THE INK STINK: Why Do Half-Full Cartridges Cry "Empty!"? p.16

PCWorld

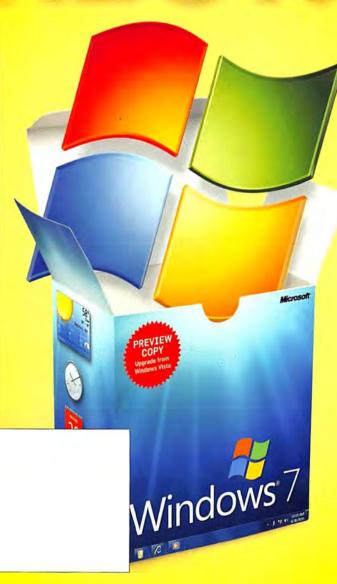## WHAT YOU NEED TO KNOW ABOUT
WINDOWS 7

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FIRST HANDS-ON TESTS

PREVIEW COPY Upgrade from Windows Vista

Microsoft

Windows 7

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Cost more?

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COVER DESIGN BY GREG SILVA

Techlog

STEVE FOX

Windows 7: A Vista by Any Other Name

TWO YEARS INTO the Vista era, and the Windows natives are restless.

Despite broad third-party application and hardware support, a Service Pack (SP1) release, and a blitz of Bill Gates/Jerry Seinfeld ads, nothing can disguise the fundamental problem: Many people simply hate Windows Vista.

Though not all the criticism is fair, the operating system's reputation remains so tarnished that there may be little chance of salvaging it, at least not with a product bearing the Vista name. So Microsoft will soon turn the page, launching Windows 7, probably sometime within the next year.

As the title of our story—"Windows 7 First Look: Microsoft's Big Vista Fix" (see page 80)—implies, Windows 7 feels more like a cleanup of existing code than a full-on new release. Sure, Microsoft says it is focusing on customer gripes by improving performance, cutting down on the nagging dialog boxes of doom, and making the whole thing more intuitive. But under the hood, the Windows kernel gets only a spit-shine, not a full rewrite, and the interface won't change radically either.

> To woo Windows users still smarting from Microsoft's last major operating system upgrade, Windows 7 should get a spiffier title.

Still, I expect many people are skeptical of this coming upgrade. Full revisions of Windows operating systems can be risky in the best of times; cautious types would probably prefer to avoid the kind of soup-to-nuts revamp that scrapped Windows XP in favor of Vista. That's why I would like to offer some unsolicited (and surely unwelcome) advice to the marketing folks in Redmond: You might want to drop the Windows 7 name in favor of something that doesn't imply we're all going to have to start from scratch and learn a radically new operating system.

What did I have in mind? How about Windows ReVista, Windows Mulligan, or even Vista 2? All three suggest a do-over, a time-honored American tradition. Another possibility might be Windows Mojave: That's the name given to a mythical "new" operating system that Microsoft showed to focus groups of users who were critical of Vista. The skeptics gave Mojave high marks, and were shocked to learn that it was actu-

ally Vista with the name stripped out. Added bonus: Large parts of the Mojave Desert are flat stretches that offer broad vistas (without the uppercase *V*).

Then again, maybe Microsoft is signaling that it is about to do something dramatic. In that case, prosaic old "Windows 7" is a total snoozer. Instead, Ballmer's boys should take a page from the Mac playbook. Apple has cornered the market on wildcat names, with Cheetah, Jaguar, Panther, Leopard, and even Snow Leopard locked up. But canines are still available. How about Windows Wolf, Microsoft Coyote, or simply Dingo? Just don't call it Microsoft Labradoodle. People will say it's a dog.

Old Dog, New Vista

Speaking of big changes and small canines (the fox is a member in good standing of the dog family), let me take this opportunity to reintroduce myself. If my smiling mug atop this page looks familiar, chances are you're a longtime reader of *PC World*. Back in November 2002, I signed on as the writer for *Plugged In*, which was then a full-page column covering the emerging universe of gadgets, strange Web sites, and other fun bits of tech frippery. I wrote *Plugged In* for three years, before leaving to concentrate on my day job as editor in chief at *InfoWorld*, a *PC World* sister publication. But those of you with even longer memories might have seen my byline as early as 1990, when I joined *PC World* as managing editor—the beginning of a fruitful nine-year run that ended just before the dot-com bust. And now, I'm back for round three. Who says you can't go home again? ●

Steve Fox is editorial director of PC World.

IN MEMORIAM: EMRU TOWNSEND

PC WORLD'S EXTENDED family was saddened by the loss of contributor Emru Townsend, a Montreal-based technology, animation, and pop-culture writer who died in November after a yearlong battle against leukemia and a condition called Monosomy 7. Regular readers will remember Emru's wry take on tech in stories such as "The 10 Worst Games of All Time" (find.pcworld.com/61946). But after his illness was diagnosed in December 2007, he devoted most of his remaining time to a frank chronicle of his struggle, which—with the support of his sister Tamu, wife Vicky, and son Max—became the cornerstone for a crusade to raise awareness of the need for bone marrow donors, especially among minorities, who are underrepresented in donor registries. His site, HealEmru.com, is a moving legacy that he hoped would inspire others to help save lives. —*Yardena Arar*

PCW Forum

November's special List issue—especially our *Techlog* editorial on ways tech stores could do a better job of serving customers—fired up readers. Have you experienced frustrations dealing with electronics retailers? Tell us what you think by going to forums.pcworld.com and submitting your comments.

Tech Stores and Customers

Thanks to Alan Stafford for writing on stores that play price games ["Five Ways Tech Stores Can Regain Our Trust," *Techlog*, November]. Mail-in rebates are my biggest reason for *not* shopping at retail stores. Even though the rebate may be valid, consider the extra work and time spent in preparing and mailing it, and then waiting for the check to arrive. The companies know that a significant percentage of purchasers will not file the rebate, so that's "found money" for the store.

Paul White, Pensacola, Florida

As a marketing consultant, I agree with most of Stafford's suggestions, with one exception. He wants products sold in a store to cost the same as products sold by the same seller online—an obvious nonstarter except for an occasional promotion. Someone has to bear the cost of rent, power, light, taxes, and myriad other retailer costs.

Leonard M. Guss, Woodinville, Washington

This *Techlog* said what thousands of customers have wanted to say, and have been saying with their dollars. Here's betting the stores won't listen. But that doesn't let online retailers off the hook.

Let me tell you about my quest to buy the *Centennial* miniseries DVD set. Amazon.com had the set cheaper than eBay; and if I purchased using Bill Me Later, it would chop another $10 off.

Bill Me Later needed my birthday and the last four digits of my Social Security number, which I provided. But when I clicked Submit, the fields blanked out, and nothing was sent to Bill Me Later. After several attempts, I fired off e-mail messages to Amazon.com and Bill Me Later, but I received only irrelevant or automated responses. These two online companies provided no way for me to tell them that their system was broken.

I finally ordered my DVD set from Walmart.com. I didn't get the extra $10 off, but with the 'Site to Store' option, the shipping was free.

Rick Lawler, Oak Harbor, Washington

Twitter Not So Useful?

I was amused by your article "Eight Ways Twitter Will Change Your Life" in the November issue. The recent California earthquake was a good example. Can no one wait 9 minutes for a comprehensive news story covering the subject? The article mentions that 3600 updates contained the word "quake" before the AP put out a news story. It would take several hours to read all 3600 updates!

You also say that one use is to "Tweet the CEO"—and then you admit that "the odds of your getting a personal reply from a firm's CEO are slim."

Twitter is for those who have no life or have such big egos that they think everyone wants to read about their life. If this is Web 2.0, I'll pass.

James Trent Corbett, Midlothian, Virginia

Thunderbird Shortcomings

I'm amazed that you would recommend Thunderbird as an e-mail program ["20 Best Business Software Tools and Web Services," *Business Center*, November]. After weeks and weeks of my tagging junk e-mail, Thunderbird still would not recognize mail promoting Viagra, cheap watches, and shoes as junk.

Tom Burns, Ottawa, Ontario
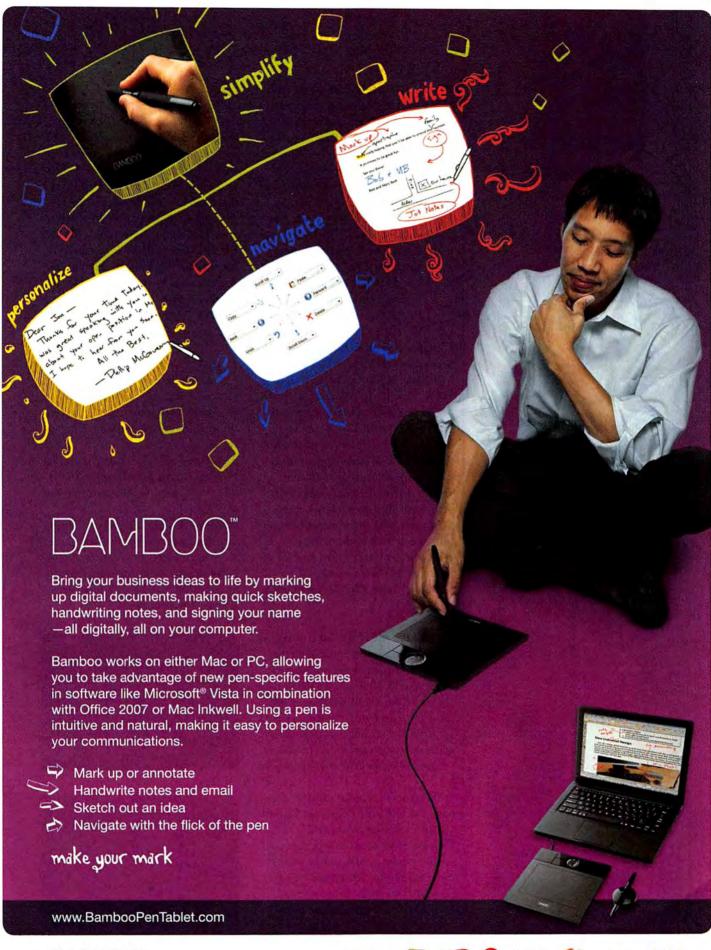
Overrated? Or Underrated?

I think you missed the point when you listed the Apple iPhone as the top over-

Regarding 'Comcast's Cap May Mean Less Snooping on Your Net Browsing' [*Privacy Watch*, November]: Information is a salable commodity. Comcast will continue to dig deep into our privacy.
mindnova, PCWorld.com comments

rated product, faulting its keyboard ["10 Totally Overrated Products," November]. The iPhone's possibilities are endless, as proven by new applications that pervade the App Store daily and by the OS updates that roll out regularly, adding new functionality. Never before have I seen such a functional device. Not only are the touch-screen interface and the ways it's applied to the iPhone revolutionary and easy to use, but the setup makes fixed keyboards obsolete.

Geoff Bednarsky
Colorado Springs, Colorado »

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PCW Forum

Your article compared the Apple iPod Touch with the Microsoft Zune, suggesting that the latter was underrated. My wife bought a Zune as a less expensive alternative to the iPod—but its PC interface software is one of the most cumbersome and counterintuitive I've ever had the misfortune of having to learn. I consider myself PC-savvy, but this interface had me baffled. How complicated can it be to load music onto a small, basic, portable MP3 player? Buy a Zune, and you'll soon find out.

Gregory Henry, Rutland, Vermont

Genuine Microsoft Innovation

I disagree with most of the things that Stephen Manes listed in his "23 Things I Wish Would Just Go Away" [*Full Disclosure*, November]. For instance, I don't get his plea to bring back the traditional menus in Office 2007—doesn't everyone bash Microsoft for not innovating? With Office 2007, the company made a gorgeous suite of programs that are visually incredible. Finally, Microsoft innovated! They moved forward and didn't look back to the ways that applications had been made for decades. To complain about that and to pine for the return of the old is insanity.

Craig Tisinger, Clayton, North Carolina

iTunes Gripes

I'm on a PC, and I hate that iTunes is the only program on my desktop that doesn't recognize or use my mouse's scroll wheel ["10 Things We Hate About iTunes," *Consumer Watch*, November]. That may seem trivial, but it sure would be useful for scrolling past thousands of songs or hundreds of artists or albums.

tom1946, from PCWorld.com comments

I think iTunes is due for a major overhaul. The look is getting old and crowded. After ten years, it's probably best to keep the concept but change the application. I know it's risky, but so many times when using iTunes I've thought, "Boy, they could do *that* a lot better." Still, what other software compares?

bignumone, from PCWorld.com comments

Speeding Up Vista

"12 Unnecessary Vista Features You Can Disable Right Now" [*Here's How*, November] is a good summary on speeding up Vista. But as a power user with a fast PC, I recently realized I had so many of Vista's features disabled that I was missing out on any benefits I got from upgrading to it. So I selectively enabled certain Aero aspects. My PC still uses "only" 800MB of memory, idle. A small price to pay for a beautiful OS. You can make Vista nearly as fast as XP, or compromise and have an attractive OS with a slight performance penalty.

dcontarino, from PCWorld.com comments

People Searches

I tried iSearch [*Beta Watch*, November], but found minimal info and ended up at a site that asked for payment before showing any meaningful data. A friend suggested ZabaSearch (zabasearch.com); it produced enough detail up front that I was able to contact a long-lost friend.

Gene Slater, Marlboro, New York

PC World welcomes your feedback. We reserve the right to edit for length and clarity. Share your thoughts in the Comments area under each story on our Web site, or visit our forums (forums.pcworld.com). Send e-mail to letters@pcworld.com. ●

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RATE THIS ISSUE by going to www.pcworld.com/pcwinput—you could win a $300 Amazon.com gift certificate. The site explains the official rules and offers an alternate method of entry into the prize drawing.

Serious Tool.

Forward

How Much Ink Is Left in That Cartridge?

> We ran printers until they said it was time to change the cartridge, and found that some left more than 40 percent of their ink unused.

BY JEFF BERTOLUCCI

YOU'VE PROBABLY had

PCW Test Center this experience: Your printer tells you it's time to change the cartridge, but you dismiss the message and keep printing. Days or weeks later, the cartridge still works, and you're thinking that rumors of its death were greatly exaggerated.

Or perhaps your printer simply shuts down when it decides you've gone deep enough into its ink well, refusing to operate until you replace the cartridge.

PC World conducted lab testing on this matter, and the results confirm what you may have suspected: Many manufacturer-branded and aftermarket cartridges still contain a startling amount of ink when their host printers read empty. In fact, some

inkjet printers force users to replace ink cartridges when the cartridge is nearly half full, *PC World* has found.

The Needle's on 'E'

We performed the tests using inkjet multifunction

printers from four major manufacturers: Canon, Epson, Hewlett-Packard, and Kodak. Our results show that when these models reported their black ink cartridges as being empty,

the quantity of unused ink ranged from about 8 percent in an Epson-brand cartridge to a whopping 45 percent in an aftermarket cartridge for a Canon printer. Our test printers typically left more unused ink—in some cases significantly more—when using third-party or after-market print cartridges than when using the printer manufacturer's own cartridges.

It's important to note that our results show the performance of a small set of printers, each paired with just one brand of cartridge. Since OEMs and their after-

market competitors sell dozens of ink cartridges for a wide variety of printer models, you should consider our results as a snapshot of the way each particular unit deals with remaining ink.
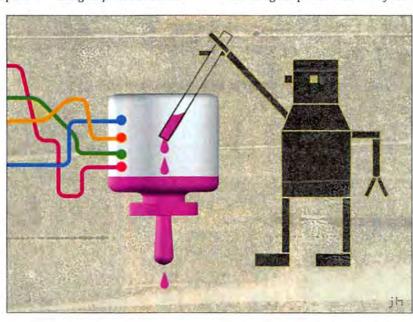
Leftovers Again?

Designing printers not to drain ink cartridges completely is a smart practice for several reasons, printing experts say. "Many inks, if they run dry, can cause significant damage to the printer," explains Brian Hilton, a senior staff engineer at the Rochester Institute of Technology. "You always want to leave a buffer in the tank so that the printer never runs dry."

Other observers point out that the quantity of leftover ink is often small. "Printers have generally become more efficient over the years," says Andy Lippman, an analyst with Lyra. "In the past, you might have seen 40 milliliters of ink in the black cartridge.

ILLUSTRATION JOHN HERSEY

Today you're going to get the same amount of pages out of 7 or 8 milliliters."

Liquid Gold

Nevertheless, printer owners are probably throwing away a lot of usable ink, and that is a problem when you consider how expensive ink is. An average black-ink cartridge contains 8 milliliters of ink and costs about $10, which is equivalent to a cost of $1.25 per milliliter. If you bought a gallon of the stuff over the life of your printer, you'd have paid about $4731 for a liquid that one aftermarket vendor told us was "cheap" to make.

Steve Pociask, president of the American Consumer Institute, a nonprofit educational and research institute based in Washington, D.C., recently coauthored a 50-page study covering the inkjet printer and cartridge market. "In some cases, we found that [the price of] the printer could be one-eighth of the total cost of printing," says Pociask. "Over the life of the printer—and by that I mean three years—you can easily spend $800 for the printer and ink."

How We Printed

We didn't test color inks because some printers use separate cartridges for each ink, while others employ single, tricolor cartridges. A standardized test might not drain the colors evenly, which might give one printer an unfair advantage.

Tony Leung, senior data analyst in the PC World Test Center, weighed each black ink cartridge (to an accuracy

CANON'S PRINT MONITOR, like those of other makers, alerts you to low ink levels but says 'may have run out' when it has plenty left.

of 0.001 gram) to determine the cartridge's initial weight. He then printed out pages until the printer, in response to the low level of ink in the cartridge, prevented him from continuing.

When each printer stopped printing, Leung removed and weighed the machine's black ink cartridge to determine the cartridge's out-of-ink weight. Then he removed all of the remaining ink from the cartridge (including the small sponges found in some cartridges), and measured the cartridge's empty weight. This method allowed us to identify the weight of the ink when the cartridge was full, when the printer declared that it was empty, and when it truly was empty.

With one of the company's own black-ink cartridges installed, the Canon Pixma MP610 printer we tested stopped printing when 24 percent of the ink remained in the tank. Canon didn't dispute our results, but spokesperson Kevin McCarthy noted that Canon printers do allow users to print after the initial low-ink warning. "There are typically a series of warnings before the ink is out, alerting users to ink status," McCarthy says.

When equipped with an aftermarket G&G cartridge, the Canon printer shut down with nearly 45 percent of the ink left unused.

Equipped with an Epson cartridge, the Epson RX680

printer we tested shut down with just over 8 percent of its ink remaining. An Epson spokesperson says, "Eight percent remaining ink measured in your testing is a normal amount. This reserve assures print quality and printer reliability."

But the story was quite different when we printed pages on the RX680 using an aftermarket cartridge from LD Products. This time the printer shut down with a whopping 41 percent of the ink still in the tank. Why the huge gap between the OEM and aftermarket results?

"The ink itself is cheap, »

PLUGGED IN ALAN STAFFORD

WHO NEEDS WII: The stick (as in, from a tree) has been inducted into the National Toy Hall of Fame. Now available on Wal-Mart.com for $29.95.

YAHOO'S JERRY-RIGGED: Yang steps down from the Internet pioneer after spurning, then wooing, Microsoft. But be honest: Would you have sold out to Ballmer?

BEST BUY, #1: Circuit City falls on its financial sword, leaving BB with relatively little competition—except for that insignificant outfit called Amazon.com.

BEST BUY, #23: *Consumer Reports* readers rate it 23rd out of 27 walk-in stores (and dead last among online stores). Heyyy...is "Best" just marketing spin?

MAC'S 25TH ANNIVERSARY: The first ad said, "...and you'll see why 1984 won't *be* like 1984." Right—Jobs's Thought Police didn't regain power until 1997.

MEDICAL RECORDS STOLEN: And the hackers are blackmailing the outfit managing them. Meanwhile, Microsoft wants to manage such data—that's comforting!

Forward

KODAK'S INK CARTRIDGE (left) holds a large wad of cotton, whereas the G&G Products ink cartridge uses a piece of foam rubber. In our tests we extracted all of the ink from these materials and from the ink wells.

so we refill to more than the original level," says Ben Chafetz, vice president of marketing for LD Products. Since the LD cartridge is filled with more ink than the OEM version is, it's bound to have more ink remaining when the printer shuts down, according to Chafetz. He adds that, regardless of the percentage of unused ink in the empty cartridges, the page yields of the LD Products cartridges and the high-capacity Epson cartridges should be the same. (Note: *PC World* didn't test page yields in this study.)

The HP Photosmart C5280 multifunction printer we evaluated didn't shut down as the ink levels approached exhaustion. With an OEM cartridge installed, the printer displayed warning messages as the ink levels diminished, but it never forced us to replace the cartridge. The C5280 will continue to print until the cartridge has nothing left in it—but since the HP's printheads are part of the cartridge, running out of ink doesn't risk damage to other parts of the printer.

When using an aftermarket cartridge from LD Products,

the C5280 failed to post any low-ink warnings. Does that mean HP's warning system works only with house-brand cartridges? "Most aftermarket cartridges do not signal 'low-on-ink' alerts, giving customers no advance warning that ink is running low," wrote HP spokesperson Katie Neal.

But Chafetz says that LD Products' C5280-compatible offerings are actually refurbished and refilled HP cartridges. One possible explanation for the lack of a low-ink warning is that our test printer wasn't reading the refurbished cartridge's chip code correctly, he says.

Equipped with a Kodak-brand cartridge, the tested Kodak EasyShare 5300 shut down with 43 percent of the ink remaining. Roderick

Eslinger, Kodak technical marketing manager, says that Kodak's in-house tests in 2007 indicated that 65 percent of its cartridge ink was used for printing, while 35 percent was used to "protect/maintain optimal Kodak printer performance and document quality." Eslinger says that the remaining ink is factored into its advertising claims for consumers.

With a G&G cartridge, the Kodak printer shut down with 36 percent of the ink remaining in the tank.

Watch the Page Yield

Some vendors and analysts advise consumers to focus on a printer's page yield (the total number of pages that the machine can produce with a single cartridge), rather than on the amount

of ink left unused in a cartridge that must be discarded. "This is the most reliable way to understand the life of a cartridge, rather than the amount of ink, or what might be left over," says Lyra Research's Lippman.
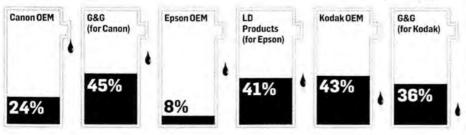
But vendor page-yield estimates don't always match reality, as we discovered when testing printers for another article, "Cheap Ink: Will It Cost You?" (find. pcworld.com/61892). Using a different set of OEM cartridges and printers, we discovered that one HP black cartridge exceeded its projected page yield (810 printed versus 660 projected), while an Epson model printed just 209 pages, far less than the 335 pages the company estimated it would produce. A Kodak printer generated 480 pages versus a projected page count of 540.

Page yields aside, we have yet to hear a persuasive explanation from a vendor as to why some of its cartridges leave so much ink behind. Even if the waste amount is only a few milliliters, that unused liquid could have printed a lot of pages. And ink that doesn't end up on a page will wind up contributing to the toxic stew in local landfills too.

LAB TESTS

How Much Was Left When the Printing Stopped

THESE INK LEVELS remained in the cartridges we tested. Due to differences in cartridge capacity and printer ink usage, the unused ink doesn't translate into a predictable number of printed pages.

Canon OEM	G&G (for Canon)	Epson OEM	LD Products (for Epson)	Kodak OEM	G&G (for Kodak)
24%	45%	8%	41%	43%	36%

WPA Wi-Fi Encryption Cracked for the First Time

SECURITY RESEARCHERS say they've developed a way to partially crack the Wi-Fi Protected Access (WPA) encryption standard that is used to safeguard data on many wireless networks.

Researcher Erik Tews was to demonstrate the attack at the PacSec conference in Tokyo in mid-November. Cracking WPA encryption could be exploited to read data being sent from a router to a laptop, or to send bogus information to a client connected to the router.

Tews and coresearcher Martin Beck found a way to

Once thought safe, the WPA standard used by countless wireless routers has been revealed to be vulnerable—but only in theory, for now.

break the Temporal Key Integrity Protocol (TKIP) key, which WPA uses, in a relatively short 12 to 15 minutes, says Dragos Ruiu, the PacSec conference's organizer.

In this particular attack, however, they have not managed to crack the encryption keys used to secure data sent from the PC to the router.

WPA, widely used on today's Wi-Fi networks, is considered superior to the original WEP (Wired Equivalent Privacy) standard, which most security professionals now deem insecure. Retail store chain T.J. Maxx was in the process of upgrading from WEP to WPA encryption when it experienced one of the most widely publicized data breaches in United States history, in which hundreds of millions of credit card numbers were stolen over a two-year period. The new WPA2 standard is considered safe from the recently developed attack.

"Everybody has been saying, 'Go to WPA because

WEP is broken,'" Ruiu says. "This is a break in WPA."

If WPA is significantly compromised, it would be a blow for business customers who have been increasingly adopting it, says Sri Sundaralingam, vice president of product management with wireless network security vendor AirTight Networks. Although customers can use other Wi-Fi technology such as WPA2 or virtual private network software that will protect them from this attack, many devices will still connect to the network via WPA, or even by way of the thoroughly cracked WEP standard, he says.

—*Robert McMillan*

Usage Caps Coming to AT&T Broadband Users

THE DAYS OF unlimited data transfers may be dwindling. AT&T is now testing a monthly data cap for its broadband Internet users, the company has confirmed, and could move toward a wider rollout in the future.

Users in Reno, Nevada, are the first to see the limits, spokesperson Michael Coe indicates, though the company may soon add a second test market. Users of the slowest DSL service tier are limited to 20GB of bandwidth per month, while users of the fastest plan have a cap of 150GB a month. Any data transferred beyond the limit is billed at a rate of $1 per gigabyte following a one-month grace period.

AT&T isn't the first provider to move toward bandwidth caps, but as America's

largest ISP, it is certainly the one with the heaviest impact. Comcast started enforcing bandwidth limits of 250GB per month—a larger number than the maximum cap that AT&T is currently testing—at the beginning of October. Still, critics have lashed out at the idea, suggesting that bandwidth needs will rise in the future and creep closer to the caps that are being put into place now.

AT&T will provide customers with a bandwidth-measuring tool so they can keep track of their usage and the limits. (Third-party measurement tools are available as well.) The company also promises to notify users 60 days before any additional charges might begin to appear on their bills.

—*JR Raphael*

PC Maker MPC in Chapter 11

COMPUTER ASSEMBLER MPC filed for bankruptcy in November. Originally Micron Computer, MPC sells to government, health care, and education. Operations will continue as MPC reorganizes, the firm says. In October 2007, MPC bought Gateway's Small Business, Mid & Large Business, Government, and Education lines for $90 million. The company was delisted from the New York Stock Exchange on November 4 due to a financial condition so impaired, it seems "questionable as to whether we will be able to continue operations," an October 27 MPC filing with the U.S. Securities and Exchange Commission states.

—*Agam Shah*

ILLUSTRATION: GORDON STUDER

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hp

Sneaky Fees: Seven Ways You're Paying More

THE FALTERING economy is taking its toll on the tech world. With hard times ahead, corporations have even more reason to try to tack on charges, subtly, for various services and extras. We've identified seven recently introduced surcharges on tech products—add-ons that vendors aren't exactly trumpeting.

Finding Your Fees

You've long heard about hidden fees in phone bills. But newer costs are popping up in technology, and they may be affecting you in ways you're unaware of.

1. Shipping surcharges: Fuel surcharges for parcel carriers have doubled since last year. And now, FedEx and UPS have additional rate hikes in mind for home deliveries. FedEx rates will jump by almost 7 percent in January; UPS Ground shipping will go up by about 6 percent.

2. Fees for 3G: New "low-cost" 3G phones are not as economical as they seem. Take the G1 Android phone: T-Mobile has touted the handset's bargain $180 base price, but has been far less vocal about the activation fees that raise it to $215. On top of that, users must pay at least $25 more per month for data access than they would for a voice-only phone. That subtracts another $600 from your pocket during the required two-year contract.
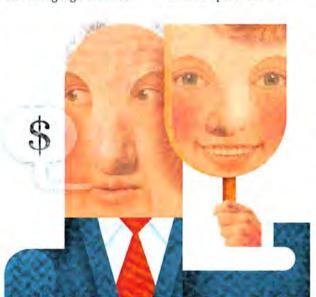
AT&T pulled a similar trick with the iPhone 3G: "They raised the price of their subscription and lowered the price of the gadget," explains

Faced with a worsening economy, companies are reluctant to raise prices, so many firms are choosing to introduce sneaky new fees instead.

Bob Sullivan, author of *Gotcha Capitalism*. "After a year, your price will be higher."

3. Blu-ray bucks: Netflix subscribers who request Blu-ray movies began paying extra in November. The movie-by-mail company tacked on a dollar-per-month surcharge for renting high-def discs.

You can opt out, but not ponying up means no more Blu-ray discs for you.

