Which Smartphones & Networks Can You Trust? p. 78

PCWorld

GREATEST WINDOWS TIPS OF ALL TIME

For XP, Vista, and Win 7

CLIP-AND-SAVE PULLOUT, PAGE 75

Plus:

» 25 tips to simplify, speed up, and secure Windows p. 66

» Avoid Windows upgrade disasters p. 101

$6.99 USA • Printed in USA

0 2>

0 74470 37771 9

DISPLAY UNTIL FEBRUARY 16, 2010

A Terabyte to Go?

Super storage: We lab-test 22 pocket-size hard drives p. 89

Blu-ray on a Budget

Priced to move: Latest do-it-all players for less than $300 p. 46

1&1 My Business Site:
READY-TO-GO

"Capturing real-life images is my passion. 1&1 MyBusiness Site gave me the ability to turn my passion into my business. In just a few minutes, my professional photography website was up and running, available for the world to find. Why hire an expensive web designer?"

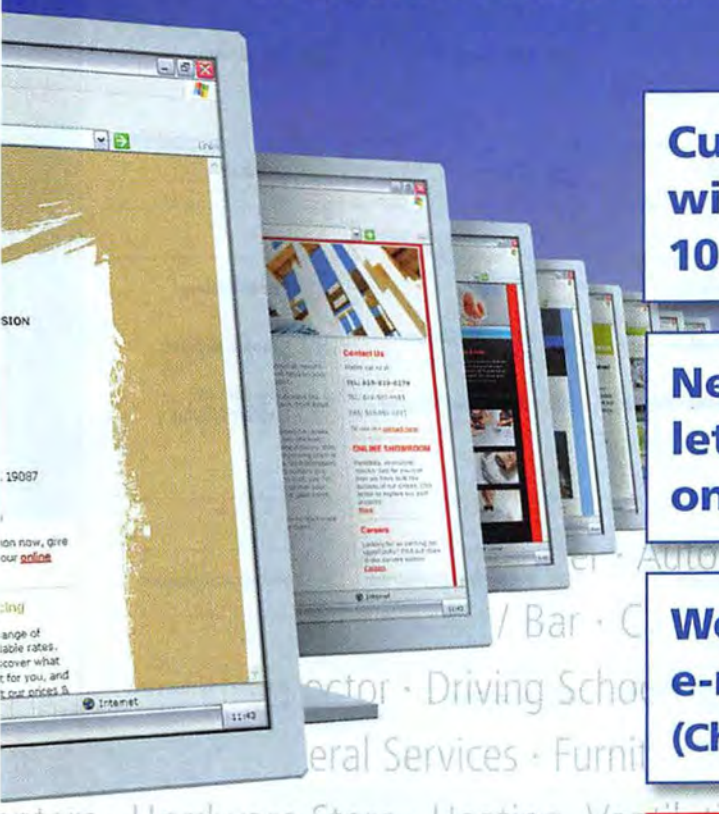
See example sites online at www.1and1.com

MEMBER OF united internet

1-877-GO-1AND1

WEBSITE
solutions for your small business.

As the world's largest web hosting provider, 1&1 knows that not everyone who needs a website is a professional web designer. 1&1 MyBusiness Site is a ready-to-go website solution that delivers an attractive business site in minutes.



Customizable website templates with pre-filled content for over 100 business categories!

New, easy-to-use editing tool lets you make changes directly on your website pages.

Website address and professional e-mail addresses included (Choose from .com, .net, .biz, or .info)

Just $9.99 per month after 30-day trial

Try it now FOR FREE!*

*Visit www.1and1.com for full promotional offer details. Program and pricing specifications and availability subject to change without notice. 1&1 and the 1&1 logo are trademarks of 1&1 Internet AG, all other trademarks are the property of their respective owners. © 2010 1&1 Internet, Inc. All rights reserved.

1&1®

www.1and1.com

1&1 Web Hosting:
ADVANCED WE

"As a web designer, I need a provider who guarantees great performance. 1&1 is the simple, reliable choice to provide me with everything I need to realize my ideas."

MEMBER OF united internet

1-877-GO-1AND1

B SOLUTIONS
for IT Professionals.

As the world's largest web hosting provider, 1&1 offers website plans for every skill level and budget. As a 1&1 customer, you are not only assured that your website is running and secure, but you'll also get the tools you need to maintain an innovative web presence.

DOMAINS

Order now and save! Private domain registration is included for FREE!

.com
.net
.org

Special Offer:
$6.99 first year*

~~$8.99~~ per month

HOSTING

Everything you need for a professional site.

Special Offer:
6 Months FREE!*

1&1 Home Package
~~$6.99~~ per month

E-COMMERCE

The best solution for selling your products online. Advanced eBay® features included.

Special Offer:
6 Months FREE!*

1&1 Starter eShop
~~$9.99~~ per month

SERVERS

Designed specifically for high performance needs, our energy efficient processors feature increased performance-per-watt.

Special Offer:
3 Months FREE!*

1&1 Dual-Core XL
~~$199.99~~ per month

EPA GREEN POWER PARTNER

*Offers valid for a limited time only. 12 month minimum contract term, setup fee and other terms and conditions may apply. Visit www.1and1.com for full promotional offer details. Program and pricing specifications and availability subject to change without notice. 1&1 and the 1&1 logo are trademarks of 1&1 Internet AG, all other trademarks are the property of their respective owners. © 2010 1&1 Internet, Inc. All rights reserved.

1&1®

www.1and1.com

Invisibly Monitor and Control Everything They Do On a Computer

INTERGUARD watches your company for you.

Block email attachments containing confidential information

Monitor and block websurfing (facebook, myspace, etc.)

Enforce policies even on laptops that never connect to the network

Remotely delete or retrieve files from stolen laptops

Limit use of time-wasting software programs such as media players and games

Block confidential information from leaving via USB devices (flash memory drives, etc.)

Prevent credit card numbers, Social Security Numbers and other customer data from theft or inadvertent distribution

WEBWATCHER
Your home computer monitoring solution

DON'T BE A VICTIM!

AVIRA AntiVir®

Home User

AntiVir stops all types of viruses ,also unknown ones with one of the best heuristics on the market...
QuickRemoval eliminate viruses with one mouse click NEW!
NetbookSupport for laptops with low resolution NEW!
RescueSystem create a bootable rescue CD
WebGuard protection against malicious websites Optimized!

Business User

Turn your business into a fortress
Available OS, Windows, Linux, Unix
Protection with console for Server, Workstation, Fileserver, Proxy and more

Malwarebytes

Get advanced protection from:
- Rogue Programs
- Trojan, Worms, Rootkits & Drive-by-Downloads
- And many other forms of malware

cnet Editors' Choice Apr 2009
Awarded to Malwarebytes Anti-Malwarebytes 1.38

Available NOW for retail and resale at:
www.dsolution.ca/reseller

Act NOW and protect yourself TODAY!

