the deepest libraries around, thanks to Symbian's long life span and wide usage.

Bottom line: S60 3rd Edition is relatively stale, but it's also retiring. S60 5th Edition will bring the OS up-to-date with features such as touch-screen support. Nokia's S800 Xpress-Music, the first phone to use it, won't land in the United States until early 2009.

—Harry McCracken

PC WORLD TOP 5 SMART PHONES

G1, iPhone Can't Topple the BlackBerry Pearl

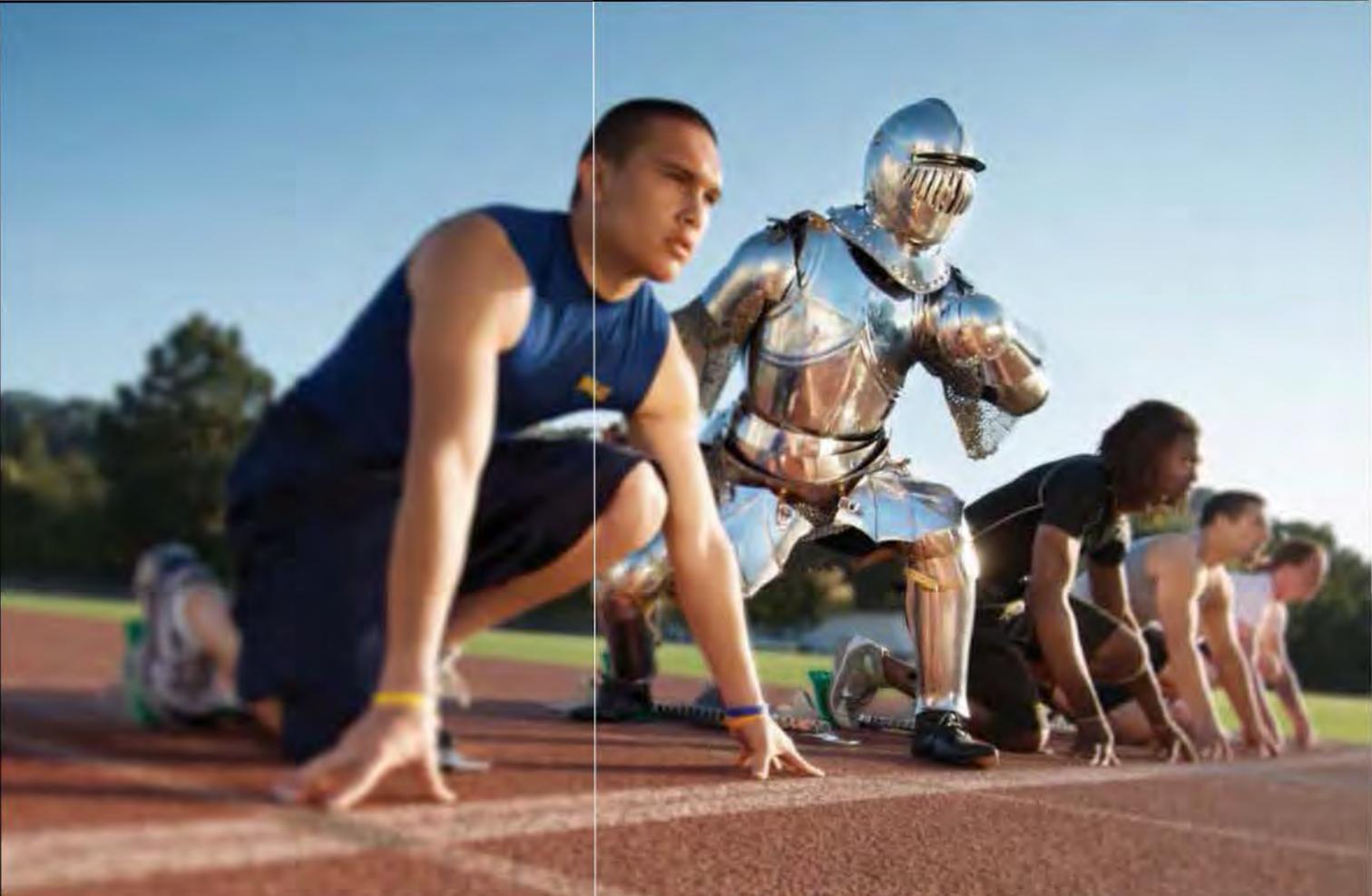
PCW Test Center

NOW THAT WE'VE covered the OSs that most smart phones run, let's talk about the handsets. The five phones here top our rankings thanks to their ease of use, battery life, design, and specs. The BlackBerry Pearl

8120, with strong talk-time battery life and a low price, is our Best Buy. A 3-megapixel camera and a fairly low price tag help the Android-based G1 take second. Not far behind is the iPhone 3G, which has relatively poor battery life.

MODEL	PCW Rating	Performance	Features and specifications
1 BEST BUY RIM BlackBerry Pearl 8120 \$150 find.pcworld.com/60602	87 VERY GOOD	<ul style="list-style-type: none"> Battery life (hours:minutes): 9:43 Battery life score: Superior Overall design: Superior 	<ul style="list-style-type: none"> Carrier: AT&T Form factor: Candy bar Weight: 3.2 ounces Camera resolution: 2.0 megapixels
BOTTOM LINE: E-mail-friendly handset boasts strong multimedia features, including a camera and a media player.			
2 T-Mobile G1 \$180 find.pcworld.com/61827	84 VERY GOOD	<ul style="list-style-type: none"> Battery life (hours:minutes): 5:51 Battery life score: Fair Overall design: Very Good 	<ul style="list-style-type: none"> Carrier: T-Mobile Form factor: Candy bar Weight: 5.6 ounces Camera resolution: 3.0 megapixels
BOTTOM LINE: The G1 has great call quality and does a good job of melding hardware with the Android operating system.			
3 Samsung Omnia \$270 find.pcworld.com/62028	83 VERY GOOD	<ul style="list-style-type: none"> Battery life (hours:minutes): 10:00 Battery life score: Superior Overall design: Very Good 	<ul style="list-style-type: none"> Carrier: Verizon Form factor: Candy bar Weight: 4.3 ounces Camera resolution: 5.0 megapixels
BOTTOM LINE: The Omnia is a versatile and stylish phone, but a few kinks prevent it from being an iPhone killer.			
4 Apple iPhone 3G \$199 find.pcworld.com/62034	82 VERY GOOD	<ul style="list-style-type: none"> Battery life (hours:minutes): 5:38 Battery life score: Fair Overall design: Superior 	<ul style="list-style-type: none"> Carrier: AT&T Form factor: Candy bar Weight: 4.7 ounces Camera resolution: 2.0 megapixels
BOTTOM LINE: Bearing a lower price, and equipped with a 3G radio and GPS, this smart phone is in a class by itself.			
5 RIM BlackBerry Bold \$400 find.pcworld.com/61894	81 VERY GOOD	<ul style="list-style-type: none"> Battery life (hours:minutes): 7:56 Battery life score: Very Good Overall design: Very Good 	<ul style="list-style-type: none"> Carrier: AT&T Form factor: Candy bar Weight: 4.8 ounces Camera resolution: 2.0 megapixels
BOTTOM LINE: The Bold almost lives up to its name with a stunning design, but its mediocre call quality and camera hold it back.			

CHART NOTE: Prices and ratings are as of 12/5/08.



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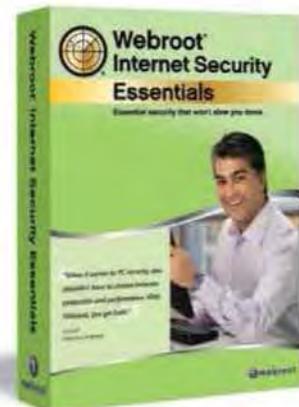
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Power Desktops: Fast, Frugal Core i7 Systems

THREE OF THE six PCs debuting in our power-desktops chart have something in common: Intel's new Core i7 processors. The Micro Express MicroFlex 92B (our Best Buy) and Dell's fourth-ranked Studio XPS use the midrange 2.93-GHz Core i7 940 CPU, which costs about \$580 on its own. But both machines are priced at less than \$2000, and they each returned WorldBench 6 performance results only a bit behind those of the fastest systems in the category.



DELL'S STUDIO XPS has a Core i7 940 CPU, Blu-ray, and a TV tuner.

We also loved the competitive pricing of iBuyPower's Video Pro and Acer's Aspire Predator; the latter features a Stealth-fighter-like design dressed in metallic orange. No Core i7 here: Both use Intel's Core 2 Quad Q9550 "Penryn" CPU instead, and they offered middle-of-the-pack WorldBench 6 results.

—*Danny Allen*

MORE ONLINE

Visit find.pcworld.com/62064 for in-depth reviews, full test results, and detailed specs for each desktop PC in our chart.

PC WORLD TOP 10 POWER DESKTOP PCs

MODEL	PCW Rating	Performance	Features and specifications
1 BEST BUY Micro Express MicroFlex 92B \$1599 NEW find.pcworld.com/62036	88 VERY GOOD	<ul style="list-style-type: none"> WorldBench 6 score: 138 WorldBench 6 rating: Superior Overall design: Very Good Graphics: Superior 	<ul style="list-style-type: none"> 2.93-GHz Core i7 940 CPU 3GB DDR3-1333 RAM; 300GB storage 2048MB ATI Radeon HD4870X2 DVD±RW drive
BOTTOM LINE: Not the fastest all-around power PC we've tested, but close; that and its low, low price make it number one.			
2 Xi MTower PCIe Centurion \$2199 find.pcworld.com/61219	84 VERY GOOD	<ul style="list-style-type: none"> WorldBench 6 score: 132 WorldBench 6 rating: Superior Overall design: Good Graphics: Superior 	<ul style="list-style-type: none"> 3.16-GHz Core 2 Duo E8500 CPU 2GB DDR3-1066 RAM; 600GB storage 512MB EVGA e-GeForce 9800 GTX DVD±RW and DVD-ROM drives
BOTTOM LINE: This Xi MTower is a nicely expandable system with blue LED bling, gaming muscle, and Logitech peripherals.			
3 CyberPower Power Infinity Pro \$3395 find.pcworld.com/59163	84 VERY GOOD	<ul style="list-style-type: none"> WorldBench 6 score: 120 WorldBench 6 rating: Very Good Overall design: Very Good Graphics: Very Good 	<ul style="list-style-type: none"> 3-GHz Core 2 Extreme QX9650 CPU 2GB DDR3-1333 RAM; 1.8TB storage 768MB EVGA 8800 GTX Blu-ray writer and DVD±RW drives
BOTTOM LINE: With a QX9650 CPU, this CyberPower PC provides top gaming performance, but it'll also wallop your wallet.			
4 Dell Studio XPS \$1999 NEW find.pcworld.com/62032	83 VERY GOOD	<ul style="list-style-type: none"> WorldBench 6 score: 136 WorldBench 6 rating: Superior Overall design: Good Graphics: Superior 	<ul style="list-style-type: none"> 2.93-GHz Core i7 940 CPU 6GB DDR3-1066 RAM; 500GB storage 512MB ATI Radeon HD4850 Blu-ray writer and DVD±RW drives
BOTTOM LINE: The Studio XPS delivers powerful performance for its price; but the internal design hampers this awesome PC.			
5 Polywell Poly X4800-Extreme \$3950 find.pcworld.com/61216	83 VERY GOOD	<ul style="list-style-type: none"> WorldBench 6 score: 141 WorldBench 6 rating: Superior Overall design: Very Good Graphics: Superior 	<ul style="list-style-type: none"> 3.2-GHz Core 2 Extreme X9770 CPU 4GB DDR3-1625 RAM; 600GB storage 1GB MSI nVidia GeForce GTX280 Blu-ray writer and DVD±RW drives
BOTTOM LINE: Polywell's pricey desktop offers blow-your-socks-off performance and lots of rear-port connectivity.			
6 Acer Aspire Predator (G7700-UQ9550A) \$2199 NEW find.pcworld.com/62101	83 VERY GOOD	<ul style="list-style-type: none"> WorldBench 6 score: 122 WorldBench 6 rating: Very Good Overall design: Very Good Graphics: Very Good 	<ul style="list-style-type: none"> 2.83-GHz Core 2 Quad Q9550 CPU 8GB DDR2-800 RAM; 1.92TB storage 512MB nVidia GeForce 9800GTX DVD±RW and DVD-ROM drives
BOTTOM LINE: A good machine, the Predator delivers solid performance; a little reconfiguring could work wonders, however.			
7 iBuyPower Video Pro \$1799 NEW find.pcworld.com/62033	79 GOOD	<ul style="list-style-type: none"> WorldBench 6 score: 120 WorldBench 6 rating: Very Good Overall design: Fair Graphics: Good 	<ul style="list-style-type: none"> 2.83-GHz Core 2 Quad Q9550 CPU 8GB DDR2-800 RAM; 1TB storage 512MB ATI Radeon HD 4850 Blu-ray writer and DVD±RW drives
BOTTOM LINE: The Video Pro offers midrange performance at an excellent price, though we would upgrade the peripherals.			
8 Polywell Poly X5800i \$3399 NEW find.pcworld.com/62103	78 GOOD	<ul style="list-style-type: none"> WorldBench 6 score: 136 WorldBench 6 rating: Superior Overall design: Good Graphics: Superior 	<ul style="list-style-type: none"> 3.2-GHz Core i7 Extreme 965 CPU 6GB DDR3-1066 RAM; 792GB storage 2GB ATI Radeon HD4870 X2 DVD±RW drive
BOTTOM LINE: You can find faster PCs that cost less—not only less money but also less headache when it's time to upgrade.			
9 Polywell MiniBox 780G-9950 \$1799 find.pcworld.com/61217	78 GOOD	<ul style="list-style-type: none"> WorldBench 6 score: 110 WorldBench 6 rating: Good Overall design: Good Graphics: Fair 	<ul style="list-style-type: none"> 2.6-GHz Phenom 9950 CPU 4GB DDR2-1066 RAM; 600GB storage 512MB Gigabyte ATI Radeon HD 4870 Blu-ray writer
BOTTOM LINE: This Polywell MiniBox is an attractive, compact computer with a medium level of expandability.			
10 Alienware Area 51 \$3219 NEW find.pcworld.com/62104	74 GOOD	<ul style="list-style-type: none"> WorldBench 6 score: 120 WorldBench 6 rating: Very Good Overall design: Very Good Graphics: Good 	<ul style="list-style-type: none"> 2.83-GHz Core 2 Quad Q9550 CPU 4GB DDR3-1066 RAM; 820GB storage 2GB Visiointek HD4870 X2 DVD±RW drive
BOTTOM LINE: This updated version of an old favorite remains competitive, but we wouldn't place bets on it winning races.			

CHART NOTES: Prices and ratings are as of 12/3/08. Bundled monitor not included in system pricing.

HP's HDX18 Laptop Is a Multimedia Marvel

HP'S HDX SERIES courts multimedia fiends. From its double-wide width (with ample room for a full keypad) to all its plugs and ports, the HDX18—a stylish desktop replacement—stands out.

In our WorldBench 6 tests, it ran up a score of 102. The

machine is also more than powerful enough to play some games as well as video, thanks to a 2.8-GHz Core 2 Duo CPU (T9600), 4GB of RAM, and nVidia's 512MB GeForce 9600M GT GPU.

The HDX18 is huge, weighing 8.9 pounds in a case 17 by 11.26 by 1.72 inches. But everything from Blu-ray movies to the newest games looks great on its big, glossy, 18.4-inch-diagonal display.

The keyboard rates just behind that of Lenovo's ThinkPad line for sensitivity, texture, and key response, and I love its multimedia buttons.



THE HDX18 IS a big, heavy, fast, and stylish desktop replacement.



HDX18 | HP

Performs well, looks snazzy, and has great multimedia features.

List: \$2300

find.pcworld.com/62026

(Preinstalled apps include HP's MediaSmart.) The mirrorlike touchpad feels smooth; the long, metallic mouse buttons seem sturdy.

Our test unit came with eSATA and HDMI ports, four USB 2.0 ports, a four-pin FireWire port, a multi-

format flash card reader, and an ExpressCard slot.

Our machine, as configured, runs some \$2300. If that's too rich for your blood, scale back features, and you can get a baseline model for about \$1400.

—Darren Gladstone

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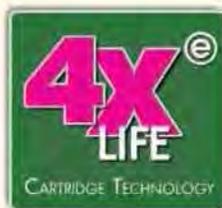
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Minicam Makes High-Def Video Easy

THE \$230 FLIP MinoHD from Pure Digital puts high-def video recording in your pocket. This tiny, 720p-resolution minicam won't replace a standard HD camcorder, but it will capture spontaneous moments and let you post them online.

The MinoHD measures 4 by 2 by 0.62 inches—slightly

larger than an iPod Nano.

Using it is very simple. It has seven buttons: Record, Play/Pause, Delete, Volume Up/Zoom In, Volume Down/Zoom Out, Previous, and Next. All but Record are touch-sensitive (and easy to press accidentally). The device also has a 1.5-inch display, integrated speakers, a tripod mount, a USB connector (obviating a cable), and an app for sharing your video in multiple ways.

The MinoHD can output to a TV as well as a PC, and comes with a cable for linking to a TV set's composite video and audio jacks.

The Flip MinoHD stores up to 4GB of footage, or

THE FLIP MINOHD camcorder is small, but it takes good video.

about 1 hour of recording. It has no media card slot, so you can't add more storage. The lithium ion battery will power about 2 hours of use, according to Pure Digital, but is not user-replaceable.

Video quality was pretty good, especially given the unit's small size. It handles low-light situations well. Colors are fairly accurate, but you get only a 2X zoom, and the device's fixed-focus lens means that it does not excel at close-ups.

Although the Flip MinoHD won't suit everyone, if you are considering an ultracom-



compact camcorder and want to do more than post clips on YouTube, this minicam deserves your attention.

—Nick Mediati



Flip MinoHD

Pure Digital Technologies

Brings high-definition video to minicamcorders, and does it well.

List: \$230

find.pcworld.com/62025

Optoma's Ultracompact Projector Is Nifty, Simple

THE DREAM OF projecting an image anywhere becomes a reality with Optoma's Pico Pocket Projector, the first shipping product we've tested in this ultraportable category. The \$400 device lets you easily give presentations or share photos and videos from your digital camera,

OPTOMA'S TINY, PRICED Pico projector is best for showing iPod-type pics to small groups.

iPod, or smart phone to a select few. But just don't expect it to replace a traditional mobile projector.

The package includes cables to hook the unit up to a TV or mobile device, plus a carrying case, an AC adapter, and two lithium ion battery packs, which Optoma says will last 90 minutes each.

With a 480-by-320-pixel native resolution, the Pico can project an image measuring 60 inches diagonally from a distance of 8.5 feet.

Setup is simple. (The one glitch I

encountered: The battery compartment cover was hard to remove.) Plug the Pico into the gadget you're projecting from, configure that device (I used a fifth-generation iPod), switch on the Pico, and you're ready.

The unit comes bundled with a 1/8-inch minijack cable for projecting from a camera or mobile device, as well as a composite audio/video cable for projecting from a TV or a composite-equipped PC (but not from a PC that uses DVI or VGA).

I found the Pico's image quality adequate, though somewhat fuzzy. That may not be a big deal for videos or photos, but it could make small text unreadable (such as on PowerPoint slides exported to JPEG images

and then played back from an iPod). The built-in speaker is sufficient for a small, quiet room; remember to keep the lights down, as well, because the Pico's LED light is rated at just 9 lumens, versus an average portable projector's lamp rating of 2000 lumens.

Despite its high price and its limitations, the ultraportable Pico has the makings of a great mobile companion.

—Nick Mediati



Pico Pocket Projector | Optoma

Diminutive device is great for the road, despite some fuzzy images. Street: \$400

find.pcworld.com/62024

Asus U6V Delivers Beauty, Brawn, and Economy

PCW Test Center

ULTRAPORTABLES are a fashion statement. Proof: Asus's handsome, leather-bound U6V provides great performance for this class, with a WorldBench 6 score of 93, thanks in part to its 2.26-GHz Core 2 Duo P8400 processor. The battery managed to last only about 3 hours, 29 minutes in our tests, but Asus provides a second battery as well. Considering that the entire bundle costs \$1650, you're getting a solid deal.



THE LEATHER-CLAD U6V laptop from Asus isn't just a looker.

On the pricier side, new models from Samsung (the \$2499 X360) and HP (its Voodoo Envy133 is \$2349) also make the Top 10. Samsung's unit offers a brilliant screen, a 128GB solid-state drive, and a healthy 7.5-hour battery life. What HP's Voodoo Envy133 lacks in gusto, it makes up for with its sleek, smart design. Still, nothing on our chart tops Lenovo's ThinkPad X200.

—Darren Gladstone

MORE ONLINE

For more of the latest laptop news stories and reviews, visit find.pcworld.com/62004.