4. Electric bills: Keeping gadgets juiced may already be costing you more than in the recent past. In June, *USA Today* reported that utilities across the United States were poised to raise electricity rates by up to 29 percent. If you use a PC or other electronics at home, you're likely seeing a higher bill.

5. Tricky travel: Using travel sites such as Expedia, Orbitz, and Travelocity may make finding flights easier,

but you may be paying for that convenience. A significant shift has occurred in ticket booking from years past, when third-party providers often saved consumers dough. Most third-party services now add a scarcely mentioned booking fee, from $5 to $25 per ticket. But

don't try to avoid it by calling the airline: Most phone booking lines now charge extra, too, as do the agents at airport counters. These days the simplest fee-free option is to buy directly through the airline's site. (Of course, you can still use other services to shop around before switching to the airline's site to close the deal.)

6. Cable cost: Comcast is preparing to raise its rates in several ways. The company upped its cable rates nationwide by an average of 3.7 percent in November. Basic

service will jump about $3 in some places. Add-ons such as DVR service and premium channels will rise by a dollar each per month, too. Comcast blames the fee adjustment on the "challenging economic environment," plus "gas prices, healthcare costs, increases in the cost [it] pay[s] for programming, and technology and service improvements."

7. Text tax: Verizon recently announced a 3-cent fee for all mobile-terminated text messages—texts that originate from a PC rather than from another cell phone. As a result, companies ranging from Google to the slew of free Web-based texting services will be paying extra. And those services will start passing the costs on to you.

The Future of Fees

"You can get away with hidden fees once or twice on consumers, but eventually they get pretty mad at you," Sullivan says. Still, such costs are unlikely to disappear. In an era where product comparisons are a click away, being able to advertise the lowest possible figure as a base price has huge commercial value, and annoying the public is a sacrifice that many businesses are willing to make to hit that number.

Perhaps you can't skip the charges—but at least you can find out how much you're really paying. Armed with that knowledge, you can decide which services you want to use, and which add-ons you'd rather do without.

—*JR Raphael*

ILLUSTRATION: GORDON STUDER

Forward

A Look Back: The Mac's 25th Anniversary

JANUARY MARKS 25 years since Apple introduced the world to the mouse and to the window-based graphical user interface. For a more extensive look at the Mac's storied history, see find. pcworld.com/61963.

JANUARY 24, 1984: Introducing Macintosh The revolutionary 128KB, 8-MHz Macintosh sets the agenda for Apple's next two decades.

SEPTEMBER 20, 1989: The Portable Macintosh Although it's far from perfect, the Macintosh Portable finally makes the Mac mobile.

FEBRUARY 19, 1990: Opening Shop Adobe's famous image editor debuts exclusively on the Mac. Photoshop later migrates to Windows (in 1992).

AUGUST 15, 1998: iMac Debuts, Rewrites the Book of Mac Featuring USB ports, no floppy drive, and an innovative all-in-one design, the first iMac causes tidal waves.

JULY 21, 1999: iBook Cuts the Wires With AirPort (on the colorful clamshell iBook), Apple starts the wireless-networking revolution.

FEBRUARY 19, 2001: Super-Drive to the Rescue The industry's first combo CD- and DVD-burning drive premieres in the Power Mac G4.

MARCH 24, 2001: X Marks the Spot Apple begins its shift to the Unix-based Mac OS X, with its flashy new interface.

OCTOBER 23, 2001: iPod Rocks the Music World Of the iPod, pundits ask, "Who would want such a thing?" The answer: "Everybody."

JANUARY 10, 2006: Hell Freezes Over: Apple Goes Intel Apple abandons the Motorola and IBM processors of its past and announces the first Mac systems to be powered by Intel CPUs.

APRIL 5, 2006: Basic Training Apple unveils Boot Camp, technology that allows Intel-based Mac machines to run Windows natively.

JANUARY 15, 2008: Lighter Than Air (and Far More Expensive) Weighing in at 3 pounds and measuring a mere 0.75 inch thick, the MacBook Air becomes the lightest, thinnest Mac laptop ever.

—*Benj Edwards*

BETA WATCH EDWARD N. ALBRO

Juice: Research Assistance in Firefox

Researching any topic on the Net is light-years easier than doing so offline. But we lazy humans still want things to be even simpler. Juice, a free Firefox 3 add-on, takes much of the clicking and tab swapping out of researching most any topic. Say you're reading about the latest Bond flick, *Quantum of Solace*, and you want to know more. Highlight the film's name and drag the words into the Juice panel located on the right side of the browser—it gives you news stories, Wikipedia entries, images, and shopping info. Click on a result, and the page opens in a new browser tab. juiceapp.com

Everyscape: A Virtual Peek Inside Buildings

Google's Street View can make you feel like you're walking through a neighborhood, but the shots are all from the street. Everyscape shows the interiors of selected buildings as well. I found the free service most useful when I turned on AutoDrive, a feature that leads you through a building or neighborhood, complete with snazzy transitions—the image blurs, rushes past, and then is replaced with the next image. Everyscape is great for assessing a restaurant or hotel before you make a reservation. But it would help if Auto-Drive better indicated where visitors are being taken. everyscape.com

Shoeboxed: Manage Paper Receipts Online
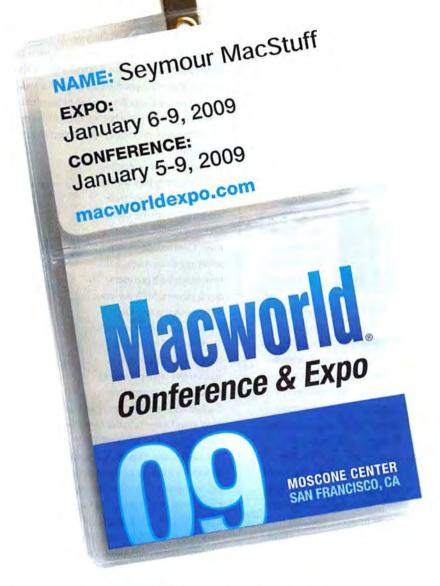
For most folks, the paperless office (or home) has yet to come to pass. As digital as we are, we still amass pieces of paper, typically

EVERYSCAPE'S MAPS INCLUDE panoramic pictures of selected building interiors, including Vinny's Gourmet Deli in Brooklyn.

receipts and business cards. If you join Shoeboxed for $10 to $50 per month, you can stick that paper into an envelope and send it to the site. (The service offers a free option, but you must scan the documents yourself.) Worker bees scan your receipts, pull out information—such as how much you spent, and where—and present the details in an online database. They can turn your business cards into a contacts repository too. Shoeboxed seems handy, but even though I know paper will never go away entirely, I still balk at investing time and money into a dying medium. shoeboxed.com

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Ballmer: Android No Competitor

GOOGLE'S ANDROID doesn't "bubble up to the top" of Microsoft's list of the toughest competitors to Windows Mobile, says Microsoft CEO Steve Ballmer. He says it is too early to tell whether Android will be a serious rival in the mobile market, where other parties have marked considerable territory.

"We're in a world with Symbian... BlackBerry... and Linux Mobile," he says. Google might be a factor someday, but right now others "look a little tougher to me."

Ballmer says he doesn't "understand the business model" that Google has for Android, which is free to device makers and carriers.

"If I went to my shareholder [or] analyst meeting and said, 'Hey, we just launched a new product that has no revenue model, yeah, cheer for me,' I'm not sure my investors would take that very well," he says. "That's what Google is telling their investors about Android."

He also suggests that since people don't pay for Android, Google may lack the incentive to "put in the same kind of investment to improve the product" as it might on an OS for which people pay.

—*Elizabeth Montalbano*

GEEKTECH

Nintendo DS R4: Homebrew Haven or Pirate Tool?

WHEN I FIRST heard about the hard-to-find Revolution for DS (aka R4)—an unofficial cartridge used for hacking the Nintendo DS handheld game machine—I was intrigued. But I heard all the buzz, too: "It lets you play pirated DS games. Just copy files from a computer to a microSD card, and then pop that into the R4." I'm no pirate—I support all the guys who make my games! So I was determined to steer clear.

Yet the R4 isn't just a hot key to pirate booty. The homebrew community has latched on to the elusive, illicit device too. Independent game designers are crafting their own DS software and sharing their work freely with the world. Sudoku puzzles. Adventure titles. Even arcade-worthy shooting games. Heck, folks have made Web browsers, photo viewers, MP3 players, and e-book readers too.

Now I must admit my "dark deed": I caved and bought an R4. Following is just a small taste of the cool homebrew programs I've discovered since then. (You can find these and other apps linked to in the online version of this story, at find.pcworld.com/61942.)

Arcade action: Geo Wars is a really fast and addictive free shooting game that has you piloting around an arena, shooting anything that gets in your way. Into racing? Then you need to see Whee DS, a 3D space-racing game that looks like a low-fi take on the classic WipeOut.

Puzzle games: StillAliveDS is a 2D tribute to the popular PC action-puzzle game Portal. It's fully playable on the DS's touch screen. If you like old-school puzzles where you push blocks around a room, then Caisses DS has you covered. Do you prefer sudoku? Skinz Sudoku, by Mollusk Games, is a well-polished brain bender.

Adventure games: The old *Lone Wolf* book series is being converted into DS games, where you have an inventory, roll a die, make choices, and battle enemies. These are amazing-looking, professional efforts. Another freeware choice is ScummVM, which gives you access to some

> The R4/Revolution cartridge could be a legitimate tool if used for the right reasons.

classic PC adventure titles, ported to just about every platform available, including the DS.

Media player: Though Nintendo's revamped DSi has been out in Japan since November, Americans won't get to enjoy its new features—including a slimmer profile, a VGA camera, and music playback via internal memory or an SD Card—until well into 2009.

But though we don't necessarily condone it, the reality is that geeky gamers have long enjoyed music playback on the Nintendo DS. One method of doing so is to use Moon-Shell, a homebrew media player that supports MP3, Ogg Vorbis, and AAC files (the DSi supports only AAC).

For more information on DS homebrew and storage devices, browse to Wikipedia's Nintendo DS homebrew page at find.pcworld.com/61947.

So is the R4 a legitimate tool or a violation of Nintendo's EULA? In late July 2008, Nintendo and 54 other companies sued the cartridge's maker, demanding that production cease in Japan, under that country's Unfair Competition Prevention Law. Tom Buscaglia, a lawyer who specializes in video game issues, believes that the R4 will likely end up being blocked in the United States. But the genie is out of the bottle: R4 clones have begun appearing.

I don't think Nintendo is the bad guy here—piracy is. We just need to find a middle ground that'll protect intellectual property. Homebrew shouldn't be a crime. I can only hope that companies relent and that someone, someday will allow for a truly open platform. Oh, wait—we have one already. It's called a PC. Just Google places such as TIGSource.com and IndieGames.com, and you're knee-deep in innovative, independent games. No crime, no punishment.

—*Darren Gladstone;*
Mike Keller also contributed to this story.

Forward

PCW's Guitar Hero Rock Band Takes Center Stage

THE BATTLE OF the video-game bands rages, with one big improvement: The instruments for Guitar Hero World Tour now work with Rock Band 2, and vice versa.

Some homebrew software can turn these instruments into real noisemakers, too. (For more on hacking the hardware, visit find.pcworld.com/61965.) But you still

need to figure out which game offers the songs that make you want to take the stage; see a full breakdown comparing the two games at find.pcworld.com/61964.

After that, you'll need to select the right gear, so we consulted *PC World*'s faux rockers, Øverclöck, to see what really rocks.

—*Darren Gladstone* ●

WEEZY MOYNIHAN, RHYTHM GUITAR: "Peak Products' Starpex ($180) has metal knobs and a wood neck. I'm playing a real guitar with colored buttons."

BARRA KUTA, DRUMS: "Ion Audio's Drum Rocker ($300) can take a beating! It's loaded with four toms, three cymbals, and a kick pedal. If you add a MIDI module, the kit works like the real deal."

GINNY TONIC, VOCALS: "How the heck am I supposed to front a band with a gamepad? Mad Catz's M.I.C. ($60) has a basic Xbox 360 controller built in. I can just choose a song and be ready to rock in a second."

OUR ROADIES WILL bring along the Rock Band Stage Kit ($100). Fire it up, and it'll produce smoke and a light show that keeps time with the music.

SLASHDOT, LEAD GUITAR: The whiskey-fueled firebrand digs the slide buttons on the new Guitar Hero axe, but gripes that "it still feels like a freakin' toy!" He's waiting for Logitech's $250 wood model; it has slide buttons, too.

Consumer Watch

Can You Trust Online User Reviews?

BY ROBERT LUHN

ANYONE CAN WRITE a product review, and everybody reads them on Amazon, Buy.com, Epinions, PCWorld.com, Yelp, and even the sites of tech product manufacturers, such as Dell. They're everywhere.

But not all are unbiased, or even useful. Deceptively positive reviews contributed by "readers" working directly (but secretly) for a product's manufacturer, and reviews by people who aren't knowledgeable, are concerns of both critics and fans of such reviews.

In an October 2007 poll (find. pcworld.com/61847) by the public relations firm Burson-Marsteller of 150 savvy Web consumers, nearly half (48 percent, up from 39 percent in 2001) said they believed that fake reviews were being planted on consumer sites, and 57 percent said they wouldn't buy a product if the reader reviews seemed suspect. But nobody can say how pervasive falsified or uninformed reviews are.

> Tons of sites offer user reviews, but not all of them are truly unbiased. Here's how to tell the fakes from the genuine ones.

"[Fake reviews] happen all the time—but proving it, quantifying it—is very hard," says Beau Brendler, director of *Consumer Reports'* WebWatch site (www.consumerwebwatch.org), which promotes guidelines for general Web site credibility.
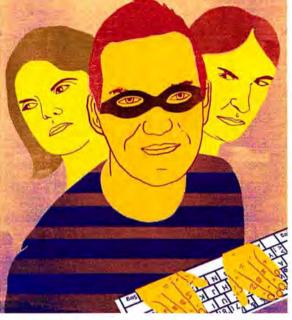
Barbara Kasser, author of *Online Shopping Directory for Dummies* and *Internet Shopping Yellow Pages*, says, "There's no way to check the reviewer's veracity or if they're on the take—they're anonymous." And even when reviewers are well-intentioned, they might not be competent, she adds.

Nonetheless, Internet users tend to believe that user reviews are among the most trustworthy sources of product information, according to a Nielsen Company survey of more than 26,000 Internet users worldwide conducted in April 2007 (find.pcworld.com/61848). From a list of 13 mostly advertising-oriented choices, the top three most trusted sources were "Recommendations from consumers" (78 percent), "Newspapers" (63 percent), and "Consumer opinions posted online" (61 percent).

How Fake Reviews Work

Gaming the system typically involves creating multiple personalities and voices, crafting realistic conversations among those personalities, and using other tricks honed by stealth marketers and paid bloggers.

"[These reviewers] come and go, change their names," says Ben McConnell, cofounder of the Church of the Customer Blog (www.churchofthecustomer.com). "They're like roaches, scuttling away when the lights are turned on."

The vendors, resellers, and meta-opinion sites we consulted maintain that fake reviews are a minor problem. "There's no way to vet the thousands of reviewers on Amazon," says Patty Smith, Amazon's director of corporate communications. "But we don't need to. When readers see 25 negative reviews and one glowing one—well, they can figure it out."

Still, most big sites try to screen out iffy reviews. Yelp (www.yelp.com), for one, has algorithms that look for suspicious patterns—such as a person who creates five new accounts and posts a positive review of the same restaurant from each account. Site administrators can suppress sus- »

ILLUSTRATION DAVID POHL

Sites such as PayPerPost and ReviewMe pay bloggers for positive reviews of clients' products, sometimes without disclosure, Dan Tynan reports in "This Blog for Hire" (find.pcworld.com/61849).

Technology Leadership, Applied

pect reviews, block the reviewer's IP address, and so on. Last summer Yelp yanked postings that it said involved business owners swapping positive reviews with one another.

Epinions has panels of readers to screen reviews before they're published. "These core members will pelt the reviewer with questions and ask them to flesh out the review," says Alisa Weiner, Epinions' vice president of online comparison shopping.

How to Help Yourself

What's a consumer to do? Here's some advice from online shopping pros.

Beware of illogical positivism: "You can usually tell a shill by their complete lack of balance and fact, and unusual enthusiasm for something very minor," says Nick Merritt, editor in chief of TechRadar (www.techradar.com), a UK-based technology news and reviews site.

Consider the source: On Dell's site, customers give the Dell Vostro 1310 laptop 4.1 stars out of 5; CNet readers give it 3 out of 5. "Don't look at reviews on a vendor's site," Kasser says. "There's a good chance they're planted."

Weigh the balance: Look for reviews that provide both positive and negative feedback and include salient details, says one professional tech reviewer. "That way you know the reviewer has actually seen and used the product."

Check for consensus: "You've got to look at four different sources at least," says TechBite newsletter founder Steve Bass. "That'll give you a broader sense of how good or bad the product is." Adds online business author Frank Fiore: "I like sites, like Amazon, that give you an aggregate score and show a history of the reviewer. That way you can get a handle on whether they're plants or have a personal agenda."

Look for the personal touch: "The passionate reader review can be a plus...it can tell you how the leather seats in that car *feel*," says WebWatch's Brendler. And, he adds, reader reviews encourage "frank, open dialogue between consumers and companies."

Cell-Phone Insurance: A Bet on Bad Luck?

WHEN MY three-month-old iPhone 3G nearly died, I suddenly became very interested in phone insurance plans that had previously left me cold. Major carriers typically offer insurance along with umpteen other "up-sells" when you buy a new handset, and I reflexively turn all of them down.

You can insure most handsets against theft, loss, and damage; consider it if you're married to your mobile.

But faced, even temporarily, with the prospect of having to replace my iPhone at its full, unsubsidized price ($500 for the 16GB model), I began to wonder if insurance might not be worthwhile. It turns out that one company—Asurion—manages insurance programs for all the major U.S. carriers. However...

No iPhone Insurance

The first thing Asurion chief marketing officer Andrew Cole told me was that no insurance program exists for the iPhone 3G; Apple offers only AppleCare, which for $69 extends for a second year the free tech support you get with the phone.

"We'd be happy to cover [the iPhone]," Cole says, explaining that the problem is a lack of replacement units. Apple, apparently, is either selling all the phones it makes to new owners, or using them to meet its own warranty obligations.

But all other makers sell replacement units to Asurion. "Literally thousands and thousands [of phones] are covered, except for the iPhone," Cole says.

Asurion's policies vary in price ($5 to $8 a month) and in details from carrier to carrier, but basically the company will replace a lost, missing, or malfunctioning out-of-warranty phone with an identical or similar model—once you pay a deductible. You can place a claim on Asurion's site or call the company's toll-free number; when a claim is accepted, Asurion

will send a replacement phone overnight.

While most (about 60 percent, according to Cole) of the replacement phones are brand-new, Asurion reserves the right to provide a refurbished unit that it says has undergone extensive quality checks and comes with a one-year warranty.

Deductible fees also vary, depending on carrier and/or model. Verizon Wireless, for example, charges a $50 deductible for all handsets; other carriers have a range of deductibles—up to $130 for high-end models. An inexpensive phone may not be worth insuring, but if your unit is a high-end smart phone that would cost $300 or more to replace, insurance might be a good idea.

New developments could make phone insurance more attractive. Some carriers offer an early-upgrade option in which you pay a modest surcharge to receive a newer model of phone when you submit a claim. You'd get a new phone without paying full cost—or committing to another two-year contract to secure the subsidized price.

Also, a data backup service for phones maintains copies of all your contacts, calendars, music, and other datebook files, so that if you lose your handset, Asurion will send you a new one with all your data already preloaded. This is an extra-cost option from some carriers, but Cole believes that it will eventually be part of the basic insurance offering.

Some 60 million phones are lost or damaged every year in the United States alone, Cole says. If you can't be without a cell phone and don't want to deal with replacement hassles, cell phone insurance might help your peace of mind.

Listen Up.
Sync Up.
Charge Up.

iHome
Live Life Loud™

The world's first computer speakers for iPod.

sync with style™

ihomeaudio.com

Made for iPod

Apple Store   Brookstone   circuit City

Reson8
Sound Chamber Technology

iHome and Reson8 are registered trademark of SDI Technologies, Inc.   iPod is a trademark of Apple Inc., registered in the U.S. and other countries.

Consumer Watch

ON YOUR SIDE GINNY MIES

I PURCHASED THE Winamp Pro media player, but I repeatedly get an 'invalid registration key' message when I attempt to install it. I have tried copying the key from the original confirmation e-mail, removing hyphens from it, and reentering it manually myself, but nothing seems to work. Every time I e-mail Winamp's customer support, I receive a mail delivery failure message. The free version of Winamp runs fine on my computer, so I know that everything is up to spec. Please help!

Tomas Peceny, Czech Republic

OYS responds: We e-mailed Winamp's customer support, using the form on its FAQ page, but like Peceny, we received delivery failure messages. Fortunately, Winamp's active user forum had a recent thread about invalid registration keys.

After many customers had posted complaints about not being able to reach customer service, a moderator finally provided a functional e-mail address: winamppro-support@listserv.sup.aol.com. As long as you provide proof of your purchase, such as a credit card bill or the confirmation e-mail, Winamp will issue a new registration key. Peceny was able to get a working registration key promptly.

Vendors, we have found, are more likely to update information in forums than in their FAQs. Also, you'll have better luck getting a response on a forum, whether from a moderator or a fellow customer, than by sending a generic customer service form (especially a broken one). Before posting a question, though, search for existing threads on your issue—otherwise, you'll probably be ignored (or flamed).

Missing in Action

Hong Tran of San Diego purchased an American Telecom phone system with a $50 rebate from Fry's Electronics. After a few weeks, he called American Telecom's customer service to check on the rebate's status and was told that it was being processed. The rep also said to call back if the rebate didn't arrive in four to six weeks. But when the time passed and Tran tried again, the rep hung up on him.

Others have had problems with American Telecom. Consumer message boards such as ComplaintsBoard.com are flooded with horror stories about the compa-

ny, and the Better Business Bureau has given it an "F" rating. Despite numerous attempts, we couldn't reach anyone from American Telecom. Its former consultants, Hayden Communications, said they ended their relationship with the company because they had never been paid.

OYS tip: Alert the retailer where you bought the product of rebate difficulties. Fry's, for example, will conduct inquiries and in some cases pay the rebate if you show proof of purchase, such as photocopies of receipts or a UPC bar code. (Fry's is investigating Tran's case.)

TV Stand Recall

Studio RTA has recalled four of its TV stand models because sets could tip over. The recall, announced by the Consumer Product Safety Commission, affects the E Series model 60331, the Fierro model 402875 (sold at Best Buy), the Madison DLP model 60176, and the Madison 3000 model 60090. While no injuries have been reported, owners of the affected stands should immediately remove their TVs and contact Studio RTA toll-free at 888/309-0299 or visit www. studiorta.com to receive a free repair kit.

ILLUSTRATION: HARRY CAMPBELL

Consumer Watch

Amazon Offers Easy-to-Open Packaging

SOME PRODUCTS COME in packaging so tough it takes a chainsaw to rip them open. Now online retail giant Amazon is addressing what it calls "wrap rage" with new, simpler "frustration-free packaging" for 19 of its best-selling products from manufacturers such as Fisher-Price, Mattel, Microsoft, and Transcend.

Products popular with department-store shoplifters—such as small children's toys and computer peripherals—are often locked in packaging consisting of outsize, hermetically sealed plastic containers that are difficult to sneak out of a store but take forever to open.

Since you can't steal what you've already paid for, Amazon is now making the products in the program available in recyclable brown cardboard containers. These packages may not look as pretty as brightly designed, conventional ones, but Amazon says they eliminate hard plastic clamshell cases, plastic bindings, and wire ties.

The first products that Amazon has released from environmentally un-friendly packaging include several Microsoft mice, some Transcend SDHC memory cards, and a few Fisher-Price toys. (See find.pcworld.com/61899 for a complete listing of products available in the new packaging.)

Amazon describes the program as "a multi-year initiative," suggesting that it hopes to expand the effort to other products. The company is also inviting customers to vent their irritation by submitting videos and still images of frustrating package-opening experiences. View Amazon's "Gallery of Wrap Rage" at www.amazon.com/frustration.

—*Brennon Slattery* ●

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Don't just go. Boingo.

Business Center

Start Your Own Online Business for $100

BY CHRISTOPHER NULL

TODAY'S ECONOMY ISN'T doing anyone any favors, and if you're one of the unfortunate folks who have been laid off, you might be facing a long haul searching for another job. Is now the right time to put your long-lingering business idea into practice? While times may be tight for some large enterprises, in many cases smaller, more-nimble companies are better able to withstand market uncertainty and to weather downturns.

The best way to stick it to The Man? Start working for yourself by founding your own company. Starting a business doesn't have to mean spending thousands of dollars on setup costs before you ever open your doors. Don't be suckered into spending loads of money on services that you don't need or that have far cheaper alternatives. Seriously: With a mere $100, it's possible to obtain everything you require to start just about any business online, with only minimal need to stir from your desk. Here's how to do it.

Find an Affordable Web Host
The Web site for your new business has to live somewhere. How do you pick a host that won't leave you high and dry?

Most hosting plans for small companies offer similar features: basically unlimited storage space, support for common databases and publishing systems, and anywhere from a few gigabytes to 2 terabytes of data transfer per month. Expect to pay between $5 and

It's easy to make your one-person startup company look and feel like a large corporation using cheap—and even free—online tools.

ILLUSTRATION: JOSH COCHRAN

$15 a month for the service, with a one- or two-year up-front contract.

How do you pick from the dozens out there? Look for reviews from recent users, with a particular focus on how quickly the host resolves problems and how often the service goes down. If you expect sudden, big influxes of traffic due to promotions or Digg-inspired

flooding, you'll want to ensure that the host can handle the increased demand. Ask about these issues if the company doesn't provide written policies.

If your business is blog-centric, you can get started for free with a hosted blogging service such as WordPress.com's. You can always move to your own Web host later when you outgrow it or are otherwise ready for more.

Design a Logo and Site
Numerous Web sites—Logo Ease (logoease.com), say, or LogoMaker (logomaker.com)— will design a free logo for you based on options you set via a Web interface. The quality varies, but generally you can get the logo for free for online use. The services make money if you want to have the logo in EPS format, which is more suitable for printing on T-shirts and mugs. A Web search for "free logo" will turn up dozens of additional alternatives.

Another, possibly better, approach is to seek an independent designer to make a logo. If you don't need anything fancy, you can find someone to do the job for $50 or less through a Craigslist ad. The advantage is that you get to work with a live person (with genuine artistic skills) to create something unique rather than a cold, computer-generated logo.

As for Web design, you're unlikely to encounter someone who can create **»**

Business Center

an original site for you for a fee within our $100 budget. If you can't afford a real designer from the start, begin with a simple layout and customize it as you go—but try to avoid making incremental changes every day or week. When it's time to redesign, do all of the work at once to avoid confusing and alienating your readers for a protracted time.

Build an E-Commerce Site, Cheaply and Easily

If you plan to sell physical goods, you'll need a service to handle e-commerce transactions, process credit cards, and provide security for both. Setting all of this up on your own server is an expensive, time-consuming task laden with security risks. It's best to outsource the functions to a hosted service, which can be surprisingly affordable. Yahoo's Merchant Solutions (smallbusiness.yahoo. com/ecommerce) starts at $40 a month. Netfirms e-commerce sites (www.netfirms. com/ecommerce) start at $15 a month. You can customize both extensively to match your desired look and feel.

Find a Big Sales Partner

Thousands of merchants use Amazon Services (amazonservices.com) to promote their goods, giving Amazon a cut when items sell, and you don't need a Web site at all to use it. You can sell just about anything Amazon stocks by registering as a merchant, finding the page for the item you have, and clicking *Sell yours here*. Merchants must pay $40 a month, plus closing fees along a sliding scale (6 to 20 percent). Individuals can sign up to sell with no monthly fees but must pay an extra 99-cent closing fee.

You'll find similar services (though less of a product selection) at Half.com (part of eBay). Of course, you can always try your hand at dealing on eBay itself, which is still a popular venue for selling new and used merchandise, though one drowning in noise.

For even more quick business-startup tips, including how to set up a virtual office and manage your inventory and shipping, visit find.pcworld.com/61943.

NET WORK RICHARD MOROCHOVE

QuickBooks Premier 2009 Goes Global

QUICKBOOKS Premier Edition 2009 (find. pcworld.com/61972) has many useful improvements, including multicurrency support for transactions with foreign vendors and customers. The new edition of the market's leading small-business accounting package also improves multiuser capabilities, offers smarter online banking, and makes it easier for your outside accountant to work with your QuickBooks records.

Intuit's business accounting application now offers multiple-user enhancements and international-currency support.

Longtime users will welcome enhancements to the dashboard: The company-snapshot feature provides more details on your business finances and allows you to drill down to examine all of the information more easily.

New users will benefit from the added panel containing context-sensitive links to the QuickBooks Live Community, a user bulletin board that could help them find answers to many of their questions.

Selling to the World

Intuit couldn't have timed the program's new support for multiple currencies any better: Today's domestic economic conditions will encourage many businesses to sell to foreign customers.