DSOLUTION

Toll Free: 1-866-279-0239
Web: www.dsolution.ca
Email: sales@dsolution.ca

Providing High End Security Solutions

AVIRA More Than Security
Malwarebytes
Acronis COMPUTE WITH CONFIDENCE
NTR global
WatchGuard
INTERGUARD

66

PCWorld

FEBRUARY 2010
Volume 28 • Number 2 • pcworld.com

52

» FEATURES

66 Essential Windows Tricks
Follow our advice to make your Windows 7, Vista, or XP machine speedier, safer, and easier to use.

75 The Greatest Windows Tips of All Time
Get the most out of Windows with our clip-and-save list of 26 classic tricks, tweaks, and shortcuts.

78 The Smartphones You Can Rely On
Our support survey identified winners and losers among handset makers and network carriers.

89 A Terabyte in Your Pocket
Fast, mobile, inexpensive, and roomy, the latest portable hard drives are quite a (small) handful.

41

» DEPARTMENTS

9 Techlog

11 PCW Forum

108 The Back Page

» FORWARD

14 Windows 7 Satisfaction
Users report a largely positive experience with the new OS.

17 Beta Watch

18 GeekTech

» CONSUMER WATCH

23 Not Cheap: Carriers' Netbooks
Data fees will dwarf your savings on a carrier-subsidized netbook.

24 Skeptical Shopper

26 On Your Side

» BUSINESS CENTER

29 Outfit Your Office on Craigslist
How to find furniture bargains.

30 Net Work

32 Tech Audit

» SECURITY ALERT

41 Crashing the Mega-D Botnet
Aggressive security experts take on a 250,000-PC spamming network.

42 Bugs and Fixes

44 Privacy Watch

» REVIEWS AND RANKINGS

46 Blu-ray Disc Players
We chart the best affordable, streaming-friendly models.

50 Top 10 Color Laser MFPs

52 LG N4B1 NAS Device

54 Top 10 All-in-One PCs

56 TomTom XL 340S GPS

58 Cisco FlipShare TV

58 Top 5 HD Pocket Camcorders

65 Download This

58

» HERE'S HOW

98 Troubleshoot at a Distance
Solve Windows problems with Net-based remote-access tools.

103 Answer Line

104 Rick Broida's Hassle-Free PC

KVCHOSTING.com
THE BEST HOSTING SOLUTIONS

GREAT DEALS on WEB HOSTING PLANS

Endless Space and Unlimited Bandwidth at affordable prices

coupon 20% off with "PCWORLD"

We Offer: SHARE, RESELLER, VPS and DEDICATED hosting.

www.kvchosting.com/pcworld

- CPANEL 11 & Fantastico
- FREE DEDICATED IP
- FREE DOMAIN NAME & IP
- RVSITEBUILDERS (500 TEMPLATES)
- UNLIMITED (POP3, SMTP, IMAP)
- 35 ADD ON DOMAINS
- 24/7 support (level3)
- 99.99% uptime guaranteed
- PHP5, Mysql, Curl, Fsockopen, suPHP, Zend Optimizer,
- Frontpage Extention, More...
- 50+ SEO TOOLS
- $25 Adwords Credit
- FREE WEBSITE TEMPLATES

DOMAIN REGISTRATION
with FREE PRIVACY for only $8.95/year

Instant Setup & Fast Server

Green Hosting & No Oversell

PayPal VISA MasterCard DISCOVER AMERICAN EXPRESS Google Checkout

www.kvchosting.com

PCWorld

VP, EDITORIAL DIRECTOR Steve Fox
EDITOR Edward N. Albro
MANAGING EDITOR Kimberly Brinson

CONTACT INFORMATION

PHONE: 415/243-0500

FAX: 415/442-1891

E-MAIL: letters@pcworld.com

MAIL: PCWorld Editorial, 501 Second St. #600, San Francisco, CA 94107

STAFF E-MAIL ADDRESSES: To contact any *PCWorld* staff member, simply format the address as follows: *firstname_lastname*@pcworld.com

OTHER WAYS TO READ PCWORLD

RSS: pcworld.com/resource/rss.html

COMMUNITY: forums.pcworld.com

NEWSLETTERS: pcworld.com/newsletters

TWITTER: @pcworld

FACEBOOK: find.pcworld.com/60983

WIDGET: pcworld.com/resource/widget.html

Please Recycle This Magazine

PRINTED WITH SOY INK

EDITORIAL

SENIOR EDITORS Anne B. McDonald, Tim Moynihan, Melissa J. Perenson, Melissa Riofrio, Tom Spring, Robert Strohmeyer

SENIOR ASSOCIATE EDITORS Liane Cassavoy, Mark Sullivan

SENIOR WRITER Darren Gladstone

ASSISTANT EDITOR Nick Mediati

STAFF EDITORS Ginny Mies, Patrick Miller, Nate Ralph

NEWSLETTER EDITOR Kim Saccio-Kent

SENIOR COPY EDITORS Stephen Compton, Steven Gray, Tracy Yee-Vaught

EDITORIAL INTERNS Sarah Jacobsson, Rachel Sadon, Leah Yamshon

ART AND DESIGN

DEPUTY ART DIRECTORS Jeff Berlin, Beth Kamoroff

DIGITAL IMAGING SPECIALIST/PHOTOGRAPHER Robert Cardin

CONTRIBUTING IMAGING SPECIALIST/PREPRESS COLOR Marianna Whang

CONTRIBUTING EDITORS

Danny Allen, Yardena Arar, Steve Bass, Laura Blackwell, Rick Broida, Scott Dunn, Stuart J. Johnston, Erik Larkin, Stephen Manes, James A. Martin, Harry McCracken, Aoife M. McEvoy, Marla Miyashiro, David Murphy, JR Raphael, Scott Spanbauer, Lincoln Spector, Kirk Steers, Carla Thornton, Dan Tynan, Robert Vamosi, Peggy Watt

PCWORLD LABS

DIRECTOR Jeffrey Kuta

MANAGER OF BENCHMARK DEVELOPMENT James Motch

SENIOR PERFORMANCE ANALYST Elliott S. Kirschling

SENIOR DATA ANALYST Tony K. Leung

DEVELOPMENT ANALYSTS Thomas Luong, William Wang

INTERN Patrick Waters

COMMUNITY

MODERATORS Richard Green, Michael-Paul Higgins, Scott Maxwell, Charlie Spivey

MAILING LISTS

Occasionally we make our subscribers' names available to other firms whose products may interest you. To have your name excluded from these mailings, send a request and your mailing label to PCWorld Subscriber Services, P.O. Box 37571, Boone, IA 50037-0571, or e-mail us at maghelp@pcworld.com.