PC WORLD TOP 10 ULTRAPORTABLE LAPTOPS

MODEL	PCW Rating	Performance	Features and specifications
1 BEST BUY Lenovo ThinkPad X200 \$1739 find.pcworld.com/61998	83 VERY GOOD	<ul style="list-style-type: none"> WorldBench 6 score: 88 Superior Overall design: Very Good Tested battery life: 8:54 	<ul style="list-style-type: none"> 2.4-GHz Core 2 Duo P8600 12.1-inch wide screen 2.95 pounds
BOTTOM LINE: The X200 is one super ultraportable, with fast performance, terrific battery life, and a good keyboard to boot.			
2 Asus U6V \$1650 NEW find.pcworld.com/62003	83 VERY GOOD	<ul style="list-style-type: none"> WorldBench 6 score: 93 Superior Overall design: Good Tested battery life: 3:29 	<ul style="list-style-type: none"> 2.26-GHz Core 2 Duo P8400 12.1-inch wide screen 3.5 pounds DVD±R DL/DVD±RW
BOTTOM LINE: Asus's high-fashion machine gives you great performance—and a second battery—without breaking the bank.			
3 Samsung X360 \$2499 NEW find.pcworld.com/62067	79 GOOD	<ul style="list-style-type: none"> WorldBench 6 score: 73 Good Overall design: Very Good Tested battery life: 7:36 	<ul style="list-style-type: none"> 1.4-GHz Core 2 Duo U9400 13.3-inch wide screen 3.0 pounds
BOTTOM LINE: Samsung's new entry provides solid competition for Lenovo's X200, and has slicker looks and a crisper display.			
4 Lenovo ThinkPad X300 \$2057 find.pcworld.com/60319	79 GOOD	<ul style="list-style-type: none"> WorldBench 6 score: 64 Fair Overall design: Superior Tested battery life: 4:22 	<ul style="list-style-type: none"> 1.2-GHz Core 2 Duo L 7100 13.3-inch wide screen 3.4 pounds
BOTTOM LINE: This ultralight packs more than enough features for the weight-conscious business traveler.			
5 Lenovo IdeaPad U110 \$1799 find.pcworld.com/62082	77 GOOD	<ul style="list-style-type: none"> WorldBench 6 score: 63 Fair Overall design: Very Good Tested battery life: 4:38 	<ul style="list-style-type: none"> 1.6-GHz Core 2 Duo L 7500 11.1-inch wide screen 2.4 pounds
BOTTOM LINE: Lenovo's consumer-oriented ultraportable is sufficiently rugged—and different—to earn a loyal following.			
6 Micro Express JFT 2500 \$1199 find.pcworld.com/58309	77 GOOD	<ul style="list-style-type: none"> WorldBench 6 score: 92 Superior Overall design: Good Tested battery life: 2:00 	<ul style="list-style-type: none"> 2.4-GHz Core 2 Duo T7700 12.1-inch wide screen 4.4 pounds
BOTTOM LINE: Overlook the small keyboard and 2-hour battery life, and you have an affordable, ultrafast laptop.			
7 Toshiba Portege R500-S5002 \$2149 find.pcworld.com/60195	74 GOOD	<ul style="list-style-type: none"> WorldBench 6 score: 49 Poor Overall design: Very Good Tested battery life: 5:37 	<ul style="list-style-type: none"> 1.2-GHz Core 2 Duo U7600 12.1-inch wide screen 2.4 pounds
BOTTOM LINE: One of the lightest laptops with its screen size that we've tested, but its overly flexible display worries us.			
8 Fujitsu LifeBook P9100 \$1859 find.pcworld.com/60093	73 GOOD	<ul style="list-style-type: none"> WorldBench 6 score: 50 Poor Overall design: Good Tested battery life: 3:30 	<ul style="list-style-type: none"> 1.2-GHz Core 2 Duo L 7100 12.1-inch wide screen 2.6 pounds
BOTTOM LINE: This business model's tiny touchpad is tolerable only for folks with small fingers; it'll aggravate everyone else.			
9 HP Voodoo Envy133 \$2349 NEW find.pcworld.com/62068	73 GOOD	<ul style="list-style-type: none"> WorldBench 6 score: 64 Fair Overall design: Very Good Tested battery life: 2:39 	<ul style="list-style-type: none"> 1.6-GHz Core 2 Duo SP7500 13.3-inch wide screen 3.5 pounds
BOTTOM LINE: HP's aptly named Envy turns heads with its design, but the overpriced hardware inside will cause double takes.			
10 Panasonic Toughbook W7 \$2099 find.pcworld.com/60091	72 GOOD	<ul style="list-style-type: none"> WorldBench 6 score: 52 Poor Overall design: Very Good Tested battery life: 6:27 	<ul style="list-style-type: none"> 1.06-GHz Core 2 Duo U7500 12.1-inch screen 3.0 pounds
BOTTOM LINE: This Toughbook is durable enough to tackle the real world, but it lacks the power for some computing tasks.			

CHART NOTES: Prices and ratings are as of 12/3/08. Weight does not include AC adapter, power cord, docking station, or extra batteries.

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This notice is to inform you about a proposed settlement of a class action lawsuit entitled *David Mullens v. Symantec Corporation*, Santa Clara Superior Court, Case No. 1-06-CV-068535 (the "Action"), the Court's certification of a settlement class in that Action, and of a hearing to consider the settlement. The Action concerns Plaintiff's allegation that Symantec's GoBack™ software may be defective in that its use sometimes results in a persistent failure of the boot process (e.g. an inability to start Windows) ("Specified Software Issue"). Symantec denies the claims made in this Action and denies that anyone has been harmed or deserves compensation in relation to the claims. The Court has not made a decision on the merits.

You are a member of the settlement class the Court has certified if you resided in the United States (including the District of Columbia and territories and possessions) during the period of time from and including April 1, 2003 up to and including November 4, 2008, the date on which the Court entered an order preliminarily approving the terms and conditions of this settlement agreement (including the manner of providing notice to Settlement Class Members), and within this same Settlement Class Period, (a) acquired not for resale Norton GoBack™ (either alone or as part of a Norton SystemWorks™ suite), and (b) experienced a persistent failure of the boot process (e.g. an inability to start Windows) in connection with the use of GoBack, and (c) in order to resolve this Specified Software Issue paid Symantec a fee for customer support (e.g., paid Symantec \$29.95 for telephone support) or paid a third-party computer support technician.

Under the terms of the settlement, Settlement Class Members who paid Symantec a fee for customer support with regard to the Specified Software Issue, may be eligible to make claims for relief, including a ten dollar (\$10.00) certificate, redeemable for one (1) year towards product(s) or services from the Symantec on-line store, and Settlement Class Members who paid a third-party computer support technician to attempt to remedy the Specified Software Issue may be eligible to make claims for relief, including a reimbursement of 20% of the out-of-pocket payment to acquire such support, up to a maximum \$40 payment to that Settlement Class Member.

Which claim(s) you can make depends, among other things, on your individual situation and your ability to document your claim. *Please see the complete notice and Claim Form at www.gbsettlement.com for details regarding the settlement, the requirements for different kinds of claims, and how to submit a claim. If you wish to submit a claim, you must do so by May 4, 2009 (subject to change by the Court).*

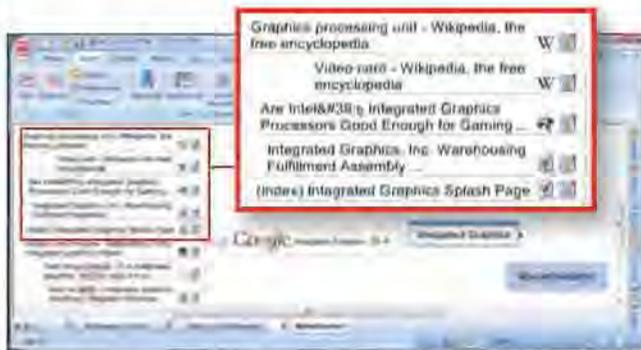
If the settlement is approved, the settlement class representative will apply for an incentive award of \$1,000 and Plaintiff's counsel will apply for an award of fees and expenses in the sum of \$175,000. Neither award will affect the relief available to Settlement Class Members. All claims of the Settlement Class Members which were or could have been asserted in the Action, based upon the facts alleged in the Action, will be released.

If you wish to remain in the settlement class you need not do anything. However, if you wish to receive any of the remedies afforded class members, you must submit a claim. If you do not wish to remain in the class, you must exclude yourself by mailing an exclusion request to: *Mullens v. Symantec Corp.* Settlement Administrator, c/o Rosenthal & Company LLC, P.O. Box 6177, Novato, CA 94948-6177. If you exclude yourself, you may pursue an individual claim, but you will not receive any of the benefits of the class settlement, and cannot object to the settlement. If you wish to object to the settlement, you must file your objection with the Court and serve it on the parties' counsel. If you wish to intervene, you must file a request to intervene and serve it on the parties' counsel. To properly exclude yourself, object or request to intervene, you must follow all of the detailed instructions and formats set forth in the Long Form Notice and the Settlement Agreement available at www.gbsettlement.com.

All objections, requests to intervene and requests for exclusion must be received no later than May 4, 2009. The Court has scheduled a hearing to consider the settlement to be held on June 23, 2009 at 9:00 a.m., before Judge James Emerson, Department 19 of the Superior Court of the State of California, Santa Clara County.

DO NOT CONTACT THE COURT OR SYMANTEC CONCERNING THIS NOTICE OR THE LAWSUIT. If you would like more information about this notice or this case, you may view this notice, the complete Long Form Notice, the Settlement Agreement, The Court's Order Granting Preliminary Approval and the Claim Form at www.gbsettlement.com. If you do not have internet access and you desire printed copies, contact Joshua C. Ezrin, Audet & Partners, LLP, 221 Main Street, Suite 1460, San Francisco, CA 94105.

Reviews & Rankings



IN MINDMANAGER 8, you can embed a live Web search into your visual mind map; later you can tell the app to refresh the search.

Mindmanager 8: Update Is Useful but Glitchy

MINDMANAGER 8 adds interesting features to this visual brainstorming application; while some are useful and reliable, others are either glitchy or seem to serve little purpose.

The basic idea behind programs like Mindmanager is that human thinking doesn't always fit well in a written outline. Mind maps are more visual, with nodes for each topic and subtopics branching out from those nodes.

The new version of Mindmanager brings some creative extras: You can send an interactive map to non-Mindmanager users, browse the Web and edit Office documents via a built-in function, and track project deadlines in a more automated way. Web mashups are a part of the new edition, too—the

app lets you embed a live Web search within a map.

The Mindjet Player maps feature lets you export a Mindmanager file as an interactive (but noneditable) PDF and send it to a colleague. But Player files seemed to work intermittently. (A Mindjet rep said Player files work only on Windows PCs and reliably only in versions 8 and 9 of Adobe Acrobat and Acrobat Reader.)

An alternative is Mindmanager's Web service. You post a map to an online workspace and invite coworkers to read or edit it. Their changes show up in the map on your hard drive. But the service is pricey—\$120 per simultaneous user annually. In managing projects, Mindmanager 8 now lets you make the task information in one topic dependent on the deadlines in another.

If you haven't tried mind-mapping software but want to, Mindmanager is a solid choice. But if you already use it, wait on upgrading to version 8 until some of the kinks are worked out.

—Edward N. Albro



Mindmanager 8 | Mindjet

Solid mind-mapping application, but some new features are glitchy. List: \$349 (upgrade \$129)

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Buying Guide: Navigating the GPS Market

THOUGH PAPER MAPS had their day, they're past their prime. Today's go-to navigation tool is the GPS device—but navigating the GPS market itself is tricky. Here are the essential features you should look for before purchasing any GPS product.

Mapping Out the GPS Basics

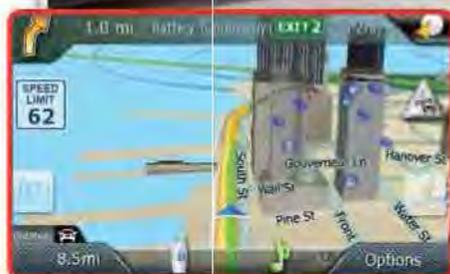
Any GPS device you consider should have at least several basic, bare-bones features. And before you commit to buying a device, you'll want to test or ask about certain other functions.

Mapping data is vital; without it, a GPS unit is useless. GPS devices typically include detailed street maps for all of the United States, but you should make sure the one you want has the maps you need. Consider, as well, the availability and cost of updated maps.

Most devices deliver voice directions through a speaker, which should be loud and clear enough to overcome vehicle noise. Also look for text-to-speech functionality, a handy feature that some units omit. A text-to-speech-capable device pronounces street names for you; instead of telling you to turn left in 500 feet, for example, the



THE MAGELLAN MAESTRO 4350, similar to other full-featured GPS devices, can show 3D, 'bird's-eye' maps.



MANY GPS DEVICES can offer timely information, such as speed-limit alerts, as you follow the route.



WITH A SUBSCRIPTION to a reporting service, new GPS units can provide real-time traffic reports.

unit will say to turn left in 500 feet onto Elm Street.

Although you should keep your eye on the road at all times, you will occasionally need to interact with the unit's screen. Most displays are at least 3.5 inches diagonal. The screen should be big enough to be easily viewable, and sufficiently bright for you to see in direct sunlight.

Most devices have touch screens for you to navigate the features and enter the destination. The device you choose should have a logical layout, and a touch screen that's simple to use. Most units also have a points-of-interest database, which lists places such as gas stations, hotels, parks, and coffee shops. You can look up local

attractions, and then set the device to lead you there.

Real-time traffic reports are common on new devices, too. When equipped with a receiver and a subscription to a traffic reporting service—both of which can cost extra—the unit can alert you to traffic jams and may automatically reroute you.

Remember to think about how you'll mount the GPS device in your car. Most kits include a bracket with a suction cup that sticks to your windshield, and may also adhere to your dashboard. Some states ban the use of windshield-mounted devices, however, so you might need an alternative.

Most models can display data in 3D map view (also

called bird's-eye view). As you travel, the map continually updates to reflect your current position and the surrounding terrain. Many GPS devices even offer real images of the road—complete with replicas of the street signs—that appear near confusing intersections. With a quick glance at the screen, you can be assured that you are following the correct route. Some units also supply lane assistance, where the device tells you which lane to drive in to prepare for upcoming turns.

That's Infotainment
Newer GPS units do much more than offer directions. Many of them can keep you entertained along the way.

MORE ONLINE

Our Hands-On GPS Reviews

To see the current *Top 5 GPS Devices* chart and read our in-depth impressions, browse to find.pcworld.com/62039.

High-end (and some mid-range) devices support Bluetooth; pair such a model with a Bluetooth phone, and you can make hands-free calls via the GPS unit's speaker (but see the story on page 32).

Some GPS devices include digital music players that let you load and play your music files over the unit's speakers or—if the device comes with an FM transmitter—through your car stereo. Other devices connect to an MP3 player.

Certain GPS devices also offer video and photo playback, but unless you plan on sitting in a parked car, they aren't features you ought to shell out big bucks for.

Internet connectivity is still rare on GPS devices, but it's convenient. With it, you can send addresses to the device via the Web, and find location-based information, such as gas prices.

The Best GPS Units We've Tested

You may think you have to spend a lot to get the GPS device of your dreams. Think

PC WORLD TOP 5 GPS DEVICES			
MODEL	PCW Rating	Features and specifications	
1 BEST BUY TomTom GO 930 \$425 find.pcworld.com/61850	91 SUPERIOR	<ul style="list-style-type: none"> 4.6 by 3.3 by 0.9 inches 7.8 ounces 4.3-inch screen size 480-by-272-pixel resolution 	<ul style="list-style-type: none"> Text-to-speech Traffic requires extra-cost accessory Bluetooth compatibility with cell phones Pedestrian mode
BOTTOM LINE: The 930 delivered some of the best routes in our tests, but its lack of integrated traffic service is a drawback.			
2 Magellan Maestro 4350 with OneTouch \$425 find.pcworld.com/61851	90 SUPERIOR	<ul style="list-style-type: none"> 4.7 by 3.3 by 0.7 inches 7.4 ounces 4.3-inch screen size 800-by-480-pixel resolution 	<ul style="list-style-type: none"> Text-to-speech Traffic requires monthly subscription Bluetooth compatibility with cell phones Pedestrian mode
BOTTOM LINE: This good-looking GPS unit produces excellent routes, and has just about every feature you could ask for.			
3 Navigon 2200T \$210 find.pcworld.com/61853	85 VERY GOOD	<ul style="list-style-type: none"> 3.8 by 2.8 by 0.7 inches 4.3 ounces 3.5-inch screen size 320-by-240-pixel resolution 	<ul style="list-style-type: none"> Text-to-speech Lifetime traffic included No Bluetooth support Pedestrian mode
BOTTOM LINE: Navigon's basic GPS device provides lifetime traffic service for a bargain-basement price.			
4 TeleNav Shotgun \$299 find.pcworld.com/62005	84 VERY GOOD	<ul style="list-style-type: none"> 4.9 by 3.1 by 0.7 inches 4.4 ounces 4.3-inch screen size 480-by-272-pixel resolution 	<ul style="list-style-type: none"> Text-to-speech Traffic requires monthly subscription No Bluetooth support Pedestrian mode
BOTTOM LINE: The Shotgun is a decent midrange GPS device with an excellent but pricey optional connected service.			
5 Garmin Nuvi 265T \$250 find.pcworld.com/61854	82 VERY GOOD	<ul style="list-style-type: none"> 3.8 by 2.8 by 0.8 inches 5.2 ounces 3.5-inch screen size 320-by-240-pixel resolution 	<ul style="list-style-type: none"> Text-to-speech Lifetime traffic included Bluetooth compatibility with cell phones Pedestrian mode
BOTTOM LINE: This midrange GPS unit packs in the features—so many that its 3.5-inch screen feels small.			

CHART NOTE: Prices reflect the average street price of three online retailers as of 12/1/08.

again. We road-tested seven GPS products for this article, and many devices we saw are currently available for less than \$300—in some cases, much less. When we last conducted a roundup of

GPS devices, about a year ago (find.pcworld.com/62031), only one of the top five devices we evaluated sold for less than \$300.

Even the most expensive models today have prices that were midrange a year ago. And if all you want is advice on getting from point A to point B, you don't have to lay out much cash at all.

Better news: As the prices of GPS devices continue to drop, the products continue to pack in more features. Two of the units that we looked at for this month's chart—the \$210 Navigon 2200T and the \$250 Garmin Nuvi 265T—include lifetime traffic service; you don't have to purchase an accessory or pay for a subscription.

Usually, however, the more you pay for a GPS device,

the more features you'll get. The chart-topping TomTom GO 930 and the second-place Magellan Maestro 4350, each priced at \$425, are the most expensive systems we tested this round. Both provide lots of extras, such as Bluetooth support, FM transmission, and audio/video players. But they earned the top spots due to their excellent navigation capabilities, as they consistently found the quickest, most convenient routes.

Also ranking on our chart is the \$299 TeleNav Shotgun, which offers an optional connected service. The service is a bit costly (about \$10 per month), but it lets you access local fuel prices and send addresses to the device via the Web.

—Liane Cassavoy



THE TOMTOM GO 930, our Best Buy, uses IQ Routes technology, which considers real-world road speeds when planning the best way to drive.

Point-and-Shoot Cameras to Beat in 2009

THE 2009 CONSUMER

PCW Test Center

Electronics Show is right around the corner, and with it will come a slew of camera announcements. In the meantime, falling prices and the release of new models have combined to shake up our chart of the best point-and-shoots.

Three new cameras have entered the Top 10 since we issued our last chart. The pocketable, 12-megapixel Pentax Optio S12 is amazingly easy to use. Casio's fashionable Exilim EX-Z150 has a huge, 3-inch screen and a convenient YouTube



THE STYLISH, STURDY Pentax Optio S12 is a cinch to operate.

mode. And Canon's PowerShot SD880 IS boasts a 28mm wide-angle lens and superb image quality.

The Canon PowerShot A590 IS, still our Best Buy, is a beginner-friendly powerhouse that uses AA batteries, has amazing image quality for the price, and offers excellent optical stabilization.

—Tim Moynihan

MORE ONLINE

For more on the point-and-shoot cameras ranked in this chart, including testing details, visit find.pcworld.com/61883.