QuickBooks lets you download up-to-date currency-exchange rates so you can easily prepare invoices in euros or other currencies, even if you maintain your product costs in U.S. dollars. You can view your outstanding receivables either in U.S. dollars or in the foreign currency. For an extra cost, you can receive your customer payments by wire transfers through Intuit Payment Services.

More in Multiuser Mode

According to Intuit, at about half of the businesses using QuickBooks, more than one person works with the software.

Those businesses are sure to appreciate the improved multiuser mode, including its data-backup and report-running capabilities. QuickBooks Messenger lets you text-chat with other users.

Some operations are still restricted to single-user mode. But QuickBooks administrators who need solo access can now send a message to other users and log them out.

Online-Feature Enhancements

Banks rarely record transactions the same way you do in your company books. Borrowing from its personal-finance application, Quicken, Intuit has added to QuickBooks 2009 the ability to suggest possible matches when you download transactions from your bank account. You can then establish a rule to rename similar transactions in the future, to save valuable time.

Intuit now provides a free Web site, for 12 months, for each QuickBooks customer. Unfortunately, the plan appears to have been designed by a particularly tight-fisted Ebenezer Scrooge: The freebie is limited to a scant three Web pages, so it's hardly worth your effort to set one up. Microsoft Office Live Small Business offers a far more generous bundle of free Web services, including both a custom domain and e-mail accounts.

Intuit rolled back last year's $50 price hike, so QuickBooks Premier 2009 lists at $400. The improvements make it a good value for new users and a worthwhile upgrade for current customers. A less costly Pro edition ($200) lacks industry-specific financial reports and inventory-tracking tools, but it may appeal to smaller service businesses on a budget.

This year, an estimated 3.6 million UPSs will reach the end of their lives.

Is yours one of them?

A battery warning from your partner in reliability

When you bought your APC UPS, you chose it, and us, for our Legendary Reliability®…because you wanted the best product available. So as the industry leader and your chosen partner, it's our job to inform you that an aging UPS battery puts your network reliability and your peace of mind at risk. If you are converging and consolidating your networks, upgrading your equipment, or deploying new servers, be warned: an older UPS simply cannot handle the increased loads and criticality — putting your entire network at risk of costly downtime, unsafe shutdowns, and data and equipment loss.

Luckily, there is a simple solution for renewed peace of mind — APC Trade-UPS®. With the Trade-UPS program, you can trade in your aging UPS for a new unit and receive a 25% discount on your new purchase, plus more runtime and enhanced manageability of networked power and cooling. Not only will you see improvement in performance, you'll also see improvements in your utility bill.

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APC also provides upgrade options and battery replacement solutions for both in-warranty and out-of-warranty UPS products. Visit **www.apc.com/tools/upgrade** for more information.

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APC

Share Folders Easily on a Small-Business Network

IF YOUR SMALL office depends on multiple PCs running different operating systems or Windows versions, sharing folders can be a pain. But you have a business to run, and you could spend your time in better ways than messing around with folder permissions. Cisco's Network Magic can get the job done.

Although a free version is available, it's the $30 Essentials package that claims to simplify file/folder sharing—and, man, does it ever. It's literally a three-click process. However, the program must be running on each PC for you to take advantage of this feature.

Essentials includes licenses for up to

WITH NETWORK MAGIC, sharing a folder is easy. Just click the button, and select one to share.

three PCs, which is probably sufficient for most home-based offices. The $40 Pro edition supports up to eight PCs.

Of course, Network Magic does way more than help with folder sharing. But its acumen in that area alone makes it worth the price. It also analyzes your network for security holes, and alerts

you to available patches and updates.

Grab a seven-day trial of the Pro version from find.pcworld.com/61945; it reverts to the free utility if you don't buy either Pro or Essentials at the end of the trial. The app is ideal for anyone who has ever struggled with a small network.
—*Rick Broida*

Protect Your Data With a Secure Portable Drive

THESE DAYS, THERE'S no such thing as nonsensitive data. Whether it's a client list, sales figures, financial projections, or designs for a new product, you can't risk letting your information fall into the wrong hands. That's why you need hardware-encrypted storage.

Secure hard drives lock out intruders at the hardware level, preventing anyone from seeing any part of the drive until they enter a secure password. That safeguard thus forestalls hackers from using conventional software tools to circumvent your encryption scheme: They can't hack what they can't see.

Though secure hard drives come in various shapes and sizes, laptop varieties are the most relevant to small businesses. Inter-

IF YOU PUT all of your critical data on a secure Maxtor BlackArmor drive, you can be reasonably sure it'll never find its way into enemy hands.

nal laptop drives such as the Seagate Momentus 5400 FDE.3 (seagate.com) prevent your portable from booting without a secure password, making it nearly impossible for a thief who has stolen your laptop to see your data. External models such as the Maxtor BlackArmor Portable Hard Drive (maxtor.com) let you add security to your mobile arsenal without retrofitting your laptop.

If you put all of your critical data on a Maxtor BlackArmor, you can be reasonably sure that it will never wind up in a bad guy's clutches in readable form.

When you plug in a BlackArmor for the first time, you'll be prompted to create a secure password. From that point, the drive is protected. Unplug it from your USB port, and it will use its last trickle of power to relock itself instantly.

Though cracking any security scheme is at least theoretically possible, hardware encryption systems are robust enough to stop even the most determined and nefarious script hackers in their tracks. However, a professional data-recovery service won't be able to get into the drive either—so whatever you do, don't forget your password.

These drives are a good match for enterprise-level businesses too. Companies with large mobile workforces can quickly redeploy a BlackArmor drive from one employee to another by securely erasing the current key on the drive and then assigning a new key.
—*Robert Strohmeyer* ●

SLIM IS IN

FASHION-ON-THE-GO
The Eee PC™ S101 Netbook measures in at a slim .75in, and is impeccably designed to represent both style and substance. You can't help but be awed by it's uncomplicated design, clean lines, subtle curves and a sleek exterior look. With the Eee PC™ S101 you can be absolutely stunning even when you're on the move. With its sophisticated chrome details and adorned hinges, it's easy to take off in style anytime, anywhere.

SLEEK AND EFFICIENT
With a fast boot up, shut down and speedy start up of applications, you can be assured that the sleek Eee PC™ S101 performs quickly so you will always stay on the forefront of everything.

STYLISH MOBILTY
The Eee PC™ S101 allows you to enjoy an impressive battery life of more than 5 hours. In addition to its enduring style, this classic beauty is also extremely quiet at only 25db. Cool in form and function, you won't have to worry about working on a scorching-hot PC anymore.
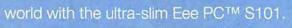
Eee PC™ S101
designed by ASUS

Go places in style with the new Eee PC™ S101. With its ultra-slim design and elegant features, you'll want to be seen everywhere with it. From outdoor café to executive boardroom, this lightweight beauty makes it easy to be in fashion while on the move. Take on the world with the ultra-slim Eee PC™ S101.

Now you don't have to choose between **protection** and **speed.**
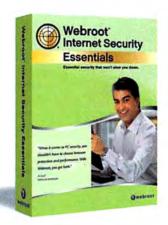
Most Internet security suites are designed to protect your computer and your files, but you have to sacrifice too much speed for that protection. That's why we created **Webroot® Internet Security Essentials**. It's everything you want, and nothing you don't.

With Webroot Internet Security Essentials you get antivirus, antispyware, and protection from hackers — plus it guards your privacy and automatically backs up your digital photos and other irreplaceable files. There are none of the confusing features that slow you down and do little to protect you against today's most common threats — which means you can move at the speed of the Internet and still stay safe.

Get the protection you need and the speed you demand. Start running **Webroot Internet Security Essentials** today. Visit **www.webroot.com/wise** or call **1.866.612.4268** today.

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Security Alert

Use Encryption to Safeguard Your Data

BY ROBERT LEMOS

A DISCREETLY TUCKED-AWAY folder that contains your résumé, your tax returns, and other important files may be convenient for you, but it's also a gold mine for online crooks who steal and sell digital data on a thriving black market.

Even though encrypting data unquestionably helps protect it from thieves, many users in the past believed that using encryption tools wasn't worth the trouble. But times change: In the second half of 2007, thefts of laptops, hard drives, and computer gear accounted for 57 percent of sensitive-data losses reported by companies, according to Symantec.

Luckily, as data theft has become more common, encryption has gotten easier to use. An array of options today— both free and paid—can keep your information safe even if someone walks off with your laptop or breaks into your PC.

Encrypting Everything

Full-disk encryption protects everything on a hard drive— even if the drive departs in someone else's pocket.

BitLocker, a utility built in to Vista Enterprise and Vista Ultimate, provides such protection. You'll find the program in the Windows Security Control Panel.

Other Windows users—and Mac and Linux aficionados— have options as well. TrueCrypt (find.pcworld.com/61859) is a free, easy-to-use open-source encryption product maintained by an active development community. If you feel more comfortable working with commercially supported, full-featured

Encrypting your hard disk to protect your data doesn't have to be a daunting task, thanks to a large number of practical tools.

software, consider PGP Desktop ($99, find.pcworld.com/61860). For encrypting USB thumb drives, Windows users can nab the free Rohos Mini Drive download (find.pcworld.com/61861).

File encryption protects only the files and folders you specify, of course. Typically you'll set up a folder or virtual drive to encrypt any files saved inside it automatically; as long as you haven't left the relevant folder or files open, a thief won't be able to access the protected data. In contrast, if you set up your PC with full-disk encryption enabled, you have no protection once you log in and unlock the drive.

File encryption can also protect against "d'oh!" moments such as accidentally sharing more than you meant to with a misconfigured file-sharing program, for example. The drawback, compared with full-disk protection, is that if you unthinkingly save a sensitive file outside an encrypted folder, it's fair game. If you want maximum protection, you can use both full-disk and file encryption on the same drive.

Setting It All Up

To set up file or folder encryption with a program such as TrueCrypt or PGP Desktop, first open the utility and elect to create a virtual disk (which receives its own drive letter in Explorer) or an encrypted folder. You'll have to choose a good password and a type of encryption (usually the default is fine).

After creating the virtual drive or folder, you can access it whenever you want: Simply double-click it, supply the password, and save data to it as if it were any other drive folder.

Mac OS X users can use the built-in FileVault to encrypt »

Security Alert

the home directory through the Security component of System Preferences. In addition, FileVault can create encrypted virtual disks (which you can move to a USB thumb drive or another storage device) via the Mac's Disk Utility.

BitLocker doesn't allow file encryption; but a file encrypted with third-party software in one operating system can be decrypted in others—convenient if your workplace runs multiple OSs.

E-mail encryption isn't widely used outside specific industries. It involves an extra key-exchange step with recipients. Both PGP and the open-source Gnu Privacy Guard project (gnupg.org) can handle e-mail encryption.

No Slowdown, but Drawbacks

A fast computer today can handle encryption and decryption processing without suffering a noticeable slowdown. But protecting data with encryption does require you to remember yet another crucial password, and losing the key is like losing the combination to an unbreakable safe: You may never recover the encrypted data.

Another vulnerability arises if you copy or save unencrypted files to a USB drive or other backup media, and you don't encrypt your backup drive.

"A lot of us have drives beyond the computer," says John Dasher, a marketing director for encryption firm PGP. "It doesn't make much sense to encrypt your main drive if all your important files are sitting on a USB thumb drive sitting in your desk drawer."

Finally, even the best encryption system doesn't protect against all data-theft threats. If an online intruder infects your PC with a keylogger, the malware can steal online banking data and passwords as you type, or even capture and transmit screen shots, regardless of how that data is saved or sent (though the intruder wouldn't be able to get into your encrypted files without that password). Use a good antivirus program and keep all of your software—not just your OS—up-to-date to protect against malware threats.

BUGS & FIXES STUART J. JOHNSTON

Worm Risk Spurs Critical Microsoft Patch

A SCARY SECURITY flaw that would allow malicious worms to infect one PC and then automatically jump to others prompted Microsoft to release a rare out-of-cycle patch in October. The glitch is critical for both 32-bit and 64-bit versions of Windows XP and Windows Server 2003, and for Windows Server 2000. Microsoft says that targeted attacks exploited the hole prior to the patch's release, and that "detailed exploit code" is currently available online.

This marks the first time since April 2007 that Microsoft has released a fix outside of its normal Patch Tuesday cycle; the action was sparked by lessons learned from worm epidemics like Blaster and Slammer, which cost users billions of dollars to disinfect in 2003.

Though the new hole is a huge risk, protections put in place since the worms surfaced make another epidemic far less likely. Most important is Windows XP's default-on Windows Firewall: A worm crafted to attack the new flaw would have to establish an external connection, which firewalls usually block. If a PC has no firewall, however, or if it is set up to permit file sharing and an attack comes from an infected PC on the same network, the conquering worm could take over the targeted PC. Business networks, which typically have many PCs configured for file sharing, are thus at high risk.

Windows Vista and Windows Server 2008 have mitigating factors that reduce the risk from "critical" to "important," as

Plus: Block the latest IE and Excel assaults, and fix F-Secure security.

rated by Microsoft. The company distributed the fix via Automatic Updates; alternatively, you can download it manually (and read additional information about the issue) at find.pcworld.com/61863.

IE Fixes, Too

On its regular Patch Tuesday schedule, Microsoft supplied fixes for six bad holes in Internet Explorer, underscoring the need to upgrade to IE 7 as soon as possible.

The wide-ranging flaws affect IE 5, 6, and 7 on Windows 2000, XP, Vista, Server 2003, and Server 2008, but they're most serious if you use an older version of IE on Windows XP or 2000. In those cases, an attack could run any command and have its way with your PC. If you've upgraded to IE 7, the flaws permit miscreants to steal user names or other cookie-based data, but nothing more.
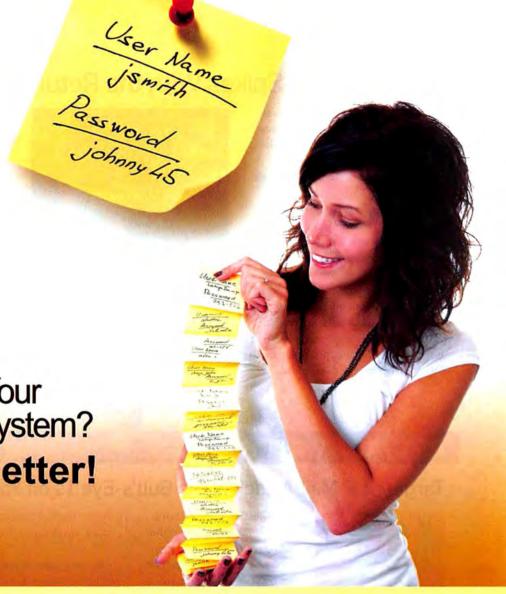
Two of the bugs rated as most dangerous in Microsoft's new "exploitability index assessment," which gauges how likely an attack is against a given vulnerability. Get the fixes through Automatic Updates, or download the patch (and read more info on the new exploitability ratings) at find.pcworld.com/61865.

Insecure F-Secure

Once again, security software has created an insecurity. If an F-Secure program—ranging from Internet Security 2008 to Anti-Virus 2008 to Home Server Security 2009, in versions dating to 2006—scans a poisoned compressed file, your system could be compromised. F-Secure says that no attacks have occurred, but if you use any of these versions, make sure that the app has acquired the latest updates (which should happen automatically).

ILLUSTRATION: HARRY CAMPBELL

Security Alert

Unsafe Spam Spikes With the Return of an Old Tactic

THE PROPORTION OF spam messages containing dangerous attachments increased eightfold in recent months, according to security firm Sophos.

During the period from July through September 2008, one in every 416 e-mail messages received carried a dangerous attachment designed to infect PCs with malicious software, according to the company, compared with just one in every 3333 e-mail messages between April and June of the same year.

The spike marked online crooks' return in force to the tactic of attaching malware to e-mail after largely ignoring it for a time in favor of planting links to infected Web sites and downloads.

Sophos blamed much of the observed increase on several large-scale malware attacks, the worst being the Agent-HNY Trojan horse, which was disguised as

the Penguin Panic arcade game for Apple iPhones. The e-mailed Trojan horse affected only Windows, however.

"Organized criminals are causing havoc for Windows users in the hunt for cold hard cash," says Graham Cluley, senior technology consultant at Sophos. "Too many people are clicking without thinking—exposing themselves to hackers who are hell-bent on gaining access to confidential information and raiding bank accounts."

Noting a rise in the amount of spam sent via social-networking Web sites such as Facebook and Twitter, Sophos says it expects the trend to continue.

—Carrie-Ann Skinner

PRIVACY WATCH ERIK LARKIN

Targeted E-Mail Attacks: The Bull's-Eye Is on You

FAR MORE DANGEROUS than a normal e-mail attack, targeted attacks choose a particular person as the prospective victim and tailor their message to that recipient. Since their creators craft the messages carefully (with few spelling and grammatical errors, for example), these assaults lack tell-tale indicators and thus stand a far greater chance of snaring a victim.

A recent e-mail blast sent out to LinkedIn users followed this pattern (see find.pcworld.com/61886). The e-mail, which appears to have come from support@linkedin.com and addresses LinkedIn members by name, purports to provide a requested list of exported business contacts. In reality, the attachment launches a malware strike against anyone who double-clicks it.

LinkedIn is mum on the question of how attackers managed to lift the contact information for the 10,000 users who received the targeted messages, but similar attacks against Monster.com users last year relied on contact data stolen via a Trojan horse malware infection. Using attacks masquerading as messages from the Better Business Bureau and the Internal Revenue Service, scammers may have lifted names and business titles from profiles on social-networking sites and even company Web sites. And a Hungarian site recently disclosed a Twitter vulnerability that allows anyone to type in a URL and see supposedly private messages.

New, neatly tailored e-mail messages—and their payloads—could be focusing on you.

Like nontargeted attacks, the tailored messages direct potential victims to open an attachment or to visit a Web site, which then launches an assault. Patrik Runald, chief security advisor with F-Secure, says that some attacks in the past directed users to visit a site that tried to install a malicious ActiveX control. The control was signed with a valid but stolen certificate to avoid the warnings about installing an unsigned ActiveX component—another example of the sophisticated planning that goes into this type of con.

Runald says that targeted attacks—particularly those launched against high-profile targets such as military or defense contractors, government agencies, and certain nonprofit organizations (including groups concerned with Darfur and Tibet)—typically use Word documents, PowerPoint files, or PDFs as attachments. E-mail attachments have enjoyed a recent resurgence as attack vectors after falling into disfavor among crooks for some time.

As always, exercising caution is essential to protecting your system from poisoned e-mail links or attachments. Make it a habit to run suspect links past free online scanners such as LinkScanner at explabs.com. Another way to avoid being attacked by a booby-trapped attachment is to open it in a nonstandard program. For example, opening a suspect PDF with Foxit Reader (find.pcworld.com/61889) instead of with Adobe Reader would likely neuter it—which is all the more reason to try out alternative applications. ●

Quality Time Made Easy

The Moneual 312 Home Theater PC may be slim in design, but comes with all the versatile functions of standard size cases. Easily record high quality movies off of Blu-ray discs, simultaneously record programming from multiple channels of live TV, and store all your online downloads on the internal Hard Disk Drives. With your whole media library accessible at the touch of a button, all you have to do is sit back, relax, and enjoy.

I*MAGINE

MONEUAL 972

MONEUAL 812

MONEUAL 811

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Each powerful, hand-crafted Moneual Home Theater PC not only includes a Blu-ray read/write drive for storing discs, TV tuner cards for TV recording, and high speed Internet connectivity for downloads and online gaming, but also up to 2TB of storage space to accommodate a massive collection of movies, music, photos, games, and more.

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Moneual ™ LAB

Reviews & Rankings

Inkjet MFPs Give You More for Your Money

WHETHER you have $100 or **PCW Test Center** $400 to spend, and whether you want a simple unit or a sophisticated one, there's an inkjet multifunction printer for you.

The newest arrivals we've tested illustrate the variety of options now available. Canon's $150 Pixma MP620 offers impressive features and capabilities for the price, including sharp text quality, dual 150-sheet input trays, and both Wi-Fi and ethernet.

Epson's $300 Artisan 800 aims high with such classy features as a large touchscreen control panel and a CD/DVD printing mechanism that emerges from the open front bay. You can

The low-cost Canon MP620 offers wireless connectivity, while the high-end Epson Artisan 800 provides a CD/DVD printing function.

choose photo options on the control panel, selecting layouts or a mix of sizes on one sheet. You can even create greeting cards. Alternatively, you can print an index sheet designed to let you select photos and settings by filling in circles and then feeding the sheet into the scanner.

Photo features are steadily becoming standard on inkjet MFPs. All but the most barebones (or business-oriented) models have media card slots that accept major formats. For thicker paper, some have a dedicated tray—usually a

small one piggybacked onto the main tray, as with the Artisan 800—or a second input, as with the MP620. Many offer photo functions that don't require a PC. And color LCDs on the printers let you view photos and navigate printing options easily.

In considering any model, note that paper capacity is critical. Home users or students can probably get along with 100 pages or so. A home office or small office should seek a capacity of 200-plus sheets, as found on Canon's MP620 and MX700 (our

CANON'S PIXMA MP620 (left) is a good deal for home users, and Epson's Artisan 800 should appeal to photography buffs.

Best Buy pick this month).

Research ink yields, too. If you print very little, a lower-capacity cartridge (about 200 pages) might do even though it costs more per page; otherwise, seek a model that uses high-capacity cartridges. HP's Photosmart C5280 (in fourth place on our chart) offers both kinds, and the cost difference is significant.

An automatic document feeder (ADF) is essential if you scan long documents; but if you can't recall when you last sent a fax, resist the

urge to get that feature "just in case." Even with a multi-function printer, you can have too many functions.

Low Cost, Good Prints

Canon's Pixma MP620 has connectivity and capacity galore. While its design has a few shortcomings, overall it's a good deal, especially for a busy home or school setting.

The control panel replaces a raft of buttons with a scroll wheel that spins through options shown on the adjacent, tiltable, 2.5-inch color LCD. The remaining buttons are

clearly labeled and easy to use. USB, ethernet, and Wi-Fi are standard; you need a $50 adapter for Bluetooth. The two media slots take most kinds of cards. The Pict-Bridge port accepts only Canon-compatible devices.

The 150-sheet output tray automatically unfolds itself from the front panel when you initiate a print job. You get two 150-sheet input trays: one below for letter-size plain paper, and a second in back for larger or thicker sheets. Unfortunately, on my test unit, raising the tele-scoping guides for the rear vertical input involved a lot of tugging and clattering, and I accidentally collapsed them numerous times. The machine lacks an ADF and duplexing capabilities, too.

The MP620 performed reasonably well in our tests. It produced plain-text prints at 7.6 pages per minute and graphics pages at 2.2 ppm—average speeds. The pigment black ink generated impressively crisp, dark letters.

On color graphics it uses a dye-based second black, plus cyan, magenta, and yellow. We found a bit too much yellow in some color graphics samples; flesh tones in particular looked orangey on plain paper and a little jaundiced on Canon's photo paper. Despite that and a slight graininess, images otherwise looked vivid and natural. Scan and copy tests yielded good results as well.

At press time, Canon had yet to publish yields for the five ink cartridges. Other,

BROTHER'S MFC-790CW (LEFT) fell far short in our speed tests, but Lexmark's X4650 produced text pages at an amazing rate.

similar Canon printers have had reasonable costs.

Canon's normally solid documentation had one flaw this time: The printed Setup Guide has a confounding flowchart of installation options that stymies rather than advances the process. Aside from that, Canon's better-than-average rating in our latest Reliability and Service survey bodes well for your overall experience.

Photo-Friendly MFP

Epson's Artisan 800 has many tempting photo features. It's expensive, but it's still worth a look, espe- »

Reviews&Rankings

cially for avid shutterbugs.

It boasts a 7.8-inch, tilt-able touch-screen control panel with a 3.5-inch color LCD. Navigating the menus is easy, but the sheer number of options made me wish for a comprehensive overview. Two media slots take various formats; the unit has a PictBridge port, too.

The star feature is the integrated CD/DVD printing mechanism. The caddy lowers itself from its lair in the open front bay. I like this self-contained design even better than what HP has on models such as the C5280.

In our tests, the Epson unit output plain-text pages at an impressive rate of 9.8 ppm. Its 5.4-ppm graphics speed topped the charts.

Considering the Artisan 800's photography slant, I shouldn't have been surprised that it did better on photo paper than on plain. But given that its six separate inks offer a wider color palette, I was disappointed in its results. Our plain-paper samples were dull, feathery, or grainy. On Epson's photo paper, colors erred toward pink at times but otherwise looked natural. Scans were good; copies seemed fuzzy. The ink is reasonably priced.

Paper handling is sometimes annoying. A 30-sheet photo tray sits atop the 120-sheet, letter-size/legal-size main tray. The 50-sheet output tray (a series of telescoping panels) pulls out from the photo-tray area. But loading the main tray is complicated: You must retract the clumsy output extensions, slide and lift the photo tray, fish for the width adjustment under-

neath, and then put everything back. Fortunately, the 30-sheet ADF is easy to use.

Most of the manuals are good, but they don't cover a few of the Artisan 800's features. And although automatic duplexing requires a $30 accessory, you can select the feature in the driver regardless, which is confusing.

The Artisan 800 offers so much that one might forget its failings. Business users may find a better fit in the Canon Pixma MX7600 (second on our chart), or one of Epson's Workforce MFPs (which we have yet to test).

Other Contenders

Three new models we tested missed the chart. The wide-format capability, generous paper-tray capacity, and inexpensive inks of Brother's

$200 MFC-5890CN increase a small office's publishing potential without breaking the bank. But it output plain-text pages at just 5.7 ppm in our tests, though its 2.4-ppm speed on graphics was more in line with the pack. At least the print results were pleasing, and scan and copy samples looked good.

Brother's compact, $180 MFC-790CW provides nice features for the price. Wi-Fi connectivity is standard. The 4.2-inch color LCD touch screen is mostly easy to use. Media slots, a PictBridge port, and a photo tray encourage you to print shots. Loading or adjusting media requires some tricky maneuvers, but the unit's central problem is its poor speed. It generated plain text at an abysmal rate of 3.9 ppm. (It

did better on graphics, managing 2.4 ppm.) The print quality didn't compensate for the long wait, either.

Lexmark's $130 X4650 made a good first impression, spitting out plain text pages at an astonishing rate of 11 ppm—faster than all but one MFP in our rankings. Text samples were black and crisp. On graphics, however, it bogged down, managing an anemic 1.3 ppm. Color images tended to look a little pale, especially on plain paper, but otherwise they were pretty smooth and detailed. Color test scans appeared too dark, while monochrome scans seemed too light. Copies were a bit rough. The machine falls short in features, too, and its cost per page is steep.

—*Melissa Riofrio*

PC WORLD TOP 5 INKJET MULTIFUNCTION PRINTERS

MODEL	PCW Rating	Performance	Features and specifications
1 **BEST BUY** Canon Pixma MX700 $180 find.pcworld.com/59701	**84** VERY GOOD	• Text quality: Very Good • Graphics quality: Very Good • Tested speed (ppm): 9.1 text/ 3.2 graphics	• 30 ppm text • 20 ppm graphics • 4800-by-1200-dpi maximum true color resolution
BOTTOM LINE: Work- and play-oriented features blend harmoniously in the MX700, with just a few quality and design issues.			
2 Canon Pixma MX7600 $400 find.pcworld.com/60874	**83** VERY GOOD	• Text quality: Superior • Graphics quality: Superior • Tested speed (ppm): 9.8 text/ 3.7 graphics	• 28 ppm text • 23 ppm graphics • 4800-by-1200-dpi maximum true color resolution
BOTTOM LINE: The fast, full-featured MX7600 will suit any small business or home office that can afford it.			
3 Canon Pixma MP620 $150 NEW find.pcworld.com/61884	**83** VERY GOOD	• Text quality: Superior • Graphics quality: Good • Tested speed (ppm): 7.6 text/ 2.2 graphics	• 26 ppm text • 17 ppm graphics • 9600-by-2400-dpi maximum true color resolution
BOTTOM LINE: For home or school, the Pixma MP620 offers impressive features and connectivity for a low price.			
4 HP Photosmart C5280 $130 find.pcworld.com/58163	**83** VERY GOOD	• Text quality: Good • Graphics quality: Very Good • Tested speed (ppm): 7.3 text/ 2.4 graphics	• 32 ppm text • 24 ppm graphics • 4800-by-1200-dpi maximum true color resolution
BOTTOM LINE: The versatile C5280 handles photo and CD/DVD printing as easily as it does everyday copying and scanning.			
5 Epson Artisan 800 $300 NEW find.pcworld.com/61885	**81** VERY GOOD	• Text quality: Fair • Graphics quality: Fair • Tested speed (ppm): 9.8 text/ 5.4 graphics	• 38 ppm text • 38 ppm graphics • 5760-by-1440-dpi maximum true color resolution
BOTTOM LINE: You get plenty of features and capabilities in the Artisan 800, but it needs special paper for the best results.			

CHART NOTES: Prices and ratings are as of 11/11/08. Speeds are in pages per minute (ppm).

RIM's First 3G Phone: Enticing, But...