REPRINTS AND PERMISSIONS

You must have permission before reproducing any material from PCWorld. Send e-mail to permissions@pcworld.com; please include a phone number.

PCW COMMUNICATIONS

PRESIDENT, CEO Michael Kisseberth

SENIOR VP, COO/CFO Vicki Peilen

EXECUTIVE VP, GENERAL MANAGER, ONLINE Stephan Scherzer

WESTERN VP, HUMAN RESOURCES Kate Coldwell

FOUNDERS

FOUNDER David Bunnell

FOUNDING EDITOR Andrew Fluegelman

INTERNATIONAL DATA GROUP, INC.

CHAIRMAN OF THE BOARD Patrick J. McGovern

CEO, IDG COMMUNICATIONS Bob Carrigan

SUBSCRIPTION SERVICES

Access your subscription account online—24 hours a day, 7 days a week—at pcworld.com/customer. You can use online subscription services to view your account status, change your address, pay your bill, renew your subscription, report a missing or damaged issue, get the answers to frequently asked questions, and much more.

MAIL: PCWorld Subscriber Services, P.O. Box 37571, Boone, IA 50037-0571 (Include a mailing label with correspondence.)

WEB: pcworld.com/customer

E-MAIL: maghelp@pcworld.com (Send your full name and the address at which you subscribe; do not send attachments.)

PHONE: In the U.S. 800/234-3498
New orders 800/825-7595

FAX: 515/432-6994

QUESTIONS AND SUBMISSIONS

Send material electronically to the appropriate online address listed below, or mail it to *PCWorld*. We reserve the right to edit letters.

ANSWER LINE: Visit forums.pcworld.com to ask your question in the Answer Line forum.

BUGS AND FIXES: bugs@pcworld.com

ON YOUR SIDE: onyourside@pcworld.com

PCW FORUM: forums@pcworld.com

PRIVACY WATCH: privacywatch@pcworld.com

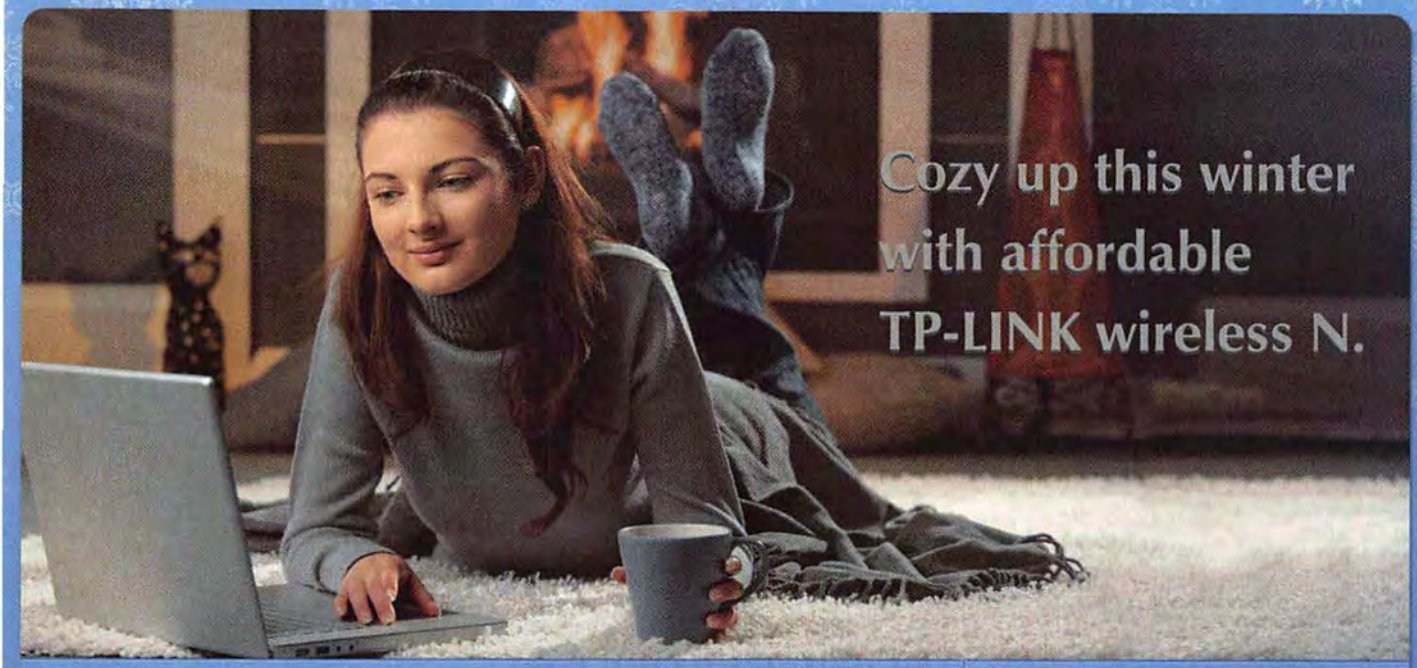
RICK BROIDA'S HASSLE-FREE PC: hasslefree@pcworld.com

THE BACK PAGE: thebackpage@pcworld.com

BACK ISSUES

Starting with the March 2003 issue of *PCWorld*, back issues are available at pcworld.com/backissues. Back issues cost $8 per issue for U.S. delivery, and $12 for international delivery; prepayment in U.S. currency to *PCWorld* is required. Or send a check or money order to PCWorld Products, P.O. Box 37781, Boone, IA 50037-0781; phone 800/967-2083 (U.S. and Canada) or 515/243-3273 (all other locations); or e-mail mw1prod@cdsfulfillment.com.

To use any find.pcworld.com/xxxxx URL in the magazine, enter it as shown in your browser's address field.