PC WORLD TOP 10 POINT-AND-SHOOT CAMERAS

MODEL	PCW Rating	Performance	Features and specifications
1 BEST BUY Canon PowerShot A590 IS \$150 find.pcworld.com/61685	82 VERY GOOD	<ul style="list-style-type: none"> Image quality: Very Good Overall design: Very Good Battery life: Good Number of shots: 248 	<ul style="list-style-type: none"> 8 megapixels 4X optical zoom (35-140mm) 10 scene modes 3.7 by 2.6 by 1.6 inches
BOTTOM LINE: For a beginner's camera, the PowerShot A590IS has nice image quality and outstanding stabilization.			
2 Canon PowerShot SD1100 IS \$200 find.pcworld.com/60681	82 VERY GOOD	<ul style="list-style-type: none"> Image quality: Very Good Overall design: Very Good Battery life: Very Good Number of shots: 299 	<ul style="list-style-type: none"> 8 megapixels 3X optical zoom (38-114mm) 10 scene modes 3.4 by 2.2 by 0.9 inches
BOTTOM LINE: A sleek design, top-notch image capabilities, and intuitive controls make the SD1100 IS an attractive choice.			
3 Pentax Optio A40 \$230 find.pcworld.com/61708	81 VERY GOOD	<ul style="list-style-type: none"> Image quality: Very Good Overall design: Very Good Battery life: Good Number of shots: 250 	<ul style="list-style-type: none"> 12 megapixels 3X optical zoom (37-111mm) 20 scene modes 3.9 by 2.2 by 0.9 inches
BOTTOM LINE: The 12-megapixel Optio A40 offers a terrific feature package in an easy-to-use camera.			
4 Pentax Optio S12 \$200 NEW find.pcworld.com/62014	80 VERY GOOD	<ul style="list-style-type: none"> Image quality: Good Overall design: Very Good Battery life: Very Good Number of shots: 371 	<ul style="list-style-type: none"> 12 megapixels 3X optical zoom (37-111mm) 19 scene modes 3.4 by 2.1 by 0.8 inches
BOTTOM LINE: Perfect for the pocket, the stylish Optio S12 has a solid feel and is exceptionally simple to operate.			
5 Casio Exilim EX-Z150 \$180 NEW find.pcworld.com/62017	80 VERY GOOD	<ul style="list-style-type: none"> Image quality: Very Good Overall design: Good Battery life: Very Good Number of shots: 302 	<ul style="list-style-type: none"> 8.1 megapixels 4X optical zoom (28-112mm) 22 scene modes 3.8 by 0.8 by 2.3 inches
BOTTOM LINE: The Exilim EX-Z150 is a cute, easy-to-use camera that's limited by its slow speed and spotty quality.			
6 Casio Exilim EX-Z80 \$160 find.pcworld.com/61402	79 GOOD	<ul style="list-style-type: none"> Image quality: Good Overall design: Good Battery life: Good Number of shots: 272 	<ul style="list-style-type: none"> 8.1 megapixels 3X optical zoom (38-114mm) 30 scene modes 3.5 by 2.0 by 0.8 inches
BOTTOM LINE: This Casio's menu offers some fun creative modes; the tiny buttons, however, will be a problem for some users.			
7 Nikon Coolpix S210 \$180 find.pcworld.com/61709	79 GOOD	<ul style="list-style-type: none"> Image quality: Good Overall design: Good Battery life: Good Number of shots: 283 	<ul style="list-style-type: none"> 8 megapixels 3X optical zoom (38-114mm) 11 scene modes 3.5 by 2.2 by 0.7 inches
BOTTOM LINE: This small and solid Nikon point-and-shoot camera is very straightforward to use, but nothing spectacular.			
8 Canon PowerShot SD880 IS \$300 NEW find.pcworld.com/62017	79 GOOD	<ul style="list-style-type: none"> Image quality: Very Good Overall design: Very Good Battery life: Very Good Number of shots: 310 	<ul style="list-style-type: none"> 10 megapixels 4X optical zoom (28-112mm) 18 scene modes 3.7 by 0.9 by 2.2 inches
BOTTOM LINE: Superb design, excellent picture quality, and a wide-angle lens make the SD880 IS a divine travel companion.			
9 Sony Cyber-shot DSC-W170 \$250 find.pcworld.com/62016	78 GOOD	<ul style="list-style-type: none"> Image quality: Good Overall design: Very Good Battery life: Very Good Number of shots: 310 	<ul style="list-style-type: none"> 10.1 megapixels 5X optical zoom (28-140mm) 14 scene modes 3.7 by 2.3 by 0.9 inches
BOTTOM LINE: The DSC-W170 is a high-quality camera with nifty features that are worth some extra cash.			
10 Pentax Optio V20 \$230 find.pcworld.com/62019	78 GOOD	<ul style="list-style-type: none"> Image quality: Good Overall design: Very Good Battery life: Good Number of shots: 241 	<ul style="list-style-type: none"> 8 megapixels 5X optical zoom (36-180mm) 18 scene modes 3.8 by 2.2 by 0.9 inches
BOTTOM LINE: Though the Optio V20 is a good midrange choice, its scene modes and auto functions are deficient.			

CHART NOTE: Prices and ratings are as of 12/2/08.

Cyberpower recommends Windows Vista™ Home Premium



from **\$1269**

GAMER XPLOER X7-7700

- Intel® Centrino™2 Mobile Technology
- Intel® Core™2 Duo Processor
- Intel® WiFi Link 5300 802.11 A/G/N
- Intel® PM45 Chipset
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- 320 GB SATA150 Hard Drive
- 17" WXGA+ TFT Display 1600 X 1050
- 8X DVD+/-RW Drive
- 1000/100/10 Network Card & 56K V.92 Modem
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- Weight only 7.6 Lbs

Intel® Core™2 Duo Processor
(6MB L2 Cache, 1066Mhz FSB)

T9600 2.80Ghz	\$1615
P9500 2.53Ghz	\$1429
T9400 2.53Ghz	\$1385

(3MB L2 Cache, 1066Mhz FSB)

P9500 2.40Ghz	\$1309
P8400 2.26Ghz	\$1269

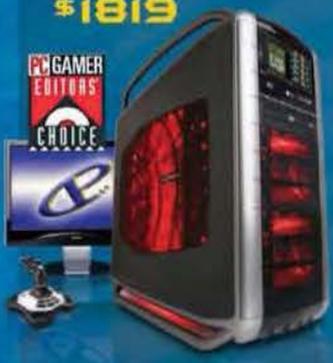
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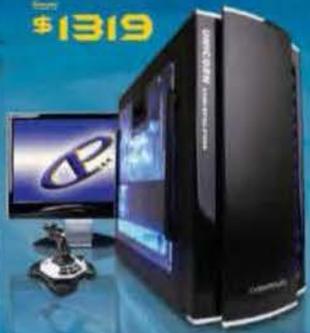
- Asus Intel® X58 Chipset MB Supporting 3 Way SLI™ and CrossFireX™
- Corsair® 6GB-DDR3 1333 Triple Channel Memory
- 1TB SATA-II 3.0 7200 RPM HD 16MB Cache
- (2) NVIDIA® GeForce® GTX 260 896MB in SLI™ Mode
- LG® 4X Blu-ray Player
- LG® 22X DVD+/-RW Drive
- High Definition 7.1 Surround Sound
- Logitech® Office 104 Keyboard and Logitech® Optical Wheel mouse
- CoolerMaster Cosmos Sport Gaming Tower Case
- 680 Watt SLI™ Power
- ASETEK LIQUID COOLING SYSTEM
- **Genuine Windows Vista™ Home Premium**
- Free 802.11G Wireless PCI Network Adapter

Intel® Core™i7 Processor
(8MB L3 Cache, 1066Mhz)

Extreme i7-965 3.20Ghz	\$2585
i7-940 2.93Ghz	\$2115
i7-920 2.66Ghz	\$1819

GAMER CROSSFIRE X™ HD 4850

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- Corsair® 3GB-DDR3 1333 Triple Channel Memory
- 500GB SATA-II 3.0 7200 RPM HD 16MB Cache
- (2) ATI Radeon™ HD 4850 512MB in CrossFireX™ mode
- LG® 22X DVD+/-RW Drive & 16x DVD-ROM
- High Definition 7.1 Surround Sound & 600 Watt Subwoofer Speaker System
- Logitech® Office 104 Keyboard and Logitech® Optical Wheel mouse
- Sigma Gaming Unicorn Tower/ 500 Watt CrossFireX™ Power
- **Genuine Windows Vista™ Home Premium**
- Free 802.11G Wireless PCI Network Adapter

Intel® Core™i7 Processor
(8MB L3 Cache, 1066Mhz)

Extreme i7-965 3.20Ghz	\$2079
i7-940 2.93Ghz	\$1615
i7-920 2.66Ghz	\$1319

GAMER INFINITY SLI™ GT

from **\$749**



- NVIDIA® nForce® 750i SLI™ MB Supporting 2 Way SLI™
- Corsair® 2GB DDR2 800 Dual Channel Memory
- 500GB SATA-II 3.0 7200 RPM HD 16MB Cache
- (2) PCI Express 16X NVIDIA® GeForce® 9500GT 512MB DDR2. Over 80% Performance Gain over single video card solution.
- LG® 22X DVD+/- Rewritable Drive
- 16x DVD-ROM
- High Definition 7.1 Surround Sound & 800 Watt Subwoofer Speaker System
- Logitech® Office 104 Keyboard and Logitech® Optical Wheel mouse
- X-Jupiter Jr Mid-Tower Case w/ 680 Watt SLI™ Power
- ASETEK LIQUID COOLING SYSTEM
- **Genuine Windows Vista™ Home Premium**
- Free 802.11G Wireless PCI Network Adapter

Intel® Core™2 Duo Processor
(12MB L2 Cache, 1333Mhz FSB)

Quad Q9650 3.00Ghz	\$1169
Quad Q9550 2.83Ghz	\$949

(6MB L2 Cache, 1333Mhz FSB)

Quad Q9400 2.86Ghz	\$895
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(4MB L2 Cache, 1333Mhz FSB)

Quad Q8300 2.33Ghz	\$815
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(6MB L2 Cache, 1333Mhz FSB)

E8600 3.33Ghz	\$895
E8500 3.18Ghz	\$815
E8400 3.00Ghz	\$789

(3MB L2 Cache, 1066Mhz FSB)

E7400 2.80Ghz	\$749
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Archos 5: Impressive but Pricey

PCW Test Center THE ELEGANT ARCHOS 5 media player offers spectacular video and music playback. It also accepts tons of cool extra-cost features and add-ons. The touch screen dominates the 5.0-by-3.1-by-0.5-inch player. The menu, while easy to navigate, is cluttered with options for accessories to buy. Though the 5 accepts several major media formats out of the box, you must



THE ARCHOS 5 sports a sleek chrome case and a huge screen.

pay more for high-def video and AAC audio support.

In our labs, it had a signal-to-noise ratio of 81 dB, an improvement over the 75-dB ratio of its predecessor, the 605 WiFi. In my tests, audio improved significantly when I swapped the included earbuds for higher-quality ones.

—Ginny Mies

82
VERY GOOD

5 | Archos

Elegant, with a gorgeous display; but some cool features cost extra. List: \$350

find.pcworld.com/62010

DOWNLOAD THIS

Communications Services in One Interface

SOME THINGS SHOULD be shared, and some shouldn't. Do you have news to tell over IM? Access all of your communications services through one interface, for free. Personal info on your PC to safeguard? A security scanner locates it and helps you lock it down. Photos you'd prefer to share in a new place on the Web? Move them from site to site with a no-cost tool. It all starts with these downloads.

VoxOx Beta

Most people use lots of tools to stay in touch, from e-mail and instant messaging services to social networks and even old-fashioned phones. Accessing all those different forms of communication can keep you so busy that you don't have any time left for actually chatting with friends and colleagues. Enter VoxOx, a free application that provides access to a variety of voice- and text-based communication services.

Like Skype, VoxOx lets you make voice and video calls from your PC to any device—a land-line phone, cell phone, or PC—that has a phone number. The application comes with 2 hours of free calling time, and assigns you a VoxOx phone number. It also includes voicemail, and will forward messages to you as e-mail attachments. Placing calls is as easy as dialing a number, but the voice quality will vary. Overall, I found the quality pretty good.

VoxOx's interface looks a whole lot like an iPhone's, and that's a good thing. It's both attractive and easy to use. Though VoxOx is in beta and clearly needs some refining, it's a strong start toward an all-encompassing communications service. find.pcworld.com/62078

—Liane Cassavoy

Identity Finder Home Edition

With Identity Finder Home Edition, you can search your computer for your sensitive information, such as credit card numbers, and then decide on ways to delete or secure that private data. The utility can dig into different file formats, such as PDFs or Microsoft .doc files, as well as into Web browsers' stored form data and saved passwords.

For certain data types—such as credit card numbers or Social Security numbers—Identity



THE VOXOX HOME screen, filled with friendly icons, closely resembles the iPhone's interface.

Finder Home Edition can search automatically for the format alone, without your having to type in each specific item first. The application sports a good-looking and easy-to-use interface, and offers extras such as a basic password vault, a file shredder, and password-protected .zip file creation. If you want extra peace of mind for your personal information, it could be a good buy. \$25. find.pcworld.com/62077

—Erik Larkin

Migratr

Shutterbugs, rejoice: If you've spent an inordinate number of hours uploading photos to one of the many popular photo-sharing services, you no longer need to feel locked into the service you started with. The free Migratr can move entire photo-gallery accounts from one service to another in just a few clicks. The utility supports photo-hosting services at all the major sites.

Migratr is great if you're looking for simplicity: It's about the easiest-to-use tool of its kind I've encountered. But if you have large photo archives, all of the downloading and uploading will take a while. find.pcworld.com/62079

—Andrew Brandt

Record Everything Your Employees Do On The Internet

(When your employees are playing on the Internet, they are NOT working)

Internet Abuse is Costing Your Business

Whether shopping, reading news, sports or gossip sites, gambling or visiting adult-themed web sites, **when your employees are playing, they are NOT working.**

Consider this: Employees waste **MORE THAN 1 HOUR** a day using office computers to play on the Internet. That translates to more than \$5,000 lost per year for each employee with Internet access.

How do you catch guilty employees who have perfected the art of stealing your company's valuable time?

Spector CNE Investigator to the Rescue

Monitor any employee anywhere on your network with Spector CNE Investigator. Now, **every word they type, every click they make, every email, chat, instant message, every site they visit** – all are recorded and saved into a tamper-proof location, for your review.

Unlike other overpriced filtering and blocking solutions, Spector CNE Investigator shows you everything they do, step by step, in exact visual detail. You have absolute proof that goes way beyond just knowing they visited a bad web site, because you see everything they did before, during and after that visit.

Imagine a video camera pointed directly at their desktop or laptop, filming away. That is what you get with the easiest, most powerful investigation software available today.

The Leader in Monitoring and Investigation Software

More than 50,000 businesses are actively using SpectorSoft solutions to crack down on Internet abuse by their employees, and saving thousands of dollars a month in lost productivity.

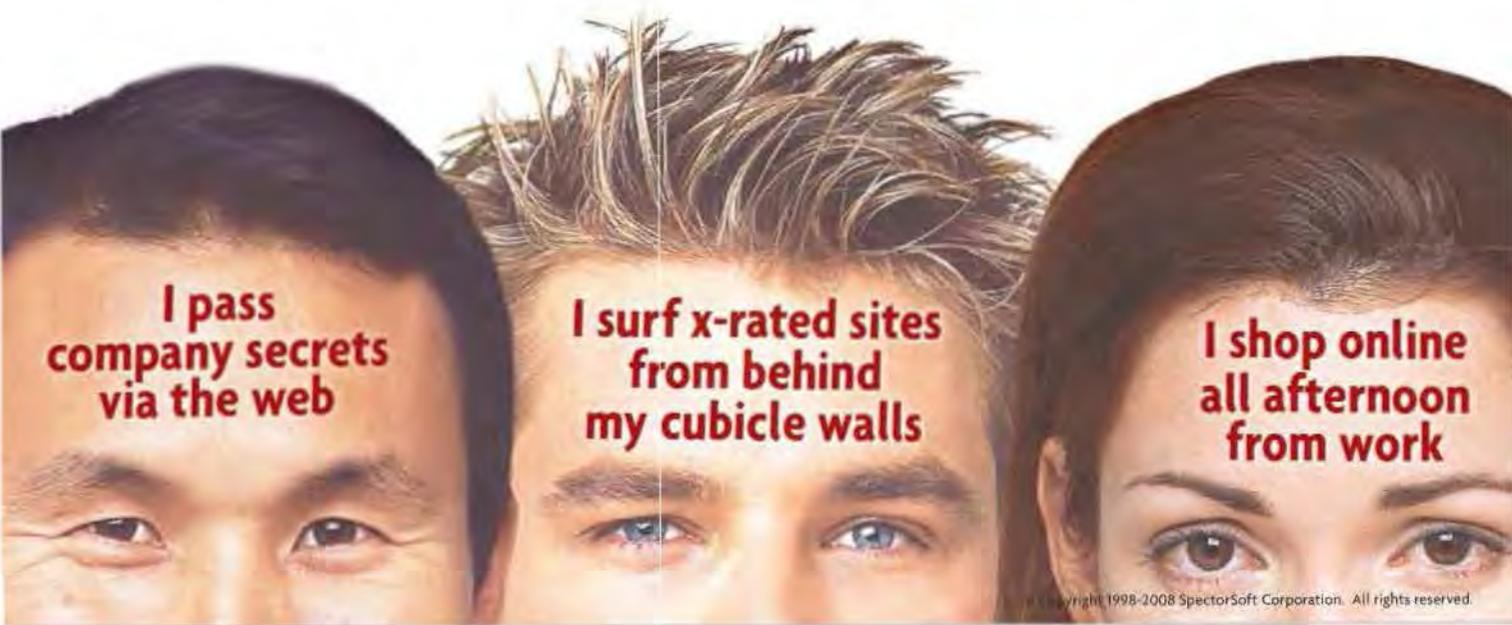
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PC and Internet Monitoring Software

Get Started Today!

To learn more visit SpectorCNE.com
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Isn't it time you put an end to the Internet abuse that is harming your business?



**I pass
company secrets
via the web**

**I surf x-rated sites
from behind
my cubicle walls**

**I shop online
all afternoon
from work**

FAST fixes

Struggling with dead components, a recalcitrant Windows, and uncooperative applications? Our easy hardware repairs, simple software remedies, and quick tweaks will put your PC in the pink.

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PC

BY RICK BROIDA

ILLUSTRATION BY MARK MATCHO

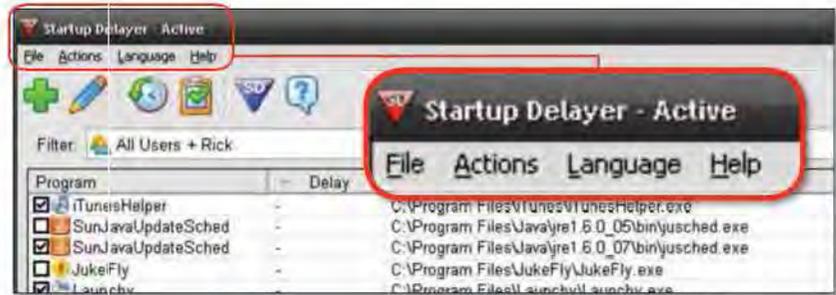


problems



Accelerate XP File Searches

I'll say one thing for Vista: Its search capabilities put XP's to shame. Pity the poor XP user who tries to locate a file with that operating system's plodding, poorly designed search tool. Fortunately, alternatives exist: Both Copernic Desktop Search (www.copernic.com) and Google Desktop (desktop.google.com) index your documents, e-mail messages, images, MP3 files, and other content for lightning-fast searches. Better still, they let you peek inside found files without opening them. That's the way a search tool should work.



Hasten Windows Boot-Ups

Nobody likes getting stuck in traffic. But that's exactly what happens when a Windows PC boots: All the startup programs try to run at the same time, resulting in a kind of software traffic jam. What you need is a traffic cop, an application that lets programs start up one at a time, at designated intervals.

That's Startup Delayer (find.pcworld.com/62045) in a nutshell. The free app helps you set delays for other programs, easing startup congestion so your PC boots faster. Begin by reviewing the list of startup programs to see which ones can wait. Google Update, iTunesHelper, and LightScribe Control Panel are examples of good candidates: They don't need to run the moment your system starts. To set a delay for a program, drag it to the white bar at the bottom of the Startup Delayer window.

You'll see a line representing the program; drag it left or right to decrease or increase the delay. Repeat for other apps as desired, but stagger them by at least a minute.

Leave some startup programs, especially those you don't recognize, alone. But a delay of 10 or 15 minutes for many apps should improve startup speed noticeably.

Make Windows (XP or Vista) Run Faster

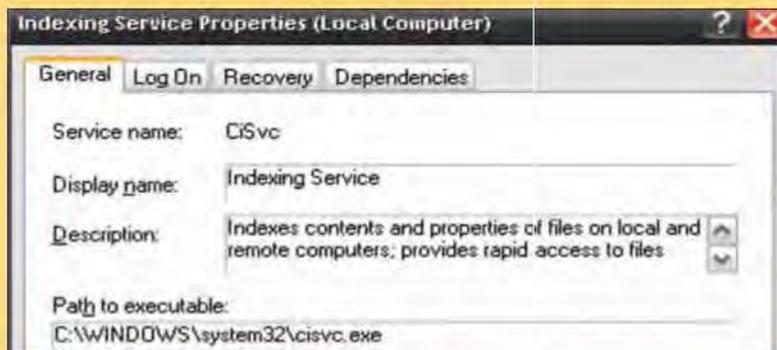
When you launch a program, does it snap open in a matter of seconds, or does it leave you drumming your fingers for what seems like an eternity? Countless possible culprits can be to blame for a slow system, but you have a good chance of revving things up by following a few simple steps.

Start with a RAM boost. A Windows XP system can

get by on 512MB, but it'll run a lot smoother with 1GB. As for Vista, it needs at least 2GB for optimal performance. Vista also benefits if you disable resource-hogging (and, some would say, unnecessary) extras, like Aero Glass and Flip3D. To free your system from both, right-click anywhere on the Desktop and click *Personalize*. Next, click

Windows Color and Appearance, open *Classic appearance properties* for more color options, and then set the color scheme to *Windows Vista Basic*. Click *OK* and your system should seem a bit zippier.

XP users should consider disabling Windows' indexing service (shown below), a system hog of little practical value. Go to *Control Panel\Administrative Tools\Services*, and scroll down to *Indexing Service*. Double-click it, and set *Startup type* to *Disabled*.



Speed Up Vista File Copying

Whatever Vista's deal is, it's a slug when copying files to external and network drives. To step things up, adopt a utility such as FastCopy (find.pcworld.com/62044), SuperCopier (find.pcworld.com/62047), or TeraCopy (find.pcworld.com/62048), all of which do the job an awful lot faster. What's more, both SuperCopier and TeraCopy can pause and resume file transfers, which may come in handy if you need to interrupt the copy process. All three programs are freebies, too.