THE BLACKBERRY BOLD 9000, Research in Motion's formidable contender in the 3G market, offers a sleek design, a sharp display, and high-speed connectivity, but fails to impress in other areas—particularly its call quality and the camera's image quality. Also, the Bold carries a steep price tag ($300 with a two-year AT&T sign-up, or $680 with no contract).

At 4.5 by 2.6 by 0.55 inches, it has roughly the same dimensions as its predecessor, the BlackBerry Curve 8300, and the same curved corners and glossy face. At 4.8 ounces, the Bold outweighs the Curve's 4 ounces.

The Bold lacks the iPhone's touch screen (the forthcoming BlackBerry Storm will have that), but offers a terrific keyboard and the business e-mail and infrastructure-friendly characteristics that BlackBerrys are known for.

The Bold has superior battery life, too. In our tests, its battery gave 7 hours, 56 minutes of talk time, longer than other 3G phones we've tried.

But the Bold's call quality disappointed me. While calls to landline phones sounded clear, calls to other cell phones (on various carriers) suffered from background hiss. Voices had ample vol-

RIM'S BLACKBERRY BOLD is stylish but pricey.

ume, but also sounded somewhat tinny.

The Bold's QWERTY keyboard did impress me. Its sculpted keys minimize finger slippage, and thin metal dividers akin to guitar frets separate the keys, which enhances their usability.

The BlackBerry operating system gets a makeover, as well. The interface looks cleaner and more attractive. The home screen has a customizable view for application shortcuts, called the Ribbon. A menu key takes you to the main application screen and its spruced-up new app icons. Roll over an icon with the trackball, and a label pops up, identifying

that icon's function.

The phone supports 3G, tri-band HSDPA, and quad-band EDGE data connectivity. Over AT&T's 3G network, Web pages loaded quickly; Wi-Fi performance impressed me, too.

Images and video looked spectacular on the Bold's 480-by-320-pixel VGA display. The Bold's music app is fairly plain, but the phone comes with a standard 3.5mm headphone jack.

The 2.0-megapixel camera has a flash and 5X digital zoom. But the flash was blindingly bright, causing indoor pictures to appear grainy and overexposed.

The Bold comes preloaded with Mobi4Biz, which is a subscription-based on-demand video service, and a few games; in addition, RIM's BlackBerry Storefront, due to launch in March, will provide an online market for BlackBerry apps, à la Apple's App Store and the T-Mobile G1's Android Market.

—Ginny Mies

82
VERY GOOD

BlackBerry Bold 9000
Research in Motion
Revamps the BlackBerry look and interface; falls short in other areas.
List: $300 (with two-year contract).
$680 (with no contract)
find.pcworld.com/61867

LG Lotus's Feature Set Not Quite Enough

THE LG LOTUS from Sprint packs multimedia capabilities into a stylish yet functional design. It has both a 1.3-inch external display with music controls and, inside, a 2.4-inch-diagonal screen and a full QWERTY keyboard. Though a bit wide for small hands, it fits nicely into a pants pocket.

In my tests, call quality over Sprint's EvDO network was very good both ways, but the keys are too narrow for extensive texting.

Video playback can be uneven on the 240-by-320-resolution screen. Music sounded good from the two

speakers, but the Lotus lacks both a standard 3.5mm headphone jack and a headset.

The Lotus comes with both the Sprint Navigation GPS application and Sprint's

LG'S LOTUS PACKS multimedia functions into a compact design.

One Click interface, which puts the multimedia features at your fingertips. But at $150 for a two-year contract, the Lotus feels a bit overpriced for what it delivers.

—Ginny Mies

74
GOOD

Lotus | LG
Phone has a striking design, but you can find a similar model for less.
List: $150 (with two-year contract)
find.pcworld.com/61928

Extreme Gaming Desktops: Fast Parts, Exotic Good Looks

PCW Test Center

DO YOU HEAR that? It's the hum and whir of mighty cooling fans in the fastest gaming desktops we've ever seen.

We tested these power-houses with our application-based WorldBench 6 benchmark, along with updated gaming tests—using Unreal Tournament 3 and Enemy Territory: Quake Wars—that measure performance at various settings, including high-resolution (2560 by 1600) gaming. To make the most direct comparisons possible, we no longer factor in the price of bundled monitors in our desktop PC rankings.

Our Best Buy goes to Falcon Northwest's Mach V. Equipped with Intel's new Nehalem-based 3.2-GHz Core i7 Extreme 965 CPU (overclocked to 3.8 GHz), a whopping 12GB of DDR3-1600 RAM, and two ATI Radeon HD 4870 X2 graphics boards, the Mach V prevailed in almost every graphics test. Even so, both the Xi MTower HAF-SLI and the Hardcore Computer Reactor (which ranked second and fifth, respectively, on the chart) equaled its record WorldBench 6 result of 163.

The Xi pushes the limit for overclocking by cranking an

HARDCORE Computer's Reactor: Total-immersion liquid cooling arrives.

older 3.33-GHz Core 2 Duo E8600 to an eye-ball-popping 4.5 GHz. Crazier still, the rig depends on air cooling alone to achieve this massive boost in performance.

Taking the opposite approach is Hardcore Computer's Reactor, a monster to behold with one of the best chassis designs we've seen. The system's 3.2-GHz QX9770 CPU (overclocked to 4 GHz), 4GB of RAM, two

power supplies, and three overclocked nVidia GTX-280 graphics boards are completely submerged in nonconductive oil. Though its configurations start at about $4500, the Reactor we tested broke the $10K barrier with three 64GB solid-state drives (in RAID 0) for your boot volume, plus two 1-terabyte 7200-rpm drives (mirrored in RAID 1) for file storage. Total hard drive space that's actually available: 1.2TB.

Vigor Gaming's tried-and-true Force Recon BT provides 1.8TB of storage and good expandability via four spare external 5.25-inch drive bays. On the other hand, its performance slipped against the new competition, including Überclok's Reaktor.

Überclok overclocks the Reaktor's Quad 9550 CPU to 3.41 GHz and adds a great graphics card. But poor peripheral and PCI choices drop it to fourth on our list.

—*David Murphy*

PC WORLD TOP 5 GAMING DESKTOP PCs

MODEL	PCW Rating	Performance	Features and specifications
1 **BEST BUY** Falcon Northwest Mach V $7395 NEW find.pcworld.com/61918	**87** VERY GOOD	• WorldBench 6 score: 163 • WorldBench 6 rating: Superior • Graphics: Superior • Overall design: Very Good	• 3.2-GHz Core i7 Extreme 965 CPU • Overclocked to 3.8 GHz (fan-cooled) • Dual 2GB ATI Radeon HD 4870 X2 • 12GB DDR3-1066 RAM; 1.1TB storage
BOTTOM LINE: It's expensive, but the Mach V packs in the latest technologies for the pinnacle of powerful PC performance.			
2 Xi MTower HAF-SLI $3184 NEW find.pcworld.com/61921	**85** VERY GOOD	• WorldBench 6 score: 163 • WorldBench 6 rating: Superior • Graphics: Good • Overall design: Very Good	• 3.33-GHz Core 2 Duo E8600 CPU • Overclocked to 4.5 GHz (fan-cooled) • Dual 512MB EVGA GeForce 9800 GTX • 4GB DDR3-1333 RAM; 600GB storage
BOTTOM LINE: This rig trades in some graphical prowess to achieve blazing overclocked performance at a killer price.			
3 Vigor Gaming Force Recon BT $3399 find.pcworld.com/61922	**82** VERY GOOD	• WorldBench 6 score: 127 • WorldBench 6 rating: Good • Graphics: Good • Overall design: Very Good	• 3.2-GHz Core 2 Extreme X9770 CPU • Dual 512MB ATI Radeon HD 3870 OC • 2GB DDR3-1800 RAM; 1.8TB storage
BOTTOM LINE: Though it's not a world-beater, the Force Recon BT offers good performance and its price is reasonable.			
4 Überclok Reaktor $3693 NEW find.pcworld.com/61923	**81** VERY GOOD	• WorldBench 6 score: 145 • WorldBench 6 rating: Very Good • Graphics: Superior • Overall design: Good	• 2.83-GHz Core 2 Quad Q9550 CPU • Overclocked to 3.41 GHz (fan-cooled) • Single 2GB MSI Radeon HD 4870 X2 • 4GB DDR2-1066 RAM; 1.3TB storage
BOTTOM LINE: A speedy system, but a few of Überclok's design decisions just don't make sense in a PC of this caliber.			
5 Hardcore Computer Reactor $10,053 NEW find.pcworld.com/61920	**81** VERY GOOD	• WorldBench 6 score: 163 • WorldBench 6 rating: Superior • Graphics: Very Good • Overall design: Very Good	• 3.2-GHz Core 2 Extreme QX9770 CPU • Overclocked to 4 GHz (liquid-cooled) • Three 1GB PNY GeForce GTX 280 • 4GB DDR3-1600 RAM; 2.2TB storage
BOTTOM LINE: Impressive, imposing oil-immersion PC; but cheaper, faster (graphics-wise), more-upgradable PCs exist.			

CHART NOTES: Prices and ratings are as of 11/11/08. Bundled monitor not included in system pricing.

Acer® Aspire® 6930

- Intel® Centrino® processor technology
- Genuine Windows Vista® Home Premium
- 4GB DDR2 667 SDRAM
- 250GB[1] hard drive
- Integrated Super-Multi drive
- 5-in-1 card reader
- Acer CineCrystal 16.0" WUXGA (1920 x 1080) full HD TFT display
- Intel® Graphics Media Accelerator 4500MHD
- 802.11a/b/g/Draft-N WLAN, Bluetooth®, gigabit LAN,V.92 modem, webcam
- One-year limited warranty[2]

Acer Aspire 6930-6940
$799
Intel® Core™2 Duo Processor T5800
(2MB L2 cache, 2GHz, 800MHz FSB)
Genuine Windows Vista® Home Premium
(LX.ASR0X.037)

Acer B243W bdr
$359
- 24" wide-screen TFT LCD
- 1920 x 1200 maximum resolution
- 3000:1 dynamic contrast ratio
- 160°/160° horizontal/vertical viewing angles
- VGA, DVI (HDCP) signal connectors
- 400 cd/m² brightness
- 5ms response time
- Height, tilt, swivel and pivot adjustments (ET.FB3WP.001)

Acer B223W B bmzdr
$239
- 22" wide-screen TFT LCD
- 1680 x 1050 maximum resolution
- 10000:1 dynamic contrast ratio
- 170°/160° horizontal/vertical viewing angles
- VGA, DVI (HDCP), USB signal connectors
- 300 cd/m² brightness
- 5ms response time
- Two 1.0W integrated speakers
- Height, tilt, swivel and pivot adjustments (ET.EB3WP.003)

Acer SignalUp
This technology strategically positions two PIFA antennas on the notebook's top panel to generate an omni-directional signal sphere for superior wireless reception.

Acer GridVista
Easy-to-use software designed to automatically split the screen in up to four separate windows and make the most of available screen space.

Acer® TravelMate® 5730

- Intel® Centrino® processor technology
- Genuine Windows Vista® Business
- CD with Genuine Windows® XP Professional[3]
- Microsoft® Office Professional 2007 (60-day trial)[4]
- 2GB DDR2 667 SDRAM
- 160GB[1] hard drive
- Integrated Super-Multi drive
- 5-in-1 card reader
- 15.4" WXGA (1280 x 800) TFT display
- Intel® Graphics Media Accelerator 4500MHD
- 802.11a/b/g/Draft-N WLAN, gigabit LAN, V.92 modem, webcam
- Fingerprint reader
- One-year limited warranty[2]

Acer TravelMate 5730-6984
$899
Intel® Core™2 Duo Processor T5870
(2MB L2 cache, 2GHz, 800MHz FSB)
Genuine Windows Vista® Business
(LX.TQH0Z.379)

Acer B223W bdmr
$215
- 22" wide-screen TFT LCD
- 1680 x 1050 maximum resolution
- 2500:1 dynamic contrast ratio
- 170°/160° horizontal/vertical viewing angles
- VGA, DVI (HDCP) signal connectors
- 300 cd/m² brightness
- 5ms response time
- Two 1.0W integrated speakers
- Height, tilt, swivel and pivot adjustments
(ET.EB3WP.002)

Acer Bio-Protection
Gain an extra layer of security while eliminating the need to remember passwords and PINs with the Acer Bio-Protection fingerprint reader.

Prices shown are estimated street prices and do not include tax or shipping. Retailer or reseller prices may vary.

Acer® TravelMate® 6292

- Intel® Centrino® processor technology
- Genuine Windows® XP Professional
- 2GB DDR2 667 SDRAM
- 120GB[1] hard drive
- Modular Super-Multi drive
- 5-in-1 card reader
- 12.1" WXGA (1280 x 800) TFT display
- Intel® Graphics Media Accelerator X3100
- 802.11a/g/n WLAN, Bluetooth®, gigabit LAN, V.92 modem, webcam
- Fingerprint reader
- Three-year limited warranty[2]

Acer TravelMate 6292-6856

$949

Intel® Core™ 2 Duo Processor T7500
(4MB L2 cache, 2.20GHz, 800MHz FSB)
Genuine Windows® XP Professional
(LX.TG606.082)

Acer B203W bdmr
$205
- 20" wide-screen TFT LCD
- 1680 x 1050 maximum resolution
- 2500:1 dynamic contrast ratio
- 160°/160° horizontal/vertical viewing angles
- VGA, DVI (HDCP) signal connectors
- 300 cd/m² brightness
- 5ms response time
- Two 1.0W integrated speakers
- Height, tilt, swivel and pivot adjustments
(ET.DB3WP.002)

Acer Acer V223W bmd
$185
- 22" wide-screen TFT LCD
- 1680 x 1050 maximum resolution
- 2500:1 dynamic contrast ratio
- 170°/160° horizontal/vertical viewing angle:
- VGA, DVI (HDCP) signal connectors
- 300 cd/m² brightness
- 5ms response time
- Two 1.5W integrated speakers
(ET.EV3WP.002)

Acer DASP
Disk Anti-Shock Protection is a technology that safeguards the hard disk against knocks and provides an unmatched level of protection.

Acer QuickCharge
Found on select models, Acer QuickCharge technology enables the notebook's battery to be 80 percent fully charged in just one hour.

Acer® TravelMate® 4720

- Intel® Centrino® processor technology
- Genuine Windows Vista® Business
- CD with Genuine Windows® XP Professional[3]
- Microsoft® Office Ready (60-day trial)[4]
- 2GB DDR2 667 SDRAM
- 160GB[1] hard drive
- Integrated Super-Multi drive
- 5-in-1 card reader
- 14.1" WXGA (1280 x 800) TFT display
- Intel® Graphics Media Accelerator X3100
- 802.11a/g/n WLAN, Bluetooth®,
  gigabit LAN, V.92 modem, webcam
- Fingerprint reader
- Three-year limited warranty[2]

Acer TravelMate 4720-6218

$999

Intel® Core™2 Duo Processor T7500
(4MB L2 cache, 2.20GHz, 800MHz FSB)
Genuine Windows Vista® Business
(LX.TK50Z.042)

Acer B193 bdmh
$195
- 19" TFT LCD
- 1280 x 1024 maximum resolution
- 2000:1 dynamic contrast ratio
- 160°/160° horizontal/vertical
  viewing angles
- VGA, DVI (HDCP) signal connectors
- 300 cd/m^{2} brightness
- 5ms response time
- Two 1.0W integrated speakers
- Height, tilt and swivel adjustments
(ET.CB3RP.002)

Acer CrystalEye
Enjoy all the potential of video conferencing with the integrated Acer CrystalEye, simple to use and compatible with Internet-based video and voice communication services.

Prices shown are estimated street prices and do not include tax or shipping. Retailer or reseller prices may vary.

acer.com/us

acer
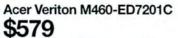
Acer® Veriton® M460

- Intel® Core™2 Duo Processor or
  - Intel® Pentium® Dual-Core Processor
- Genuine Windows Vista® Business
- CD with Windows® XP Professional[3]
- Microsoft® Office Professional 2007 (60-day trial)[4]
- 160GB[1] hard drive
- Intel® Graphics Media Accelerator 3100
- Gigabit LAN
- One-year limited warranty[2] with limited on-site service[5]
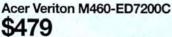
Monitor sold separately

Acer Veriton M460-ED7201C
$579
Intel® Core™2 Duo Processor E7200
(3MB L2 cache, 2.53GHz, 1066MHz FSB)
Genuine Windows Vista® Business
2GB DDR2 SDRAM, Super-Multi drive
(PS.V520Z.056)

Acer Veriton M460-ED7200C
$479
Intel® Core™2 Duo Processor E7200
(3MB L2 cache, 2.53GHz, 1066MHz FSB)
Genuine Windows Vista® Business
1GB DDR2 SDRAM, DVD-ROM drive
(PS.V520Z.055)

Acer Veriton M460-ED5200C
$449
Intel® Core™2 Duo Processor E5200
(2MB L2 cache, 2.50GHz, 800MHz FSB)
Genuine Windows Vista® Business
1GB DDR2 SDRAM, Super-Multi drive
(PS.V520Z.074)

Veriton Service Upgrades
Next-business-day limited on-site service[5] for years 2 and 3 of Veriton L460 or M460 ownership (146.AB769.003)
$173
Mail-in/carry-in depot repair coverage for years 2 and 3 of Veriton L460 or M460 ownership (146.AB769.004)
$68

Acer B193W bdmh
$169
- 19" wide-screen TFT LCD
- 1440 x 900 maximum resolution
- 2000:1 dynamic contrast ratio
- 160°/160° horizontal/vertical 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.CB3WP.002)

Acer V193 bm
$169
- 19" TFT LCD
- 1280 x 1024 maximum resolution
- 2000:1 dynamic contrast ratio
- 160°/160° horizontal/vertical viewing angles
- VGA signal connector
- 300 cd/m² brightness
- 5ms response time
- Two 1.0W integrated speakers
(ET.CV3RP.002)

Acer eLock Management
Acer eLock Management locks and unlocks storage media with password protection for additional security.

Acer eRecovery Management
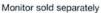Acer eRecovery Management is an easy-to-use utility to create backups or restore from your archives.

Acer® Veriton® L460

- Intel® Core™2 Duo Processor or
  - Intel® Pentium® Dual-Core Processor
- Genuine Windows Vista® Business
- CD with Windows® XP Professional[3]
- Microsoft® Office Professional 2007 (60-day trial)[4]
- 160GB[1] hard drive
- Super-Multi drive
- Intel® Graphics Media Accelerator 3100
- Gigabit LAN, 802.11b/g WLAN with antenna
- Ultra-compact form factor
- One-year limited warranty[2]
  with limited on-site service[5]

Low power consumption for longer component life and reduced long-term costs

Monitor sold separately

Acer Veriton L460-ED8400C
$639
Intel® Core™2 Duo Processor E8400
(6MB L2 cache, 3GHz, 1333MHz FSB)
Genuine Windows Vista® Business
2GB DDR2 SDRAM
(PS.V570Z.057)

Acer Veriton L460-ED5200C
$499
Intel® Pentium® Dual-Core Processor E5200
(2MB L2 cache, 2.50GHz, 800MHz FSB)
Genuine Windows Vista® Business
1GB DDR2 SDRAM
(PS.V570Z.076)

Acer V193W bd
$149
- 19" wide-screen TFT LCD
- 1440 x 900 maximum resolution
- 2000:1 dynamic contrast ratio
- 160°/160° horizontal/vertical viewing angles
- VGA, DVI (HDCP) signal connectors
- 300 cd/m² brightness
- 5ms response time
- Tilt adjustment
(ET.CV3WP.001)

Acer eDataSecurity Management
Conveniently integrated into the Windows® environment, Acer eDataSecurity Management
provides one-click encryption and decryption of your files.

Prices shown are estimated street prices and do not include tax or shipping. Retailer or reseller prices may vary.

acer.com/us

acer

intel
Centrino 2
inside

Performance to go

Acer® TravelMate® 5730

- Intel® Centrino® 2 processor technology
- Genuine Windows Vista® Business
- CD with Genuine Windows® XP Professional[3]
- Microsoft® Office Professional 2007 (60-day trial)[4]
- 2GB DDR2 667 SDRAM
- 160GB[1] hard drive
- Integrated Super-Multi drive
- 5-in-1 card reader
- 15.4" WXGA (1280 x 800) TFT display
- Intel® Graphics Media Accelerator 4500MHD
- 802.11a/b/g/Draft-N WLAN, gigabit LAN, V.92 modem, webcam
- Fingerprint reader
- Three-year limited warranty[2]

Acer TravelMate 5730-6953

$999

Intel® Core™2 Duo Processor P8400
(3MB L2 cache, 2.26GHz, 1066MHz FSB)
Genuine Windows Vista® Business
(LX.TQH0Z.378)

Prices shown are estimated street prices and do not include tax or shipping. Retailer or reseller prices may vary.

Protect Your Investment with an Acer Notebook Service Upgrade

Quality is built into every notebook PC Acer makes, and each comes with a one-year or three-year standard limited warranty.[2] It includes hardware technical support via toll-free phone plus a concurrent International Traveler's Warranty for travel outside the U.S. and Canada. For extra protection – and peace of mind – consider a warranty extension or, even better, the **Total Protection Upgrade**. This plan covers the cost of a replacement unit if, as determined by Acer, your covered notebook cannot be repaired.

2-Year Extension of Limited Warranty (146.AB820.EX2)
for Notebooks with 1-Year Limited Warranty
$99

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

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

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.

acer

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

Video Editors Add Online Tools, High-Def Features

HEY, WANT TO watch my home movies? I have versions for DVD, Blu-ray, YouTube, iPod, and cell phone. Thanks to Adobe Premiere Elements 7 and Corel VideoStudio Pro X2—the latest versions of those video editing programs—you can take your pick of format. Adobe concentrates more on Web-related features in its latest version, while Corel focuses more on editing in high definition. Corel's new HD features appealed to me more than Adobe's online ones did, but the apps are pretty close in overall competency.

Premiere Elements 7 can upload directly to YouTube, with higher quality than the previous version. But Adobe is pushing customers toward its own online destination, Photoshop.com. A free account includes 2GB of capacity and a personal URL.

You can set up Premiere Elements 7 to automatically back up files, and once files are uploaded, you can access

them from any PC with an Internet connection. But you can view only pictures online—for videos, you must download the clip and use whatever video playback software your PC has.

VideoStudio Pro X2 lets you upload directly to YouTube too, and with fewer steps than in the previous version. But the biggest update is an enhancement of its Smart Proxy mode for creating a lower-resolution version of your project to make edits, apply effects, and add menus, allowing you to edit high-def video on an underpowered PC. Though you'll have to take a walk when the system pulls in the huge files for movie creation, it's still a nice compromise.

HD Formats and More
VideoStudio imports HDV, AVCHD, and BDMV (from Blu-ray camcorders—not yet available in this country) and exports to BDAV, BDMV, and AVCHD formats. Pre-

PREMIERE ELEMENTS 7'S new tagging system lets you designate files to back up, and you can filter by its new smart tags.

miere Elements 7 outputs only to BDAV and BDMV.

A new tool in VideoStudio Pro X2 called Painting Creator allows you to create and record amusing, in-motion overlays for your movies. Within a window, you click a button to start recording, and then paint on the canvas (a blank or a clip) while the tool records. Fun, but not terribly sophisticated.

VideoStudio's dialog boxes and filter and effects controls have been enlarged, and are easier to see than Premiere Elements' controls. But I prefer seeing, say, a representation of keyframes in the timeline so that I know exactly where those levels change, as Elements provides; VideoStudio makes you open a dialog box.

Premiere Elements' new Smart Tag feature analyzes your clips to identify ones that are too dark, too blurry, too shaky, or out of focus. I agreed with its evaluations, and it works quickly.

Another new Elements feature, Instant Movie, lets you quickly create a movie by selecting clips, choosing a theme, and letting the app implement transitions and

effects based on that theme. I found it hard, though, to locate a theme that worked well with my clips.

VideoStudio Pro X2 has a slightly better range of features than Elements, and VideoStudio's tools are easier to see than Elements'. But Elements still has superior timeline features. VideoStudio Pro X2 is the better choice for people who have an underpowered PC, and Elements gets the nod for those with fast systems.
—*Alan Stafford*

80 VERY GOOD

Premiere Elements 7
Adobe Systems
Webbier than ever, but the interface needs an overhaul.
List: $100
find.pcworld.com/61897

80 VERY GOOD

VideoStudio Pro X2 | Corel
A great choice for those with underpowered PCs.
List: $100
find.pcworld.com/61896

AFTER YOU RECORD your drawing in VideoStudio's new Painting Creator, you can drop it into your timeline and play it back over time.

New Lenovo ThinkPad Gets You Started

LENOVO'S ThinkPad SL400 **PCW Test Center** tops the chart with power and flexibility while costing under $1300. Meanwhile, HP gives Lenovo a run for its money with the HP Compaq 6530b. Without the power brick, the HP is lighter than the Lenovo (5.3 pounds versus the SL400's 6.1 pounds); it's cheaper, too ($1195 versus $1295). Both work well as business boxes that can go the distance: In our tests the SL400 lasted 5 hours, 8 minutes, and the 6530b ran for 4 hours, 22 minutes.

SONY'S VGN-NR485 IS a good combination of power and price.

Sony's VAIO VGN-NR485 ($800) helps you save cash, if you don't mind its moderate performance. The system scored 75 in WorldBench 6, behind the SL400's 84. The Sony is suitable for basic computing needs; and its 3-hour, 56-minute battery life and 200GB hard drive—along with its price (the lowest on the chart)—make this model a compelling deal.
—*Darren Gladstone*

MORE ONLINE

For more on the latest laptop news and reviews, visit find. pcworld.com/61944.

PC WORLD TOP 10 ALL-PURPOSE LAPTOPS

	MODEL	PCW Rating	Performance	Features and specifications
1	**BEST BUY** Lenovo ThinkPad SL400 (2743-25U) **$1223 NEW** find.pcworld.com/61937	**82** VERY GOOD	• WorldBench 6 Beta 2 score: 84 Good • Overall design: Very Good • Tested battery life: 5:08	• 2.26-GHz Core 2 Duo P8400 CPU • 14.1-inch wide screen • 6.1 pounds • DVD±R DL/DVD±RW
	BOTTOM LINE: Basic ThinkPad offers the features and apps to get you started, plus terrific battery life; but it lacks extras.			
2	Micro Express JFL9226 **$1299** find.pcworld.com/61313	**81** VERY GOOD	• WorldBench 6 Beta 2 score: 103 Superior • Overall design: Good • Tested battery life: 4:25	• 2.53-GHz Core 2 Duo T9400 CPU • 15.4-inch wide screen • 6.6 pounds • DVD±R DL/DVD±RW
	BOTTOM LINE: The JFL9226 cuts most of the right corners to produce a budget-friendly speedster. It just needs a face-lift.			
3	Lenovo IdeaPad Y510 **$849** find.pcworld.com/60635	**81** VERY GOOD	• WorldBench 6 Beta 2 score: 70 Fair • Overall design: Very Good • Tested battery life: 3:42	• 1.66-GHz Core 2 Duo T5450 CPU • 15.4-inch wide screen • 6.3 pounds • DVD±R DL/DVD±RW/-RAM
	BOTTOM LINE: Well-built laptop provides middle-of-the-road performance and a sizable hard disk for a good price.			
4	Micro Express IFL9025 **$1199** find.pcworld.com/61930	**80** VERY GOOD	• WorldBench 6 Beta 2 score: 97 Very Good • Overall design: Good • Tested battery life: 3:53	• 2.5-GHz Core 2 Duo T9300 CPU • 15.4-inch wide screen • 6.6 pounds • DVD±R DL/DVD±RW/-RAM
	BOTTOM LINE: Though it lacks design finesse, the IFL9025 offers top mobile speed and decent features for a low price.			
5	HP Compaq 6530b **$1195 NEW** find.pcworld.com/61938	**79** GOOD	• WorldBench 6 Beta 2 score: 81 Good • Overall design: Very Good • Tested battery life: 4:22	• 2.26-GHz Core 2 Duo P8400 CPU • 14.1-inch wide screen • 5.3 pounds • DVD+R DL/DVD±RW
	BOTTOM LINE: HP supplies a great, road-ready presentation tool in this machine. It needs a better screen, however.			
6	Sony VAIO VGN-NR485 **$800 NEW** find.pcworld.com/61939	**79** GOOD	• WorldBench 6 Beta 2 score: 75 Fair • Overall design: Good • Tested battery life: 3:56	• 2-GHz Core 2 Duo T5750 CPU • 15.4-inch wide screen • 6.2 pounds • DVD±R DL/DVD±RW/-RAM
	BOTTOM LINE: Faster notebooks are available, but the overall package is strong; plus, you get a 200GB hard drive.			
7	Toshiba Satellite A305-S6864 **$1150** find.pcworld.com/61973	**78** GOOD	• WorldBench 6 Beta 2 score: 91 Good • Overall design: Very Good • Tested battery life: 2:00	• 2.26-GHz Core 2 Duo P8400 CPU • 15.4-inch wide screen • 6.3 pounds • DVD+R DL/DVD±RW/-RAM
	BOTTOM LINE: Budget minders will like this sleek unit with good built-in speakers, but not its poor battery life.			
8	Fujitsu LifeBook E8410 **$1424** find.pcworld.com/58296	**76** GOOD	• WorldBench 6 Beta 2 score: 73 Fair • Overall design: Very Good • Tested battery life: 3:42	• 2.2-GHz Core 2 Duo T7500 CPU • 15.4-inch wide screen • 5.7 pounds • DVD±R DL/DVD±RW/-RAM
	BOTTOM LINE: This sophisticated-looking unit could replace a desktop, yet is light enough that it travels well.			
9	Fujitsu LifeBook T1010 **$1399 NEW** find.pcworld.com/61940	**75** GOOD	• WorldBench 6 Beta 2 score: 86 Good • Overall design: Good • Tested battery life: 3:46	• 2.26-GHz Core 2 Duo P8400 CPU • 13.3-inch wide screen • 5.3 pounds • DVD±R DL/DVD±RW
	BOTTOM LINE: This all-around solid performer won't turn heads, but it will handle basic business needs.			
10	Micro Express JFL9290 **$1999** find.pcworld.com/61941	**75** GOOD	• WorldBench 6 Beta 2 score: 115 Superior • Overall design: Good • Tested battery life: 3:44	• 3.06-GHz Core 2 Extreme X9100 • 15.4-inch wide screen • 6.5 pounds • DVD±R DL/DVD±RW/-RAM
	BOTTOM LINE: Despite a lackluster design, the JFL9290 grabs notice with its blazing, record-setting speed.			