TL-WR1043ND

300Mbps Ultimate Wireless N Gigabit Router

- Gigabit ports and 300Mbps wireless speed great for HD video streaming
- Easily share USB storage with all users on your network
- QSS button for quick security setup

79.99 MSRP

TL-WN851N

300Mbps Wireless N PCI Adapter

- Wireless speed up to 300Mbps
- MIMO technology providing better performance and stability
- CCA technology automatically avoids channel conflicts using its channel selection feature

34.99 MSRP

TL-WR740N

150Mbps Wireless Lite N Router

- Exceptional wireless speed up to 150Mbps
- QSS button for quick security setup
- SPI firewall and access control management for safer usage

34.99 MSRP

TL-WN721N

150Mbps Wireless Lite N USB Adapter

- Exceptional wireless speed up to 150Mbps
- Wireless security encryption easily at the push of a QSS button
- Supports sony PSP for online gaming

19.99 MSRP

Come see what's new from TP-LINK at CES

2010 International CES

International CES January 7-10, 2010
Las Vegas Convention Center
Our Booth: South hall-3 31569

http://www.cesweb.org/docs/Show_Locations_Map.pdf

Find these and other great TP-LINK products online through these vendors:

newegg.com amazon.com Buy.com The Internet Superstore

mwave shop smart, shop mwave TigerDirect.com

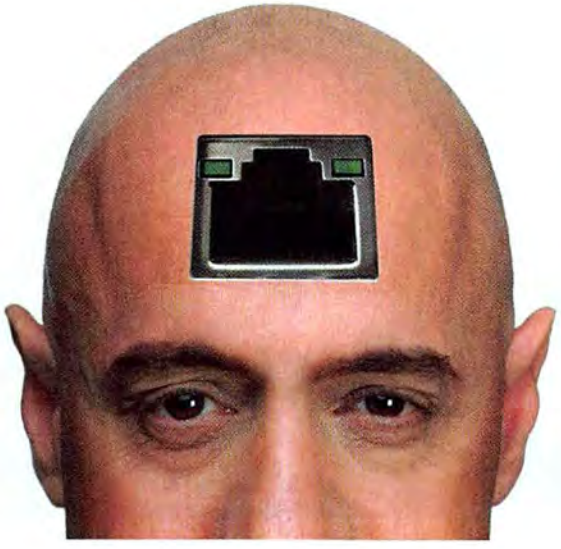
TP-LINK
The Reliable Choice

Their computer.
Your brain.

GoToAssist® Express™ lets you view and control your customer's computer online, so you can use your expertise to instantly fix the problem. You'll solve technical issues faster while reducing travel costs and increasing customer satisfaction. Support Smarter™ with GoToAssist Express.

FREE 30-Day Trial

gotoassist.com/pcw



GoToAssist®

by CITRIX®

Techlog

STEVE FOX

Windows Tips: Something Old, Something New

AH, THE VENERABLE Windows tips story! If you've been reading *PCWorld* for any length of time, you know that when a new version of Microsoft's operating system comes out (in this case, the well-received Windows 7), a fresh batch of shortcuts and timesavers for the OS can't be far behind.

These megatip extravaganzas, though, always present a problem—namely, which items should we include? Because each new version of Windows builds on previous incarnations of the OS, loads of the most useful Windows 7 tips are also the most useful tricks for Windows Vista, not to mention the still-popular Windows XP. If we were to include a sampling of classic time-savers in a brand-new tips collection, we would risk alienating readers who want just the latest goodies. But excluding time-tested tips would mean some of the best Windows advice would be absent from the issue.

The solution we came up with this month? Along with a spanking-new collection of tips (see "Essential Windows Tricks," page 66) and timely advice on how to overcome Windows 7 upgrade gotchas (see "Fix Four Common Windows 7 Upgrade Problems," page 101), we've pulled together a two-page clip-and-save pullout of the 26 "Greatest Windows Tips of All Time" (see page 75).

If you're a longtime Windows user, you're probably familiar with most of these tidbits—though I'm betting you will find a few pointers that will be rediscoveries or that you somehow missed in the first place. For instance, I had completely forgotten the keystroke combination <Windows>-L (a shortcut to lock your computer when you step away from the screen). Finding it here was like finding a long-lost friend.

PHOTOGRAPH: ROBERT CARDIN

To assemble a collection of the "Greatest Windows Tips of All Time," we turned to the real experts: everyday users.

Admittedly, any "greatest hits" list is somewhat arbitrary; it's based on individual tastes, and it's guaranteed to generate controversy. After all, who will make the decision? And what constitutes greatness in a tip anyway?

To answer those questions, we sent staff editor Patrick Miller into the field to canvas users for tips that were not only broadly applicable, but worked on multiple versions of Windows and made everyday computing tasks substantially faster or easier. He reached out to readers at PCWorld.com, scoured a broad range of online forums, sought nominations on our Facebook page (find.pcworld.com/60983), and tweeted his requests to our Twitter followers at @pcworld.

STAFF EDITOR PATRICK MILLER: A hard-core Mac user receives a crash course in Windows shortcuts.

With a hefty stack of potential winners in hand, he then descended on the editorial staff, going cube to cube. He also tapped the techie whizzes in the PCWorld Labs, cross-platform experts at sister publication Macworld, and "just about anyone else I ran into over the course of several days."

"My basic approach was to ask, 'When you watch someone else using a Windows PC, what drives you crazy about the way they do it?'" Not surprisingly, that approach yielded a massive list of candidates—and a tricky winnowing task that he attacked with relish, and with some assistance from other editorial staffers.

Making the Final Cut

Patrick brought a fresh perspective to the task. Until nine months ago, he had been primarily a Mac user—and a power user at that—meaning he had few preconceived notions about the Windows platform.

"Though I use Windows every day," he says, "many of these tips were new to me, especially the shortcut keystrokes and anything that made use of the search box." In making his final cut, he first transferred tips with multiple nominations into the Yes pile. Then "I began by looking for common problem areas with common solutions." He also put his Apple experience to use by looking for standard Mac shortcuts that Windows users often must live without.

After extensive hands-on testing, wheedling, and weeding out, he and a team of fellow editors came up with the magnificent 26 in this issue.

Did we miss a favorite tip of yours? Send your suggestions to letters@pcworld.com, and we'll print a selection in an upcoming *PCW Forum*.

Until then, happy tipping. ●

Steve Fox is editorial director of PCWorld.

BOX OFFICE

PATRIOT

Bringing digital media to your living room!

The Box Office all-in-one media player delivers all kinds of video and digital media from your PC, network or USB storage device (flash drives, HDD/SSD) directly to your TV or home entertainment system up to stunning full HD, 1080p.

Supports a wide variety of video, music and image formats including: MPEG 1/2/4, H.264, DivX, Real Video, MKV, FLV, ISO, MP3, WAV, JPG and many more.

KEY FEATURES:

- Up to full HD 1080p
- 3 x USB 2.0 ports
- Internal 2.5" SATA port
- Gigabit ethernet port
- HDMI, Composite outputs
- Supports Dolby® Digital, DTS®
- HDMI cable included

Available at:

amazon.com · newegg.com · Fry's Electronics · Canada Computers · Memory Express · Micro Center computers & electronics · Circuit City .com · TigerDirect.com · COMPUSA.com · Buy.com · NCIX.com

www.patriotmemory.com

PCW Forum

December's "PC World 100: The Best Products of the Year" provoked—not surprisingly—some strong reactions. Many readers and visitors had their own takes on our choices this year, both pro and con. You can read additional comments and nominate your favorite products at find.pcworld.com/63960.