Help iTunes Auto-Detect New Songs

iTunes 8 updates your library when you buy songs from the iTunes Store or use it to rip songs from CDs. But what if you want to add music from other sources such as Amazon or eMusic? Alas, with iTunes, unlike just about every other music manager, you have to add files and folders manually.

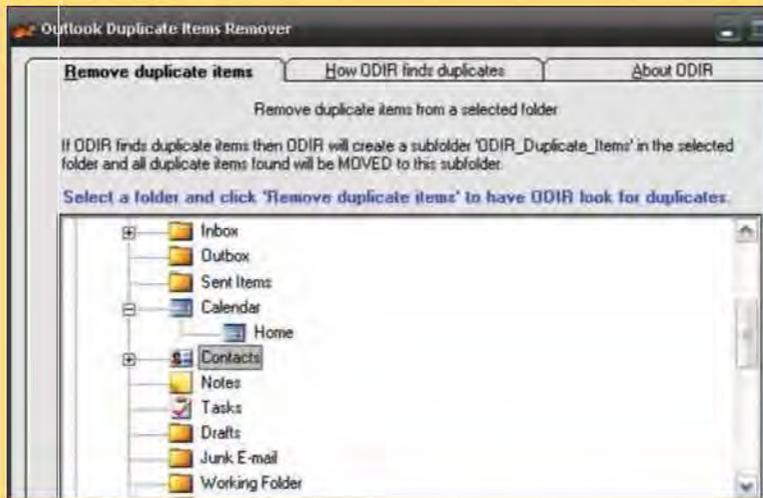
Thankfully, there's iTunes Folder



Watch (find.pcworld.com/62050), a free Windows utility that monitors designated folders and then automatically adds any newly discovered music to your iTunes library.

After installing the application, run it by clicking *Start>iTunes Folder Watch>iTunes Folder Watch (Background Monitoring)*. This action will launch iTunes, create an "iTFW New Tracks" playlist, and add a new icon to your system tray. Right-click that icon, click *Open*, and then add one or more folders to watch. Click the *Check Now* button to have iTFW scan for any tracks not already in your iTunes library. If it finds any, you'll see them listed in the New Tracks tab. One more click whisks the songs into iTunes.

You'll also want to visit the Configuration tab so that you can select and tweak iTFW's options, such as one that automatically adds new-found tracks to iTunes.



Remove Duplicate Entries From Microsoft Outlook

The longer you use Outlook, the more likely you are to end up with duplicate records. Sometimes they're the result of synchronization errors with a phone, PDA, or Web site, and sometimes, well, it's just Outlook being Outlook. Either way, duplicates can be a hassle—but you can purge them

easily. Outlook Duplicate Items Remover (find.pcworld.com/62051), or ODIR for short, eliminates duplicate contacts, calendar entries, tasks, notes, and e-mail folders.

After installing the program, simply fire up Microsoft Outlook, and look for the newly added ODIR menu. Click it, then

select *Remove Duplicate Items*. Choose the folder you want ODIR to scan; it'll find duplicates and relocate them to a subfolder (without actually deleting anything). The tool is fast, simple, and effective—just the way freeware ought to be. ODIR is compatible with Outlook 2000 and later.

Open Office 2007 Documents in Older Versions of Office

With Microsoft Office 2007, Microsoft introduced a new batch of file formats: .docx, .xlsx, and .pptx, all incompatible with earlier versions of the suite. So if someone sends you a Word 2007 document and you use Word 2003, an error message awaits you. Fortunately, the fix is easy: Use the succinctly named Microsoft Office Compatibility Pack for Word, Excel, and PowerPoint 2007 File Formats (find.pcworld.com/62046).

MOCPPWP2007FF enables you to open Office 2007 documents in Office 2000, 2003, or XP without any work on your part. Just make sure that your suite has the latest Service Pack installed—either SP3 for Office 2000 and XP, or SP1 for Office 2003.

If you don't want to go to all that trouble and you need to convert just a single .docx file, point your browser to docx-converter.com. Upload your file, select your desired format (.doc is just one choice), and enter your e-mail address. In short order you'll get a message containing a link to download the converted file. It's a free service. >>

Clean Up USB Cable Clutter

We're not sure why design engineers so often decide to put laptop USB ports on the sides instead of the rear, or even put them all on the same side. Sure, the ports are easier to find that way, but if you employ your laptop as

your primary computing system, then all those side-mounted USB ports will create a ton of unsightly cable clutter.

Solution: Use a USB "elbow" connector, which routes any USB device's cable toward the rear of the laptop

(or toward the front, if you prefer). Belkin's \$9 Flexible USB Cable Adapter (find.pcworld.com/62043), for instance, plugs in almost flush with the system case and rotates 90 degrees, either forward or backward, for easy access.

Upgrade Your Laptop Hard Drive

Laptop hard drives tend to be on the smallish side, so they can fill up fast. But swapping your laptop's internal drive for a higher-capacity replacement is easier than you may think.

With some online comparison shopping, you can find a 160GB SATA drive for around \$70 or a 250GB drive for about \$90. A 7200-rpm drive will give you optimal performance.

Next, get an external USB drive enclosure with an internal interface matching that of your hard drive. This should cost no more than \$20. Install the new drive in the enclosure, connect the enclosure to your system, and then format the drive according to the manufacturer's instructions.

Finally, use a free utility such as Drivelmage XML (find.pcworld.com/62041) to copy the contents of the old drive to the new one, and then swap the two drives. (Tip: Reuse the old one for storage.)

Replace a Dead Power Supply

You press your desktop PC's power button just as you have a thousand times before, only this time...nothing. Fortunately, power supplies are relatively easy to replace, and doing it yourself will save you upward of \$100 or more at the local repair shop. While you're at it, consider something more powerful than your old one to accommodate higher-end graphics cards and other upgrades.

The actual surgery is pretty straightforward: Before starting, snap a bunch of photos that show where each power lead is plugged in. Disconnect the main power cord from the system, unhook the cables from the internal components, remove the old power supply, and install the new one. Follow the labels on the leads to reconnect everything, using your photos as a guide if needed.



Rescue Your Data From a Failing Hard Drive

Ever heard a PC's "click of death"? Count yourself lucky. It's the warning siren of a dying hard drive, one that can't be fixed and will only get worse. When you start hearing that sound, that's your cue to get a new hard drive right away.

If you've been diligent, you've been making full backups of your data all along, in which case a dying drive is merely a nuisance, not a catastrophe. If not, act fast. Buy or borrow an external hard drive, plug it in, and copy over your most critical data (documents, photos, music library, financial records, and so on). The key is to offload everything you can and install a new drive before the old one dies.

If your drive has reached the point where you can no longer boot Windows (or run any file-copy operations with it), a Linux-based boot CD such as Ultimate Boot CD (find.pcworld.com/62040) might help.

Once you download the file and burn it to a CD, it runs a Linux OS straight from the disc, giving you access to your drive without the drive having to run Windows at the same time. With luck, you'll be able to offload all your files before the hard drive bites the dust.

If all else fails, you may have no choice but to seek out a professional data-recovery service. Just be prepared to spend at least a few hundred dollars for the rescue.

Help PCs on Your Home Network 'See' One Another

So you have a desktop in the den, a laptop in the kitchen, and maybe another system in the kids' room—all connected to your router. Problem is, they can't "see" one another, making file and printer sharing impossible. This maddening problem tends to plague networks with Windows XP-based systems or a mixture of XP and Vista.

Unfortunately, while Vista does a better job than XP of identifying networked computers, neither OS really helps users remedy this particular annoyance. So here's the easy way to get all of your machines communicating quickly.

Start by making sure that each PC is subscribed to the same workgroup (very often the problem is that they aren't). It can have any name, up to 15 characters, but it needs to be the same on each machine. In XP, click *Start•Control Panel•System*, and choose the *Computer Name* tab. Click the *Change* button if you need to modify the workgroup name. In Vista, click *Start•Control Panel*, type **workgroup** in the Search field, and then click *Change workgroup name*.

If this no-cost solution doesn't fix the problem for you, let a third-party utility do the heavy lifting. Pure Networks' Network Magic (find.pcworld.com/62042) provides wizard-driven operation for such tasks as file and printer sharing and even network optimization. The Essentials version (\$30) supports up to three PCs; if you have more computers, you'll need the \$50 Pro version.

PHOTOGRAPH: COURTESY OF NETGEAR

Stop Your Neighbors From Stealing Your Wi-Fi Bandwidth

The tip in the box below solves weak Wi-Fi, but some folks have the opposite problem: Their routers put out signals strong enough to extend far beyond their walls. So Flanders, Norton, the Mertzes, and other pesky neighbors might be pilfering your Internet access. Even if you don't mind sharing, remember that many ISPs now have caps on monthly bandwidth—and your BitTorrent-happy squatters might push you over the limit. "Loose" Wi-Fi also represents a very real security risk: If the neighbors can access your network, they may be able to access your data as well.

You could just turn on your router's built-in WPA encryption, but that won't do you much good if your kids blab the family Wi-Fi password to everyone on the block. Instead, turn on MAC address filtering in your router's security settings. You'll have to spend a few minutes entering the MAC hardware addresses for all your devices (which you can find by typing **ipconfig** in the Windows command console), but after that you'll need no additional security at all. Only known devices will be allowed to connect, so a password isn't required. >>>



Boost Wi-Fi Signals to Reach All Corners of Your Home



If you're still using the old 802.11b or 802.11g Wi-Fi router that you bought when you set up your home network years ago, it's high time for an upgrade to 802.11n (currently known as draft-n); 802.11n routers offer roughly twice the range of their g counterparts—more than enough to blanket the average home with Wi-Fi goodness.

If you're looking for a cheap solution, consider a taking a do-it-yourself approach: You may be able to extend the range of your existing Wi-Fi router by "hacking" its antenna(s). Check out the how-to video and the accompanying step-by-step instructions at find.pcworld.com/62052.

Keep Your Kids Safe Online

Tech-savvy teens can probably work their way around parental-control software, so how can you prevent them from visiting inappropriate and/or malicious Web sites? Simple: Route all Internet activity through a “filtered” domain-name server like ScrubIT (scrubit.com).



This free service promises to block pornographic and harmful sites, and will even fix inadvertently misspelled Web addresses. Setup requires configuring your router to use ScrubIT’s servers rather than those that your ISP supplies. If you’re uncomfortable messing with your router’s settings, a small Windows 2000/XP configuration utility can get the job done (browse to find.pcworld.com/62089). Vista and Mac users must do it manually.

Sync Google Docs With Your PC

Once router reconfiguration is complete, ScrubIT will automatically block both adult and potentially malicious sites—over 3 million in all, according to the site. Remember, however, that you will have no control over what sites are blocked, which is the only real drawback to using ScrubIT over, say, content-filtering software. If you decide that you don’t like it, an “unscrubit” utility on the site’s FAQ page will revert your router to its original DNS settings.

Google Docs puts documents, spreadsheets, and presentations “in the cloud,” meaning that you can work on them from any Internet-connected computer. But what about those times when you’re disconnected, such as on an airplane? How can you do any work when your files live online and you’re offline?

Answer: Google Gears (gears.google.com). This free tool syncs your Google Docs docs to your PC, letting you work with your Web-hosted files even when you’re offline. Changes to your documents will sync back to your Docs account the next time you connect to the Net. Just fire up Google Docs, click the *Offline* link in the upper-right corner, and follow the Gears setup instructions.

Give Gmail a Major Makeover

Gmail may be indispensable, but it’s not much to look at. It has a decidedly Web 1.0 appearance—all text and links. Give it an extreme makeover, courtesy of Google Redesigned (globexdesigns.com/gr). A few clicks, and Gmail goes from ugly duckling to sexy starlet (or applet).

To use this free skin (which also transforms

Google Calendar—no prize pig itself), you’ll need Firefox 3 and the Stylish add-on (find.pcworld.com/62054). Install both, restart Firefox, and then head to the Google Redesigned site and click *Install*. Don’t be alarmed by the stark-looking page of text; just follow the instructions, which essentially boil down to clicking the *Stylish* icon in the bottom-right

corner of Firefox and then clicking *Add Style*. Finally, fire up Gmail and be prepared to say “Wow.” It may be just a skin, but it’s like dropping a Ferrari frame over a Ford Focus body.

Too much work? Give Gmail a splash of color with Google’s new themes. Just load Gmail, click *Settings* • *Themes*, and choose from dozens of nifty designs.



E-Mail Large Files Easily

Big files are a fact of life in these days of 10-megapixel photos and viral videos. But many mail servers haven’t kept up: They still put size limits on file attachments, so if you’re trying to send something larger than, say, 5MB, it may not go through. What’s more, sending huge attachments to people who aren’t expecting them is a digital faux pas, as the files choke the recipient’s inbox (and pity the poor dial-up or mobile user who tries to download a 5MB e-mail message).

Instead, share big files by way of a service such as Drop.io, GigaSize.com, SendSpace.com, or YouSendIt.com (for more, see page 44). No software to install: Simply choose the file to send, and then name one or more recipients.

After the file uploads, the service sends the recipients an e-mail containing a link for downloading the file. No clogged mail servers; just an easy, free, and convenient big-file transfer. >>

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Stop Paying for Movies You Already Own

Does Apple really expect you to pay \$15 to download *Iron Man* when you already own it on DVD? Well, yes—but that's not the only way to get the film onto your iPod or iPhone. Instead, you could try firing up HandBrake (find.pcworld.com/62055), a free utility that can rip DVDs (but only the



ones you own, of course) and turn them into iPod/iPhone-friendly MPEG-4 files. You'll need to install AnyDVD, DVD43, or DVDDecrypter to allow HandBrake to work its magic on commercial (copy-protected) movies.

Rescue a Wet Cell Phone

So you dropped your cell phone in the toilet. Or left it out in the rain. Or ran it through a load of whites. Hey, it happens. Before slinking into the phone store for a replacement, try bringing your drowned device back to life. First, remove the battery (which may need to be replaced). If your phone has a memory card, take that out, too—it should be fine once it dries. Submerge the phone in a bowl of dry rice, cover it, and leave it overnight. The rice should suck out the moisture from the phone's innards. Pop in a new battery, and you might just be back in business.



Recover Lost Photos From Your Camera's Memory Card

Rolls of film (remember those?) are vulnerable to accidental light exposure; similarly, memory cards can be corrupted by, well, lots of things. For example, if you pop the card out of your PC or camera while it's still being accessed, you risk damaging the data and/or the card's ability to be read. And let's not forget accidental deletion, which is often the result of nothing more than the errant click of a mouse.

While you can't do anything to rescue an ex-

posed film roll, several software utilities promise to recover damaged or deleted photos from memory cards. For starters, stop snapping pictures the moment you realize you have a problem. Any extra data written to the card may overwrite the photos you want to recover. Next, install a program such as PC Inspector Smart Recovery (find.pcworld.com/62056) or Zero Assumption Digital Image Recovery (find.pcworld.com/62057) on

your PC, and then slip the memory card into your PC's reader. No guarantees, but these programs should find some, if not all, of your photos and copy them to your hard drive.

Advanced users can try CGSecurity PhotoRec (cgsecurity.org), a DOS-based utility that bypasses the card's file system and goes straight for the data—arguably the most effective approach. It's a bit tricky to use, but worth a spin if the other programs can't do the job.

Replace a Failing iPod Battery

It's a sad fact of gadget life: Batteries wear out.

Unfortunately, Apple and Microsoft each sacrificed good sense for stylish design, building their iPod and Zune players so you can't change out the batteries. Consequently, when the battery dies permanently (usually after 18 to 24 months), so does your device—in theory. In reality, you can gently pry open most iPod and Zune cases and replace the battery. Just head to eBay and search for “ipod battery” or “zune battery.” We found one for a 30GB Zune selling for just \$7, complete with tools and instructions. The entire operation takes about 10 minutes, and it's easy for anyone adept with a screwdriver. Just remember: The key word is “gentle.” You can accidentally chip or mar the case if you use the wrong tools or don't follow the instructions to the letter.

Going this route means you should be able to find everything you need for a lot less than the cost of a new player. ●

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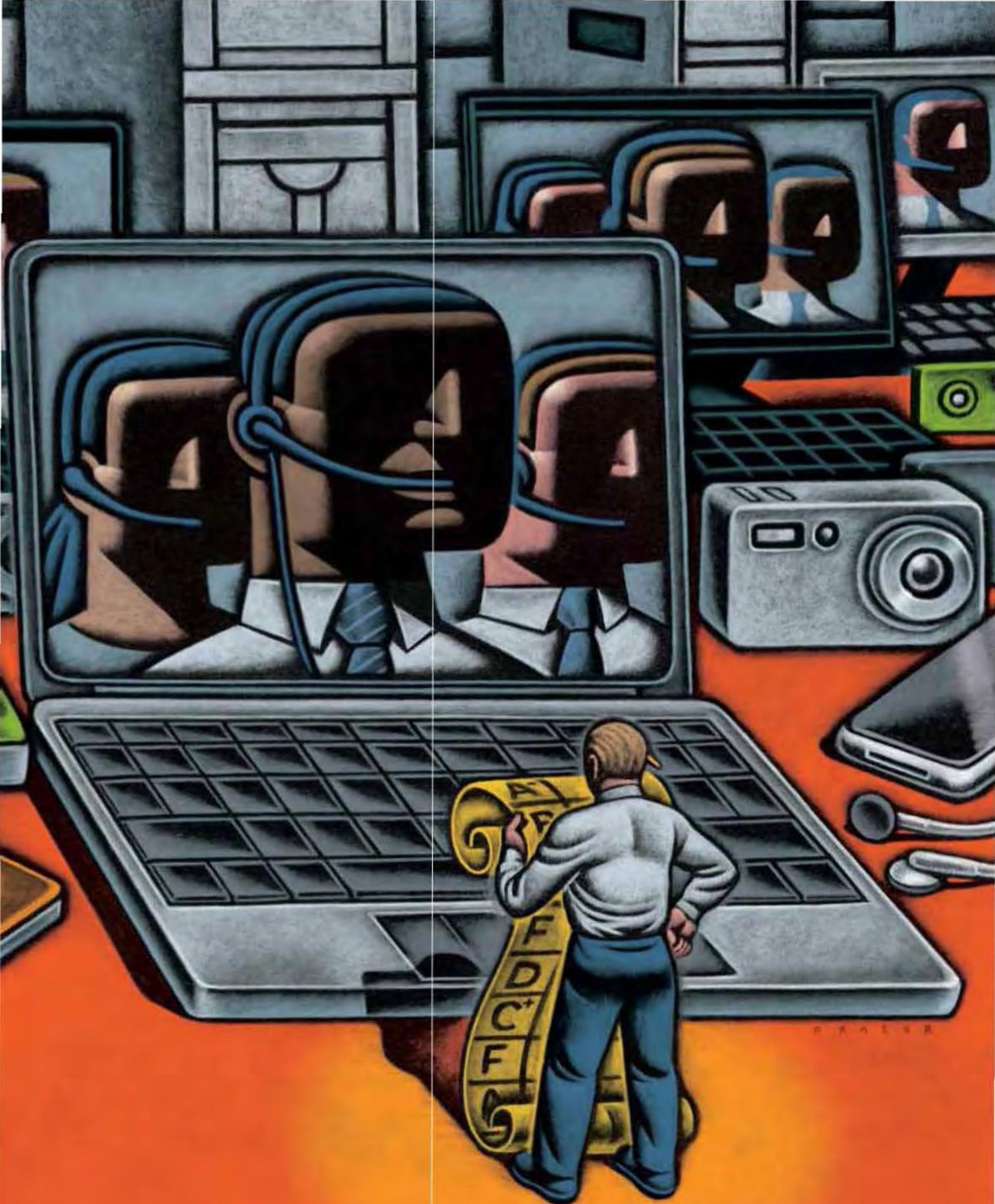
grading tech's biggest brands

44,000 PC World readers reveal which companies make the sturdiest gear—and which ones won't forget you after the deal is done.

JEFF BERTOLUCCI • ILLUSTRATION BY DOUGLAS FRASER

maybe it's not the accent. Maybe, after all, it's poor training that makes phone support so bad.

That's the word from *PC World* readers who completed this year's Reliability and Service Survey. We're receiving fewer gripes about thick-accented customer service representatives with incongruously American names like "Jack" and "Susan," and more about robotic staffers who seem never to veer from their >>



P. A. O. L. S. R.

script, regardless of the problem at hand.

Mike Berich, a Hewlett-Packard customer in Waterford, Wisconsin, has experienced robo-reps first hand. Soon after he purchased his HP Media Center PC two years ago, the system began freezing up and wouldn't run backups. Berich telephoned HP support, which he describes as "very poor in knowledge."

"They would start reading, and you could sense they're reading because they don't even reply to you at times," says Berich, a retired Army colonel. "It's apparent that they're not very skilled."

HP sent Berich a CD to reinstall Windows, but that didn't fix the problem. Ultimately, he had to ship his PC back to the company to have it repaired.

Another HP customer, Mike Omelanuk, had a similar experience. When he contacted HP to replace a broken DVD drive on his notebook, he endured a Kafkaesque series of e-mail messages and phone calls.

Numerous e-mail responses, for instance, included the same boilerplate text explaining HP's support policies and asking Omelanuk whether he understood them. No matter how many times he answered "yes," the same question would appear in the next e-mail message. It was hard to tell whether he was communicating with man or machine.