CHART NOTES: Prices and ratings are as of 10/28/08. Weight does not include AC adapter, power cord, docking station, or extra batteries.

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.
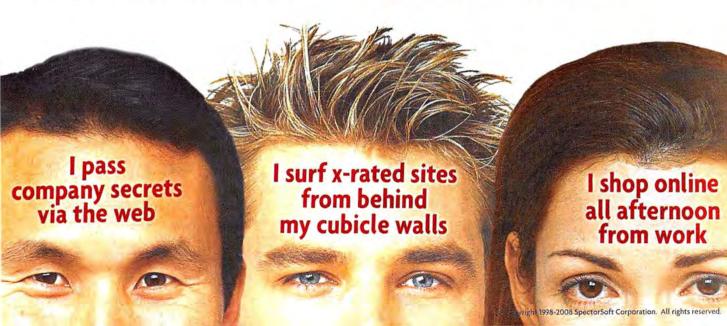
Spector CNE Investigator
PC and Internet Monitoring Software

Get Started Today!
To learn more visit **SpectorCNE.com**
or call us toll-free at **(888) 598-2788**

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

Updated Nero, Roxio Burning Suites Face Off

NERO 9 AND Roxio Creator 2009 are massive suites for burning CDs and DVDs of all types, as well as for playing, importing, and manipulating video and audio, including HD. Both are very capable, and the new versions offer improvements over previous editions. Nero's revision may not warrant an upgrade, but Roxio offers a revamped interface that's easier to use.
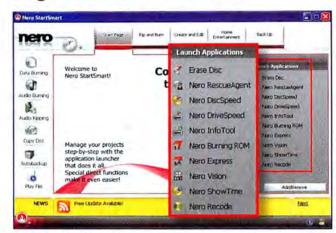
Nero's most noticeable changes are eliminating "Ultra" from the title and making BackItUp a separate, optional install. Regrettably, the multimedia-networking MediaHome 4 module is now sold separately. Other, if less noticeable, Nero 9 changes are meatier. The Nero StartSmart application launch center has added entries for playing files (audio and video), as well as one for the new AutoBackup background backup function. Both modules are integrated into the launch center itself, eliminating the need to start up separate applications.

AutoBackup (the reason BackItUp is now optional) can back up locally or to Nero's new online service, which costs $1 per 1GB per month or slightly less depending on the plan you choose. Nero has also revamped its ShowTime DVD playback module so that the interface is less obtuse. Other tweaks are in Help, and more assistance is available online. Overall, however, Nero 9 does not provide the sweeping redesign I've been hoping for; the interface, which could benefit from a face-lift, remains largely unchanged.

Simpler Launching

Roxio's suite does get a revamped interface, and it's a welcome update. The new look refines the centralized application launcher found in the last few incarnations. The confusing list of application names has given way to a complete task-oriented menu, with clear labels such as 'Create CDs', 'Create Labels', and 'Play Movies'. (The confusingly named 'Plug 'n' Burn video cam to

NERO 9'S STARTSMART launches all of the multimedia suite's apps.

DVD' is still there, however.) Creator 2009 still has a multitude of separate modules, but the modules now make it much easier to get where you need to go.

Still, depending on your focus, Creator 2009 may or may not be an exciting improvement. The $30 Blu-ray plug-in adds support for BDMV (including menus) to the existing data, and for BDAV and AVCHD. Audiobook fans will like the new Audio Book Creator, which will convert CD and MP3 audiobooks into single files in the .m4b format, playable by Apple's iTunes, iPod, and iPhone—with each chapter accessible under the top-level file name, as opposed to being individual files. The application will also download and incorporate the chapter info and cover art if it's available online.

More of Creator's applications now let you upload directly to YouTube. Plus, Roxio has added its own online media-sharing service as a destination for your photos and videos (1GB

free, 5GB for $40 per year).

Both Nero 9 and Creator 2009 are great tools for new users. Roxio is much friendlier, but Nero has its advantages: Its suite is decidedly faster and more powerful in audio and encoding. Roxio is massive (3GB of disk space is required) and a bit slow to switch between modules, but the look and the feel of the content it produces are excellent.

—Jon L. Jacobi

84 VERY GOOD

Nero 9 | Nero
Full-featured suite is fast and powerful, but can be hard to use.
List: $100
find.pcworld.com/61914

85 VERY GOOD

Creator 2009 | Roxio
Improved navigation makes this robust suite easier to work with.
List: $100
find.pcworld.com/61919

ROXIO'S CREATOR 2009 presents a cleaner, clearer interface.

Zone Player 120 Fills Your House With Music

IN 2005 SONOS introduced the ZonePlayer 100 music streamer and amplifier. Since then the ZP100 has gained features through software updates, but the hardware itself was unchanged. Sonos now has the $499 Zone Player 120. Don't expect big differences in this box, though.

You place Zone Players around your house. Add the CR100 handheld controller, and you can play the same tunes everywhere, or different tracks in various rooms. The pieces of hardware communicate on a wireless mesh network that the devices automatically set up. A basic two-zone system costs $999.

The ZP120 is 35 percent smaller than the ZP100, due to an extruded aluminum case that acts as a heat sink. (Sonos does not use fans to cool the inside; my test unit never felt hot, however.)

78
GOOD

Zone Player 120 | Sonos
A nice choice for new buyers seeking a multiroom music system.
List: $499 (for one unit)
find.pcworld.com/61925

THE CR100 CONTROLLER (top) lets you manage multiple ZP120 units.

The company claims it has doubled the wireless range. Testing wireless range is difficult because of obstructions and interference from other wireless sources, but the system did work in the far reaches of my house.

If you own a Sonos system, the ZP120 is not an essential upgrade, unless you have range problems. For new buyers, it should make the system even more reliable, especially in large homes.
—*Edward N. Albro*

Copernic Desktop Search Goes Professional

BUSINESS USERS WHO want the desktop searching power of Copernic have a new option: Copernic Desktop Search Professional 3.0. This application bridges the gap between the free Home version and the $60 Corporate version, which has features for managed deployments in enterprises.

The Pro edition has the same excellent searching features as the Home version: It indexes the contents of your computer upon initial installation, supports more than 150 file types, and shows results in a clear manner. The initial indexing took more than an hour on my Windows XP PC, but it's a step you must do only once. When it's finished, it allows for speedy searches: Results appear within seconds of your typing a keyword.

COPERNIC DESKTOP SEARCH Pro finds files in almost any format.

In addition to searching e-mail messages, almost all file formats, multimedia files, contacts, and Web favorites and browsing history, Professional can search appointments, tasks, and notes in Outlook. Pro can also search network drives, save searches, and show you results as you're typing.

Overall, $50 seems a bit steep for this application—especially compared with the no-cost Home version. But if you're a business user who doesn't need all of the enterprise-level features packed into the Corporate version, Professional is a nice middle ground.

—*Liane Cassavoy*

Apple Remodels the MacBook Pro

PCW Test Center THE 15-INCH MACBOOK Pro has been totally reengineered. Apple's "unibody architecture" builds it out of a single piece of aluminum, which, says Apple, reduces construction failures. The design is easier to service, too.

We looked at a 2.53-GHz Core 2 Duo model with 4GB of DDR3 RAM and a 5400-

MacBook Pro | Apple
Rating pending
Apple has remodeled its sleek laptop both inside and out.
List: $2499
find.pcworld.com/61924

rpm, 320GB hard drive. The ports, including gigabit ethernet, FireWire 800, two USB, audio-in and -out, and an ExpressCard/34 slot—are on the left. The slot-loading SuperDrive and a Kensington lock slot sit on the right. At a minimum weight of 5.5 pounds, it's about 1 ounce heavier than the older model.

The 15.4-inch, 1440-by-900-pixel wide-screen monitor is a joy to behold. Inside is nVidia's Hybrid SLI pairing of two GPUs (one on the motherboard, the other discrete). You can toggle between the two for better video perfor-

THE MACBOOK PRO'S glossy screen seems to float in its black frame.

mance or longer battery life.

It got a respectable 93 in our WorldBench 6 tests due largely to the nVidia GeForce 9600GT M GPU riding shotgun. Battery life is trickier. We run our benchmarks in Windows, which meant we could not test the MacBook in its battery-saving mode. At high power, though, it

lasted for 1 hour, 54 minutes.

The entire 4.13-by-3-inch trackpad acts as a button. It's so big, you might end up using the extensive array of supported hand gestures instead. As for the keyboard, the generous, flat-topped keys have just enough travel, and register a solid press.

—Jackie Dove

PHOTOGRAPH COURTESY OF APPLE

Sony's T700 Holds Tons of Images

SONY'S 10.1-MEGAPIXEL

Cyber-shot T700 has an array of features that may be irresistible despite its $400 price tag.

It has 4GB of flash memory, plus a Memory Stick slot. But you can't use both at the same time; when the Stick is in, you can't view or access shots in internal memory.

Cyber-shot T700 | Sony

Pricey camera with 4GB of memory is great for the design-conscious.

List: $400

find.pcworld.com/61926

The camera is a little over a half-inch in thickness and slightly heavy at 5.6 ounces. The brushed-metal finish comes in red, pink, silver, and gray. Its sliding cover is attractive and functional.

At 3.5 inches diagonal, the LCD—the highest-resolution display in the T700's class—takes up most of the back. Aside from the power and shutter buttons, the touch screen has all the controls.

The sheer size of the LCD leaves little room for a grip, and the slick front doesn't give you anything to grab. The screen takes a toll on the battery life too. In the PC World Test Center's tests,

the T700 lasted 201 shots on a charge—enough for a Good rating, but short of the 250-to-300-shot battery life of other point-and-shoots we've seen.

Sony's menus are intuitive. You can view a simplified menu, which offers greater breadth for composing pics, or you can see more settings info. The camera also has fun editing and playback capabilities. The slide-show feature is highly customizable.

In our jury testing, the T700 earned a Very Good score, being strongest in

THE SLIM T700 has a cool-looking exterior.

color accuracy and overall image quality. Its glaring weakness was sharpness.

My daylight shots were reasonably sharp, and exposed properly. In low light, especially at higher ISOs, the T700 stumbled a bit.

In general the camera's modes worked well. Its video mode, while not in HD, allows for zooming.

—Kathleen Cullen

New 1.5TB Seagate Drive Is a Solid Choice

SEAGATE'S LATEST Barracuda 7200.11 internal drive packs a whopping 1.5 terabytes of storage in a single unit. Seagate was the first drive maker to break the 1TB threshold, and in this model the company does so with excellent results: The new Barracuda is the most capacious drive on our current chart, and a solid performer, too.

Three new Western Digital internal drives also earned chart spots, including two high-performance models with premium price tags. The RE3 Enterprise is a server-class drive with a higher mean-time-between-

SIMPLETECH'S EXTERNAL DUO Pro Drive remains in first place.

failure rating than consumer drives offer, and the VelociRaptor is the only 10,000-rpm drive on the chart.

Our external-drives list has no new model debuting, but all the prices are lower—a good thing if you're shopping for storage on a budget.
—*Melissa J. Perenson*

PC WORLD TOP 10 HARD DRIVES

INTERNAL HARD DRIVES	PCW Rating	Performance	Features and specifications
1 **BEST BUY** Seagate Barracuda 7200.11 1.5TB $179 NEW find.pcworld.com/61948	81 VERY GOOD	• Overall performance: Good • Copy files: 119 seconds • File search: 155 seconds	• 1500GB • 7200 rpm • SATA-300 • Cost per gigabyte: $0.12
BOTTOM LINE: Offering great performance and tremendous capacity, this drive is ideal for storing large media collections.			
2 Western Digital Caviar Black 1TB $250 NEW find.pcworld.com/61902	80 VERY GOOD	• Overall performance: Very Good • Copy files: 100 seconds • File search: 144 seconds	• 1000GB • 7200 rpm • SATA-300 • Cost per gigabyte: $0.25
BOTTOM LINE: High-capacity drive demonstrated speedy performance in our read and write tests.			
3 Western Digital RE3 Enterprise 500GB $250 NEW find.pcworld.com/61915	80 VERY GOOD	• Overall performance: Superior • Copy files: 100 seconds • File search: 152 seconds	• 500GB • 7200 rpm • SATA-300 • Cost per gigabyte: $0.50
BOTTOM LINE: This pricey drive is a good choice for use in write-intensive environments, such as servers.			
4 Western Digital VelociRaptor $300 NEW find.pcworld.com/61913	79 GOOD	• Overall performance: Superior • Copy files: 87 seconds • File search: 135 seconds	• 300GB • 10,000 rpm • SATA-300 • Cost per gigabyte: $1.00
BOTTOM LINE: A superfast performer, this 10,000-rpm drive leaves competitors—including previous Raptors—in its wake.			
5 Seagate Barracuda 7200.11 1TB SATA $139 find.pcworld.com/59409	78 GOOD	• Overall performance: Good • Copy files: 126 seconds • File search: 167 seconds	• 1000GB • 7200 rpm • SATA-300 • Cost per gigabyte: $0.14
BOTTOM LINE: Large-capacity Seagate drive offers solid write performance and is an excellent value.			
EXTERNAL HARD DRIVES	PCW Rating	Performance	Features and specifications
1 **BEST BUY** SimpleTech Duo Pro Drive $280 find.pcworld.com/61684	83 VERY GOOD	• Overall performance: Superior • Copy files: 69 seconds • File search: 112 seconds	• 1000GB • 7200 rpm • External SATA-300, USB 2.0 • Cost per gigabyte: $0.28
BOTTOM LINE: Terrific design, speedy performance, and versatile backup software make this drive a strong choice.			
2 Apricorn EZ Bus Desktop SATA $129 find.pcworld.com/57139	82 VERY GOOD	• Overall performance: Superior • Copy files: 76 seconds • File search: 105 seconds	• 500GB • 7200 rpm • External SATA-300, USB 2.0 • Cost per gigabyte: $0.26
BOTTOM LINE: This fast, cheap drive comes with three basic backup, file-copy, and encryption utilities.			
3 LaCie d2 Quadra $190 find.pcworld.com/57127	80 VERY GOOD	• Overall performance: Superior • Copy files: 87 seconds • File search: 108 seconds	• 500GB • 7200 rpm • eSATA-150, USB 2.0, FireWire 400/800 • Cost per gigabyte: $0.38
BOTTOM LINE: For a slight price premium, you get the flexibility of USB, SATA, and FireWire 400 and 800 data interfaces.			
4 Western Digital My Book Home Edition $210 find.pcworld.com/61397	79 GOOD	• Overall performance: Very Good • Copy files: 83 seconds • File search: 118 seconds	• 1000GB • 7200 rpm • eSATA-300, USB 2.0, FireWire 400 • Cost per gigabyte: $0.21
BOTTOM LINE: Reasonably priced for a single 1TB drive, this model lacks the performance oomph of some of its competitors.			
5 CMS Products 1TB Velocity2 Series Backup System $374 find.pcworld.com/61395	78 GOOD	• Overall performance: Superior • Copy files: 71 seconds • File search: 100 seconds	• 1000GB • 7200 rpm • External SATA-300, USB 2.0 • Cost per gigabyte: $0.37
BOTTOM LINE: This top-flight performer provides a software/hardware combination for creating a bootable backup drive.			
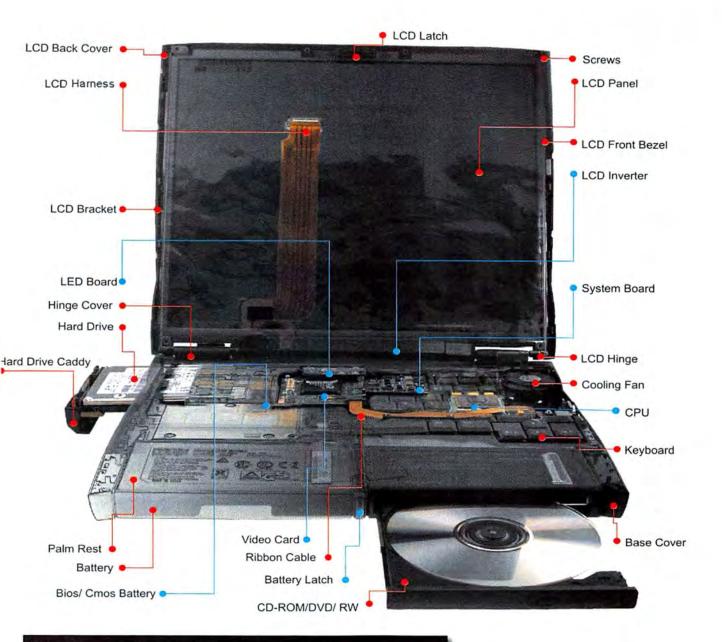
CHART NOTES: Prices and ratings are as of 11/11/08.

LCD Latch
LCD Back Cover
Screws
LCD Harness
LCD Panel
LCD Front Bezel
LCD Inverter
LCD Bracket
LED Board
System Board
Hinge Cover
Hard Drive
LCD Hinge
Hard Drive Caddy
Cooling Fan
CPU
Keyboard
Palm Rest
Base Cover
Battery
Video Card
Bios/ Cmos Battery
Ribbon Cable
Battery Latch
CD-ROM/DVD/ RW

Sleek Spinn Provides Great Sound

THE IRIVER SPINN has lots

PCW Test Center of substance under all its style—despite the sometimes unintuitive controls and the high price.

The stunning, 3.3-inch-diagonal touch screen displays more than 260,000 colors. You can also navigate with a spinning knob, and the unit has a few other buttons. But knowing which input method to use, and when, can be a challenge.

Based on my tests, I'd rate it as a great-sounding player.

THE IRIVER SPINN comes in a beautiful magnesium shell.

The PC World Test Center measured its signal-to-noise ratio at a not-bad 77 dB.

The Spinn is rated to play 25 hours of audio or 5 hours of video on a single charge. Video playback and photo viewing are outstanding.
—*Tim Moynihan*

76
GOOD

Spinn | iRiver
Gorgeous player can be confusing to use, but has excellent sound.
List: $250 (4GB), $290 (8GB)
find.pcworld.com/61927

DOWNLOAD THIS

New Bejeweled: A Colorful Twist on Precursor

DRAGGED DOWN BY a poky PC, suspicious sites, and all the other evils of the world? Uplift yourself with these three programs. A twist on the popular Bejeweled casual game cheers you up, one practical utility cleans up your Windows Registry, and a security-oriented Firefox extension helps you wise up about phishing. All are free to try—and two are free to keep.

Bejeweled Twist

If you've beaten Bejeweled, toppled Tetris, and succeeded in Solitaire, it may be time for a new game. The company behind the popular puzzle title Bejeweled has given the game a new twist—literally. The object of Bejeweled Twist is the same as that of the original Bejeweled: You earn points by lining up three or more of the same gemstones. (If you've never played Bejeweled, don't worry: You'll have no problem catching on to Bejeweled Twist.) In the first Bejeweled, you swap adjacent gems to create matches; in Bejeweled Twist, you twist a set of four gems clockwise instead. It's a lot more fun to watch—and it gives you a great deal more flexibility in how you can move the gems around the board. And unlike in earlier Bejeweled games, you don't need to match gems with every move.

If you like Bejeweled, you'll love Bejeweled Twist. And if you've never tried either game, prepare to get addicted. find.pcworld.com/61969
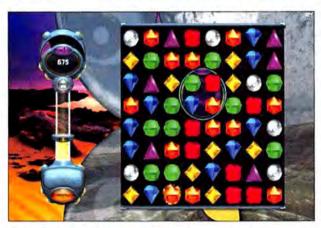—*Liane Cassavoy*

Comodo Registry Cleaner

If you're looking for a free way to optimize your PC, Comodo Registry Cleaner is a great bet. Brought to you by the same people who make the excellent free Comodo Firewall Pro, this equally excellent Registry utility seeks out errors and junk in your Registry, fixes them, and leaves you with a more stable system.

Like other good Registry cleaners, Comodo does all of the work automatically. Run a scan, and it unearths Registry problems for you,

allows you to review them, and cleans up the ones you want to fix. It has some nice extras as well, including the ability to create backups before cleaning your Registry, and the option for you to tell the program to perform scans and cleanings on its own. In addition, a startup

IN BEJEWELED TWIST, you manipulate clusters of sparkling gemstones to make matches of three or more of the same color.

manager lists every program that runs when you boot your computer, and lets you stop those items that you don't want to run. All in all, Comodo Registry Cleaner is a useful, neatly designed program—it's tough to find a better free Registry cleaner. find.pcworld.com/61966
—*Preston Gralla*

Locationbar2

The Locationbar2 add-on for Firefox 3 makes a small, focused and very smart change to the browser: The tool highlights the domain name in a Web page URL so you can easily spot that name in long site addresses. The addition helps defeat the common phishing tactic of using long and convoluted URLs that might start with what looks like a legit address (say, for a bank site), throw in a bunch of symbols and other characters, and effectively bury the real domain.

Locationbar2 assists in foiling such attacks by graying out everything in the URL but the domain. Though you can still read the rest of the address, you can immediately pick out the actual site name among all of the confusing gobbledy-gook. find.pcworld.com/61970
—*Erik Larkin* ●

First Look:

Microsoft's Big Vista Fix

BY YARDENA ARAR AND HARRY McCRACKEN

ILLUSTRATION BY MICK WIGGINS

With Windows Vista catching heat from all sides, Microsoft is putting a big push on a replacement. Our hands-on evaluation of an early beta suggests that the OS is on the right track. »

What if

Microsoft waved a magic wand and everything people hated about Windows Vista went away? You might have an operating system that you liked—and that's what Microsoft appears to be striving for with Windows 7. We checked out an early beta of the future OS, and though at this point many features are either missing or works in progress, the improvements to everything from user interface to memory management look highly promising.

Of course, some of the promised features are things that Microsoft has pledged—and failed to deliver—before. Wasn't Vista supposed to be faster than its predecessor? We won't be able to definitively test performance (and other under-the-hood features) for some time, obviously, but we can share with you what Microsoft is saying to back its claims.

In some cases, that's very little: No word on pricing and editions, for example. And there's some question on when Windows 7 will ship, since Microsoft has given early 2010 as the target date, but some insiders say it will launch sooner.

Microsoft has said all along that Windows 7 would refine (but not rewrite) the Vista kernel. However, some new features depend on support outside of Microsoft's control. For example, a few network enhancements will work only if your employer installs Windows Server 2008 R2—or if your network includes more than one Windows 7 PC. Other features won't be visible unless hardware vendors activate them. And

NEW IN WINDOWS 7 are a Start menu jump list and large, moveable icons.

WHICH WINDOW WAS it? In Windows 7 you'll get previews of all instances of an app.

Many elements, such as desktop search, play catch-up with Apple's Mac OS X and existing free Windows utilities.

Windows 7 takes a strikingly different approach with relatively subdued interface tweaks that emphasize everyday efficiency. Several of the changes aim specifically to get the OS out of your way so you can work without distractions. And little of what's new feels like warmed-over OS X.

The Windows taskbar undergoes its biggest remodeling job ever: The familiar bars containing the name of a running application and a tiny icon are gone, and in their place are unlabeled, jumbo icons that look like gargantuan versions of the icons in the old taskbar's Quick Launch toolbar—as well they should, since, in Windows 7, they supplant Quick Launch.

(The new taskbar does *look* rather like OS X's Dock, and includes similar features such as the ability to rearrange icons by dragging and dropping—but it's different enough that it doesn't feel like a Dock clone.)

Windows Vista's taskbar introduced previews of windows, thumbnail-size, that appear when you hover the mouse pointer over an app in the taskbar. They are quite handy, but you can see only one of them at a time. In Windows 7, thumbnails for multiple windows appear on screen simultaneously, in a ribbonlike horizontal strip. Hover over one of the thumbnails, and you get a full-size preview of the window; you can also close windows from the thumbnails.

Click on an icon in the taskbar—or on a program in the Start menu—and you get a "jump list," a new Windows feature providing one-click access to tasks associated with an application—Play All Music for Windows Media Player, for instance, or a list of recently opened files in Word or Excel.

Not all jumbo taskbar icons represent running applications, however. In Windows 7, these can also represent devices attached to your PC (read more about this in the "Devices and Hardware" section on page 85).

Unfortunately, most of the new taskbar features weren't in our preview code. Still, our brief hands-on time with the new taskbar on demo PCs suggests it could make life in Windows more pleasant in ways that Vista's splashy effects don't.

Microsoft has slimmed down the code by offloading applications (such as e-mail and photo management) that were once bundled with the OS: Some apps you'll be able to download, and others you'll access as Web services.

But the OS that remains tries very hard to please users by addressing some of the biggest gripes people have had about Vista, and by generally making everyday tasks accessible and easy to perform. These efforts in the beta look pretty good.

The Interface: A Kindler, Gentler Windows

Windows Vista emphasizes style over substance with features such as Aero's translucent window frames (woo-hoo!) and the flashy but not very useful Flip 3D window switcher.

Icon Clutter, Begone

Windows' Notification Area, also known as the system tray, has traditionally packed more aggravation per square inch than any other area of Windows, since it tends to bulge at the seams with icons for applications that you don't remember installing, and that often pester you with balloons alerting you to things you don't care about. In Windows 7, Microsoft finally supplies tools you can use to tame the mess.

For each app, you can choose to display or hide its icon and notifications. The overflow area for icons that don't fit in the Notification Area now pops up, rather than shoving applications into the taskbar on the left. You can drag and drop icons between the overflow and notification sections.

Clicking on a little empty rectangle at the far right of the new taskbar minimizes all open windows so you can see the desktop. This feature existed as an icon in Vista's Quick Launch toolbar, but you might use it more often if you're a fan of the Windows Gadgets introduced in Vista: The Sidebar that formerly housed them (also new in Vista) is gone, and you can simply place them anywhere on the desktop you please.

(Microsoft says users complained that the Sidebar ate up too much screen real estate, especially on smaller laptops.)

The company has also introduced a couple of easy-to-use window management features. If you want to work in a pair of windows side by side, dragging the second window to either side of the screen snaps them both into place so that each takes up half the screen. If you drag a window to the top of the display, it snaps to the top, and maximizes to full screen.
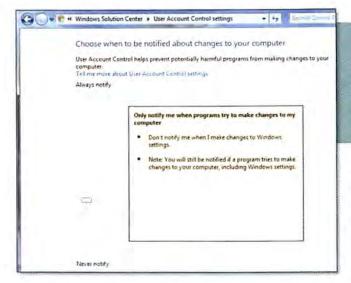
UAC: Let's Try That Again

Windows XP's reputation for shaky security stemmed in part from the scary possibility of hackers worming their way into your PC and launching applications or changing settings at will. In Vista, Microsoft responded with User Account Control, a safeguard that tries to protect you by asking, in effect, "Are you sure?" before executing a wide variety of system actions. The problem is that, in the vast majority of instances, those actions are intentionally initiated by the user. Telling Vista that you know what you're doing gets old quickly. But Vista's UAC essentially has only two settings: on and off. »

Windows vs. Windows vs. Windows

Here is how some key Windows features have evolved from XP to Vista to the early version of Windows 7.