Top 100: Dissenting Opinions

I was surprised to see the Asus Eee PC 1101 netbook among the "Best Products of the Year" and not the Acer Aspire One, which runs circles around the Asus. I did buy an Asus, but its lack of convenient features (no pilot lamp for Caps Lock, impossible to disable the touchpad, and so on) made me give it away and get an Acer instead.

Patrick Georges, Carlsbad, California

You have got to be kidding—the Zune is how many spots ahead of the iPhone? I stopped reading from there.

Advyon, PCWorld.com forums

Anybody who has used [the HTC Hero and the iPhone 3GS] knows they are not in the same class. The Hero is a poorly built PDA, and the iPhone is the only usable handheld computing device.

macrhino, PCWorld.com forums

The App Store is not a single product and thus shouldn't even be in the list. A product by definition is a specific item; saying the App Store is a product is like saying that a commercial is a product—and it's not. The App Store hosts products, but it isn't one itself.

TechieXP, PCWorld.com forums

I disagree with including Websites and services as products because they are neither commercial software nor hardware. For this reason the Intel X25-M Solid State Drive should be number one.

jwtam, PCWorld.com forums

Sneaky Fees

Regarding "Sneaky Fees" [December]: This is nothing new. Some 150 years ago, they were called snake-oil salesmen; now they're marketing executives. Remember P.T. Barnum's charging customers to see the Egress (exit)?

Mike Nielson, Cross Roads, Texas

After Verizon pulled some sneaky moves with my plan, I switched to T-Mobile almost two years ago. With that company, I didn't mind changing to e-bills, but I did resent the threat of a $1.50 charge. But that's not what really burned me. I pay most of my bills through online banking and am able to receive those bills that way. Not only does T-Mobile not offer that service, but after switching to e-bills, I discovered that it doesn't send me a notice when the bill is ready. I have to log on to the T-Mobile Website and find my bill! My bank notifies me when my other e-bills arrive, and American Express sends an additional notice. But T-Mobile doesn't contact its customers about their electronic bills at all. I will be switching carriers—again—in mid-December when my contract is up.

Don Bell, Los Angeles

Make Legacy Windows Open Source?

Microsoft plans to dump XP in 2014. In a perfect world, the company would then make the operating system open source. That way folks could keep XP up-to-date much as Mozilla applications are updated and maintained. But I know this isn't a perfect world. For all intents and purposes, it's a Microsoft world.

The race for Fast, New, Now, Next must go on, even if many of us really don't need Fast, New, Now, Next. I am not a gamer or a video editor, nor have I need of a scientific number cruncher. I am quite happy with my 32-bit world using my "legacy" machine. Many other people are most likely in the same boat.

Brian M. Kochera, Cranford, New Jersey

> Regarding Google's free Public DNS service and possible privacy threats [find.pcworld.com/64159]: Google's servers collect so much information, [its] caring about what I do on the Internet would be like caring about what one ant does in the Australian outback.
>
> *boden, PCWorld.com forums*

Update Hassle

The suggestion in Rick Broida's column [*Hassle-Free PC*] in the December issue to change the Automatic Updates option to 'let me choose when to install them' may work for some, but not all, at least with XP. For a couple of years, I have regularly changed to that option, only to find that almost every time I do install the updates, the setting returns to full automatic. I finally installed a »

ILLUSTRATION: HARRY CAMPBELL

shortcut on my desktop to access the option directly in order to check its status. I too have lost work by not being "Johnny on the Spot" when the pop-up window appears, warning of an automatic install and reboot in 5 minutes. Once the pop-up appears, changing the option to 'let me choose' does not work. I gather from different forums that this does not happen to everyone, but it *does* happen me—and to a number of other unfortunate victims.

Donald Harper
East Sandwich, Massachusetts

Should a Firewall Do This?

I have to take exception to Michael Scalisi's recommendation of the SmoothWall Express 3.0 software firewall [*Net Work,* December].

He states, "Boot to the CD and run the installer, which will wipe the hard disk before it installs."

Wipe the hard drive? Any software that wants to wipe my hard drive ends up where it belongs—in the trash bin. Most software I can reinstall. But to do that for a firewall makes no sense.

Dave Quinn, Guelph, Ontario

Author's response: SmoothWall is a firewall designed to run on a dedicated computer on the perimeter of a small-business or home network, not on your Windows PC. Upon installation, it replaces any existing OS with a specialized version of Linux. If you have any important data on the hard drive in question, you should back it up before installing SmoothWall.