"Aside from difficulties with accents, which I think is improving at foreign support centers, I think the major problem is that companies don't give their [support representatives] the ability to do anything but follow the script," writes Omelanuk in

winners and losers

APPLE AND CANON did best overall in our study. Apple earned 17 better-than-average scores across four product categories. Canon snagged 10 high marks—down from 18 last year—in the printer and camera categories. In the losers' bracket, HP received a stunning 18 worse-than-average scores (up from 15 last year) over four device categories, while Lexmark collected 4 subpar grades (improving from 6 last year) in the printer category.

an e-mail interview. "They hire some pretty bright folks, but essentially they rent their voice without the brain."

Who's Hot, Who's Not

More than 44,000 *PC World* readers rated leading computer and peripheral vendors in our annual Reliability and Service Survey. Companies were graded head-to-head against their competitors in six product categories: desktops, notebooks, printers, digital cameras, MP3 players, and routers.

Who's hot this year? Perennial top dogs Apple and Canon once again smoked the competition. Apple's desktop computers earned better-than-average marks in seven of nine categories. Readers were very satisfied with the overall reliability of the Mac and gave Apple high marks on two measures involving customer service. MacBook notebooks scored very

well too, with six above-average grades, though readers did gripe about failed components. Apple's routers were praised for their reliability and ease of use. Results were mixed for the iconic iPod player, however: Readers found it very easy to use, but a higher-than-usual proportion noted problems that became apparent the first time they used the product.

Canon printers repeated last year's triumph with top scores in eight of nine grading categories—the best showing of any product in the survey. The only average grade Canon received involved customers who called Canon support but never had

LAPTOPS: Apple Leads, HP Bleeds, Lenovo Significantly Recedes

COMPANY	Reliability measures					Service measures			
	Problem on arrival	Any significant problem	Any core component problem ¹	Any failed component replaced	Overall satisfaction with reliability	Phone hold time	Average phone service rating	Problem was never resolved	Service experience
Apple	▲	▲	●	▼	▲	*	▲	▲	▲
Acer	▲	▲	●	●	●	*	*	●	●
Sony	▲	●	▲	●	●	*	*	*	*
Dell	●	●	●	▼	●	●	●	▲	▲
Lenovo/IBM	●	●	●	●	▲	●	●	●	●
Toshiba	●	●	●	▲	●	●	●	●	●
Asus	●	●	●	*	●	*	*	*	*
Gateway	●	●	●	●	●	*	*	●	●
Compaq	●	●	●	●	▼	*	*	*	*
HP	▼	▼	▼	●	▼	●	▼	●	▼

● Average ▲ Better ▼ Worse ¹ We categorize six laptop PC components as "core components": CPU, motherboard, RAM, graphics chip, hard drive, and power supply.

* We received too few responses to rate this company on this measure.

their problem resolved. Canon cameras, though, were less impressive in this year's survey, with just two above-average marks; last year, Canon cameras earned high marks in eight of nine categories. Still, this year's Canons did better than most in problems on first use, and in owner satisfaction overall.

Hewlett-Packard, the world's largest PC manufacturer, continues to pull disappointing ratings, with some subpar scores in each of its product categories, including desktops, laptops, printers, and cameras. HP's laptops fared the worst, as readers nailed them with six subpar scores, citing poor component reliability and lackluster support. HP printers performed marginally better, collecting five subpar marks. As for desktops, readers slammed HP (and its Compaq brand) for poor support and so-so reliability. One bright spot: Readers think HP does a better job than its peers of replacing failed desktop components.

Dell, meanwhile, improved its marks for desktop reliability this year. Readers rated Dell's phone support hold time as average, up from last year's worse-than-average score. The bad news for the company is that its printers earned below-average scores in ease of use and reliability. Speaking of printers, long-time cellar-dweller Lexmark improved somewhat, though its rankings remain very low. The company's customer service rating improved from below average to average, but readers report that the reliability and usability of Lexmark printers are still subpar.

Reliability Is Improving

Industry-wide, hardware continues to become more reliable, though plenty of room remains for further improvement. "I'm seeing reliability going up quite a bit across the board," says Gartner analyst Leslie Fiering, who has covered PC quality-assurance issues for more than 20 years. Among the factors that have contributed to this trend, she says, are manufacturers' growing recognition that dollars spent up front to make products more reliable will yield back-end savings, thanks to fewer support calls and warranty repairs. Fiering also cites higher-quality motherboards from

suppliers and more consolidation of system components.

Laptop PCs—especially corporate models—have become significantly more durable in recent years. In 2004, for instance, the first-year failure rate of business-class notebooks was 20 percent, meaning that 1 in 5 portables had a component that needed to be replaced in its first year. That percentage has since fallen to 12 percent, according to Fiering. >>

what the different measures mean

WE ASKED *PC World* readers to rate vendors in six product categories: laptops, desktops, printers, digital cameras, routers, and MP3 players. (For similar reliability and service ratings for HDTV vendors, see find.pcworld.com/62105.) In each category, we rated each vendor in nine specific areas of customer service or product reliability.

On each measure, we determined whether the vendor's score was significantly better than average, not significantly different from average, or significantly worse than average. If a vendor drew 49 or fewer responses in an area, we discarded the results as statistically unstable. This prevented us from rating some smaller vendors.

RELIABILITY MEASURES

• **Problems on arrival (all devices):** Based on the percentage of survey respondents who reported one or more problems with the device out of the box.

• **Any hardware or software problem (all devices):** Based on the percentage of survey respondents who reported any problem at all during the product's lifetime.

• **Satisfaction with reliability (all devices):** Based on the owner's overall satisfaction with the reliability of the device.

• **Failed component (laptops and desktop PCs):** Based on the percentage of survey respondents who reported replacing one or more original components because they had failed.

• **Core component problem (laptops and desktop PCs):** Based on the percentage of survey respondents who reported problems with the processor,

motherboard, power supply, hard drive, system memory, or graphics board/chip at any time during the life of their laptop or desktop PC.

• **Severe problems (printers, cameras, routers, and MP3 players):** Based on the percentage of survey respondents who reported a problem that rendered their device impossible to use.

• **Ease of use (printers, cameras, routers, and MP3 players):** Based on the percentage of survey respondents who rated their device as extremely or very easy to use.

SERVICE MEASURES

• **Phone hold time:** Based on the average time a product's owners waited on hold to speak to a phone support rep.

• **Phone rating:** Based on a cumulative score derived from product owners' ratings of several

aspects of their experience in phoning the company's technical support service. Among the factors considered were whether the information was easy to understand, and whether the support rep spoke clearly and knowledgeably.

• **Failure to resolve problem:** Based on the percentage of survey respondents who said the problem was never resolved after contacting the company's support service.

• **Service experience:** Based on a cumulative score derived from product owners' responses to a series of questions that focused on 11 specific aspects of their experience with the company's service department.

SURVEY METHODOLOGY

You can find a detailed description of our survey methodology in the online version of this article at find.pcworld.com/62001.



Soon after Matt Davis of Lincoln, Nebraska, bought his Acer laptop, the machine's power cord began to fall apart. "You would have to hold the wires in a certain position to get the computer to charge."

The situation is less rosy on the consumer laptop side, where the failure rate within the first year of ownership runs as high as 50 percent among some makers, according to Fiering. But notebooks that stay plugged in at home or at the office may have a lower failure rate than ones that are carried around in a high-school kid's book bag, for example. Consumer desktop computers, meanwhile, are far more reliable, Fiering says, with failure rates that have remained in the "mid-single digits" for several years.

Motherboards and hard drives still account for the majority of notebook failures; LCD screens and batteries, despite a few isolated incidents, are less likely to cause trouble these days. Anecdotally, few readers griped about the screens or the batteries on their laptops, but many grumbled about slow system speeds, operating system glitches (particularly in connection with Windows Vista), skimpy amounts of RAM, and diminutive hard drives.

Will falling laptop prices hurt reliability? We're already seeing well-equipped laptops priced at under \$500, and some mini-notebooks (or "net-

DESKTOPS: Apple Soars, Acer and eMachines Score, HP Snores

COMPANY	Reliability measures					Service measures			
	Problem on arrival	Any significant problem	Any core component problem ¹	Any failed component replaced	Overall satisfaction with reliability	Phone hold time	Average phone service rating	Problem was never resolved	Service experience
Apple	▲	▲	▲	▲	▲	*	*	▲	▲
Acer	●	▲	▲	▲	●	*	*	*	*
eMachines	▲	▲	▲	●	●	*	*	*	*
Dell	●	●	●	●	●	●	●	▲	●
Lenovo	●	●	●	▲	●	*	*	*	*
Asus	●	●	●	●	●	*	*	*	*
Compaq	●	●	●	●	▼	*	*	▼	●
Gateway	●	●	●	●	●	●	●	▼	▼
CyberPower	▼	▼	▼	●	●	*	*	*	*
HP	▼	●	●	▲	●	▼	▼	●	▼
Sony	●	▼	▼	●	▼	*	*	*	*

● Average ▲ Better ▼ Worse ¹We categorize six desktop PC components as "core components": CPU, motherboard, RAM, graphics chip, hard drive, and power supply.
* We received too few responses to rate this company on this measure.

PRINTERS: You Can (Still) Count on Canon for Best Reliability and Service

COMPANY	Reliability measures			Service measures					
	Problem on arrival	Any significant problem	Severe problem	Ease of use	Overall satisfaction with reliability	Phone hold time	Average phone service rating	Problem was never resolved	Service experience
Canon	▲	▲	▲	▲	▲	▲	▲	●	▲
Samsung	●	▲	▲	●	●	*	*	*	*
Brother	●	▲	●	●	●	*	*	●	●
Epson	▲	●	●	●	●	*	●	●	●
Konica Minolta	●	●	●	▼	●	*	*	*	*
Xerox	●	●	▼	●	●	*	*	*	*
Dell	●	●	●	▼	▼	*	●	●	●
Kodak	●	▼	▼	▼	●	*	*	*	*
Lexmark	●	▼	▼	▼	▼	*	*	●	●
HP	●	▼	●	●	●	▼	▼	▼	▼

▲ Average ▲ Better ▼ Worse * We received too few responses to rate this company on this measure.

books”) sell for even less. “We could see a situation where there is higher failure at the very low end,” says Fiering. She thinks that the bargain laptops of the future may have more external problems than internal ones—that is, problems such as cases breaking or keys falling off.

Acer senior product manager Ray Sawall disagrees. “Sub-\$500 netbooks and notebooks have not been achieved through cutting corners on reliability and quality,” he says. “These price points have been realized through price reductions in key commodities such as displays, memory, and hard drives.” Sawall points to portable DVD players, many of them equipped with 8.9-inch LCD screens, to illustrate his point. As sales of these players increased, the manufacturing costs of smaller LCD panels fell. “As a result, the sub-\$400 netbook became a reality, where it was not possible for most of 2007,” he adds.

Though PC reliability is improving, the personal computer is still the worst troublemaker in consumer electronics. With its multiple hardware components and software applications, its fragile moving parts, and its jack-of-all-trades complexity, the PC is a support nightmare waiting to happen. In our survey, roughly a third of desktop and notebook PC users who participated reported one or more significant problems with their PC’s hardware or software. Next most vexatious is the printer: Less than 30 percent of printer owners had one or more problems, followed by about a quarter of router users, a sixth of MP3 player owners, and an eighth of digital camera users. The technology research firm IDC recently completed a large study whose results tally with ours. The study looked at support issues for 14 consumer electronics devices, including the 6 included in our survey. “Of those 14 devices, desktops and laptops clearly had the most support issues,” says IDC research manager Matt Healey, who coauthored the report.

Printers can be a problem too. “There are some unique situations with printers,” says Jodi Schilling, HP’s vice presi-

dent of customer support operations for North America. New and updated operating systems are notorious for garbling software drivers and making printers inoperable; and the sheet-feeding design of some models can be a nuisance.

Jim Lee of Naperville, Illinois, owns a Lexmark inkjet printer, but he says that he has never cared much for the printer’s design. “It’s really an awkward machine to use,” he explains. “Occasionally it’ll feed two sheets instead of one, so you’ll get a blank one stuck on the back of yours. That seems to be a quirk of the machine that we just had to learn to live with.” Lee recently bought a newer HP Officejet printer, which he says handles paper much better than the Lexmark does.

Make It Easy to Use—and Reliable

Not surprisingly, Apple iPod users in our survey say that they like the cool design of the leading MP3 player.

John Pyne of Colorado Springs, Colorado, is clearly an iPod devotee—in fact, his family owns four of them. He and his wife opted for the slimmer, lighter Nano, while his teenage son and daughter prefer the hard-drive-equipped Classic, with its greater storage capacity. Nevertheless, Pyne and other readers aren’t reluctant to describe problems they’ve encountered and to suggest ways to improve the iPod.

“My son’s Classic just died one time, and then all of a sudden it came back to life,” says Pyne, who runs a disaster recovery consulting firm. “We’ve never been able to figure out what happened. It’s still playing a couple of months later now.”

Pyne would also like to see Apple upgrade the way iPods sync with iTunes. His home network connects up to nine computers at any one time—a desktop and a laptop for each family member, plus an extra home-office PC. But each iPod is designed to sync with only one specific computer, which can be a hassle, particularly for his kids. “They’d like to be >>

able to go between their laptop and desktop, but they have to pick one or the other” to sync their players, he says.

Computer consultant Seth Novogrodsky of Berkeley, California, likes the reliability of his 80GB iPod Classic, which he listens to on his walk to work, but he recognizes its faults.

“Apple is known for its ease of use, but I think they could’ve done a better job,” he says. He’d like to see such design enhancements as a dedicated volume control, more menu shortcuts, and a built-in (rather than optional) FM tuner.

For Matt Schaidle of Goodfield, Illinois, reliability trumps usability. He once owned an iPod, but when his second-generation model with a 20GB hard drive stopped working about a month after the warranty expired, he switched to a Creative Zen Vision M instead. “I like the look of the iPod, but I wanted something [other than] an iPod after it died on me like that,” he says. And though Schaidle doesn’t care much for the Vision M’s bundled software—he uses Windows Media Player to sync the device with his PC—he appreciates the Creative player’s reliability during the two years he’s had it.

Any Hope for Phone Support?

Year in and year out, most of our readers’ support-related gripes center on poor phone support. The story’s the same this time around, though customers do appear more tolerant of foreign accents as long as the tech reps know their stuff. All too often, however, that’s not the case. “You can do good service via phone, but frankly it’s just so horribly, horribly

MP3 PLAYERS: iPod Has a Share of the Lead, but No Stars Here

COMPANY	Reliability measures				
	Problem on arrival	Any significant problem	Severe problem	Ease of use	Overall satisfaction with reliability
Apple	▼	◆	▼	▲	▲
Panasonic	◆	▲	▲	▼	▼
Sony	◆	▲	◆	▼	◆
Toshiba	◆	*	◆	*	*
Archos	▼	*	◆	*	*
Microsoft	▼	◆	◆	◆	◆
RCA	◆	◆	◆	▼	◆
Samsung	◆	◆	◆	▼	◆
Coby	◆	◆	◆	▼	▼
IRiver	◆	◆	◆	▼	▼
Philips	◆	◆	▼	▼	◆
Creative Labs	▼	◆	▼	▼	◆
SanDisk	▼	◆	▼	▼	◆

◆ Average ▲ Better ▼ Worse * We received too few responses to rate this company on this measure. NOTE: We could not rate the MP3 player companies on our Service measures, due to an insufficient number of service-related responses.

done,” says James Governor, an industry analyst for Redmonk, a technology research firm. IDC’s Healey agrees: “Device manufacturer support, because of all of the pressures they’re under for [profit] margin, has traditionally not been exceptional.”

Soon after Matthew Davis of Lincoln, Nebraska, bought his Acer laptop, the machine’s power cord started to fall apart. The rubber split and the wires frayed. “You would have to hold the wires in a certain spot to get the computer to charge,” he writes via e-mail. (His fiancée’s Acer portable had a similar problem.) Davis, a tech support analyst, contacted Acer support, which told him that his one-year warranty didn’t cover the power cord. As a result, he had to spend \$99 for a new Targus adapter. His next laptop will be a Dell or Sony, he says.

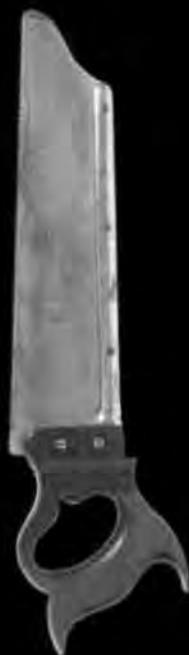
“The bottom line is that customer service as it currently stands has failed,” says Governor. Vendors cut costs by outsourcing support, but too often the result is disgruntled customers. “Low cost is not a benefit in customer service,” he asserts. “You may think that way, but it is short-sighted, and it will come back to bite you. In my experience, outsourced customer service is just nowhere near as good.”

Whether outsourced or not, good support can encourage strong customer loyalty. Susan Payton of Astoria, Illinois, phoned Dell when her LCD monitor stopped working. The vendor determined that the display’s backlight was out, and it quickly shipped her a replacement monitor. A few months later, she bought the identical desktop model for her 30-year-old son John. When John, who is disabled, needed help setting up the computer, Dell was very helpful. “The gentleman >>

CAMERAS: Fujifilm and Panasonic Bypass Canon for Highest Marks

COMPANY	Reliability measures				
	Problem on arrival	Any significant problem	Severe problem	Ease of use	Overall satisfaction with reliability
Fujifilm	▲	▲	◆	◆	▲
Panasonic	◆	▲	▲	◆	▲
Canon	▲	◆	◆	◆	▲
Kodak	◆	◆	▲	▲	▼
Casio	▲	◆	◆	◆	◆
Pentax	◆	◆	▲	◆	◆
Olympus	◆	◆	◆	◆	◆
Polaroid	◆	◆	◆	◆	◆
Samsung	◆	◆	◆	◆	◆
Sony	◆	◆	◆	◆	◆
Vivitar	◆	◆	◆	◆	◆
Nikon	◆	◆	▼	▼	▲
HP	▼	▼	◆	◆	▼

◆ Average ▲ Better ▼ Worse * We received too few responses to rate this company on this measure. NOTE: We could not rate the camera companies on our Service measures, due to an insufficient number of service-related responses.



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DELORME

who worked with [John] was wonderful," Susan Payton says. He gave John his private number. When John had a problem, he would call and ask to talk to that Dell support person.

"There's a high correlation between good tech support and repeat customers," confirms IDC's Healey.

Why So Bad, HP?

For two years now, Hewlett-Packard has fared the worst in our survey. So what is HP doing to fix things? One effort involves shortening hold times for phone support. Specifically, HP strives to answer 80 percent of support calls in 3 minutes or less. In addition, it's reworking its automated call system to ask customers fewer questions before connecting them to an agent. The new call system will be rolled out this spring. "We think it'll make a big difference in customers' experience when they contact us," says HP's Schilling. In our survey, *PC World* readers were especially unhappy with HP's hold times for calls related to desktop PCs and printers. They expressed general dissatisfaction with HP's overall customer support for printers, notebooks, and desktop PCs.

HP points out that it has also recently upgraded its online support forums to make it easier for owners of its products to help each other. HP computer users, for instance, can click a link from the Windows desktop and go directly to an online community that the company maintains; there they can post questions or browse a variety of topics. "It's a one-to-many

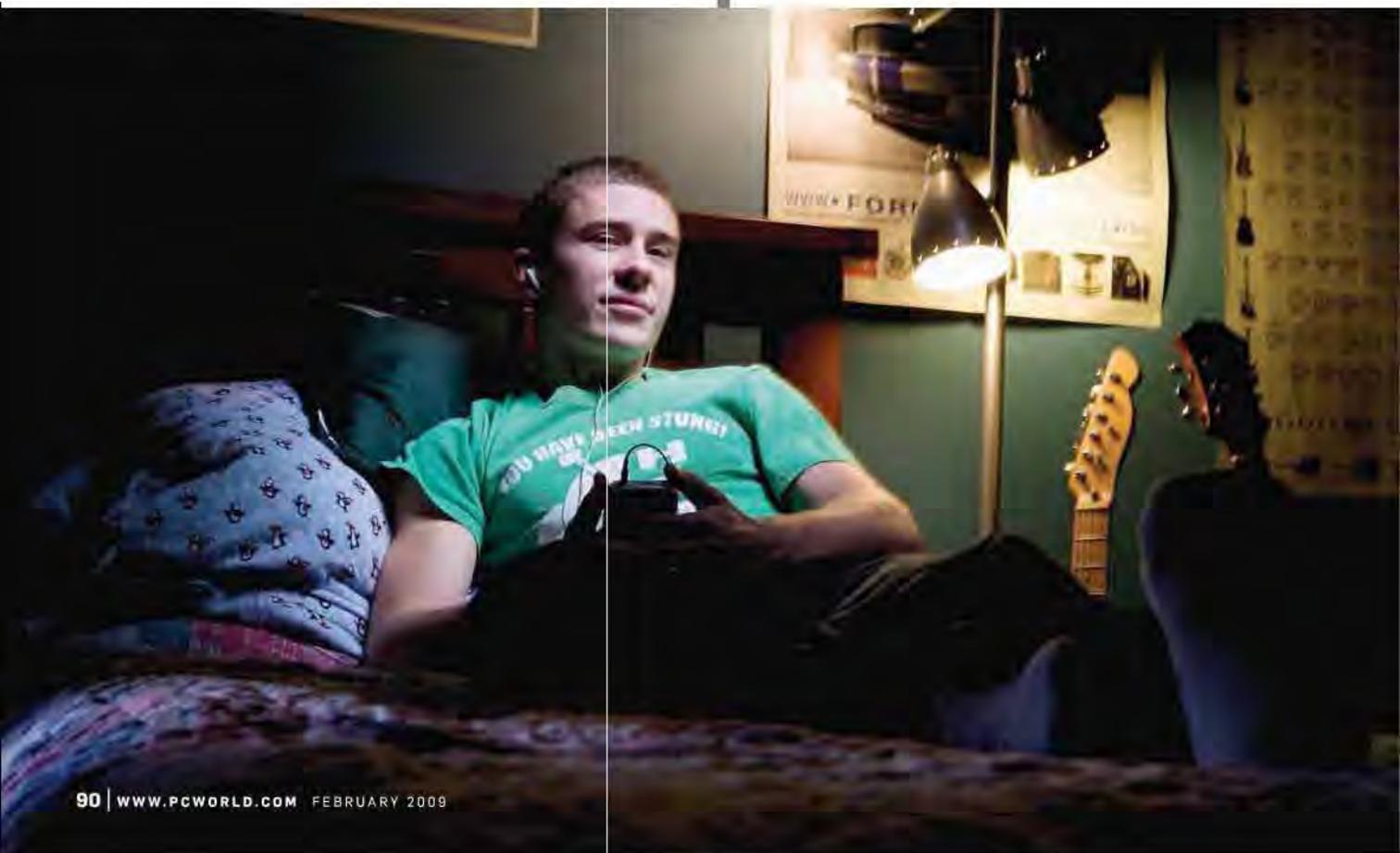
support vehicle, as opposed to self-support or the one-to-one support that you get when talking to a single individual," says Brent Potts, who manages HP's online support.