FEATURE	Windows XP	Windows Vista	Windows 7
User Account Control	Not applicable.	Either on for all system changes or off.	Four levels of protection to choose from.
Firewall	Protection against incoming threats only.	Two-way firewall introduced.	Windows Filtering Platform lets third-party vendors turn parts of Windows Firewall on or off to play well with other security apps.
Search	Selective indexing option unavailable, so either you index your entire drive (which is inefficient) or searches are slow.	Customizable indexed search on a single PC. Searches are context sensitive and quickly available from the Start menu and Explorer windows. No more animations.	Indexed search across multiple networked PCs.
Taskbar buttons	No thumbnail previews.	Supports pop-up thumbnail previews (one per application window or group).	Icons replace app names on large square buttons that you can move around. Supports multiple pop-up thumbnail previews for any single app.
Notification Area (system tray)	Can choose which application icons to always show, always hide, or hide when inactive.	Essentially unchanged from XP except that excess icons you haven't hidden move to an overflow area that you don't see until you click an arrow to expand the notification area.	Users can choose which icons and notifications to view or hide. Notifications can display as a categorized list. Overflow icons are consigned to a pop-up area. The bottom-right corner provides instant access to a window-free desktop.
Peripherals and connected devices	Not applicable.	Sideshow (secondary display support) added. Windows Mobile Device Center (integrated support for Windows Mobile devices) also added.	Can appear as taskbar icons. Vendors can create Device Stage pages offering quick access to related apps, info, and manuals.
Sidebar	Not applicable.	Gadgets introduced; can live on the new Sidebar at the right or left side or move to the desktop via dragging.	Sidebar is banished; users can place gadgets anywhere on the desktop.
Multimedia	Special Media Center Edition ships on qualified systems.	Media Center is included in the Home Premium and Ultimate editions.	Revamped Windows Media Center will support DNLA-compatible networked home devices.
Accessories	Not applicable.	Adds DVD Maker, Photo Gallery, and Windows Mail.	Many applications are now downloadable as Windows Live Essentials. Ribbon interface appears in Paint and WordPad.
Touch	Touch features are integrated only into the special Tablet PC Edition.	Tablet PC features are integrated into the OS.	Multitouch support for image zoom and drawing. The Start menu, taskbar, and Windows Explorer are optimized for touch screens.

The Magic Touch?

One major area of change in Windows 7's interface may not mean much to most PC users: Only a handful of current machines, such as HP's TouchSmart PC and Dell's Latitude XT laptop, support multitouch input. But in theory this feature would let you operate a touch-screen-equipped Windows 7 computer as if it were a massive iPhone, using your fingertips to launch applications, shuffle windows around, and enlarge and shrink photos by grabbing them with both hands. Not surprisingly, Microsoft hasn't yet enabled all of this functionality. Using a TouchSmart PC at a Windows 7 reviewers' workshop, we could fingerpaint with two fingers in Paint, but we couldn't perform two-fingered photo manipulations that would be a lot more useful in real life.

Microsoft promises that Windows 7 will ship with more touch features. The company is also working to make the OS smart enough to figure out whether you're using a mouse or your fingers so it can adjust accordingly. For example, if you tap the Start button with your fingertip rather than with the mouse pointer, you'll get a slightly larger Start menu that requires less finesse to navigate. And you don't see a mouse pointer when you touch the screen with your finger—you get a brief puddle effect where you've made screen contact.

Will the touch interface that makes the iPhone cool work on a laptop or desktop system? We're skeptical, but Windows 7 lays the software groundwork that will allow PC manufacturers to give it a try, at least.

Windows 7 still lets you opt for full-tilt UAC or no UAC at all. It adds two useful intermediate settings, though: One notifies you of attempts to install software or change settings without making you click to continue, and the other notifies you only when a program tries to change settings. Both of those options alert you when potentially dangerous actions transpire on your PC, but your work won't grind to a halt nearly as often as it does with Vista's version of UAC.

The UAC settings reside in a new Control Panel section called Windows Solution Center, which replaces Vista's Security Center. It's home to features for adjusting security settings, using Windows Update, and backing up data. The Solution Center also lets you turn off various Windows notifications, such as those that warn about security settings. Turn off *every* nagging notice that Windows 7 lets you disable, and you could wind up with the least intrusive edition of the OS in a long time.

Did we say that Windows 7 is longer on substance than on style? For the most part, that's true. But the new features for applying Themes to the Windows interface are nicely done. As before, the Theme controls let you choose collections of wallpaper, color schemes, sounds, and screen savers to give Windows an instant makeover. In Windows 7, however, you can see a full-screen preview of a Theme's effect on the OS with one click, and it's easier to create and save your own Themes than it is with Vista's antediluvian controls. (Microsoft, incidentally, says that Themes will be renamed Styles before Windows 7 ships: That's a classic example of the company renaming a familiar feature without any clear purpose.)

7 Promising Features in Windows 7

❶ Better memory management to speed up system performance.

❷ Jump lists for easier, context-relevant access to files and features.

❸ Moveable taskbar icons.

❹ Customizable UAC settings.

❺ Better window management via the ability to snap Windows to screen edges and move maximized windows.

❻ More control over system-tray icon placement and notifications.

❼ Windows Media Player's "lightweight" mode.

Performance Tweaks

Some of the biggest criticisms of Vista relate to performance, and Microsoft appears to have made addressing them a priority. Boot time for a Microsoft-furnished laptop with the pre-beta code seemed fast. Of course, we won't be able to make a fair comparison until we can test identical machines with the same installations of Vista and Windows 7, but Microsoft is taking steps to speed things up. First, Windows 7 initializes many services in parallel; and second, it has fewer services to initialize.

Another area Microsoft says it is working on is the way the OS allocates memory to new windows. In Vista, the amount of memory allocated per window goes up as you add windows, to the point where

the system sometimes shuts down Aero for lack of available memory. In Windows 7, each new window will be allocated the same amount of memory, so adding new windows won't strain system resources as quickly.

Other changes are designed to make the OS less crash-prone. Fault-tolerant "heaps," for example, are intended to address memory management headaches without crashing problem apps; at the same time, process reflection should reduce crashes by allowing Windows to diagnose and (maybe) repair process issues without crashing the application involved. Microsoft also says that its new OS will "sandbox" printer drivers so that glitches stemming from poorly written drivers won't create difficulties either for other drivers or for the system as a whole.

Microsoft is also working on ways to prolong notebook battery life by reducing power consumption. Examples of such tricks would include enabling laptops to cut back on background activities, to intelligently dim displays (with technologies similar to those used with cell phone displays), and to play back DVDs more efficiently.

Devices and Hardware

Windows 7 won't require new drivers for peripherals: If something works with Vista, it should work with Windows 7. Nevertheless, Microsoft has instituted some changes to help people use connected devices, such as cameras, cell phones, media players, and printers, with their PCs.

Instead of the Auto-play window that appears in Vista and XP when you hook up one of these peripherals, you'll now get—if vendors play along—the more useful Device Stage page, which shows not only a photorealistic rendering of the

7 Big Questions About Windows 7

❶ Performance: Boot-up and memory management fixes sound good, but will it really run faster than Vista?

❷ Compatibility: Will it deal better than Vista with legacy apps?

❸ Networking: How well will Windows 7 play with non–Windows 7 networks?

❹ Web apps: How will Windows Live Essentials integrate with Windows 7?

❺ Device Stage: Will vendors create these pages to afford easy access to device-relevant info and apps?

❻ Cost/versions: Will Microsoft simplify the edition lineup—and make a meaningful Vista upgrade affordable?

❼ Release date: Microsoft is rumored to be hoping to ship Windows 7 before the officially announced date (early 2010).

device but also a list of associated services, information, and tasks. For example, with a multifunction printer you might see an icon for launching the scanning software—and you'll almost certainly see a link to the vendor's Web site for toner or ink supplies.

Other options might include a link to a PDF of the manual or, in the case of a cell phone, software for syncing Outlook contacts (even with a non–Windows Mobile handset).

However, the Device Stage for a peripheral will exist only if the vendor creates an XML document based on a Microsoft template, and gets Microsoft to sign off on it (Microsoft says that this prerequisite is necessary to ensure quality control). The overhead involved may discourage peripheral vendors from participating, but Microsoft says that the OS will download document updates whenever they're available (using the same Windows Metadata Services technology that transparently downloads cover art for albums in Windows Media Player).

Another innovation is the new Magnifier feature, which you can use to enlarge a portion of the display—for example, if you need to read a small block of tiny type.

In addition, look for Windows 7 to pack some easy-to-use tools for adjusting external displays—specifically, visual aids that will help people connect a laptop to a projector.

Networking Made Easier

The networking features in Windows 7 address several problems that arise from the use of corporate PCs on noncorporate networks, particularly by employees who take laptops home after work and on weekends. If you've ever tried printing on a networked home printer from a laptop associated with a corporate domain, you'll appreciate the Windows 7–given ability to associate your laptop with a so-called HomeGroup for easy access to printers and files on other computers—without any tinkering with your IT »

DEVICE STAGE: Windows 7 supports pages created by vendors, with links to device-related data and tasks, such as sync setup in this phone mock-up.

department's carefully applied domain configuration settings. The HomeGroup feature has also been designed to prevent other PCs on your home network from accessing any of the (potentially sensitive) corporate data on your laptop.

Unfortunately, many potential Home-Group users may have to wait to realize its benefits: You need a Windows 7 PC to create a HomeGroup for a Windows 7 laptop to join, and it's unlikely that many people will be migrating all the systems they use at once.

But Microsoft offers additional enticements for those who do. Windows 7 will be smart enough to recognize when you are at home and when you are at your office. As a result, when you print a document, the OS will choose the appropriate printer for the job. And a new "federated" search capability will let you sift through files on PCs across the network and apply filters to your results. This means that you can do a keyword search and then refine its results by specifying a particular file type.

Windows 7 promises easier Wi-Fi network and Bluetooth peripheral setup, too, though we weren't able to test either capability on the pre-beta software we used. Hovering over the taskbar icon for the network adapters produces a jump list of available networks (or devices, in the case of Bluetooth); then you merely click the one you want to connect to (or pair with, in the case of a Bluetooth peripheral).

Another addition is wake-on-wireless-LAN, the ability to bring a Wi-Fi-connected PC out of sleep mode remotely (just as you've been able to do with ethernet-connected systems).

Other networking improvements apply if your company installs Windows Server 2008 R2 (and your IT department allows them). For example, you might be able to click a link in a corporate e-mail message to launch an application behind the firewall—without having to make a VPN connection first (Windows 7 will transparently handle the security arrangements).

Searching and Organizing
One interesting new feature in Windows 7's Explorer is called "libraries." Essentially it's a way of making like content scattered in various folders easily accessible—something akin to Vista's virtual folders. The OS will ship with several predefined libraries—for documents, music, pictures, and video—but you can create your own based on whatever criteria you choose, such as file type,

A NETWORK connection screen will pop up quickly from its system tray icon.

date created, music genre, and so on.

Libraries figure actively in Windows 7's improved search: Results are organized based on libraries rather than on file locations. And with the new federated searches capability, you might, for example, search for pictures across the photo libraries of all the computers that are in your HomeGroup.

Multimedia in More Places
Once upon a time, Microsoft's approach to audio and video hinged on Windows Media Player and its file formats coming to dominate digital entertainment in much the way Windows dominates the PC. Instead, we live in a world where multiple approaches to media flourish, and where iTunes and the iPod, not Microsoft-based products, are everywhere. Windows 7's new multimedia capabilities acknowledge this reality by emphasizing features that help the OS play well with others—including with products that hail from a certain company named after a piece of fruit.

Windows 7 aims to streamline playback, too—so much so that it offers two different lightweight ways to enjoy media without employing full-strength Windows Media Player. You can listen to music and watch video by using the preview pane in Windows Explorer, without launching Windows Media Player at all. Or you can load up WMP but work with a simple view that hides your media library and fits comfortably into a small floating window on your desktop, leaving the rest of your display visible (and usable).

No matter how you play your files, Windows 7 handles a bunch of non-Microsoft formats that Vista and Windows XP don't, including AAC audio and H.264 video—the standards that Apple favors—as well as DivX video and AVCHD, a format that many high-definition camcorders employ. That ecumenical approach allows the media player to tap into ≫

LIBRARIES LET YOU organize files based on user-defined criteria, regardless of hard-drive location.

entertainment libraries that you've created using iTunes. Not surprisingly, it can't play music and movies shielded by Apple's FairPlay copy protection, but rather than listing them and then choking when you try to play them, it doesn't display the files at all. In our tests, the updated WMP handled unprotected AAC music without a hitch; an H.264 video podcast that we downloaded from iTunes played, but it looked much blockier than it did when we watched it in iTunes on the same Windows 7 machine.

The new OS aims to play traffic cop for an array of media types and devices that may live on your home network. It can find media stored on multiple PCs on the Internet (including ones in HomeGroups on other Windows 7 PCs), and it can route media files from them to media-streaming devices that support the Digital Living Room Network Alliance (DLNA) standard. If a particular piece of media is saved in a media format that a specific streaming device doesn't support, Microsoft says, Windows 7 will convert it on the fly.

When we controlled a Sonos home music distribution system through the Windows 7 preview edition, though, the experience was more than a little rough around the edges. Sonos's own software lets you give its players names like "Living Room" and "Kitchen," but Windows 7 identified them by cryptic IP addresses instead. And Windows 7 doesn't yet allow you to queue up playlists of songs to stream to a device on the network—we could send only one tune at a time.

Windows Media Center—the über-application that does everything from recording live TV to distributing Windows' media features to networked Xbox 360 consoles and other devices—continues on in Windows 7. Microsoft says that Media Center includes new Internet TV features that give users a single program guide and a playback interface for video content from all over the Web. Again, that all sounds intriguing—but if these features are available in the Windows 7 preview edition we examined, they're so well hidden we couldn't track them down. Media Center also works with HomeGroup networking to let you find recorded audio, video, and other media files no matter where they're hiding on your network.

Applications in the Cloud and on Your System

Microsoft won't be shipping Windows 7 with all of the bundled applications that the company has historically installed by default with the OS. Instead, it will deliver e-mail, photo-gallery features, and video-editing capabilities as downloadable applications, collectively called Windows Live Essentials. Windows Live Mail, Windows Live Photo Gallery, and Windows Live Movie Maker have been available in beta form for some time (at download.live.com).

There you can also find beta versions of Windows Live Writer (a blogging tool), Windows Family Safety (parental controls), Microsoft Office Outlook Connector (for using Outlook 2003/2007 as a front end to Hotmail) and Windows Live Toolbar (to make Live apps accessible in Internet Explorer).

Windows Live Essentials should not (but probably will) be confused with Windows Live services; the latter may be associated with desktop programs, but they require nothing more than a browser to run. For example, Windows Live Hotmail is an e-mail client accessible only in a browser, whereas Windows Live Mail runs on the desktop.

Some old standbys remain, with facelifts. Windows Paint's basic image editing features now appear via a Scenic Ribbon à la Office 2007. The OS's APIs will make the ribbon available to third-party developers. Though some users didn't appreciate having to learn new locations for many features in the complicated Office apps, the ribbon works well for the relatively few and simple tools in Paint and WordPad.

Also in the future OS: a refresh of Calculator, and a Sticky Notes feature that supports ink (as well as text) and permits resizing of notes. ●

Microsoft's New Google Fighters

AS WE WENT to press, Microsoft announced a new initiative to promote its Windows Live services as alternatives to those of Google and Yahoo.

The big news: Partnerships with some 50 third-party services—including Digg, Flickr, Linked In, Pandora, StumbleUpon, Twitter, and WordPress—will allow you to send and receive updates to and from these services through your Windows Live account.

Microsoft has also revealed plans for potential Google Docs killers: Web versions of Word, Excel, and PowerPoint, which will let people collaborate on documents located either online or on PCs. These Office Live Web apps will appear with the next version of Office (Microsoft didn't specify a ship date).

The dominance of Office file formats could give Microsoft a real boost here. But without AOL, Facebook, Google, and MySpace, the Live drive might stall.

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HDTV Stars

Prices are plunging on plasma and LCD sets.

In our tests, we discovered rippin' bargains on great TVs in three different size categories.

BY LINCOLN SPECTOR

PCW Test Center PRICES FOR LCD and plasma TVs are falling—hard and fast. According to market research firm Display-Search, retail prices for LCDs worldwide sank by an average of 22 percent in the 12 months ending in September, and plasma prices tumbled by 27 percent. And the larger the TV, the steeper the drop: In North America, the average price of a 32-inch LCD fell from $750 to $658 (down 12 percent) but the average 52-inch LCD fell from $2791 to $1951 (30 percent).

For this comprehensive roundup of large high-definition televisions, we looked at 13 new HDTVs and reappraised a bunch of older models across three basic size categories: 42 inches, 46 to 47 inches, and 50 to 52 inches. Ultimately, three newcomers captured Best Buy honors: the 42-inch LG 42PG25, the 46-inch Samsung LN46A650, and the 50-inch Samsung PN50A760.

120 Hz Can't Hurt

This season the big news is 120-Hz LCDs, which refresh their screens 120 times per second. Though 120-Hz HDTVs have been around since 2007, they were quite expensive until recently. Now, says Paul Gagnon, director of North America TV market research for Display-Search, a 120-Hz LCD costs about 10 percent more than a slower-refreshing but otherwise virtually identical set.

The faster refresh rate aims to correct a major shortcoming of LCD technology: the fact that LCD pixels don't rewrite as fast as plasma phosphors. A slow rewrite time can cause blur in fast-moving images and jerky motion in camera pans.

But there are technical reasons to be skeptical. As Joel Silver of Imaging Science points out, changing the refresh rate doesn't "change the temporal nature of the LCD." In other words, sending a new image to the LCD every 120th of a second doesn't mean that the old image goes away. And content is still recorded at 30 (video) or 24 (film) frames per second.

Nevertheless, a well-executed 120-Hz refresh rate can improve the appearance of fast action, especially if the footage was originally shot in high-definition at 60 frames per second—as many broadcast sporting events are today. By interpolating an extra frame between the existing ones, a 120-Hz LCD TV can make images clearer and less jumpy. The technology may also help eliminate the occasional jitter (sometimes called "motion judder") associated with the 3:2 pull-down used in converting 24-fps film to 30-fps video.

All three of the 42-inch, 120-Hz LCD sets we tested—the LG Electronics 42LGX, the Toshiba 42XV545U, and the Vizio SV420XVT—outperformed the 42-inch plasma model (the LG Electronics 42PG25) in our NASCAR test, which involves fast action shot at 60 Hz. It's the measure most likely to reveal improved performance from a 120-Hz refresh rate. »

Inside

A similar pattern occurred within the 46- and 47-inch category: The two 120-Hz LCDs—Samsung's LN46A650 and Vizio's SV470XVT—outperformed the plasma (Panasonic's TH-46PZ800U) overall and on the NASCAR test.

The impact of 120 Hz was less evident with 50- and 52-inch sets. The LG 52LG70 and Sharp LC-52D85U are both 120-Hz; but the LG finished in third overall and in our NASCAR test, while the Sharp, in fifth overall, tied the LG in performance.

HDTV Feature Trends

Earlier in 2008 there was talk about Internet-capable televisions, but as yet only a handful of sets have that capability.

Samsung's 50-inch PN50A760 and 46-inch LN46A650 have ethernet ports and use the Internet to access the company's InfoLink news service (for weather, news, sports, and financial RSS feeds from *USA Today*)—a far cry from full-fledged Internet capabilities. Still, multimedia features are catching on. Several sets have a USB port that you can use to look at photos and listen to MP3s. And you can remove the SD Card from your camera and plug it into the Hitachi P50X902 or the Panasonic TH-46PZ800U to view your photos on the set.

Most HDTVs have picture modes (presets of video adjustments that are readily accessible through the menus) called Movie or Cinema, but the Panasonic TH-46PZ800U has one called THX, which is designed to replicate the look of a professional monitor used to master video content. Will THX certification mean a better image when you aren't using THX mode? Lucasfilm THX chief of AV architecture Michael Rudd says that it's "possible, but not likely."

The PC World Test Center doesn't use preset modes in our image-quality tests, so we can't judge the advantage of THX certification. But whereas in the past only a handful of TVs let you choose between store and home environment settings when you switched them on, today most of them do.

Prices are dropping, image quality is improving, and the idiot box asks intelligent questions the first time you turn it on. Television really is better than ever.

OUR 50-INCH **BEST BUY**: The Samsung PN50A760.

THE LG ELECTRONICS 50PG30 (second place, 50 inches).

50- and 52-Inch
FLAT-SCREEN HDTVs

Samsung's PN50A760 plasma set outclasses the competition in this size category, while low prices make LG Electronics' 50PG30 plasma a great deal for bargain hunters.

Samsung PN50A760

BEST BUY Samsung's PN50A760 ($2500) combines cool multimedia capabilities and great image quality. In our lab tests, this plasma HDTV was the only model in its size category to earn a rating of Very Good for image quality.

One juror noted some pixelation in several of the tests, but even so she declared this model the "best out of all tested," with some very crisp and sharp images. Another juror commended the set's color balance. I admired its handling of fast motion in our NASCAR test, and its wide viewing angle.

In my hands-on tests, the PN50A760 provided excellent virtual surround sound, close to what you'd experience with a dedicated speaker system. A movie soundtrack's sudden organ blast had a powerful, in-the-gut heft.

The PN50A760 is well designed. A setup wizard helps you optimize the set for use in your home (as opposed to in a store). The TV's menus are thoroughly readable, and the Input menu gives priority to attached devices that are actually turned on, so you don't have to scroll past a bunch of irrelevant options to select the device you want to use.

The PN50A760 has a host of slick multimedia capabilities, too. Press the remote's Content button to get a full screen of options, including scenic photos, recipes, exercises, and children's activities—all built into the TV's flash memory (but not updatable). You can plug a USB drive into the set's side-mounted USB port to view your own photographs or to play audio files. Alternatively, you can plug an ethernet cable into the PN50A760 and view media from a PC set up as a DLNA server (the TV comes with appropriate software for this).

Backlighting makes the excellent, programmable remote

THE LG ELECTRONICS 52LG70 (third place, 52 inches).

THE SHARP LC-52D85U (fourth place, 52 inches).

easy to use in the dark. It has a convenient jog wheel in place of the usual arrows, but Samsung left out a picture-in-picture button, despite the TV's picture-in-picture function.

At $2500, the Samsung PN50A760 is pricey. But you get what you pay for in image quality and extra features.

LG Electronics 50PG30

The LG 50PG30 is an inexpensive ($1700) plasma HDTV with stylish looks. Its design and its range of inputs (including three HDMI ports) will attract attention, but this model's image quality is only average.

In PC World Test Center tests, our judges had a wide range of reactions to the set. It looked quite good when viewed at an angle—as you'd expect from a plasma TV. And I thought the 50PG30 did a very good job with foreground and background detail (especially the latter) on our David Letterman

interview clip. My least satisfying 50PG30-viewing experience was in the NASCAR clip, where I observed some motion blur and fuzziness. One judge faulted facial tones; another said that images appeared flat, with colors that didn't pop.

The 50PG30 is easy to set up, with conveniently placed inputs and a setup wizard that asks whether to optimize for home use or store use. The Quick Menu offers rapid access to common options such as the set's picture and sound modes. And the selections that pop up (as icons) when you press the Input button give top priority to sources that are currently sending a signal to the TV—a time-saving touch.

But the 50PG30 has no picture-in-picture, and no USB or SD Card multimedia capabilities. The remote doesn't glow in the dark, isn't programmable, and controls only VCR or DVD players that support LG's SimpLink (HDMI CEC) interface.

Though the 50PG30 finished second among the 50- and ≫

Samsung's 50-Inch Set Wins With Image Quality, Ethernet

50- OR 52-INCH HDTV	PCW Rating	Performance	Features and specifications	Bottom line
1 **BEST BUY** Samsung PN50A760 $2500 find.pcworld.com/61901	**84** VERY GOOD	• HDTV: Very Good • DVD: Very Good • Overall design: Superior	• 1920-by-1080-pixel screen • Tuners: 1 ATSC • Inputs: 4 HDMI, 2 component	Samsung's PN50A760 plasma has top-notch image quality, plus the best extras and great sound.
2 LG Electronics 50PG30 $1700 find.pcworld.com/61900	**79** GOOD	• HDTV: Good • DVD: Good • Overall design: Good	• 1920-by-1080-pixel screen • Tuners: 1 ATSC • Inputs: 3 HDMI, 2 component	Though inexpensive for its screen size, this plasma set lacks features and image punch.
3 LG Electronics 52LG70 $2500 find.pcworld.com/61903	**77** GOOD	• HDTV: Good • DVD: Good • Overall design: Good	• 1920-by-1080-pixel screen • Tuners: 1 ATSC • Inputs: 4 HDMI, 2 component	The LG 52LG70 is a no-frills LCD HDTV that produces good-looking images.
4 Sharp LC-52D85U $2300 find.pcworld.com/61904	**74** GOOD	• HDTV: Good • DVD: Good • Overall design: Good	• 1920-by-1080-pixel screen • Tuners: 1 ATSC • Inputs: 5 HDMI, 2 component	The Sharp LC-52D85U LCD offers appealing images but fewer features than some competing TVs.
5 Westinghouse Digital TX-52F480S $2550 find.pcworld.com/61905	**72** GOOD	• HDTV: Good • DVD: Good • Overall design: Good	• 1920-by-1080-pixel screen • Tuners: 1 ATSC • Inputs: 4 HDMI, 2 component	This LCD attractively displays images and has a few nice touches, but isn't a star in its price range.

CHART NOTE: Prices are as of 11/4/08.

THE WESTINGHOUSE DIGITAL TX-52F480S (fifth place, 52 inches).

52-inch sets in our overall rankings, thanks in large part to its low price, it can't touch the superior design and top-of-line image quality of Samsung's PN50A760. LG's other entrant in this category, the 52LG70, is superior to the 50PG30 in almost every way—but it costs $800 more.

LG Electronics 52LG70

Though it closely resembles its plasma sibling (the 50PG30), LG's 52LG70 LCD HDTV is clearly the more advanced model.

Unlike with the plasma set, you can plug a flash drive into the 52LG70 to view photos and listen to MP3s. It packs four HDMI ports and two optical audio outputs into its 52-inch frame, but it lacks a picture-in-picture mode. Setup is simple: Well-placed connectors and a setup wizard that asks whether the set needs home or store optimization help things along.

When you press the remote's Input button to change from your cable input to your DVD player (for example), the TV displays icons for all of your inputs; the inputs that are turned on are highlighted and grouped together at the front. Want to adjust the aspect ratio or the TV's backlighting? The Q (for Quick) Menu button offers instant access to those options. The buttons on the long, thin remote are of good size and well placed for thumb control. Though the remote lacks backlighting, you can program it for use with other devices.

Our PC World Test Center judges rated this model's image quality as average. I saw several faces with the unnatural color and texture of an oil painting rather than human flesh. All of the judges noticed pixelation and other artifacts in various tests, especially during fast action and dissolves. Some images in our tests seemed a bit soft, too, but in general we found the image quality pleasing.

The 52LG70 is a very good HDTV at an acceptable price. But you can find pretty good ones that are less expensive.

Sharp LC-52D85U

Design is not the Sharp LC-52D85U's strong point. The on-screen menus, the remote, and even the manual could have used some friendliness training. But this $2300 LCD model does well on the most important criterion, image quality.

In our PC World Test Center evaluations, it tied with the LG 52LG70 for third place overall in its category. Our judges tended to give it Good or Very Good ratings on most measures, and one juror praised the set's ability to show details. Even so, our judges detected some shortcomings: One noted visible artifacting, and another complained that colors looked

A Sublime Samsung Set Is Tops Among 46- and 47-Inchers

46- OR 47-INCH HDTV	PCW Rating	Performance	Features and specifications	Bottom line
1 **BEST BUY** Samsung LN46A650 $1800 find.pcworld.com/61909	**82** VERY GOOD	• HDTV: Good • DVD: Very Good • Overall design: Superior	• 1920-by-1080-pixel screen • Tuners: 1 ATSC • Inputs: 4 HDMI, 2 component	The well-designed LN46A650 LCD delivers great image quality and is packed with features.
2 Samsung LN46A550 $1699 find.pcworld.com/60730	**80** VERY GOOD	• HDTV: Very Good • DVD: Good • Overall design: Very Good	• 1920-by-1080-pixel screen • Tuners: 1 ATSC • Inputs: 3 HDMI, 2 component	This all-around excellent LCD HDTV is easy to use and a delight for the eyes.
3 Vizio SV470XVT $1400 find.pcworld.com/61910	**80** VERY GOOD	• HDTV: Very Good • DVD: Good • Overall design: Good	• 1920-by-1080-pixel screen • Tuners: 1 ATSC • Inputs: 4 HDMI, 2 component	A low price and appealing image quality help this LCD model from Vizio stand out.
4 Vizio VO47LF $1400 find.pcworld.com/60726	**79** GOOD	• HDTV: Very Good • DVD: Good • Overall design: Good	• 1920-by-1080-pixel screen • Tuners: 1 ATSC • Inputs: 4 HDMI, 2 component	Great image quality and a fantastic price make this LCD set impossible to overlook.
5 Panasonic TH-46PZ800U $2200 find.pcworld.com/61912	**72** GOOD	• HDTV: Good • DVD: Good • Overall design: Good	• 1920-by-1080-pixel screen • Tuners: 1 ATSC • Inputs: 3 HDMI, 2 component	This plasma HDTV offers stellar audio and middle-of-the-pack video in an attractive chassis.