—Michael Scalisi

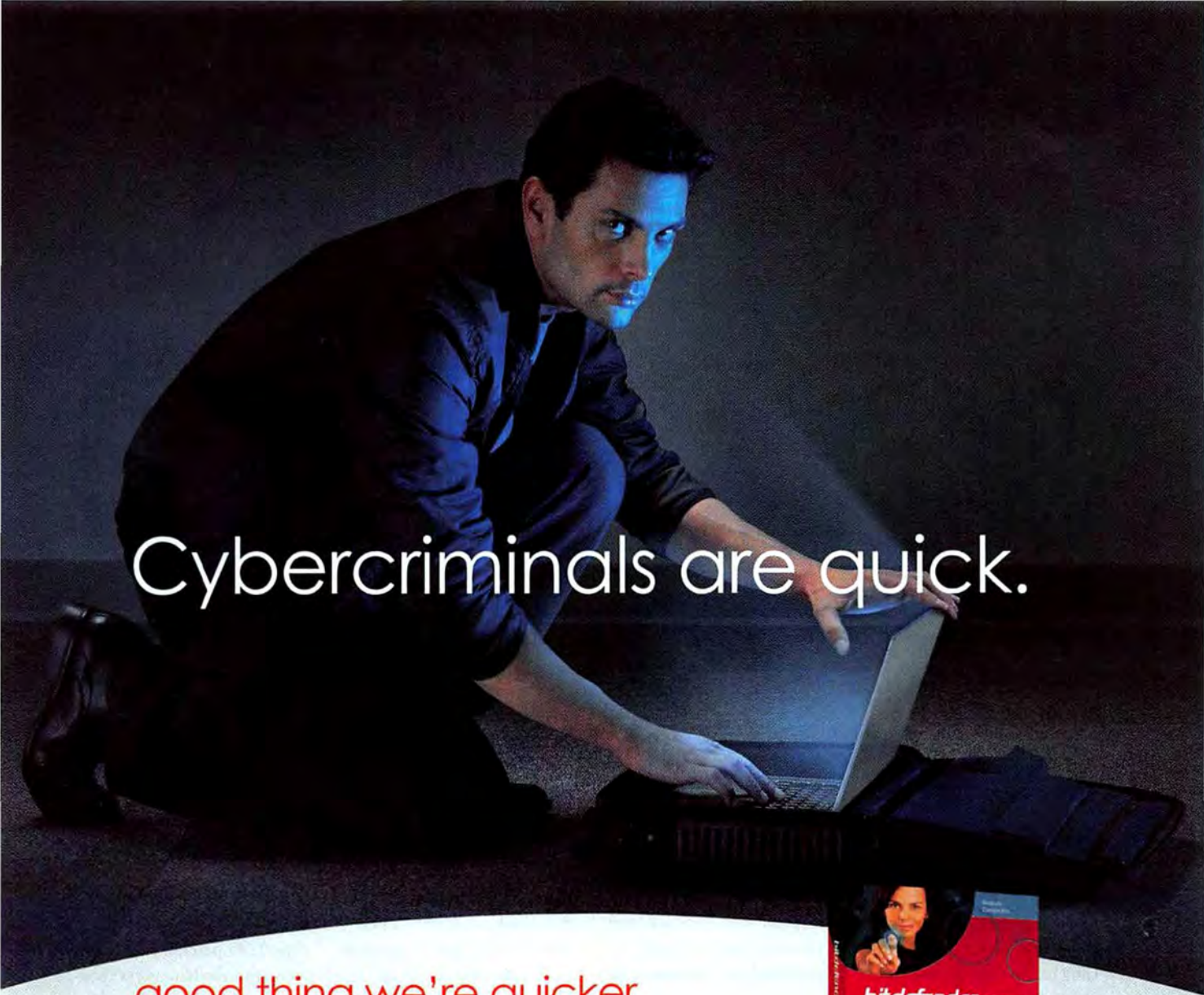
E-Book Readers: A Ways to Go

Why do all e-book-reader manufacturers miss the most essential point ["The E-Book Explosion," *Reviews and Rankings,* December]? They don't offer a real electronic alternative to the print format of a standard magazine or book. Why would I spend $150 to $500, and then strain my eyes reading text in joyless gray colors? I am not joining your critical mass of buyers until the following essential criteria are met:

1. The reader must have a letter-size reading pane.
2. It must have a real color display.
3. I want to be able to load and read all "free" formats, especially PDF files.
4. Make it collapsible so that I can fit it into my backpack, but don't restrict the reading size (see item 1).
5. Make it cheap: After all, I will be paying for the content.

Johannes Held, Hamburg, Germany

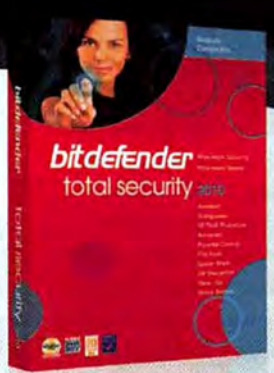
PCWorld welcomes your feedback. We reserve the right to edit for length and clarity. Share your thoughts in the Comments area under each story on our Website, or visit our Forums (find.pcworld.com/55165). Send e-mail to letters@pcworld.com.



good thing we're quicker

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

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



Is your computer virus-free? Are you sure?

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

bitdefender
Maximum Security - Maximum Speed

amazon.com BEST BUY DELL Fry's FUTURE SHOP LONDON DRUGS MICRO CENTER OfficeMax STAPLES

Forward

The State of Windows 7 Satisfaction

Early adopters of the newest Windows report that they are mostly happy with it—and that goes for Vista users even more than XP users.

BY HARRY McCRACKEN

WINDOWS 7 IS only a few months old. Most people who will eventually use the new OS haven't tried it yet; those who have are still settling in. And things will change rapidly as bugs are squashed, missing drivers arrive, and compatibility wrinkles are ironed out. Even so, it isn't too early to start gauging what people think of Vista's replacement.

To do a reality check on the mostly favorable initial reviews for the new operating system (find.pcworld.com/64223), we at Technologizer (technologizer.com) decided to ask for opinions from our community, a group of tech enthusiasts with a high propensity to acquire new OSs quickly and to push them to their limits. Starting on November 16, 2009, we surveyed the site's readers (and Twitter followers) about their Windows 7 experiences.

Positive Response

About 615 Technologizer readers responded. A sizable majority said that they are extremely satisfied with the OS and rate it as a clear improvement on both the beloved Windows XP and the widely panned Windows Vista. Crippling installation problems—always a legitimate reason to postpone switching OSs—were rare.

Prior to using Windows 7, 46 percent of respondents ran Windows Vista; 32 percent ran XP. Just 17 percent used Vista and XP about equally, 5 percent ran an OS other than Windows, and 0.7 percent used a different version of Windows.

Among those surveyed, 73 percent upgraded an existing PC to the final version of Windows 7, while 8 percent use a PC that came with the OS preinstalled; 14 percent are working with a prerelease version, and 6 percent run it on a Mac via Boot Camp or a virtualization program.

As for Windows knowledge, 64 percent of respondents rated themselves as expert; 35 percent said they were intermediate. Less than 1 percent were beginners.

For 61 percent, Windows 7 is entirely or mostly for home or personal use; 25 percent are using it about equally for home and business. Just 14 percent are using it entirely or mostly for business.

Also, 61 percent of respondents use a 64-bit edition of Windows 7; only 31 percent are running a 32-bit version.

A whopping 82 percent did a "clean" install of the OS from scratch; 19 percent

PCWORLD.COM

The new OS has earned good marks—but like any other software, it could still use improvement. See our suggestions in "Windows 7: Seven Points of Imperfection" at find.pcworld.com/64224.

ILLUSTRATION: GORDON STUDER

installed it over Vista.

Finally, 59 percent reported they've used Windows 7 extensively, and 36 percent said they've done so a fair amount. A scant 5 percent said they've used it a little.

It's important to note that our goal wasn't to survey a representative, projectable, normalized sampling of all Windows 7 users. The responses here are from members of the Technologizer community who chose to take our survey. Their opinions are their own—but we think the results make for interesting reading.

Installing Windows 7

With OSs, as with all things, first impressions count. And if you've purchased a new OS as an upgrade, the first impressions it makes come during the course of the installation process.

Among survey takers who installed Windows 7, the number who ran into major hassles was very small, presumably in part because Windows 7 is so similar to Vista under the surface. The fact that the vast majority of respondents performed clean installations rather than installing on top of Vista surely helped, too.

In our survey, 84 percent said the process went off without significant hiccups; 13 percent said it went fairly well. Only 3 percent reported major problems, two-thirds of which were resolvable. Pretty impressive—when *PCWorld* surveyed Windows XP users shortly after that OS shipped, half reported significant installation issues.