Analysts are skeptical about such initiatives, however. "Community support always works well for people who really know what they're doing. But for the masses, it may not be a great option," says Healey. HP counters this criticism by arguing that younger users are more likely than older users to try support forums. "The younger generation typically has a very strong willingness to hear from other users, and to explore what they have to say," says Potts, who adds that baby boomers often prefer talking with a company representative.

To be fair, there are a lot of perfectly happy HP customers, too, such as Malcolm Leonard Jr. and his wife. The couple divide their time between Arizona's White Mountains in the summer and Tucson in the winter. They own three HP desktop PCs, two of which have an HP Pocket Media Drive bay, which holds a portable USB hard disk. "When I move, I take the drive with >>>

matt Schaidle of Goodfield, Illinois, says his iPod stopped working a month after the warranty expired. "I like the look of the iPod, but I wanted something [other than] an iPod after it died on me like that," he says.

PHOTOGRAPH: ANDY GOODWIN





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me," says Leonard, who adds that the portable disk is considerably easier to carry around than a separate notebook. And though Leonard owns a lot of HP hardware, he says that he has had to call tech support only one time—and that was just for a minor Windows problem that HP fixed quickly.

What the Future Holds

Today's typical home computer resembles an air-traffic control tower that is responsible for regulating a growing number of associated tech devices, including printers, MP3 players, digital cameras, and routers. "It's really a portal into the broadband-connected world," says IDC's Healey. Unfortunately the growing level of complexity poses problems for traditional computer vendors and their support staff. They're willing—though not always able—to fix a notebook or desktop problem, but not a home-networking glitch that involves, say, a Wi-Fi router and a printer. "The device manufacturer says, 'Oh, wait, we don't do home networking. We're just a PC provider. We make the box.'" Healey adds.

As a result, other companies are filling the void by offering home tech support—for a price. In-home service visits from traveling techies employed by the likes of Geek Squad and Firedog have been around for years, but they can be prohibitively expensive, often costing hundreds of dollars for a single visit. New players in this space include Internet service providers such as AT&T and Verizon, both of which offer fee-based phone support. The AT&T ConnecTech service, for instance, charges \$20 a month to diagnose and fix computer hardware, software, peripheral, and networking troubles. Support calls are limited to 20 minutes, however.

Will customers agree to pay for such service? Yes, according to IDC's recent consumer support study. "Tech support was

"The device manufacturerer says, 'Oh, wait, we don't do home networking. We're just a PC provider. We make the box.'"

the second highest application that consumers are willing to pay for," says Healey. A typical subscriber might have to schedule around a "high-pressure, high-paying

job," he says. "They come home and have the 13-year-old screaming at them that they're not doing their homework because the computer is broken. Their BlackBerry is getting pinged by their boss, who needs an assignment done by tomorrow. And they just don't have time to fix the computer."

Dell's Gone Social, Too

Like its archrival HP, Dell is investing heavily in online, user-to-user support. In 2008, its community forums adopted a feature called Accepted Solutions, which encourages members to rate the technical fixes suggested by fellow users. If a fix works, it earns an Accepted Solution icon. (Dell staffers also test these Accepted Solutions to verify them.)

The program is a success so far, says Bob Pearson, manager of Dell's communities and conversations group, which oversees Dell support blogs, forums, wikis, and other content. In Accepted Solutions' first eight months, users submitted more than 15,000 solutions, with an average of 350 views per solution. That works out to 5 million page views. The program eases the burden on Dell's phone support, too. "Let's say 20 percent of the people who view those solutions didn't need to make a phone call," says Pearson. That would mean 1 million support calls avoided by the vendor. The bottom line: Fewer calls and greater cost savings for Dell.

Pearson rejects the argument that older users won't try online support tools, saying it's really a matter of personal preference. "It's not just age. Some people want to surf and find the answer. Some people are the Mr. and Mrs. Fix-it of their neighborhood, and they want to keep up to speed on everything. And some people just prefer to pick up the phone."

So will thin profit margins on hardware sales, increasingly complex home networks, and a move toward user-to-user tech help spell the end of free support? Opinions vary. "Free support may be dying," says Healey. Your future \$299 notebook may have an optional warranty covering tech support that costs an extra \$50 to \$100, he predicts.

Vendors, however, say that's unlikely. "We believe that customer support is a critical part of our long-term business success," declares Jim Kahler, HP's director of consumer warranties. In the past, when PC makers cut warranty lengths to 90 days or cut back policies, "it has had a pretty significant impact on their ability to compete in the marketplace," he says.

Ultimately, the reaction of consumers will decide the matter. As Kahler notes, "If customers don't value free support, they'll speak with their dollars." ●

ROUTERS: Apple Has a Slight Lead in a Closely Packed Field

COMPANY	Reliability measures				
	Problem on arrival	Any significant problem	Severe problem	Ease of use	Overall satisfaction with reliability
Apple	▲	▲	▲	▲	▲
Belkin	▲	▲	▲	▲	▲
TrendNet	▲	▲	▲	▲	▲
Buffalo	▲	▲	▲	▲	▲
Cisco	▲	▲	▲	▲	▲
D-Link	▲	▲	▲	▲	▲
Linksys	▲	▲	▲	▲	▲
Netgear	▲	▲	▲	▲	▲
2Wire	▲	▼	▼	▲	▼

▲ Average ▲ Better ▼ Worse NOTE: We could not rate the router companies on our Service measures, due to an insufficient number of service-related responses.

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PCW Test Center

Offering live-view LCDs, scene modes, and other consumer-friendly features, digital SLRs have become almost as easy to use as

the simplest point-and-shoot cameras. And their prices continue to fall. We examine some of the best of the new generation of SLRs, including a few high-end models that will wow the pros. >>

INTRODUCTION BY MELISSA J. PERENSON
PHOTOGRAPHS BY ROBERT CARDIN

SLRs

With Point-and-Shoot Personalities



SLRs now benefit from the trickling down of technology used in professional models.

The impression that digital SLR (single-lens reflex) cameras are too complicated is quickly fading. So, too, is the notion that they lack some of the friendly features found on point-and-shoots. While digital SLRs probably won't replace pocket cameras anytime soon, more users are looking to step up their photography by graduating to a digital SLR.

We tested eight of the latest SLRs, and found

that you can get more camera for your money than ever before. We aren't talking just about megapixels, though they are still increasing. SLRs now benefit from the trickling down of technology used in professional models, as well as from the rise of features previously common only to point-and-shoot cameras.

Typically, more-expensive SLRs boast such extras as a higher frames-per-second rate (for

Nikon's Top-Notch, Video-Capable D90 Leads the Digital SLR Pack

	PCW Rating	Performance	Features and specifications	Bottom line
1	88 VERY GOOD	<ul style="list-style-type: none"> Image quality: Superior Overall design: Superior Battery life: Superior 	<ul style="list-style-type: none"> 12.3 megapixels 5.8X optical zoom (18-105mm) 6 scene modes 5.2 by 3.0 by 4.1 inches 	Nikon scores high for offering great image quality and a terrific design—including rudimentary video recording, a DSLR first.
2	87 VERY GOOD	<ul style="list-style-type: none"> Image quality: Superior Overall design: Very Good Battery life: Superior 	<ul style="list-style-type: none"> 15.1 megapixels 11.1X optical zoom (18-200mm) 6 scene modes 5.7 by 2.9 by 4.2 inches 	Though the 50D is not a must-buy upgrade over the 40D, it does have some new and user-friendly features and shooting modes.
3	86 VERY GOOD	<ul style="list-style-type: none"> Image quality: Superior Overall design: Very Good Battery life: Superior 	<ul style="list-style-type: none"> 12.2 megapixels 3.1X optical zoom (18-55mm) 6 scene modes 5.1 by 3.8 by 2.4 inches 	The Rebel XSi provides a strong range of capabilities, but it may cost more money than entry-level buyers want to spend.
4	85 VERY GOOD	<ul style="list-style-type: none"> Image quality: Very Good Overall design: Very Good Battery life: Superior 	<ul style="list-style-type: none"> 10.1 megapixels 4.8X optical zoom (28-135mm) 6 scene modes 5.7 by 2.9 by 4.2 inches 	Canon's feature-packed 40D digital SLR produces great images, and will appeal to enthusiasts and professionals alike.
5	85 VERY GOOD	<ul style="list-style-type: none"> Image quality: Very Good Overall design: Very Good Battery life: Superior 	<ul style="list-style-type: none"> 10.2 megapixels 3.8X optical zoom (18-70mm) 5 scene modes 5.3 by 4.0 by 3.0 inches 	This Sony camera is well designed, in both ease of use and ergonomics. It also has a tiltable LCD and fast, real-time live view.
6	85 VERY GOOD	<ul style="list-style-type: none"> Image quality: Very Good Overall design: Very Good Battery life: Superior 	<ul style="list-style-type: none"> 10 megapixels 3X optical zoom (14-42mm) 18 scene modes 5.4 by 2.7 by 3.6 inches 	This SLR offers many advanced features for the price, though some sophisticated functions can be difficult to access.
7	84 VERY GOOD	<ul style="list-style-type: none"> Image quality: Very Good Overall design: Superior Battery life: Superior 	<ul style="list-style-type: none"> 10.1 megapixels 5X optical zoom (24-120mm) 0 scene modes 5.6 by 4.58 by 2.9 inches 	The big, heavy, rugged E3 has extensive advanced controls and fast burst-shooting speed, and it can autofocus very quickly.
8	83 VERY GOOD	<ul style="list-style-type: none"> Image quality: Very Good Overall design: Very Good Battery life: Superior 	<ul style="list-style-type: none"> 10.1 megapixels 3.1X optical zoom (18-55mm) 6 scene modes 4.9 by 3.8 by 2.4 inches 	While the XS is an excellent entry-level SLR, its more full-featured sibling, the Digital Rebel XSi, outperformed it in our tests.
9	83 VERY GOOD	<ul style="list-style-type: none"> Image quality: Very Good Overall design: Very Good Battery life: Superior 	<ul style="list-style-type: none"> 10.2 megapixels 3.1X optical zoom (18-55mm) 8 scene modes 5.0 by 2.5 by 3.7 inches 	The Nikon D60 produces pleasing pictures, but it offers minimal improvements over the company's D40x—and it costs more.
10	83 VERY GOOD	<ul style="list-style-type: none"> Image quality: Good Overall design: Very Good Battery life: Superior 	<ul style="list-style-type: none"> 14.6 megapixels 3.1X optical zoom (18-55mm) 11 scene modes 5.6 by 2.9 by 4.0 inches 	Although Pentax's K20D SLR does some things well and has unique features, this camera's slow autofocus frustrates.

CHART NOTES: Street prices and ratings are as of 12/10/08. Prices include a kit lens. See find.pcworld.com/62107 for more details.

capturing fast-moving action), as well as better high-ISO performance (which improves low-light indoor or nighttime shots). And the \$1250 Nikon D90, our Best Buy, is the first digital SLR able to take video (at 720p resolution). It can't compete with a camcorder, but we expect to see more of this capability in the future (Canon's full-frame 5D Mark II can capture 1080p video).

Point-and-shoot-style scene modes, face detection, and live view (for framing shots via the LCD) are all increasingly common. Of the models here, only the entry-level, \$650 Nikon D60 lacks live view. Some manufacturers do better than others at implementing live view. Sony put a second image sensor in its \$550 DSLR-A300K for faster, more accurate shooting; Nikon and Canon use phase-detection autofocus (which depends on the camera's focus sensors) and contrast-detection autofocus (which senses the contrast in the image to determine focus) in live view on the D90 and the \$1600 EOS 50D, respectively.

Only one camera here, the \$2700 Olympus E3, has no scene modes for shooting in certain conditions. And though at this time last year one SLR had face detection, this year the D90 and three of the four ranking Canons (the EOS 40D being the exception) have that capability.

Image stabilization is another SLR trend. While some manufacturers, such as Canon and Nikon, put the stabilization functionality inside the lens, others place it in the camera body; Pentax does so with its \$1000 K20D, as do Olympus and Sony with their respective SLRs.

In-camera image-sensor cleaning is now ubiquitous. The feature doesn't eliminate the need for cleaning the sensor yourself on occasion, but it helps mitigate the ever-annoying issue of dust landing on the sensor and potentially marring your images (typically dust will be more visible the higher the aperture setting).

The latest SLRs prove you don't have to spend big bucks for great images: Canon's entry-level, \$700 EOS Digital Rebel XS earned a chart slot. So did the EOS 50D, the higher-resolution successor to the \$1300 EOS 40D. Rounding out the batch of tested models is Pentax's K20D, which offers unique shooting features and good performance.

Missing the chart is the Panasonic Lumix DMC-G1 (\$800 with a 28mm-to-90mm lens), which lacks the single-lens reflex structure of a traditional SLR camera but uses interchange-

able lenses (see page 102). We also evaluated two pro full-frame models, the Nikon D700 (\$3600 with a 24mm-to-120mm, f/3.5-to-5.6 VR lens; find.pcworld.com/62059) and the Sony Alpha DSLR-A900 (\$5100 with a 24mm-to-70mm, f/2.8 lens; find.pcworld.com/62069). Falling short, too, was Olympus's \$1000 E-520 (find.pcworld.com/62071), which has a 14mm-to-42mm, f/3.5-to-5.6 lens but suffers from an inelegant design and middling image quality.

1] Nikon D90

Nikon's D90 is the first digital SLR to have video recording. That feature needs refinement; but as a photographer's tool, the D90 is a worthy option on several counts.

The 12.3-megapixel D90 (\$1250 with its AF-S ED 18mm-to-105mm kit lens) has an excellent 3-inch LCD, as well as live view, face detection, and in-camera retouching.

It's well built, but not too hefty. The grip is comfortable, and the design is intuitive. The dense yet easily navigable menu system includes user-friendly elements such as My Menu, which saves frequently used settings.

A button on the back activates the live-view function, which includes still and video recording (the latter 720p at 24 fps). While shooting stills, I found live view too clunky and autofocus too slow, so I used the viewfinder instead.

Before recording video, you must set the autofocus on your subject using live view. During recording, the D90 automatically adjusts for exposure, but not focus. You can manually adjust focus while shooting, but I found that awkward without a tripod. Also, because of the way that CMOS records an image, you may see an undesirable "rolling" (a shake-like impression) in footage. Audio from the microphone was not great, and you can't use the mic to record notes on stills.

The D90 excelled in the PC World Test Center's tests, ranking second to the Canon 50D. With my shots, it was quick to autofocus and usually was on the mark; the automatic flash performed well, too. But the D90 tended to blow out the brightest highlights, and I saw minor halos along very high-contrast edges. Although noise appeared in darker areas at speeds above ISO 400, it was minimal, looking more like film grain. —Kathleen Cullen >>

BEST
BUY



Nikon D90



Canon EOS 50D



Canon EOS Digital Rebel XS

2] Canon EOS 50D

Among current digital SLRs, Canon's EOS 50D (\$1600, with an EF 18mm-to-200mm, f/3.5-to-5.6 IS USM lens; body only, it's \$1200) has one of the highest megapixel counts, at 15.1. It received an image-quality mark of Superior in the PC World Test Center's tests. Images had good color saturation and accuracy, under flash and natural light. In our ISO tests, however, the 50D performed almost exactly as the EOS 40D did: Jurors deemed its ISO 3200 results unacceptable and found ISO 1600 adequate.

The 50D is Canon's first SLR with face detection (for the viewfinder and live view), and it has autofocus fine-tuning to match your lens. It's rated at 6.3 frames per second, and it has a burst mode of up to 90 JPEGs using UDMA CompactFlash cards (the 40D is rated for 75 JPEGs). The 3-inch LCD has a 920,000-dots-per-inch resolution, a big boost over the 40D.

I was disappointed in the live-view mode. It is convenient, due to a dedicated button. And for autofocus it supports both contrast detection and phase detection. Unfortunately, in my trials I could not consistently lock in focus.

Though the menus are now slightly more graphical, they remain in keeping with the controls on other Canons. One complaint: Changing the focus points takes two steps, and often requires looking away from the viewfinder.

Speaking of the viewfinder, its coverage does not quite match what the sensor captures. This sometimes meant retaking a shot. But I also got shots with athletes' fingers and toes intact that might have been cut off had I relied only on the viewfinder and cropped too close. Over time I learned to compose shots to take the extra room into account. —Melissa J. Perenson

3] Canon EOS Digital Rebel XSi

The 12.2-megapixel Canon Digital Rebel XSi, as part of an \$800 kit, comes with an 18mm-to-55mm IS lens (f/3.5 to 5.6) that provides image stabilization and a respectable 35mm focal length range of 29mm to 88mm. In burst mode it can take up to 3.5 frames per second.

A roomy 3-inch (but not high-resolution) live-view LCD sits on the back. The live-view mode uses the sensor for image preview and

capture duties, so what you see on the screen is what the camera records. Though it has its benefits, its performance is slower than that of the Sony Alpha DSLR-A300K.

One feature on the dial, A-Dep, adjusts the depth of field so that your subjects are all in focus. Advanced shooters will like the XSi's spot metering and highlight tone priority; the latter lets you retain more detail in highlights, though you lose ISO 100 when you do so. A noise-reduction mode helps at high ISOs.

In our tests, the XSi's pictures were sharp and well exposed. Images had very little noise in shadows and minimal artifacting along high-contrast edges. —Kathleen Cullen

4] Canon EOS 40D

The Canon EOS 40D (\$1150 body only, or \$1300 with a 28mm-to-135mm lens) received a score of Very Good in the PC World Test Center's image-quality tests. Images were well balanced, with good color saturation and accuracy, under both flash and natural light.

Among other features, this 10.1-megapixel camera offers a 3-inch, live-view, 230,000-pixel LCD, a wireless transmitter, and highlight tone priority for preserving details in bright areas. Its nine-point autofocus sensor proved fast and accurate in my hands-on tests.

Another benefit of the 40D is its multitiered dust-reduction system (now available on the 50D and Rebels, too). You can set the sensor to self-clean whenever you start the camera, a process that was so quick that I experienced no tangible delay in shooting.

But I found I would get a bit more around the edges of my image than I saw in the viewfinder. And in Program mode, I couldn't change the ISO setting. —Melissa J. Perenson

5] Sony Alpha DSLR-A300K

The 10.2-megapixel Sony Alpha DSLR-A300K (\$550, available in a kit only, with an 18mm-to-70mm lens) has a flexible live-view LCD that works in real time. Since the mode uses a separate mirror and sensor to transmit what it sees, it imposes no slowdown on the camera sensor's handling of the images as you >>



Canon EOS 40D



Sony Alpha DSLR-A300K



Olympus Evolt E-510



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shoot. I was disappointed to see that the 2.7-inch screen folds out and extends only vertically. I can imagine how constructing a sturdy, fully swiveling screen might be hard, but here's hoping that Sony will achieve that in the future.

The camera has a 3-frames-per-second burst mode (2 frames per second if you use live view). It can also get close for macro shots, and it offers in-camera image stabilization.

I saw a good deal of noise in shots not employing noise reduction, and some artifacting along high-contrast edges. Even so, in PC World Test Center tests, this model received a score of Very Good for its overall image quality, including its excellent flash exposures.

Novices may value the Exposure Shift setting: First you try setting a proper exposure, and then the function helps make equivalent exposures using different combinations of shutter speeds and apertures. —*Kathleen Cullen*

6] Olympus Evolt E-510

Priced at \$600 with a standard 14mm-to-42mm zoom lens, Olympus's 10-megapixel Evolt E-510 is a solid, flexible camera that takes very good pictures under most conditions.

The dial on the camera's top offers 5 dedicated scene modes; 13 other modes, designed to account for special shooting situations (ranging from fireworks to documents to panoramas), are accessible via menus.