CHART NOTE: Prices are as of 11/4/08.

washed out in a 480p DVD. I noticed pixelation, and found many scenes excessively bright. And though this set has a 120-Hz refresh rate, we saw no evidence that the faster refresh helped smooth out motion in our NASCAR clip.

The Sharp delivers acceptable audio, but its artificial surround sound exhibited no real depth, and an organ blast had no oomph. Loud sounds suffered from slight harshness.

The remote is freckled with tiny, difficult-to-press buttons. Though it has a backlight, the feature doesn't provide much help in the dark. Press the Light button (which glows quite nicely), and only the elongated Volume and Channel buttons, plus four others, light up. Since the labels aren't illuminated, it's unclear which button is which.

Click the Input button, and you get a list of all available inputs, whether they have hardware connected to them or not. This model does not support picture-in-picture or have any multimedia capabilities via USB, SD Card, or ethernet.

At $2300, the LC-52D85U provides the best picture for its price among the big sets. It's not the easiest model to use, and it lacks some features, but it also costs $200 less than the Samsung PN50A760 (which has them).

Westinghouse Digital TX-52F480S

The Westinghouse Digital TX-52F480S ($2550) is the second-most-expensive HDTV in its size category. Though it costs only $50 more than the Samsung PN50A760, this set falls short of the Samsung on image quality and features.

In our test center evaluations, the TX-52F480S scored fairly well, finishing second in our performance tests. Despite being the only 50- to 52-inch LCD HDTV we tested that didn't deliver a 120-Hz refresh rate, it provided smooth motion in our NASCAR test clip, where the advantages of a 120-Hz HDTV would have been most likely to be discernible.

Our panel of judges found other issues with the image quality, though: Nearly every judge noted the reddish, sunburned tint the TV gave Caucasian skin tones; several panelists observed pixelation and fuzziness. And the TX-52F480S failed our HD HQV Benchmark Jaggies test.

In my hands-on use, this model's audio was wretched. At 61 percent of full volume (full volume was too loud for my health), the built-in speakers lacked dynamic range: The movie soundtrack I used in testing sounded flat, muddy, and strained. Even at 40 percent of full volume, the audible strain was distracting. Anyone who buys this set should reserve the internal speakers for news and TV shows, and use a separate sound system when watching movies and concerts.

The TX-52F480S's remote control is middling. Westinghouse put the arrow buttons near the bottom, where they're difficult to reach, and the commonly used Mute and Input buttons are tiny and inconveniently situated. The remote lacks backlighting and can't be programmed. On a positive note, the remote has a Closed Caption button.

A bigger plus is the set's Autosource feature: Turn on a

OUR 46-INCH BEST BUY: The Samsung LN46A650.

THE SAMSUNG LN46A550 (second place, 46 inches).

THE VIZIO SV470XVT (third place, 47 inches).

DVD player or other A/V source that's connected to the television, and Autosource automatically switches to it.

Overall, the Westinghouse Digital TX-52F480S is a decent TV. But other models offer more features for less money. **»**

46- and 47-Inch
FLAT-SCREEN HDTVs

SAMSUNG COMES OUT on top here too, with a strong one-two punch. The first-place finisher, the LN46A650, is an LCD model that supports a 120-Hz refresh rate—as does the number three model, Vizio's SV470XVT.

Samsung LN46A650

BEST BUY Samsung's LN46A650 ($1800) is a joy to use from the moment you turn it on for the first time. That's when a wizard instructs you to pick a language and asks you whether you'll be using the TV at home or in a store. Then it searches for channels, and you're ready to go.

The long, backlit remote gives you access to a menu that pops up when you press the Source button and lists the active inputs at the top and highlights them. But despite being extremely usable, this model has its annoyances. I had to

THE VIZIO VO47LF (fourth place, 47 inches).

THE PANASONIC TH-46PZ800U (fifth place, 46 inches).

turn off the special Entertainment setting before I could change the sound mode. And though the LN46A650 provides picture-in-picture, its programmable remote lacks a PIP button to make viewing two inputs at once more convenient. The remote doesn't lack much else, however, and it has an iPod-like jog wheel rather than a circle of arrow buttons.

In our PC World Test Center evaluations, judges gave the LN46A650 an average score for image quality. This model's 120-Hz technology is meant to help with fast motion and panning, but two jurors detected pixelation and garbling in scrolling text. Meanwhile, I noticed that the Vatican's brick wall in our *Mission: Impossible III* Blu-ray test vibrated enough to make me think I was watching an interlaced clip.

A side-mounted USB port supports playing back music and photos from any USB storage device, and an ethernet port at the rear works with Samsung's InfoLink RSS service, which delivers news, weather, sports, and financial data to the set.

The LN46A650's stellar design and ease of use make it just the thing for viewers who appreciate both form and function.

Samsung LN46A550

This $1699 LCD model lacks some of the specs and design of its younger sibling, the Samsung LN46A650, but otherwise it holds its own next to that model.

In our PC World Test Center tests, the LN46A550 finished in a statistical tie with the LN46A650 in overall performance. In a scene from *Pirates of the Caribbean: The Curse of the Black Pearl*, images on the LN46A550 looked as though they were coming from a mint 35mm print. Its audio quality is fine for talk shows and sitcoms, but you'll want to buy a surround-sound unit for movie soundtracks. The set swivels to support odd-angle viewing and to permit easy access to the back.

The LN46A550's icon-based on-screen menus are clear and easy to read, and a brief note at the bottom of the screen explains what each item does. A separate Tools button on the remote control acts the same way that a right-click of a mouse does in Windows, bringing up a handy selection of options appropriate for the current input.

The backlit remote control's large, color-coded buttons give it the look of a child's toy, but they benefit users of all ages. The remote isn't programmable, though, so you can't use it to operate your DVD player or VCR unless that device works with Samsung's proprietary Anynet technology.

The LN46A550 is a well-rounded HDTV that will do everything you want it to. At its price, it stands out as a winner.

Vizio SV470XVT

The Vizio SV470XVT LCD set produces good (albeit at times dark) images, but it lacks some of the design conveniences of other HDTVs, such as certain LG and Samsung models.

The SV470XVT occasionally struggled to keep moving objects clear. Two jurors noted slight vibrations in the Vatican wall's bricks in our *Mission: Impossible III* Blu-ray test. And

OUR 42-INCH BEST BUY: The LG Electronics 42PG25.

though it showed no jaggies in the HD HQV Benchmark test, we saw horrible pixelation in the corners. On the other hand, it outperformed the other new TVs on our NASCAR test.

The SV470XVT performed well in my hands-on audio tests. Quiet audio sounded crisp, surround sounds seemed to enfold me, and the soundtrack's organ blast had the requisite oomph. You won't get much better sound unless you invest in a separate surround stereo system.

The SV470XVT was a challenge to set up. Most of the connectors are poorly placed and difficult to reach. But once set up, the TV was easy to use; menu items have on-screen explanations, most of which are simple to understand.

Unfortunately, the set has no abbreviated, quick-access menu for settings that you adjust frequently. Dedicated buttons on the remote provide access to 20 of those options, but collectively they make the remote cumbersome to deal

with. The clumsily designed backlighting doesn't help, either.

The SV470XVT comes with picture-in-picture and freeze-frame features, but no multimedia capabilities. The absence of a USB port and of an SD Card slot means that you can't look at your photos or listen to your music through the TV. Still, this 47-inch HDTV costs only $1400 and produces images rivaling the best we've seen in this size class.

Vizio VO47LF

This 47-inch LCD model delivers a fantastic picture, and yet Vizio still manages to undercut the competition on price ($1400). On the other hand, it lacks design elegance and such extras as a swiveling stand, and it's difficult to set up and use.

The hard-to-find Input button on the TV's remote brings up a list of available sources, including sources that have nothing plugged into them. Vizio does provide buttons that jump you directly to particular input types (component, HDMI, and so on), but not to specific inputs.

Aside from the Input button issue, the remote isn't bad, and backlighting makes it fairly easy to use in the dark. But you can't program it, and it controls only the set itself.

The VO47LF delivers picture-in-picture, a free HDMI cable—and that's about it. But this model tied the Samsung LN46A550 for top image-performance honors. It even garnered some rare Superior marks. The television's sound was excellent (by HDTV standards), with crisp dialogue and decent punch for loud music. Vizio's top-notch documentation helps ease you into the VO47LF experience.

Its great picture and surprisingly affordable price for a large HDTV make Vizio's VO47LF the ultimate bargain. »

Our Best Buy Among 42-Inch HDTVs Costs Just $1000

42-INCH HDTV	PCW Rating	Performance	Features and specifications	Bottom line
1 **BEST BUY** LG Electronics 42PG25 $1000 find.pcworld.com/61906	**83** VERY GOOD	• HDTV: Good • DVD: Good • Overall design: Good	• 1024-by-768-pixel screen • Tuners: 1 ATSC • Inputs: 4 HDMI, 2 component	Attractive plasma model is reasonably priced, full-featured, and easy to use; but its image quality is average.
2 Vizio SV420XVT $1100 find.pcworld.com/61907	**78** GOOD	• HDTV: Very Good • DVD: Good • Overall design: Good	• 1920-by-1080-pixel screen • Tuners: 1 ATSC • Inputs: 4 HDMI, 2 component	This LCD model delivers great image quality at a great price, but its design lacks finesse.
3 Vizio VO42LF $1100 find.pcworld.com/61201	**77** GOOD	• HDTV: Good • DVD: Good • Overall design: Good	• 1920-by-1080-pixel screen • Tuners: 1 ATSC • Inputs: 4 HDMI, 2 component	The VO42LF LCD set delivers very good picture and sound quality at a reasonable price.
4 LG Electronics 42LG60 $1800 find.pcworld.com/61209	**76** GOOD	• HDTV: Good • DVD: Good • Overall design: Very Good	• 1920-by-1080-pixel screen • Tuners: 1 NTSC, 1 ATSC • Inputs: 4 HDMI, 2 component	This LCD model's advanced features, impressive style, and very good image quality come at a cost.
5 Westinghouse Digital TX-42F430S $1199 find.pcworld.com/61208	**75** GOOD	• HDTV: Good • DVD: Good • Overall design: Good	• 1920-by-1080-pixel screen • Tuners: 1 ATSC • Inputs: 4 HDMI, 2 component	The TX-42F430S is a great basic LCD HDTV, but it lacks the extra ports of higher-end models.

CHART NOTE: Prices are as of 11/4/08.

Panasonic TH-46PZ800U

Panasonic's stylish TH-46PZ800U ($2200) nicely balances image quality and features. Our panel of judges rated this plasma set's image quality as Good. I was impressed with the level of detail it preserved, such as folds in a dark cloak in our *The Lord of the Rings: Return of the King* DVD test. But other jurors complained that some colors looked washed out and dull. Since the TH-46PZ800U doesn't ask you, out of the box, whether you'll be using the set as a store demo or in your home, you'll have to optimize the set yourself.

In my hands-on tests, the Panasonic's audio quality was phenomenal when matched against competing sets' built-in speakers. With the unit at two-thirds of maximum volume, I could hear every quiet detail of a movie's soundtrack, and the music carried me with it as it reached a crescendo.

The set handily positions an SD Card slot up front, which you can use to port digital photos to the TV screen. It has no USB port, though, for MP3 playing and photo viewing.

42-Inch
FLAT-SCREEN HDTVs

Image-performance ratings ran very close in this category. This explains how the LG 42PG25—which finished sixth in our performance tests—managed to become our Best Buy.

LG Electronics 42PG25

BEST BUY LG Electronics' 42PG25 boasts an attractive price ($1000) and impressive features. This plasma HDTV set produced good-looking images, too, though it struggled a bit with our fast-motion video.

On-screen displays and menus are well designed, with large, easy-to-read icons. Regrettably, though, the menu items lack descriptions, so you have to guess, for instance, what 'Clear

Voice' means or look it up in the manual. Another drawback: The absence of a Display button on the remote prevents you from easily checking the current channel, for example.

The 42PG25 had a harder time with motion than the 120-Hz LCDs that we matched it against. One of our judges rated the 42PG25's blur on our NASCAR test as "probably [the] worst" among 42-inch sets. And everyone gave it a low score on our Jaggies test from the HD HQV Benchmark. Despite those image quirks, our jury rated its images Good overall.

Though not the fanciest HDTV you can buy, nor the one with the best image quality, the LG 42PG25 is an attractive set—and its low price enhances its appeal.

Vizio SV420XVT

Vizio's TVs often lead our reviews in price and image quality, and this model is no exception: At $1100, the SV420XVT is the least-expensive 120-Hz LCD we've seen. And it finished at the top in our performance tests, too.

I loved the image in our *Pirates of the Caribbean: The Curse of the Black Pearl* Blu-ray test. Though the opening fade-in image of the ship was slightly grainy, I rated every other aspect of the test Superior—the highest possible rating.

But our *The Lord of the Rings: Return of the King* DVD clip lacked deep blacks and displayed faces with odd skin textures. Since this test involves a standard DVD, these results may indicate a shortcoming in upconverting standard resolution.

Unfortunately, most of the inputs are arrayed face-down on the back of the TV and are difficult to reach (being a contortionist helps). And the Vizio's first-time setup wizard doesn't ask whether you'll be using the TV at home or in a store.

The SV420XVT lacks a quick menu for frequently altered settings, and has no USB port or SD Card slot for photos or music. And though six buttons on the programmable remote are backlit, in the dark you can't tell what four of those are.

Still, if you're looking for the best HDTV picture for the price, you may be inclined to overlook those issues.

THE VIZIO SV420XVT (second place, 42 inches).

THE VIZIO VO42LF (third place, 42 inches).

Vizio VO42LF

We first reviewed the Vizio VO42LF back in July, and it's still a well-rounded package at a low price ($1100). Though it costs the same amount as the newer Vizio SV420XVT, it lags behind its cousin slightly in performance and specs.

Our judges thought that the VO42LF had a natural-looking picture. Some images seemed fuzzy, however. In one instance, artifacts appeared in a test clip of moving cars. And in another clip, the flesh tones came across a bit too saturated.

The VO42LF provides good audio, within the limitations of any HDTV's built-in speakers. At 50 percent volume, audio was a bit muddy, but better than the sound of most TVs.

The VO42LF's remote control looks like a candidate for an Apple Computer Minimalist Design Award. It's smallish, with few buttons and a strange, pits-in-a-grid surface. But its attempted coolness doesn't make it convenient or intuitive to use. For instance, it has no Menu button, so you have to press the Enter button (which is labeled neither 'Enter' nor 'Menu') to access the menu.

But if you focus on the bottom line, the VO42LF will show you plenty without forcing you to max out your credit card.

LG Electronics 42LG60

LG's "Scarlet" 42LG60 shows lots of thought devoted to everything from the faux-leather remote control to the useful and brilliantly navigable on-screen display menu. But at $1800, the niceties come at a price.

The back of the LCD panel is red, though the color serves little purpose, because people rarely spend much time gazing at the back of their big-screen TVs. The bezel is thin on the top and sides, but about three times thicker at the bottom, where LG hides the unit's superior-sounding, down-firing speakers. As nice as it is not to see speaker grilles, the extra-large bottom bezel is distracting and unattractive, especially since everything else about the set looks stunning.

Most HDTVs' light sensors measure just the brightness of ambient light in the room. But LG's Intelligent Sensor measures not just brightness but also contrast, color, sharpness, and white balance. The feature worked well most of the time, though on one occasion it briefly garbled some images while ceaselessly trying to adjust the settings to match changed surroundings. Thankfully, individual six-color controls are easy to find in the Expert Control level of the picture menu.

Meeting the Scarlet's high price nets you good image quality, great menu options, and extra ports (you can play music or view photos from any USB drive). If you decide to add an LG Scarlet to your living room, you won't be disappointed.

Westinghouse Digital TX-42F430S

In recent years Westinghouse has established a comfortable and practical market niche for itself by producing inexpensive HDTVs that offer good-quality images but leave out the advanced features and sophisticated style common to truly

THE LG ELECTRONICS 42LG60 (fourth place, 42 inches).

THE WESTINGHOUSE TX-42F430S (fifth place, 42 inches).

high-end models. The company's 42-inch TX-42F430S HDTV ($1199) is no exception to this sensible strategy.

In our lab tests the set displayed very nice images, earning a score of Good—the same performance score as the LG 42LG60. We did notice, however, that the TX-42F430S tends to skew toward red in flesh tones.

Also noteworthy were the set's speakers, which produced good sound even when the volume was maxed out.

The remote control made navigating the menu and finding useful settings (such as image and sound adjustment) a breeze. The remote feels cheaply made, as many remotes on low-price HDTVs do, and it sports a number of buttons that serve no discernible purpose. I did appreciate its dedicated buttons for quickly changing inputs, however.

The Westinghouse Digital TX-42F430S performs well as an entry-level HDTV. If you aren't a stickler for style, personality, and extra features such as a functional USB port, you'll find that this low-cost 42-incher delivers the basics nicely. ●

The Best—And Worst—
HDTV Brands

In our annual Reliability and Service survey, thousands of readers issued report cards on HDTV makers and their products. Here's who came out on top—and who hit bottom.

BY JEFF BERTOLUCCI

WHEN PHIL HARRIS of Washougal, Washington, brought home a 42-inch Vizio plasma set from Costco, the TV had issues from day one. "The colors went out, and there were white spots all over the screen," says Harris, a retired engineer. Vizio sent techs, who "changed a bunch of components, but that didn't work."

The vendor then sent a refurbished model, which also didn't work properly. Finally, Vizio shipped a new 42-incher—a higher-quality set than Harris's original—which has worked fine for over a year. Would he buy Vizio again? "I guess if I bought another one, it'd be at Costco, and it probably would be a Vizio," he says.

While Harris's story isn't exactly a glowing tribute to Vizio quality control, it illustrates a key point: An HDTV vendor can earn a customer's respect, and repeat business, by correcting its mistakes. The story also suggests that buyers might show a bit more patience and understanding to a low-cost manufacturer like Vizio.

HDTV Users Speak Out

PC World's annual Reliability and Service survey lets our readers rate leading vendors in several tech-product categories. This year more than 16,000 respondents shared their likes and dislikes about their high-def TVs and the companies that sell them. Participants rated each company and its products relative to com- **»**

ILLUSTRATION BY STUART BRIERS

petitors by nine measures, such as customer satisfaction, quality of phone service, severity of hardware problems, and ease of use (our chart below shows five).

The big winner was Sony, which was better than average in seven of nine measures. The electronics giant, known for high-quality, high-end HDTVs, earned praise for hardware reliability and customer service. It received average marks in ease of use and phone hold time. Five companies—LG, Panasonic, Samsung, Sharp, and Vizio—had two high scores each. Overall, readers reported greater satisfaction with the reliability of Panasonic, Samsung, and Sony sets. They also gave credit to LG, Sharp, and Vizio for making TVs with fewer serious issues.

Mitsubishi fared the worst, with four below-average scores. Readers reported a higher-than-average incidence of severe problems (and problems in general) with the TVs, and lower-than-average satisfaction with the sets' reliability and ease of use. Hitachi and JVC didn't do well either: Each had three low grades.

Sony's HD sets may be well made, but seldom are they a bargain. Why the rave reviews? "I've gone with Sony for

86% of Sony HDTV

owners say that they're highly satisfied with the overall reliability of their sets. —PC WORLD SURVEY RESULTS

many years. I find them to be reliable and high-quality, and they last a long time," says Alan Ronkin, who bought a 40-inch Sony Bravia LCD a year ago and is pleased with it. He considered Panasonic and Samsung sets too, but "at the end of the day, brand loyalty was probably the most important factor," says Ronkin, who manages a nonprofit in Brookline, Massachusetts.

"What Sony has going for it is years of brand image and brand building," says iSuppli TV analyst Riddhi Patel. That brand loyalty may be well deserved and might be based on more than just hype. Like most HDTV makers, Sony doesn't manufacture its own LCD panels but rather buys them from suppliers, says Richard Doherty, research director for The Envisioneering Group. But there's more to it. "One reason Sony's able to keep their high prices and profits is that they have different electronics,"

Doherty says. In other words, Sony's experience with HD technology means that it can produce a better picture.

What Breaks Down

HDTV reliability has improved markedly, analysts say. Doherty notes that most HDTV problems occur in pre-2006 sets, although owners of new rear-projection models will still have to replace expensive bulbs over time. (In our survey we asked readers to rate sets that were less than three years old.) Just a few years ago, "plasma's fan noise was an issue, as was plasma's burn-in," says IDC analyst Eric Haruki. "Neither is an issue anymore." (Burn-in refers to ghost images that stay on the screen.)

In addition, LCD TV backlights "disintegrate at a different rate over a period of time," says iSuppli's Patel. "So you might start to see some sort of shading if one backlight isn't performing as well as the others surrounding it."

You Get What You Pay For

Some shoppers don't mind spending more for a high-end set. Bob Mariotti of Marlborough, Connecticut, bought a 40-inch Samsung LCD set a year ago. He had anticipated paying $1000 to $1400, but wound up spending $2200 after seeing a Samsung at Best Buy. The picture quality "absolutely blew us away," says Mariotti, a bank executive. "Buy the best you can afford, and most times it'll pay for itself in satisfaction."

Vizio, unlike other vendors that fared well in our survey, doesn't sell high-end HDTVs; it focuses on affordable, if unremarkable, sets. Vizio offers "a compelling value," says Haruki. But he notes that Vizio's low-price advantage is eroding as top vendors such as Samsung and Sony reduce their prices to compete.

Vizio's partnership with Costco has helped. If Costco customers have prob-

Sony TVs Lead the Pack in Reliability

COMPANY	Problem on arrival	Any significant problem	Severe problem	Ease of use	Overall satisfaction with reliability
Sony	▲	▲	▲	◆	▲
LG	▲	◆	▲	◆	◆
Panasonic	◆	▲	◆	◆	▲
Samsung	◆	◆	◆	▲	▲
Sharp	◆	▲	▲	◆	◆
Vizio	◆	◆	▲	▲	◆
Magnavox	◆	◆	▲	◆	◆
Philips	◆	◆	◆	◆	◆
Pioneer	◆	◆	◆	◆	◆
RCA	◆	◆	◆	◆	◆
Olevia	◆	◆	◆	▼	◆
Westinghouse	◆	◆	◆	◆	▼
Toshiba	◆	◆	▼	▼	◆
Hitachi	◆	▼	◆	▼	▼
JVC	◆	▼	▼	▼	◆
Mitsubishi	◆	▼	▼	▼	▼

◆ AVERAGE ▲ BETTER ▼ Worse

lems with their Vizio TVs during the first three months of ownership, they can return them, no questions asked.

I Won't Be Back

Of course, poor reliability and service drive away customers. When Jim Giblin of Wayne, New Jersey, paid $5000 for a 73-inch Mitsubishi Diamond Series set three years ago, he expected a top-of-the-line, rear-projection HDTV that would last for years. "I had owned Mitsubishi big-screen TVs in the past, and I would've sworn by Mitsubishi," he says.

Within 18 months six bulbs burned out; lucky for Giblin, all but one of the $239 bulbs were under warranty. The DLP light engine (a pricey component that produces the color images) failed too. Customer support said he'd have to wait months for a new engine.

After seeing the name of a Mitsubishi product manager in a magazine, Giblin e-mailed the man and described his plight. "I pleaded on a human level," says Giblin, a self-employed small-business coach. "I said, 'What if you spent $5000 on this thing and it was sitting in your house for six months, useless?'" To Mitsubishi's credit, the product manager responded within 5 minutes. The next day Mitsubishi authorized shipment of a brand-new 73-inch HDTV, which arrived two weeks later.

Still, the experience has shaken Giblin's faith in the company: "I haven't run them off my list, but I would no longer just blindly go get a Mitsubishi."

Charles Chaney of Westlake, Ohio, purchased a 57-inch Mitsubishi DLP set two years ago and had to replace the light engine after the warranty expired. He tried ordering the $256 part on the Web site, but never saw a confirmation.

When he finally reached a rep on the phone, she said the part was out of stock, but changed her mind after asking a supervisor. Chaney received the part, but the experience "was a pain in the ass," he says. "I'm still reluctant to go with Mitsubishi the next time."

Not all Mitsubishi buyers have tales of woe. Steve Smith of Houston got a

Mitsubishi rear-projection set in 2004, and it has been flawless. He may buy the brand again, but he plans to shop around since prices are lower. Mitsubishi declined to comment for this article.

Readers griped about Hitachi too. After Bernie Wheaton of Tom's River, New Jersey, bought a 42-inch Hitachi plasma set two years ago, his wife heard a distorted, scratchy sound coming out of the speakers. Hitachi subcontracted the case to a local repair shop. For the company to make a diagnosis, the TV set would have to be sent to a service center—but Hitachi refused to provide a replacement. "That was a disappointment," says Wheaton, who intends to buy a Panasonic plasma next time.

Lower Prices Mean Challenges

What's ahead for HDTV? Even lower prices and more cutthroat competition, as vendors push for market share and

consumers shop for their second or third set. "Now the 52-inch goes to the living room, and the 37-inch or 42-inch retires to the bedroom or den," The Envisioneering Group's Doherty says.
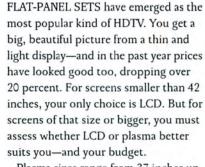
But will quality suffer? Possibly for a while, IDC's Haruki predicts, as vendors beef up manufacturing and support to handle increased sales and users. "Vendors will need to increase service, or they'll have a lot of dissatisfied customers," he says. Manufacturing will move to countries with cheaper labor, too. Vendors "may have issues...but only because it's a transitional period," Haruki adds. "As time goes on, they'll figure it out and become more reliable." ●

How to Buy an HDTV

Before you drop thousands of dollars on a flat-panel HDTV, read our comprehensive guide to everything you need to know about them. Our advice just might help you save some money.

BY MICHAEL RIGGS

FLAT-PANEL SETS have emerged as the most popular kind of HDTV. You get a big, beautiful picture from a thin and light display—and in the past year prices have looked good too, dropping over 20 percent. For screens smaller than 42 inches, your only choice is LCD. But for screens of that size or bigger, you must assess whether LCD or plasma better suits you—and your budget.

Plasma sizes range from 37 inches up to about 65 inches. Prices start at $800 and can reach $5000 to $7000 for 60- to 65-inch models. Essentially all current plasmas offer HDTV resolution. Many budget sets have lower contrast and poorer reproduction of black and grays, and they may do worse at upconverting standard-definition shows and DVDs to their native resolution. We recommend skipping the less-expensive 720p sets and buying one that supports 1080p, the resolution of Blu-ray Disc video.

LCDs range from desktop-friendly 15-inchers to 65-inch wide-screen wonders. In sizes 50 inches and up, LCDs are price-competitive with plasmas. They continue to play catch-up in picture quality, however, as they often have lower contrast ratios and slower response times than plasma sets do.

A bonus of LCDs is that you can set them up almost anywhere; they do well in bright-light areas that would be tough for most plasmas. If you want your TV to serve as a huge monitor, you'll appreciate that LCDs are about a quarter to a third lighter than same-size plasmas, and are easier to tote between rooms.

52 inches

ILLUSTRATION BY STUART BRIERS

HDMI (High-Definition Multimedia Interface)

HDMI is the dominant digital connection interface for HDTVs today. The big draw here is that you get a one-wire set-up that pumps HD content into your other home-theater components too. This connection comes on almost all current HD satellite receivers, HD cable boxes, and upconverting DVD players (those that provide 720p, 1080i, or 1080p output from regular DVDs), and it is the standard video connector for Blu-ray Disc players. The exact version of the HDMI input (for example, 1.1 or 1.3) is of little consequence on TV sets currently on the market. Aim for an HDTV with at least three or four HDMI inputs, to accommodate the multiple devices you're bound to accumulate. The model shown above, for example, has four HDMI inputs in all: one inset on the side of the TV (1), and three on the back (2).

USB Port

Some HDTVs have USB ports (3). Usually these are intended for connecting to flash drives containing pictures, music files, or possibly updates to the TV's internal operating software (firmware). The exact functions of the USB ports can vary from manufacturer to manufacturer, so do some research before you commit to a model.

Ethernet Port

Some HDTVs provide ethernet ports (4), which may give you access to the Internet or to content (such as pictures) streamed over your home network. Features available via ethernet differ somewhat from one television maker to the next, so confirm exactly what you're getting before you buy.

Primary-Color Controls

Most, but not all, HDTVs have primary-color controls (5). Such controls allow you to manually adjust the red, green, and blue colors that make up an image, to achieve the best-looking picture for your content. You may need to readjust the color settings for different video sources; most HDTVs have input memories.

Remote Control

A good remote control (6) can be your best friend; a bad remote control, your worst enemy. Does it have backlighting or glow-in-the-dark buttons to help you see what you're doing when the lights are turned down? And how easily can you find commonly used buttons by feel? ●

Flat-Screen Buying Tips

HERE ARE KEY points to consider before you take the high-def plunge.

• **Consider the alternatives:** If you can live with a tabletop set that's 10 to 18 inches—rather than 4 to 7 inches—deep, DLP (digital light-processing) rear-projection sets can deliver solid performance in similar screen sizes at lower prices. You just don't hear about them as much because they're not as sexy.