Though respondents' Windows 7 upgrades tended to go well, that doesn't mean they didn't encounter any problems at all. More than 40 percent had to resolve driver issues, and more than a third needed to deal with software incompatibilities.

How did Windows 7's installation go?

SOURCE: SURVEY OF 615 TECHNOLOGIZER.COM READERS, NOVEMBER 2009

AMONG THE SURVEY takers, 73 percent upgraded an existing PC to the new operating system—and most of them found smooth sailing.

What Windows 7 problems have you had, if any?

SOURCE: SURVEY OF 615 TECHNOLOGIZER.COM READERS, NOVEMBER 2009

MANY RESPONDENTS HAVE had no trouble. For those who have, drivers are a common issue.

A much smaller percentage of respondents had other problems. For instance, 11 percent reported crashes or Blue Screens of Death. Only 6 percent said Windows 7's performance was poor—a relief given that the original Vista developed a reputation as a poky resource hog.

Are the percentages of users who reported problems impressively low, or unsettlingly high? That's subject to debate. But both XP and Vista also suffer to some degree from all the issues that respondents said they found in Windows 7.

Judging the Features

Technologizer asked survey respondents to rate 11 Windows 7 features that were new or substantially revised. (In retrospect, we should also have inquired about DeviceStage, a peripheral-wrangling feature that I've found disappointing so far.)

Most of the features were well received, especially the taskbar, system tray, window tiling, and desktop-revealing Aero Peek function, all of which received Excellent or Very Good ratings from at least two-thirds of respondents. Even the new version of Vista's much-maligned User Account Control received an Excellent or Very Good from more than half of users, and only 3 percent gave it a mark of Poor.

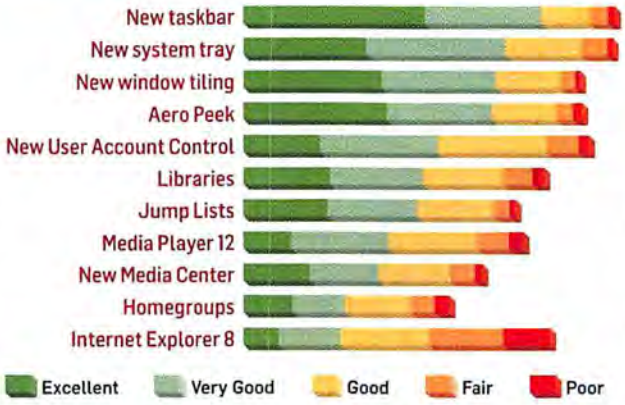
The Windows 7 feature that survey takers were most lukewarm about isn't a Windows 7 feature, exactly—it's Internet Explorer 8, which debuted in March 2009 for Vista and XP. While 50 percent of respondents said it's at least good, only 9 percent rated it as excellent; 20 percent said it was fair, and 13 percent said it's downright poor, the most negative verdict given to any feature.

In the infographic at the top of page 16, the overall length of each bar indicates the percentage of respondents who said they've used each feature (almost all rated the taskbar, for instance, but only 55 percent have tried homegroups.)

Happiness Is...

Most survey respondents had no trouble setting up Windows 7, experienced no crippling problems afterward, and found much to like in its changes. And that translated into impressive numbers for overall satisfaction. With 70 percent saying they were extremely satisfied with the new OS, and 24 percent saying they were somewhat satisfied, a total of 94 percent were satisfied to some degree. Only 4 percent said they were neither satisfied nor dissatisfied, and 2 percent were somewhat or extremely dissatisfied. »

How do you rate Windows 7's features?



SOURCE: SURVEY OF 615 TECHNOLOGIZER.COM READERS, NOVEMBER 2009

AMONG NEW OR revised features available in the OS, IE 8 (technically not a Windows 7 feature) garnered the most negative reaction.

(When *PCWorld* surveyed Vista early adopters in 2007, only a little over one third of them were "very satisfied," and about a quarter said they were "unimpressed.")

We asked survey takers who said they were dissatisfied with Windows 7 to tell us why, but so few people were unhappy campers that their responses aren't statistically significant. (Most of the critics said that it's too pricey and has too few new features to warrant the cost.)

Did respondents' satisfaction with Windows 7 vary depending on whether they came to the OS from Vista or from XP? Yes—though both groups were strongly favorable, XP users were meaningfully less ecstatic. An impressive 79 percent of Vista users said they were extremely satisfied, while 61 percent of XP users did.

We also gauged respondents' bottom-line appraisal of Windows 7, by asking them whether they'd give it up for their old OS. The vast majority—73 percent—said they definitely wouldn't. Another 18 percent said they probably wouldn't; 3 percent said they probably would go back, and another 3 percent said they definitely would or already had.

As with our query about overall satisfaction, Vista users gave Windows 7 a particularly hearty testimonial: 86 percent of them said they definitely wouldn't go back. The percentage of XP users who said they've switched to Windows 7 permanently wasn't quite so overwhelming, at 61 percent. XP users were also more likely to say they were probably or definitely abandoning Windows 7, although the actual percentage saying so was low.

In Comparison

To give respondents even more ways to express their overall take on Windows 7, we asked them to measure it against other OSs they're familiar with. A plurality came to Windows 7 from Vista, and their consensus was that it's a major step forward. Almost two-thirds said it's much better than Vista, 94 percent rated it as at least somewhat better, and only 3 percent judged it to be about the same. Just 1 percent deemed it somewhat worse than Vista...and nobody said it was much worse.

XP is a far better-liked OS than Vista ever was, and the responses seem to reflect its popularity: Slightly fewer survey takers gave Windows 7 a thumbs-up compared with XP than compared with Vista, and slightly more said it was a step backward. But overall, the positive feedback for Windows 7 was still huge.

In addition, we asked respondents who were familiar with Mac OS 10.6 Snow Leopard to compare it and Windows 7. The results were pretty much a wash: Roughly one-third thought that Windows 7 was better than Snow Leopard, a third considered the two OSs about the same, and a third said Snow Leopard was better. (We asked separately about OS X 10.5 Leopard, and got a similar response.)

We also asked how Windows 7 stacks up against any version of Linux. Yes, that's comparing a specific product with a broad class of OSs. But for what it's worth, more than two-thirds of the survey takers said Windows 7 was better than Linux.

One side note: In our screening for the survey, we verified that would-be respondents were running Windows 7. We asked those who said they weren't using the new OS what the primary factor holding them back was. A fair number, 29 percent, said they were happy with Windows XP. (Only 4 percent of users told us they weren't moving to Windows 7 because they were pleased with Vista.) And 16 percent of holdouts said Windows 7 was too expensive.

At Technologizer, we'll continue to keep tabs on what the world thinks of Windows 7—and we might even conduct another survey once more people have had hands-on time with the new OS, and some of the initial glitches have been resolved.