In addition to exposure bracketing, this model can bracket shots for flash and white balance. You also get two image stabilization levels, a depth-of-field preview button, multiple metering modes, and a dust-removal feature that vibrates the sensor.

The E-510's live-view mode is handy; overusing it, however, can heat up the sensor and introduce noise into your images.

My primary complaint is that the interface for some advanced features is a bit clunky. Another drawback is the absence of focus switches on the Olympus lenses; you must change the autofocus setting in the camera.

Color fidelity and saturation were very good, and the E-510 handled most conditions easily. At lower ISO ranges, the images show little noise; as you reach and exceed ISO 800, noise begins to appear, though it's no worse than on other cameras of a similar price. —*Rick LePage*

7] Olympus E3

The 10.1-megapixel E3 is an attractive package for pros and serious amateurs. With a 12mm-to-60mm (24mm-to-120mm, 35mm equivalent) zoom lens, however, it costs \$2700 and weighs an arm-fatiguing 3.25 pounds.

Fortunately, the E3 offers speed and flexibility in spades. In my tests it delivered lightning-quick autofocus. It will capture up to 5 frames per second, too. Its bright, 2.5-inch color live-view LCD swings away and swivels.

You can reassign the dual selector dials in useful ways; for example, set one to adjust the f-stop and the other to change shutter speed. The same is true for the many other controls.

The E3 offers extensive control over color balance, as well—a good thing, because for me the color balance was off in some situations. Landscapes with lots of snow, water, and sky were a stop-and-a-half underexposed and looked as if I had forgotten to remove a dark-blue filter. Extensive use of bracketing helped only a little. Fortunately, subsequent sessions with more mundane subjects produced far better results—accurate colors, outstanding details, and only slight underexposures.

—*Tracy Capen*

8] Canon EOS Digital Rebel XS

The Canon EOS Digital Rebel XS has a variety of features and modes, and excellent image quality. Priced at \$700, it comes in a single-lens kit with an 18mm-to-55mm IS lens (f/3.5 to 5.6), which offers image stabilization and a 35mm focal length range of 29mm to 88mm.

A few buttons are a bit awkwardly placed. The 2.5-inch LCD doesn't match the XSi's 3-incher, but is still generous. And at 15.9 ounces, the XS is the lightest Canon SLR to date.

With 10.1-megapixel resolution and seven-point autofocus, among other features, the XS has solid capabilities for an entry-level camera. It also has an unlimited burst rate of 3 frames per second; this is fairly remarkable considering that the XSi is limited to 53.

The XS has live view, but it lacks two major features seen on the XSi, spot metering and highlight tone priority. Novices won't miss them, but more-advanced users might. >>



Olympus E3



Canon EOS Digital Rebel XS



Nikon D60

A photograph of two giraffes in a savanna landscape under a blue sky with clouds. The giraffe on the left is looking towards the camera, and the one on the right is looking slightly to the side. Three white speech bubbles with black text are overlaid on the image. A vertical line runs down the center of the image, separating the two giraffes.

Fred. I'm worried about our email going down again.

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The smallish viewfinder provides autofocus indicators—red dots that flash when the focus locks. I found them a bit distracting, as they don't appear long enough to see immediately.

Pictures were evenly exposed and sharp, and colors were accurate. I saw little evidence of interference or noise. The XS scored very well in PC World Test Center tests, too, though slightly lower than the XSi did. —*Ginny Mies*

9] Nikon D60

The \$650, 10.2-megapixel Nikon D60 provides advanced in-camera editing, and also offers a bright 2.5-inch LCD and solid construction. The kit includes the Nikkor 18mm-to-55mm AF-S lens (f/3.5 to 5.6), which has a respectable 35mm focal length range of 29mm to 88mm.

I easily navigated menus and changed settings using the four-way navigation pad at the right of the LCD. Beginners (and even advanced users) may appreciate the help screens,

accessible on the LCD at the touch of a button. The LCD is bright and viewable in most conditions, and the viewfinder is an adequate size.

I discovered that the camera lacks automatic bracketing functions for exposure or white balance. It also offers no live view. But one interesting feature is a stop-action-animation mode: After you shoot JPEGs and then select them in the menu, the camera can output them together in a short AVI movie clip. Standard settings and modes include burst (at up to 3 frames per second), white balance, exposure compensation, macro, and black-and-white.

The kit lens produced crisp images without a lot of noise, and the camera's noise-control and dynamic range features were genuinely useful. In the PC World Test Center's evaluation, the D60 did well, although it ranked low for its exposures. —*Kathleen Cullen*

10] Pentax K20D

Pentax's K20D, which sells with an 18mm-to-55mm lens for \$1000, is suitable as a step-up model for former point-and-shoot users.

It carries a newly developed 14.6-megapixel CMOS sensor, as well as a flash sync socket for shooting with external flash units. While not as responsive as the live view on the Sony DSLR-A300K, the live view on the K20D's 2.7-inch LCD comes directly from the sensor and lets you zoom in to check focus.

In my tests, the camera seemed a little slow at autofocus. It lacks an AF-assist lamp, too. In bright daylight, however, it performed well. Its 3-frames-per-second continuous-shooting mode is reasonable as a starting point (unless you plan to shoot fast sports action).

The K20D has several interesting, unique modes. One, TAv, is for shutter and aperture priority. Like manual mode, it lets you choose aperture and shutter settings, but the camera will adjust the ISO automatically for correct exposure. This is a pretty nifty feature for retaining a certain depth of field and freezing or blurring action; it also allows you to be creative, but to do so faster.

At ISOs at or below 400, my pictures were sharp with good tonality. But at ISO 800 and higher, the noise began. The camera delivered very good image quality overall in PC World Test Center tests. —*Kathleen Cullen* ●



Pentax K20D

Panasonic's SLR Alternative

FOR SOME PEOPLE, the biggest obstacles to buying a digital SLR are the bulk and weight. The **Panasonic Lumix DMC-G1** may be an option: It's smaller and lighter than any digital SLR, and it has features that will make point-and-shoot users feel comfortable. But it's pricey (\$800) compared with low-end SLRs, and in tests it didn't produce the same image quality as true SLRs do.

I say "true SLRs" because, technically, the DMC-G1 isn't one. It has no mirror (the "reflex" in "single-lens reflex") and no mechanism to reflect the image captured by the lens through a prism and then to an eye-level viewfinder. Instead, it relies on a 3-inch wide-screen LCD and an electronic eye-level viewfinder. As good as that viewfinder is for its type, I disliked using it, especially in full sunlight, because I found it hard to see while I was squinting. In better lighting, though, it gives you a really good view of your subject.

In our tests the DMC-G1 made a less-than-impressive showing. The photos looked dark, and the white balance—when we used the camera's automatic setting, at least—was really off on a couple of shots. Images weren't extremely sharp compared with those of competing SLRs. The battery held out for 437 shots—not bad, but most SLRs reach (and surpass) our 500-shot test limit with ease.

For additional, in-depth impressions of the Lumix DMC-G1, see find.pcworld.com/62091.

—*Alan Stafford*



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Here's How

15 Tech Secrets for the Serious Road Warrior

Create a wireless hotspot with a phone or laptop, protect your portable from grab-and-dash thieves, and easily communicate with anyone anywhere.

BY ADAM PASH

YOUR WORK increasingly demands that you get things done wherever you are—so the bigger your mobile tech toolbox, the better. In the past, we've discussed online tools such as Google Calendar, text-messaging utilities like Web-based to-do tracker Remember the Milk, and voice-to-text service Jott. This time we'll focus on 15 mobile tech tricks and tools for working on the go.

Use your laptop as a Wi-Fi hotspot: Next time you're in a hotel room with one wired connection and several laptops begging for a Wi-Fi hotspot, set up an ad hoc wireless network on your laptop and then share your wired gateway. First, plug the ethernet cord into your system. To create a new ad hoc network, be sure to enable Internet Sharing on your machine by checking the box labeled *Allow other network users to connect through this computer's Internet connection* in the *Advanced* tab of your connection's Properties menu.



YOU CAN SHARE a single wired Internet connection among multiple laptops by setting up an ad hoc wireless network on one laptop.

From there, setting up an ad hoc network requires different steps in XP and in Vista.

In XP, right-click the Wi-Fi icon in your system tray and select *Open Network Connections*. Then right-click the *Wireless Network Connection* icon and select *Properties*. Click the *Add* button in the *Wireless Networks* tab, give the new network a name and password, and end by checking the box next to *This is a computer-to-computer (ad hoc) network*.

In Vista, right-click the *Network* icon in your system tray and select *Connect to a network*.

Click *Set up a connection or network* in the sidebar, and then choose the *Set up a wireless ad hoc network* option. Follow the setup wizard's instructions and save the new network.

After creating your ad hoc wireless network with the notebook you plugged in, you can connect other computers to the new Wi-Fi net-

work just as you would to any other wireless hotspot.

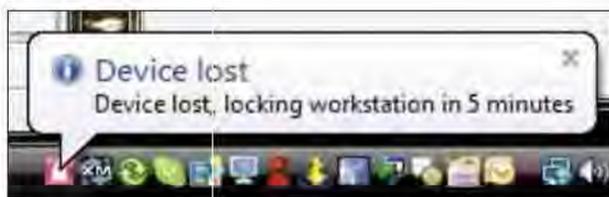
Set up a laptop security system: If you're a seasoned traveler, you're used to working with your laptop in public places. But for maximum security on the road, you need both a physical laptop lock and a software security system on the machine. When switched on, Laptop Alarm (syfer.nl) will sound a loud alarm if anyone unplugs your power cord, moves your mouse, or tries to shut down your computer. To supplement the security system, try Yawcam (www.yawcam.com), a free app that turns a laptop Webcam into a motion-sensing security camera that can upload photos of potential thieves to the FTP server of your choice. Finally, pick up the no-cost LaptopLock utility (www.thelaptoplock.com), which focuses on retrieval and extra security for stolen notebooks. With LaptopLock you can delete files, encrypt data, and log the IP address of your purloined laptop—all remotely.

Automatically lock your computer when you depart, and unlock it when you return: BtProx (btprox.sourceforge.net) is a free app that monitors the



WARD OFF WOULD-BE thieves by setting your portable PC to blast an ear-piercing alarm with Laptop Alarm.

proximity of your computer (laptop or desktop) to your cell phone or other Bluetooth device, and locks the computer when the phone goes out of range. When you walk away from your laptop with your cell phone in your pocket, for example, the computer will automatically lock—protecting its contents from prying eyes. In addition, you can arrange for BtProx to launch any application at the same time



BTPROX TRACKS THE proximity of your cell phone to your laptop and automatically locks the laptop when the phone is out of range.

America Online's IM Forwarding page (mobile.aol.com/aolproducts/imforwarding), click the *Manage Your Mobile Settings* link, and fill out the form (you'll need to log in before you can do this).

com/fonspot) will do the job.

Tethering your data connection will significantly decrease your cell phone's battery life, but it's a godsend when you need it.

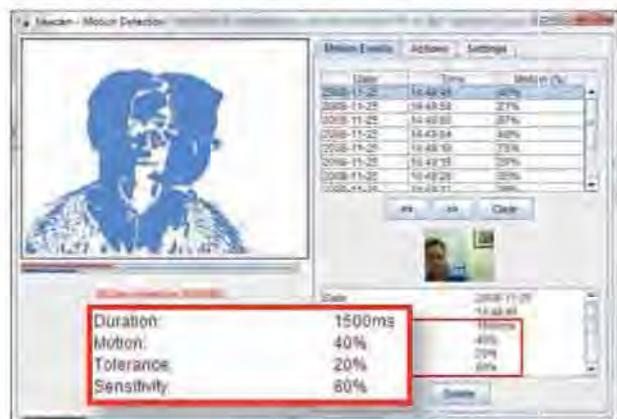
Beef up your voicemail: Visual voicemail (introduced by the iPhone) lets users see who left voicemail and listen to individual messages on demand. The free Web service YouMail (www.youmail.com) upgrades your mobile phone's voicemail, adding visual voicemail, voicemail filtering, and caller-specific greetings to any phone. It even sends voicemail to your e-mail inbox, so archiving a voicemail message or sharing a message is easy.

Send group SMS messages: Whether you're organizing a night out with friends or mass-messaging the company softball team about a change of venue, group messaging is a great way to con-

vey information to a lot of people quickly. Phone trees and e-mail lists work, too, but cell phones make text messaging the quickest, most effective way to get the word out. Unfortunately, filling out an enormous 'To:' field with every contact on your list is tedious and time-consuming. The ad-supported service Tatango (tatango.com) remedies this problem by letting you communicate with every member of a predefined group of people by sending just one text message. The process is simple: Sign up, build out your contact list, and enjoy convenient mass SMS messaging.

Name that tune: One way to get a song out of your head is to listen to it again from start to finish (this doesn't seem to work with "da da da da da I'm lovin' it," however); but setting up a replay can be difficult when you don't know the song's name. You could fire up Google, enter the few lyrics you think you know, and hope for a positive ID; but the 411-SONG (www.411song.com) phone service takes a more scientific approach to

music matching. The next time a song you don't know is playing, just dial 866/411-SONG and hold your handset up to the music for 15 seconds. 411-SONG will identify the tune and send you a text message containing the song's information and a link for buying it. The service costs 99 cents for each accurately identified song, so if you >>



YAWCAM TURNS your laptop's Webcam into a motion detector, alerting you via alarm or e-mail if anyone approaches your computer.

that it issues the lock command, which means that you could set up an arrangement that automatically locks the PC and turns on the laptop's security system when you step away from the machine.

Set up IM forwarding to your cell phone: Instant messaging may seem like a productivity black hole, but in some offices it's the fastest and easiest way to communicate with coworkers. You can even reply to IMs by text message, meaning that you can have the same conversation via your phone as you would in your instant messaging client. To enable the feature for AIM on the Web, go to

Use your cell phone as an Internet hotspot: Does your mobile browser sometimes fail to provide the browsing experience you want, even though you've ponied up for a lightning-fast data plan? Tether your cell phone's data plan to your laptop so you'll have an Internet connection anywhere your cell phone maintains a signal. PdaNet (junefabrics.com) turns any iPhone, Windows Mobile handset, or Palm OS phone into a wireless router; if you have a Nokia model, JoikuSpot (joikushop.com)



PDANET TRANSFORMS any iPhone, Windows Mobile phone, or Palm OS phone into a wireless router, so you can enjoy the Internet anywhere.

Here's How

plan on consulting it frequently, the unlimited plan (priced at \$3.99 per month) might make more sense for you.

Check your bank account balance with a text message: You're out on the town and you don't want the fun to stop, but you aren't certain whether you have enough money in your checking account to cover another round. What to do? Fire off a text message to Quicken Beam (quickenbeam.intuit.com), a newly launched service from personal-finance software maker Quicken. Once you've signed up, Quicken regularly checks your account balance; so when you text **BAL** to 636363, you'll instantly receive a response identifying your current balance.

Save the cost of a 411 call: When you need local information by cell phone, 411 is one of the quickest and simplest ways to obtain it. But traditional 411 services charge you for every look-up. For an alternative, try GOOG-411 (www.google.com/goog411), a free 411 service from search giant Google. Just dial 800/GOOG-411, follow the service's automated voice prompts, and let the voice-recognition program inform you for free.

Hint: Say "Text message" or "Map it" at the end of your call to get more details sent directly to your phone.

Bring the subway map with you: When you travel underground, you need to know your route options. iSubwayMaps (isubwaymaps.com)



THE WEB SITE iSubwayMaps provides free maps of subterranean transit systems in 22 cities across the globe, so you can plan and follow a route no matter where you are underground.

offers free maps of 22 cities across the globe, so you can plan your route anywhere. The Web site's maps are optimized for use on iPods and iPhones; but each map is just a photo, so it should work on any mobile device that can display images.

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Stay up-to-date with your favorite blog via SMS: RSS (Really Simple Syndication) feeds are a dream come true for obsessive site-refreshers, but a newsreader won't do you much good if you're away from your PC. The free tool Pingie (pingie.com) creates SMS alerts from any RSS feed—so wherever you are, you'll receive an SMS alert practically the instant your favorite site updates.

Go straight to voicemail with SlyDial: Maybe you have just enough time between meetings to fire off a quick text message but not enough time to type. Or maybe you simply want to avoid talking

to the person on the other end of the line. But either way, wouldn't it be nice to be able to skip immediately to voicemail? The Web site SlyDial (slydial.com) lets you do just that, forgoing the formalities of conversation by sending you directly to your contact's voicemail. The person you're calling won't know that you called until your recording pops up in the inbox, and you'll have relayed a quick message with maximum efficiency. For more clever tech strategies like this one, check out my article "12 Sly Web Tricks That Put You in Control" (find.pcworld.com/61988).

Instantly find yourself on a Google map: When you need a quick set of directions or suggestions for a good local eatery, you usually have to open up Google Maps, manually enter your current address, and search for what you need. Instead of doing that tap dance, install the Geode Firefox extension (find.pcworld.com/61991), the Greasemonkey extension (www.greasespot.net), and the Google Maps and Geode Greasemonkey script (find.pcworld.com/61992). Then, the next time you visit Google Maps, you'll see a new Current Position link sitting next to the search box that will instantly locate you on a map using Wi-Fi positioning software. And when Firefox 3.1 is released, you won't need to use the Geode extension at all.



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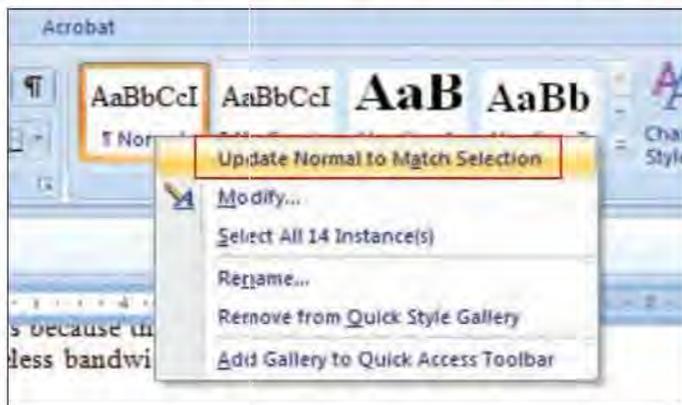


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Symbol, HP Palm

Change the Default Font in Microsoft Word 2007

MICROSOFT LOADS up Word 2007 with a generous array of new and attractive type fonts, which the word processing program uses for some of its default styles. For example, the Normal style in Word 2007 is 11-point Calibri, which many people consider to be a very clean, no-nonsense sans-serif font. But perhaps you would prefer to display your documents in a more classical typeface—a serif font like Times New Roman in 12 point, say. Luckily it's fairly easy to pick another font as the default for your documents.

Start by typing some text in a new document; then select the entire block of text by pressing <Ctrl>-A. Click the *Home* tab on the Ribbon menu, and then use



TO CUSTOMIZE THE default font in Word 2007, type some text in the font that you prefer, select it, right-click 'Normal,' and set it to match the selection.

the boxes in the Font section of the Ribbon to change the text to the font settings you prefer. Right-click the *Normal* button in the Styles section of the Ribbon, and then choose *Update Normal to Match Selection* (as shown in the screen shot above). This procedure will reset the Normal style in the docu-

ment to your new settings.

The next phase of the default-resetting operation may seem a bit strange at first glance, but bear with me. Change to the *View* tab on the Ribbon, and open the Macros window by clicking on the top half of the *Macros* button at the far right of the Ribbon. Choose the *Orga-*

nizer button on the Macros window to open the Organizer window. Then switch to the *Styles* tab. There you should see two lists of styles: one of them for your current document on the left, and the other for the Normal.dotm document on the right. Select the *Normal* style in your current document, and then click the *Copy* button.

Word will respond with a message box that asks you whether you want to overwrite the Normal style in the Normal template. Choose *Yes*, and the program will change the default font for your documents. The next time you open a blank document, your new font choice will show up as the Normal style font.

—Alfred Poor

ANSWER LINE

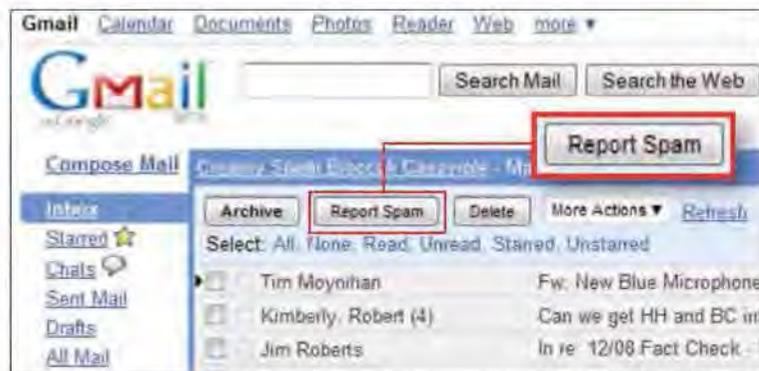
ASK YOUR QUESTION AT FORUMS.PCWORLD.COM

Q Can I autorespond to spam? If the spammers got all of the junk they send out thrown back to them, I'm sure that they would soon stop. —Henry Abel, via the forums

SORRY, BUT THAT'S not a good idea. Any reply you send to a spammer is unlikely to reach the spammer.