To learn about other big-screen TV options, check out "How to Buy a Rear-Projection TV" (find.pcworld.com/61974).

• **Think HDMI:** Get a set with three or four HDMI (High-Definition Multimedia Interface) inputs. Doing so will ensure that you'll be able to connect to multiple HD sources such as digital cable boxes, satellite receivers, and Blu-ray Disc players. Try to choose a set with at least some front- or side-accessible ports; this can make life much easier when it comes time to connect a device.

• **Compare displays using various input sources:** Most flat-panel displays will handle HDTV and DVD signals well, but mediocre cable and satellite signals will give some of them fits. Don't make a buying decision based solely on images generated from pristine sources, or based on what you see in the store.

• **Look for good black tones:** When you're comparison shopping, bring a DVD of a movie containing some dimly lit night scenes. Use it to check for good black reproduction and the ability to render detail in near-darkness.

• **Check the video settings:** Grab the TV's remote control, pull up the video-adjustment menu, and look at the settings. If you thought the picture looked a little (or a lot) off on first viewing, try selecting the median settings for contrast, brightness, color, tint, and sharpness. A good TV can easily look worse than a lesser one if it's poorly adjusted.

Find the latest prices on plasma and LCD TVs in PC World's Shop and Compare center (find.pcworld.com/61975).

Here's How

Eight Fixes for Vista's Worst Features

Windows Vista has loads of features, but not all work as they should. Here's how to tweak, modify, or work around the operating system's biggest blunders.

BY LINCOLN SPECTOR

ASK ANYONE who has seen *Spider-Man 3*: Good ideas seldom survive bad execution.

The developers of Windows Vista had some great design ideas, but poor implementation turned many fine concepts into lousy, annoying features. To be fair, Vista inherited most of these well-intentioned flaws from earlier Windows versions—but it either failed to correct them or didn't even try.

Here are eight of Vista's most irritating flops, with quick fixes and workarounds.

User Account Control

People do some things in Windows—such as install destructive apps or edit the Registry—that merit a stern "Are you sure you know what you're doing?" warning. Such situations may even warrant asking users to prove they're administrators before letting them continue.

But Vista's User Account Control (UAC) often fails to tell users why a given act is considered dangerous. Worse, Vista's designers went overboard, forcing people to click through a UAC prompt to set the clock or start a manual backup. As a result, people get annoyed and start ignoring UAC, effectively removing any protection it might provide.

Here are three imperfect ways to stop UAC annoyances. One minor problem they share is that every so often, when you boot, Vista will announce that UAC is off. You can ignore the warnings, much as you've already learned to ignore UAC itself.

1. Just turn it off: This easy fix works well in an administrator account, but it renders standard accounts almost unusable. Select *Start•Control Panel•User Accounts*, and click *Turn User Account Control on or off*. Select *Continue*

VISTA PERMITS YOU to block outbound traffic, as an option in the Windows Firewall Properties menu.

at the UAC prompt, and on the next screen, uncheck *Use User Account Control (UAC) to help protect your computer*. Click *OK* and reboot.

2. Use TweakUAC: This free utility (find.pcworld.com/61960) can turn UAC off for administrator accounts while leaving it on for everyone else. Simply run the program, select *Switch UAC to the quiet mode*, and click *OK*.

3. Fine-tune the UAC settings: This tactic works in Vista Business or Ultimate. Select *Start*, type **secpol.msc**, and

press **<Enter>**. In the left pane, navigate to the *Security Settings\Local Policy\Security Options* folder. In the right pane, scroll to the bottom for nine ways to control UAC's behavior.

The One-Way Firewall
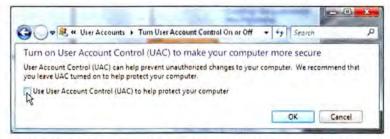
Windows' built-in firewall has always suffered from the same flaw: Though it blocks suspicious stuff that comes in, it does nothing about what your system sends out. Since an infected PC can mass-mail spam and forward your credit card numbers to someone without your better interest in mind, that's an important shortcoming.

Vista supposedly fixed this problem with the addition of a firewall that is capable of watching and blocking outbound traffic. But that capability is turned off by default. And Vista's designers neglected to put the controls that turn it on in a place where users are likely to look for them: the Windows Firewall Settings dialog box.

Here are two possible ways to deal with to the situation.

YOU CAN TURN UAC off completely in the User Accounts control panel of Vista.

1. Turn on outgoing protection: Click *Start*, type firewall, and select *Windows Firewall with Advanced Security*. Click *Windows Firewall Properties*. In the dialog box, the first three tabs have an *Outbound Connections* drop-down menu. In all three, select *Block*.

2. Get another, better firewall: Even with its two-way protection enabled, Windows' firewall is a feeble guardian. On the other hand, the free Comodo Firewall Pro (find. pcworld.com/61961) came out tops in independent testing, ahead of products such as Norton Internet Security.

System Restore

Here's an idea: Give Windows a built-in, automated backup application. Restoring a system backup should fix corrupted boot files, virus infections, Trojan horse installations, and Windows' natural, slow deterioration—without harming your data.

But you can't permanently save a System Restore backup (called a restore point) to external media. Thus, while System Restore can usually return Windows to, say, last Wednesday's state, it's generally useless for bringing everything back to the perfect condition your PC was in last year. What's more, restoring your system depends on having multiple restore points, such that one corrupt backup makes subsequent ones useless.

The best solution would be a system-backup program that leaves your data alone but backs up everything else to a removable (preferably bootable) disk. I have yet to encounter such a program.

FOR BACKING UP your data, the simple interface and reliable performance of Argentum Backup make this utility a bargain at $25.

Genie Backup Manager Home (find.pcworld.com/61958) comes closer than anything else I've found. The utility offers many effective data-backup options to make recovering your system easy.

Genie's Disaster Recovery option insists on backing up everything on the drive, but you can restore the system while keeping the data unchanged by deselecting your data folders when you restore a Disaster Recovery backup. You can try this $50 general-purpose backup program before you buy it.

In contrast, every other reliable system-backup program I know of is image-based, meaning that the app restores the entire drive—

your data as well as the system. That's fine if you're recovering from a hard-drive crash, but if you want to restore last month's Windows installation while keeping today's documents, you'll need to fully restore one backup and then selectively restore another.

On the other hand, some image-backup programs are free. If you have Vista Business or Ultimate, you already have one. To access it, select *Start•All Programs•Accessories•Backup Status and Configuration•Complete PC Backup*. Another free option is Drive-Image XML, which works best if you obtain it as part of the free Ultimate Boot CD for Windows (find.pcworld.

WHEN YOU USE Windows' uninstall tool to remove a program from your PC, the uninstaller leaves lots of useless odds and ends behind.

com/61954). Just keep in mind that you'll need to back up your data files separately.

Data Backup

You should back up your data every day. Lack of a system backup could cost you a couple of hours reinstalling Windows and your apps. But having no current data backup could mean losing irreplaceable family photos, your bank account information, or even your job.

For years Microsoft bundled lousy backup programs with Windows. Vista's backup utility improves on that, but not by much; you can back up files by type, for instance, but not by location.
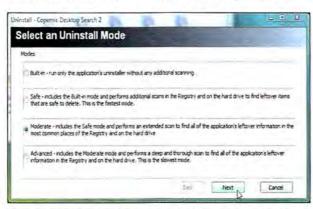
Here are some options.

1. Use bundled software: Since an external hard drive is the best medium to back your files up to, and since most such drives come with backup software, use the program that accompanied your drive. It's almost certainly better than Vista's.

2. Do it online: Uploading your data over the Internet is slow, but it's easy and it adds protection by putting hundreds of miles between your hard drive and your backup. I recommend Mozy Home (find.pcworld.com/61957). It's free for a 2GB backup, or $5 a month for unlimited storage from a single PC.

3. Use the best software: For my money, that's the same Genie Backup Manager I recommended in the last tip. Versatile and simple to use, it easily handles scheduled and manual backups, and can even purge your backup media of old backups on a regular schedule. But the ≫

Here's How

Home version costs $50, and the Professional one is $70.

4. Find a bargain: Argentum Backup ($25, find.pcworld.com/61959) doesn't perform a full system backup, but it handles data backups well. It copies files or compresses them into .zip archives, so you don't need Argentum Backup to restore them.

Programs and Features Uninstaller

Installing a Windows program usually means allowing its installation routine to dig its claws deep into the OS. Removing the program involves running an uninstaller that eliminates the application's functionality but leaves the claws behind.

Vista took the old Control Panel applet called 'Add and Remove Programs' and renamed it 'Programs and Features', but the developers didn't otherwise change it. This program just launches the unwanted app's usually inadequate uninstaller.

For a better option, download the free Revo Uninstaller (find.pcworld.com/61955). Or download the portable version (find.pcworld.com/61956), which you don't have to install (or uninstall). Like Vista's Programs and Features, Revo has a convenient interface for launching your installed programs' uninstallers. But after Revo does that job, it cleans up the mess the uninstaller left behind.

Windows Explorer's Address Bar Menu

Microsoft did a number of things right in Vista's version of Windows Explorer, but the address bar's drop-down menu of recently visited folders isn't one of them.

First problem: It lists only the folders you went to via the address bar. Worst problem: It also lists Web pages, which tend to be more numerous than folders. Personally, if I want to revisit a Web page, I'll use my browser, not my file manager.

Luckily, you have a few alternatives.

1. Use the other recent-folders list: Click the down arrow to the left of the address bar for a list of recent folders. Close and reopen Explorer, and the list will be a blank slate.

2. Use favorite folders, instead: To place a shortcut to any folder in Explorer's top-left pane in Vista, all you have to do is drag and drop.

3. Improve Windows Explorer: I recommend installing File-Box eXtender (find.pcworld.com/61952), a free add-on by Hyperionics Technology that brings drop-down Recent and Favorites menus to Windows Explorer. A helpful hint: FileBox eXtender works best if you check its *Keys & Menus* tab's *Add folders from Windows...* option.

Dragging Items to the Start Menu

Here's a case where Vista's developers took a feature that worked beautifully in Windows XP, and ruined it. In XP, if you wanted Start-menu access to a program, file, or folder, all you needed to do was drag the item to

VISTA START MENU isn't as visually appealing as the default Start menu, but it sure works better.

the Start button and then to your desired location in the Start menu; Windows would then create a shortcut.

If you were to try that in Vista, it would actually move the file, program, or folder to the Start-menu folder. I'd be hard-pressed to imagine a situation where that would be a desirable result.

No real solutions are available, but here are a couple of kludgy workarounds.

1. Drop it on the Start button, not in the menu: This action creates a shortcut, but it appears on the left pane, rather than in the All Programs section. And if the item is a folder, the shortcut doesn't act as a cascading submenu.

2. Use the context menu: Instead of left-dragging the object to the desired location in the Start menu, right-drag it. When you release the but-

ton, select *Create Shortcuts Here* from the resulting menu.

Folders in the Start Menu's Right Pane

Vista's redesigned Start menu introduced another great place where you can easily access a few important folders: the menu's right pane. The icons are big and convenient, and you can set each icon to act as a link or a menu.

But the only folders you can put there are the few that Microsoft permits you to put there (Documents, Music, and so on).

Here are two fixes.

1. Make your special folder an official special folder: You can get the folder you want access to on the pane by telling Windows that it is your photo or music folder. For details, see "Can I add XP-like expanding folder shortcuts to Vista's Start menu?" (find.pcworld.com/61950).

2. Use Vista Start Menu: Dennis Nazarenko's free program (there's also a Pro version that costs $20) replaces Windows' own Start menu with a larger, more versatile, and—to be honest—ugly alternative. You can control what folders and other items appear on the main menu. Other cool features include keyboard shortcut labels that, by default, are visible only when you bring up the menu with the keyboard. Download Vista Start Menu at find.pcworld.com/61953.

Share Photos Easily With Anyone, Anywhere

EVEN IN THE 21st century, friends and relatives promise to share their photos after a special event—but rarely follow through. Why? Because despite recent advances in photo sharing technology, it's a pain in the backside.

The time-honored method of sending out pictures is via e-mail attachments. But this approach limits the number of snapshots you can send and creates organizational hassles for the recipients. The Internet's leading photo-hosting services—Flickr and PicasaWeb—offer ways take your snapshots to the Web, but popularity isn't always the same as superiority.

If you're tired of watching your best pictures languish in an online gulag, it's time for you to move beyond the basics of photo sharing.

Photo Networking
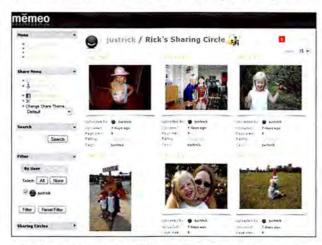
Like many online photo-hosting services, Phanfare (phanfare.com) allows you to upload your pictures to a Web album and then share that album with others. But Phanfare adds a social networking element that makes it more like a cross between Facebook and PicasaWeb, complete with shared group albums, to which other users can add their own photos. Thus, everyone who went on the trip can contribute his or her snapshots to the same album, with captions and comments.

Phanfare really shines with its laundry list of sharing-centric features. Friends and family members can view slide shows, of course. And

they can easily download individual photos or entire albums at high or reduced resolution. In addition, they

MEMEO SHARE'S ONLINE service automatically swaps snapshots between your PC and the PCs of your friends and family.

can order prints and photo gifts from third-party services such as Kodak Gallery, Shutterfly, and Snapfish.

In short, Phanfare is a well-rounded, easy-to-use service. Newcomers can obtain a free account with 1GB of storage. Upgrading to unlimited storage will run you—and each other sharer—$55 per year. Though Flickr is a better deal at $25 annually for unlimited storage, it doesn't include batch downloading and has fewer printing and gift options. The extra $30 buys you an interface that is much easier to use, as well as family-friendly sharing features that simplify distributing your pics to any member of your group who wants

them—while keeping strangers from slithering onto your photo-sharing network and ogling your snapshots.

Automatic Sharing

Flickr, Phanfare, and Picasa-Web all require users to upload their photos to them. That seemingly minor impediment discourages busy people from putting their pic-

PHANFARE'S IPHONE APP automatically uploads photos to your Phanfare account.

tures online. Memeo Share (memeo.com) takes a slightly different tack, supplementing Web albums with automated sharing between PCs.

After installing Memeo's software on your PC or Mac, you designate one or more folders as "shares." The application then automatically uploads all photos that you store in (or add to) those folders to your online account, optionally resizing them for faster uploading. It also syncs with PCs of friends and family members (your Sharing Circle, in Memeo parlance) that are also running the Memeo software.

If you're on the receiving end of new photos, you must still import them manually into your preferred photo-management program. For the moment, Memeo offers no way of ordering prints or gifts either (though that option is in the works, according to company reps). So, despite offering an expedient method for swapping photos with your personal network, the Memeo Share service isn't ideal.

Like both Phanfare and Flickr, Memeo Share offers a 1GB account free of charge. An unlimited amount of storage costs $5 per month. The biggest downside may be that the service requires everyone in your circle to download and install yet another program. Phanfare, for its part, employs an excellent Explorer-like tool that is conveniently browser-based.

—*Rick Broida*

Set Up Safe, Simple E-Mail for Your Children

WHEN IT COMES to children and the Internet, most parents focus on safe Web browsing. That's understandable, since the Web can sometimes seem like one big Red Light District. But the Web isn't the only source of objectionable online material. E-mail can be just as bad.

That's why I'm partial to ZooBuh.com, a Web-based mail service designed with young users in mind. It is easy to set up, it offers more and better controls than AOL or Microsoft do, and it requires no extra software.

ZooBuh gives you total control over your children's e-mail universe. By default they can receive mail only from users in the approved-contact list and can send mail only to those same ap-

ZOOBUH MAKES SETTING up e-mail accounts appropriate for kids a snap—and it gives parents plenty of information along the way.

proved users—but you can change either setting as you see fit. You can have copies of incoming or outgoing messages sent to your e-mail address, remove images or links from your child's received mail, and block some

or all attachments. ZooBuh also has a bad-words filter, with a box for adding your own unwanted words.

Other kid-centric e-mail services, such as AOL (kids. aol.com) and Microsoft Windows Live Family Safety (fss.

live.com), offer controls more or less on a par with those, but what really sets ZooBuh apart is its interface: It's colorful, simplistic, and blissfully free of advertising. It even has an easy version for younger users that's even more colorful and simplistic. In short, this is what e-mail for kids should look like.

As you might have guessed, ZooBuh isn't free, but it's admirably inexpensive. Following a 30-day trial (which doesn't require a credit card), the service charges just $1 per month for each account. That's a small price to pay for safe, child-friendly e-mail that takes only about 5 minutes to set up. If your kids have any manners, they will thank you for it.

—Rick Broida

Insert Special Text Characters or Symbols Into Any Document

FROM THE PCW FORUMS

WANT TO add a special text character to your document, but can't find it on your keyboard? PC World community member Adama explains how to use Vista's Character Map tool to find oddball symbols and drop them into your document in a jiffy.

Join our discussion at forums. pcworld.com. If we use your tip in the magazine, we'll send you a free PC World T-shirt.

THE WINDOWS Character Map tool in Vista lets you quickly select and insert a host of special symbols.

on your PC. To launch the Character Map utility, click *Start*, type **char** in the Search field, and click Character Map to start the program.

You can scroll down to find a multitude of different characters—some are for foreign languages. In the Font pull-down menu, specify the font you want to use.

Adama Says:

When you're working on a document, you may need to insert a special character (a copyright mark ©, for example, or the euro symbol €). Windows Vista's Character Map program enables you to insert such characters and symbols into your document.

Character Map displays all characters available for each font

Double-click the character or characters you want to insert. Click *Copy* to place the character(s) on your Clipboard.

Switch to your document, and click where you want the character(s) to go. In the Edit menu, select *Paste* or press **<Ctrl>-V** to paste the character(s) from the Clipboard into your document.

Calibrate Your Speakers' Audio

ONCE YOU'VE managed to create painstakingly perfect rips of all your audio CDs, you'll want to calibrate your speakers to ensure that listeners will hear every note as it was intended to be heard.

You'll need a hardware sound meter to accomplish this task. RadioShack sells a digital one (model number 33-2055) for $50. This meter comes with a convenient thread mount on the bottom, so that you can attach it to a camera tripod (taking measurements while you hold the device will result in inaccurate readings).

You might also consider picking up some calibration software. Though even most midrange A/V receivers are capable of generating calibration test tones, you'll get more-accurate results with a utility like Joe Kane Productions' DVE HDBasics ($30) or Ovation Multimedia's Avia II ($50). Both programs can help you calibrate your HDTV as well as your audio system.

Set the sound meter to the slow response setting and the meter's weighting to the value that the calibration software you're using recommends (it's typically 'C',

USE AN INEXPENSIVE sound meter like this RadioShack unit to balance the audio level of the speakers in your living room.

and that is what you should use if you're calibrating to your A/V receiver's built-in tone generator). Mount the meter onto a tripod, and place it where you usually listen to music. The meter should be at ear level, aimed at the center point of your two front speakers and tilted slightly toward the ceiling. Don't move the meter once you've placed it and started the calibration process.

Your A/V receiver should permit you to make level adjustments for each individual speaker, ranging from -10dB to +10dB, with 0dB being the default. Before you proceed, make sure that each speaker is set to the default value. Your calibration disc (or your A/V receiver, if you choose to go that route) will play a test tone on one speaker at a time. While the first tone is playing, increase your A/V receiver's master volume until the sound meter reads 75dB (or whatever level the software specifies). Once you've completed this step, do not change the master volume until you've finished calibrating the remaining speakers.

As the calibration disc's test tones cycle to each of the other speakers in your setup, use the A/V receiver's individual speaker adjustments (not the master volume) to cut or boost that speaker's output until the sound meter reads 75dB in each case. When you're finished, every speaker should deliver the same volume to your listening position.

—Michael Brown

To password-protect certain folders on my PC, should I use the NTFS-based encryption that comes with Windows?

—Bon3krush3r, Answer Line forum

WINDOWS 2000, XP Office, Vista Office, and Vista Ultimate all come with the Encrypting File System (EFS). This file and folder encryption tool integrates seamlessly into the operating system. Nevertheless, I don't recommend it.

EFS makes sense in an office environment, where an IS department manages the PCs. Once set up, it's fully transparent: If users are logged on with their name and password, they can access their encrypted files; otherwise, they can't.

But the EFS route can leave your sensitive data vulnerable if you walk away from your PC for a moment. And EFS's easy, transparent design complicates tasks like backing up data securely and recovering files after reinstalling Windows.

That's why I prefer TrueCrypt (truecrypt.org), a free, open-source program for creating and using multiple encrypted volumes. A TrueCrypt volume looks like a file filled with unreadable gobbledygook. But when you open it in TrueCrypt and enter the password, it becomes a virtual drive on your PC, containing previously inaccessible files.

TrueCrypt has various ways to hide your volumes from view. It can encrypt an entire hard drive or flash drive—even the system drive. And it offers many encryption algorithms.

With TrueCrypt and similar programs, your encrypted data remains private and inaccessible until you need it.

—Lincoln Spector

Encryption Options

Encryption Algorithm

AES ▼   Test

AES
Serpent
Twofish
AES-Twofish
AES-Twofish-Serpent
Serpent-AES
Serpent-Twofish-AES
Twofish-Serpent

n 1998) that may be agencies to protect evel. 256-bit key, of operation is XTS.

Benchmark

Hash Algorithm

RIPEMD-160 ▼   Information on hash algorithms

TRUECRYPT PERMITS YOU to choose from an array of several powerful encryption algorithms to keep your sensitive data private.

Here's How

Use Gmail's Free Online Tools to Solve Your E-Mail Headaches

I HAVE FIVE Gmail accounts (sounds greedy, I know), so I've had lots of chances to encounter and overcome some of the Web mail service's hassles. Here are two essential Gmail tips I've picked up.

Use Gmail Manager for Multiple Gmail Accounts

Checking multiple Gmail accounts is a pain, what with the signing in and signing out. That's why I rely on one of my all-time favorite Firefox extensions: Gmail Manager (find.pcworld.com/61935).

True to its name, the add-on lets you manage your various Gmail accounts from within your browser. After installing it and configuring your accounts in the Preferences, you'll see a Gmail Manager status bar in the bottom-right corner of the browser window. Mouse over it for a pop-up listing your newest messages. Click it to open Gmail in a new tab. Or right-click it to select a different account.

Gmail Manager has loads of options you can tweak, such as new-mail notifications, a numeric unread-mail count, and a pop-up "snippet" box. It does everything you could want short of actually reading your mail for you. This is a killer extension and a must-have for anyone who uses more than one Gmail account.

Use Gmail to Fight Spam

Everybody has a favorite method for fighting spam, the bane of in-boxes planetwide. Tools like MailWasher and SpamAssassin get the job done for some, but I'm partial to another option: Gmail.

Google's universally adored mail service does a great job filtering out junk—but not just for Gmail accounts. See, I have a person-

Manage multiple Gmail accounts with a Firefox extension, and use Gmail as a spam filter.

THE GMAIL MANAGER Firefox extension lets you quickly switch between several Gmail accounts from within your browser.

al domain (let's call it hasslefreepc.com) that I use for my primary e-mail account, and it gets positively bombarded with spam. By using a couple of native Gmail features, however, I rid my inbox of 99.9 percent of it. Here's the process in a nutshell:

1. Create a new Gmail account. (I already had one, but I wanted a second that was exclusively dedicated to my domain's mail.)

2. Click Gmail's *Settings* link, and open the *Accounts* tab.

3. Select *Add another e-mail account*, and configure Gmail to fetch messages from your domain's servers (and not to leave copies there; otherwise your server will eventually get full and start rejecting messages). At this point, Gmail will automatically scan for spam when it retrieves mail from other servers.

4. You may not want the browser-based Gmail as your primary e-mail destination—preferring to use Outlook on your desktop, say, and your cell phone for on-the-go messaging. If so, open Gmail's *Forwarding and POP/IMAP* tab and enable *IMAP*, to permit two-way communication between Gmail and other mail clients.

5. Follow Gmail's configuration instructions to set up IMAP with Outlook and any other e-mail clients you want to use.

Now, when I receive e-mail via Outlook or my phone, there's no evidence of Gmail's involvement except for the total lack of spam, which gets neatly filtered out along the way (and stored in Gmail's Spam folder, where I can easily review it for false positives).

In other words, Gmail acts as the spam-filtering intermediary between my domain and my PC or phone. And as a bonus, it lets me access my mail on the Web, which is very handy at times. ●

TOOL OF THE MONTH

Toggle Between Firefox Tabs

I HATE HAVING to take my hands off the keyboard and go to the mouse to switch between tabs in my browser.

Enter FLST, aka Focus Last Selected Tab (find.pcworld.com/61934), a Firefox extension that lets you hop between any two tabs via a keyboard shortcut (<Ctrl>-<Period>). You can't customize the shortcut, but it's easy to hit as you type.

According to Mozilla's add-ons site, FLST wasn't updated to support Firefox 3, but I have found that the version available from the developer's site (at the URL above) works fine.

The browser has a built-in alternative that's nearly as good: Press <Ctrl>-<Tab> to switch to the next tab, <Ctrl>-<Shift>-<Tab> for the previous tab. But that assumes the two tabs you're using are side by side. Sure, you can drag them next to each other, but that's an extra step. And you have to remember whether you need to go forward or back. With FLST, the same key toggles you between your two most recent tabs. For bloggers like me, that's crazy-handy.

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Today's Top Features, **Tomorrow's** Dream Smart Phone

INTERFACE Our FrankenPhone would add vibration feedback to the iPhone's multitouch screen, or maybe even the BlackBerry Storm's ability to depress slightly when clicked (what RIM calls ClickThrough). We love accelerometers, BlackBerry-like trackballs (1), and the T-Mobile G1's slide-out keyboard (2), too, but we would stick with the nonslip keys (3) of the BlackBerry Bold (see page 55).

OPERATING SYSTEM Imagine the elegance of Apple's iPhone OS and iTunes App Store (4) mixed with the openness of Google's Android and third-party Market. The result: killer apps like BioWallet (5), which uses the T-Mobile G1's camera as a retina-scanning replacement for passwords (find.pcworld.com/61872). Add support for true multitasking and Flash, and we'd be happy campers indeed. See find.pcworld.com/61887 for our smart-phone OS shoot-out.

STORAGE The 16GB storage of the high-end iPhone 3G is sweet, but the support for the 16GB+ MicroSDHC card (6) in recent Black-Berry devices and in the T-Mobile G1 is sweeter. Nokia's pricey (about $800 off contract) N96 smart phone has both.

CAMERA The N96 also has a 5-megapixel main camera (with Carl Zeiss optics, dual-LED flash, autofocus, and 20X digital zoom) plus a front-facing 0.3-megapixel (640 by 480) camera (7) for video calls over 3G. We like. We'd stir this in along with a dash of the 8-megapixel, image-stabilizing Samsung i8510, aka the "Innov8" (find.pcworld.com/61870).

GPS NAVIGATION For getting around, we favor AT&T Navigator (powered by Tele-Nav); see find.pcworld.com/61874. It has traffic, pedestrian mode, voice prompts, and turn-by-turn directions. For the iPhone, TeleNav is readying a similar application that adds even more 3D pizzazz than its version for Sprint's Samsung Instinct offers. (Of course, we'd spice things up with photo-realistic imagery and tight, Android-style integration with Google Maps.) ●

WHAT WOULD you want? Go to find.pcworld.com/61873 and brainstorm with us.

PARTS LIST

Apple iPhone 3G | AT&T
A lower price, 3G support, and GPS are nice, but there's little reason to dump the old iPhone.
find.pcworld.com/61862

T-Mobile G1 | T-Mobile
The first Android phone has great ergonomics and call quality, but lacks some basics.
find.pcworld.com/61868

BlackBerry Storm | Verizon
An almost-all-touch-interface 3G unit with a twist: The screen is one big button. Lacks Wi-Fi.
find.pcworld.com/61869

Nokia N96 | Unlocked
Symbian OS handset boasts two-way sliders, camera features, and a 2.8-inch display.
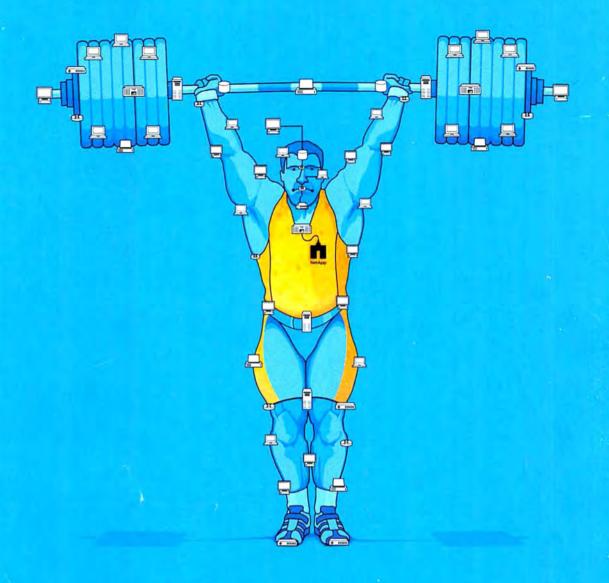find.pcworld.com/61871

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