Few spammers send their messages out with an accurate 'From:' address in place. Instead, most purveyors of digital waste send their garbage out through botnets—huge networks of malware-infected computers. The owners of the misused computers don't know that their systems are infected, and criminals can take control of them at will. (The PCs within a botnet are sometimes called *zombies*, but a more accurate name might be *Manchurian candidates*.)

What's more, the outgoing addresses are usually forged, or spoofed, to hide the identity of the zombie PC. (Why? Because if you found out that your PC was spamming people, you'd probably



DON'T WASTE YOUR valuable time trying to take revenge against spammers. Just file the offending messages as spam and otherwise ignore them.

do something to stop it.) Likely as not, responding to spam would result in nothing more than a lot of bounced e-mail, along with some angry replies from innocent victims of your justified outrage.

Your best bet is simply to mark any junk message you receive as spam in your e-mail client and then not trouble with it further.

—Lincoln Spector

Take Better Screen Shots in Windows Vista or XP

IF YOU TAKE a lot of screen shots on your PC, you're well aware of the limitations of Windows' built-in screen-capture tools. Windows Vista significantly improved on XP by adding a Snipping Tool that can capture a single window, a rectangle, or a free-form shape. But it still can't show what the mouse pointer is doing, and it lacks a timer.

If you need to grab screen shots for business projects—in order to create illustrations for software documentation, say—those limitations can make doing a thorough job of capturing what's happening on your



WINSNAP GOES FAR beyond Windows Vista's built-in screen-capture capabilities, enabling you to capture with ease precisely what the mouse pointer is doing.

screen extremely difficult. Without a timer, for instance, it's hard to capture a drop-down menu unless you go to the trouble of grabbing the entire screen and then subsequently cropping the pic-

ture down to the area you need. And even then, the mouse pointer won't appear in the image at all.

The tool that I like to use to capture screen shots (and I capture a lot of them) is

NTWind Software's \$25 WinSnap (www.ntwind.com). Yes, it can capture the elusive mouse pointer, and you can set a delay timer (to the millisecond, if you want to be obsessively precise) to snap an action that takes a moment to set up. One especially cool feature of WinSnap: It can capture multiple windows in a single application while ignoring everything else that appears on the

screen (though this trick doesn't always work). It even has tools to handle the color and look of the screen shot. And it's portable, so you don't have to install it.

—Lincoln Spector

READER-TO-READER

FORUMS.PCWORLD.COM

Add Two Convenient Menu Commands to Windows Vista

FROM THE
PCW
FORUMS

BY DEFAULT, to move or copy a file between folders on your PC, you have to open both folders and drag the file between them. But a hack by PCW forum member Flashorn lets you right-click any file and choose *Copy To Folder...* or *Move To Folder...* to do the job.

Join the PCW online community at forums.pcworld.com. If we use one of your tips in print, we'll send you a PC World T-shirt.

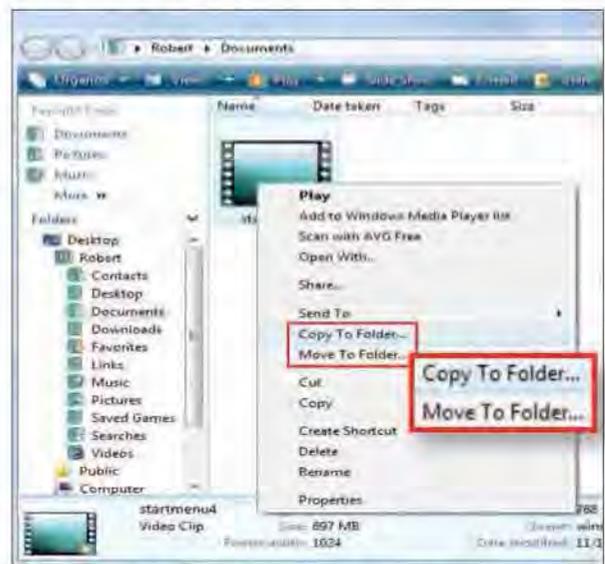
Flashorn Says:

If you're not afraid of a little Registry hacking, it's easy to add useful commands to Vista's right-click context menu. Here's how.

To open the Registry, click *Start*, type **regedit** in the search field, and press **<Enter>**. In the left pane of the Registry window, expand the folder labeled **HKEY_CLASSES_ROOT**. Scroll way down the list to find **ALLFilesystemObjects** and expand it; then expand **shellex** to reveal **ContextMenuHandlers**.

Right-click **ContextMenuHandlers** and click **New* Key**. A Registry key named **New Key #1** will appear under **ContextMenuHandlers**. Rename this key as **{C2FBB630-2971-11D1-A18C-00C04FD75D13}** (including the brackets) to create the *Copy To Folder...* command.

Next, create the *Move To Folder...* command by again right-clicking **ContextMenuHandlers**, selecting **New* Key**, and renaming the new key to **{C2FBB631-2971-11D1-A18C-00C04FD75D13}**.



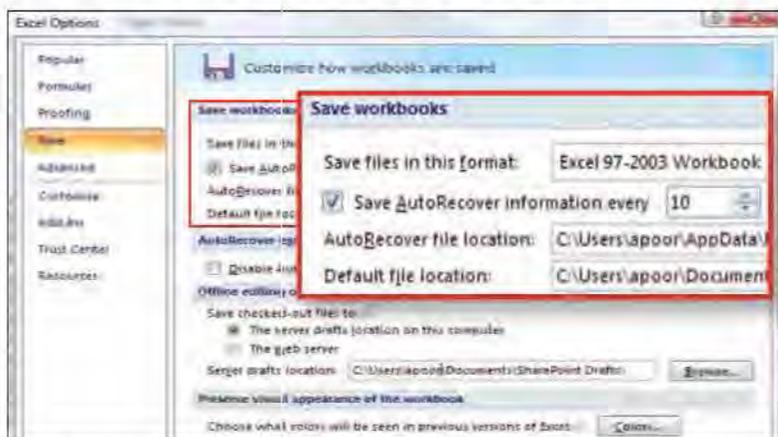
AFTER YOU HAVE performed this hack, you can quickly copy or move a file to any location from within its context menu.

Once you've done that, simply close up the Registry and right-click any file to access the newly added commands.

Change the Default Location Where Excel Saves Files

WHEN YOU click *File* • *Save* to save a new file in Excel, the program will immediately offer to save the file in your Documents folder, by default. But throwing all of your Office files into a giant, disorganized shoebox isn't my idea of an efficient filing system. Instead of doing that, you should set up a separate folder for work projects and save your spreadsheets there.

Suppose that most of your spreadsheets belong in a folder named 'Forecasts'. Anytime you need to create a new worksheet, you'll want the Forecasts folder to be the default save location for the new Excel file. To accomplish this result, start by launching Excel 2007 and clicking the Office button at the upper left. Click the



IN THE SAVE panel of the Excel Options menu, you can customize the default file location for Excel worksheets and choose which format you'd like to save your files in.

Excel Options button at the bottom of that window.

In the Excel Options window, choose the *Save* option from the left-hand column. The top section of the right-hand pane is labeled 'Save workbooks', and the last line is labeled 'Default file location'. Delete the entire contents of that box, and then type `C:\Forecasts` to establish

the Forecasts folder as your default choice. Choose *OK* to save the setting and return automatically to Excel.

While in the Excel Options window, you may also want to alter another useful file setting. If you have to exchange Excel workbooks with other users, not all of whom use Excel 2007, you should save your files in the

.xls file format (which versions of the spreadsheet app from Excel 97 through Excel 2003 work with) rather than saving them in the .xlsx format (which first appeared in Excel 2007). You could try to remember to save files in the older format each time you create a new workbook, or you could use the

'Save files in this format:' box to change the default file format to .xls. Of course, you could always click *File* • *Save As* after the fact to specify a different format when you need it, but changing the default file format to the more universal .xls helps you avoid having to repeat that step over and over.

—Alfred Poor

ANSWER LINE

? I'm tired of clicking Start and then Shutdown to turn off my PC. Can I create a shortcut to do this?

—James Strang, via the forums

BOTH WINDOWS XP and Windows Vista respond well to the command 'shutdown -s'. Here's how to turn that into a shortcut.

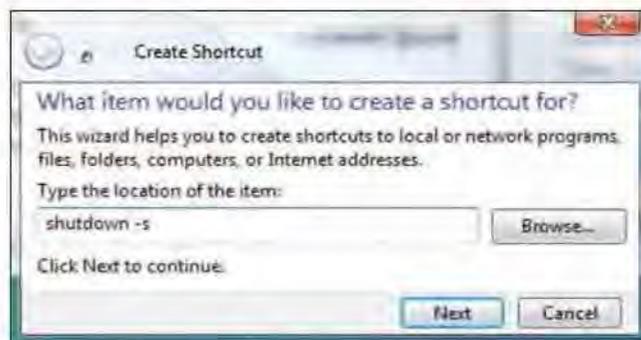
First right-click the desktop and select *New*, and then choose *Shortcut*. When the resulting wizard asks you for the location of the item, type `shutdown -s`. Click *Next*. Rename the shortcut or keep the default name 'Shutdown', and click *Finish*.

When you double-click this shortcut, Windows will count off 30 seconds, and then shut itself down.

The delay, of course, is so that you can abort the shutdown, which comes in handy if you ever accidentally click the shortcut. But don't bother clicking the *Close* button on the window that tells you of the upcoming event; all that does is close the window.

If you would like to have on hand an easy method of aborting a

ASK YOUR QUESTION AT FORUMS.PCWORLD.COM



YOU CAN CREATE your own custom Shutdown shortcut for XP or Vista in seconds, saving yourself excess clicks on future shutdowns.

shutdown you don't want, you'll need to create another shortcut. Again, right-click the desktop and select *New* • *Shortcut*. But this time, when the resulting wizard asks you for the location of the item, type `shutdown -a`. And name this shortcut 'Abort Shutdown'.

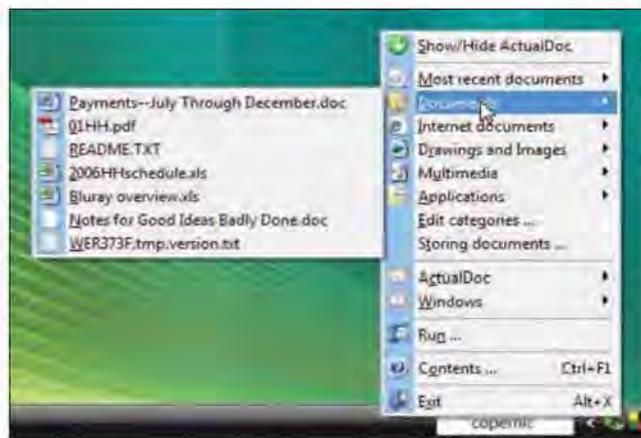
—Lincoln Spector

Replace Vista's Clunky Recent Items List

IN PRINCIPLE Windows Vista's Recent Items list is a good idea, but Microsoft executed the feature so badly that it's not terribly useful. The list has been hanging around in the Start menu since Windows 95, and Microsoft still hasn't fixed it.

Sure, having an automatically updated, conveniently located list of files that you have recently used is great. But you'll probably want to revisit certain file types time and again, and others never. For instance, I'm very likely to return to a recently opened .doc file, and far less likely to

revisit a .jpg file. Yet if I've just been editing some photos, those files will bump all of my recent Word files right off the Recent Items list, leaving me with a bunch of quick shortcuts to files that I have no wish to reopen anytime soon. A professional photographer, on the other hand, might very well have that situation reversed, with a distinct and continuing preference for graphics files over text files. Fortunately, introducing a few simple user-defined parameters will solve the disappearing-files problem for everyone.



A FREE, HANDY replacement for the built-in Recent Items list, ActualDoc helps you find the files you use most often in a couple of clicks.

Instead of depending on (and enduring) Microsoft's half-baked Recent Items list, why not give Flexigensoft's free ActualDoc (find.pcworld.com/61995) a try? This powerful tool provides separate recent lists for documents, pictures, and other file types

in either its full window or its system-tray pop-up menu. It can also password-protect the lists it maintains, to preserve your privacy. The €20 Pro version adds user-defined categories and a number of other tools.

—Lincoln Spector



FACT CHECK ROBERT STROHMEYER

Is It Safe to Disable Microsoft's User Account Control?

OVER THE PAST year or so, thousands of our readers have complained about Windows Vista—especially User Account Control. Then they often ask, "How can I disable it?" (We explain how at find.pcworld.com/62009.) But a better question might be "Is it safe to disable UAC?"

The answer depends on how safe you want to be, because simply using a PC to connect to the Internet compromises security on at least some level.

UAC requires you to confirm certain actions, such as modifying system settings or managing user account privileges, reducing the chance that a Trojan horse program will modify your PC's settings on the sly. It's a standard feature of more-secure operating systems, like Linux and Unix, which ask for a pass-

Windows Vista's UAC feature is an annoying, obnoxious, and intrusive nag. But if you turn it off, you do so at your own peril.

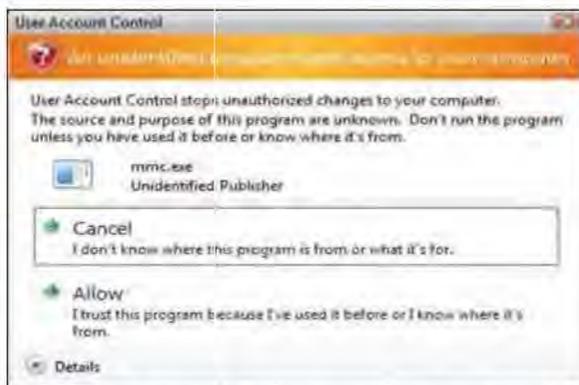
word before modifying locked system files. By adding UAC to Vista, Microsoft took a badly needed step toward securing its flagship OS. By disabling UAC, you take an

ill-considered step back toward the relative vulnerability of Windows XP.

Maintaining data security requires all of us to monitor what our PC is doing—even

at the price of enduring occasional prompting when the OS senses potential trouble. Of course, UAC can't protect us from our own impulse to click Continue without really understanding what's going on.

So you have two alternatives: an annoying security feature that alerts you to danger, or an OS that remains silent as security threats arise. UAC is no guarantee that your PC won't get infected. But you're safer with it than without it.



C'MON, FOLKS. Is it really such an intolerable burden to click a button now and then in order to enjoy increased system security?



RICK BROIDA'S HASSLE-FREE PC

Quick Cures for Three Common Web Browser Annoyances

IT'S EASY TO get so immersed in the endless ocean of sites making up the World Wide Web that you forget about the application responsible for bringing all of those sites to your screen. To counter that tendency, I dedicate this month's installment of *Hassle-Free PC* to the humble-yet-indispensable Web browser. Whether you're a Firefox fanatic or an Internet Explorer loyalist, you'll find tips in this article that will improve your browsing experience.

Back Up Your Bookmarks

If you're like most users, you've accumulated at least several years' worth of bookmarks in your browser—a collection that you definitely don't want to lose. Fortunately, it's a snap to back them up to the most logical place I can think of: the Web.

The Foxmarks plug-in (find.pcworld.com/61999) supports Firefox, IE, and Safari, while BookmarkSync (find.pcworld.com/62000) supports those three plus Opera, SeaMonkey, and even Netscape. Both of these free utilities will automatically copy your bookmarks to the Web, and from there you can use any PC to access them (a helpful thing if you're working on someone else's system and need to recall a favorite). In addition you can restore them to your own machine if the need ever arises.

Even better, both plug-ins include a feature for keeping your bookmarks in sync across multiple PCs (at home and at work, for example), which is insanely convenient. I've also used this feature to help with migrating content to a new machine, and it sure beats

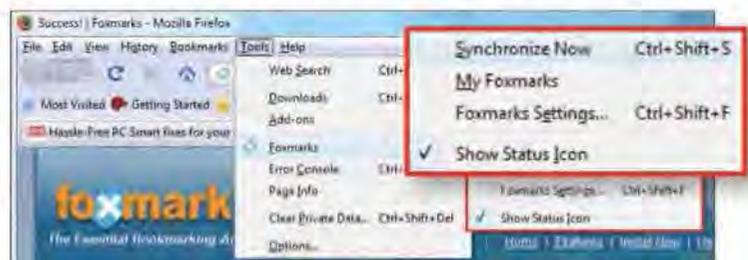
Preserve your bookmarks, automatically open tabs in Firefox, and quickly adjust the font size.

doing everything manually—digging up the browser's Favorites file, copying it, importing it, and so on. Foxmarks recently added another extremely useful feature: the option to sync your passwords.

Create Semipermanent Tabs in Firefox

Want to reopen some of the tabs in your browser automatically the next time you launch Firefox? With PermaTabs (find.pcworld.com/62037), you can make any tab stay open until you specify otherwise.

After installing the extension (which is free, of course), you can



TO SYNC YOUR bookmarks at any time using Foxmarks, just select Synchronize Now from the Foxmarks submenu of the Tools menu.

designate any open tab as "permanent" by pressing **<Alt>-P**. (Alternatively, you can right-click a tab and choose *Permanent Tab* from the context menu.) Affected tabs turn yellow, which makes them easy to distinguish from regular ones; and you can choose a different signal color if you like by dipping into the Options menu.

I use this extension as a kind of temporary-bookmark feature, so I can easily jump to sites I want to revisit in my next session—and honestly, I'd be lost without it. This is a must-have for Firefox users.

Increase the Font Size in Your Browser

Recently my wife pulled up a pumpkin pancake recipe on our kitchen laptop. Just one problem: She couldn't read the recipe from where she was mixing. "Can't you make it bigger?" she asked.

The horror: My own wife didn't know one of the world's best (and simplest) browser tricks! But her tech-savvy husband did. All you have to do is hold down the **<Ctrl>** key and slowly turn the mouse wheel to enlarge or diminish browser text. No wheel? Hold down **<Ctrl>** and tap the **+** or **-** key on your keyboard.

This command works in Firefox and Internet Explorer alike. (If you're a Mac user, you'll need to hold down the **<Command>** key while pressing the plus or minus key. Don't use the mouse wheel, however, unless you want to enlarge the entire screen.)

Oh, by the way, the pumpkin pancakes tasted just awesome—especially with a handful of chocolate chips tossed in. You can pick up the recipe at find.pcworld.com/61994.

TOOL OF THE MONTH

Ultimate Windows Tweaker

DO YOU REMEMBER TweakUI for XP? Microsoft never got around to creating a Vista version of it. Fortunately, you now have a free alternative: Ultimate Windows Tweaker (find.pcworld.com/61997), which is like Tweak UI for Vista.

Designed for advanced users (but also worth a peek if you're an inquisitive novice), UWT gives you control over more than 130 Vista settings, each of which falls into one of seven categories (Personalization, Security, Internet Explorer, and so on). You can obtain a description of any particular setting simply by mousing over it.

You can also create a system-restore point by clicking a button in the UWT window—handy disaster insurance in case a tweak goes awry. Or click *Restore Defaults* to set everything back the way it was originally.

My favorite tweak is *Restore folder Windows at startup*, which remembers which folders I have open at shutdown and reopens them when Windows restarts.

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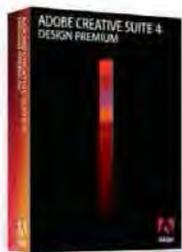
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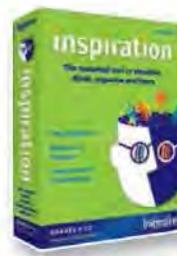
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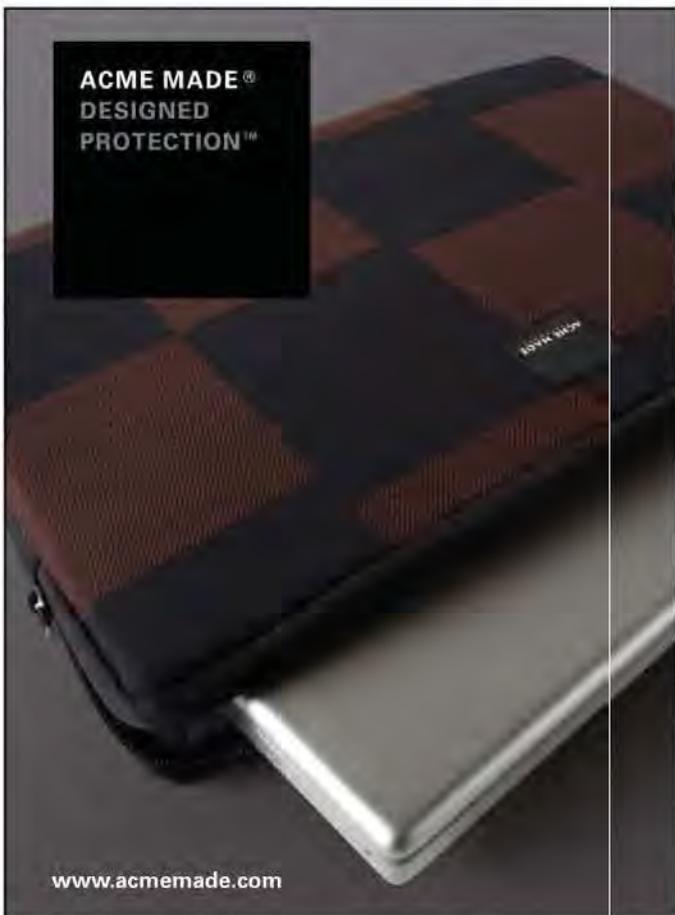
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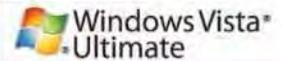
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