Would you go back to your previous OS?

SOURCE: SURVEY OF 615 TECHNOLOGIZER.COM READERS, NOVEMBER 2009

FOR MOST RESPONDENTS, Windows 7 is a keeper. Vista users were more likely than XP users to say they would definitely stick with 7.

Chrome OS Aims to Speed Up Netbooks

IN LATE 2009, Google unveiled what it hopes will be the new standard in netbook operating systems: Chrome OS. Based on Linux, the lightweight Chrome OS boots directly into a Web browser. Here's a peek at what you can expect to see when preinstalled systems debut sometime in 2010.

Because Chrome OS runs on solid-state drives, it boots extremely quickly. Our early test build took merely 7 seconds to reach a login screen, and then it almost instantly launched the browser.

Chrome OS offers few controls that you can't already find in the Chrome Web browser. The biggest difference is the Chrome icon in the upper-left corner, which reveals bookmarks for Web apps. It's as close as Chrome OS gets to installing software. Though the inability to install apps can be a limitation, it's also a safeguard: If applications can't install, neither can malware.

Like the Web browser, Chrome OS is tab-based. In the OS, however, you can pin tabs; once pinned, a tab remains in the same location every time you log on.

IN GOOGLE'S CHROME OS, clicking the Chrome icon in the upper-left corner produces a selection of bookmarked Web-based applications.

At press time, no Chrome OS devices had yet debuted on the market, and none are likely before the second half of this year. Acer has said that it will be among the first manufacturers—if not the very first—to release a netbook with Google's OS installed. Meanwhile, Chrome OS already has some competition from the FusionGarage JooJoo, a 12.1-inch tablet device running a similar browser-oriented OS.

—Robert Strohmeyer

BETA WATCH EDWARD N. ALBRO

Faviki: Consistent Bookmark Tagging

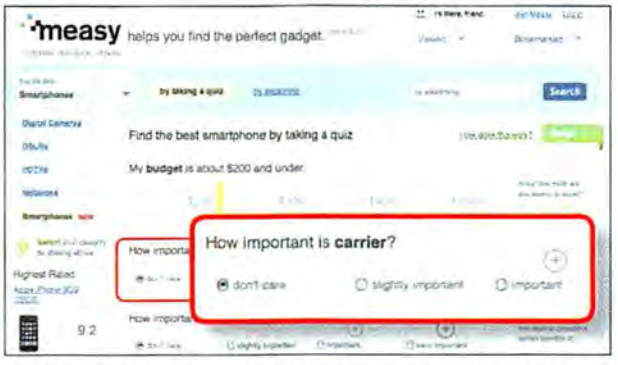
Tagging your bookmarks is a great way to track and share them. But making sense of other people's tags (and sometimes your own) can be a challenge. Does the tag "Bulls" refer to bovines, Michael Jordan's former team, or optimistic investors? The free Faviki service solves the problem by restricting tags to those corresponding to Wikipedia entries. The strategy forces people who bookmark something about the basketball team to use "Chicago Bulls" as a tag—and it helps people seeking information on the Windy City hoopsters get exactly what they're looking for. faviki.com

Infodome: A Database in Your Browser

Setting up a database and allowing coworkers or clients to easily enter information can be a great boon to any business. Many small-business owners, though, would rather have an IRS audit than struggle through creating a database and embedding access on their Website. InfoDome is a free and paid site that lets you create relational databases relatively simply, with clear instructions and drag-and-drop formatting. The results aren't beautiful, but they are functional and easy to embed on most sites. A free account allows you to create three databases. infodome.com

Measy: Shopping by Quiz

If you're a shopper who does thorough research on every spec and component before you buy, you don't need Measy. This free site exists for the folks who know only how they like to use a camera, smartphone, or other gadget and want a recommendation of a model that will meet their needs and budget. The best way to start is to take one of the site's quizzes. Usually they consist of about ten questions (though some have follow-ups), asking how much you want to spend, whether you're set on a few brands, whether you want to shoot video on your digital SLR, and so on. Once you're done, Measy presents a list of the gadgets most likely to make you happy. measy.com



YOU'LL BE QUIZZED: Measy helps you find products to consider by asking what's important to you and how you'll use your new gadget.

THE DRIVESTATION HD-HXU3 promises fast performance.

Buffalo Ships First USB 3.0 Hard Drive

IN SPITE OF rumors that the first USB 3.0 products wouldn't surface until the 2010 Consumer Electronics Show, Buffalo Technology announced in late November that it was shipping its new DriveStation HD-HXU3 SuperSpeed USB 3.0 drive.

We've been hearing about USB 3.0 all year long. Delays on the chipsets that use the new controller led to delays on the first motherboards.

This is a wise move on Buffalo's part, if only because USB 3.0 will remain a rarity for a while. However, at the time of the announcement, the drive was on Buffalo's Website, but Buy Now links were absent. Perhaps Buffalo meant that the drive had shipped from the factory, but not yet to stores.

USB 3.0 promises performance improvements worth waiting for—namely, a top data rate of 4.8 gigabits per second, versus 480 megabits per second for USB 2.0.

The drive will be available in 1TB ($200), 1.5TB ($250), and 2TB ($400) capacities.

—Melissa J. Perenson

GEEKTECH

Flash Player 10.1 Speeds Up Netbook Video

IF YOU'RE THINKING of buying a netbook but you're not sure how well the little machine will handle full-screen high-definition Flash video, consider Adobe's latest software offering. Adobe Flash Player 10.1 with GPU acceleration—now in beta, and available for download at find.pcworld.com/64170—promises to dramatically improve the streaming HD video experience on computers that lack top-notch processors. If your system has a supported nVidia or ATI graphics card (see the company's release-notes PDF at find.pcworld.com/64171 for details on which cards the software supports), Flash Player 10.1 will use that board alongside your machine's CPU to upgrade its decoding of streaming video from sites such as Hulu and YouTube.

Modern graphics cards have tons of computing power, while the Atom chip that drives most netbooks is relatively weak compared with desktop CPUs and traditional laptop processors. Over the past few years, graphics-board vendors have developed ways to put that power to work on everyday computing duties. Using the GPU (graphics processing unit) instead of the system's CPU should significantly enhance streaming high-definition video. This development is great news for anyone with an Ion-based netbook, for example, or for owners of a PC with a fairly recent nVidia or ATI graphics board. (See find.pcworld.com/64172 for a primer on graphics-card technology.)

Adobe's newest Flash Player may allow you to stream high-def clips on your tiny portable.

Testing the New Flash Player

I headed to the PCWorld Labs to put Adobe's claims to the test. I performed my testing on an Asus Eee Top ET2002 nettop with an integrated nVidia Ion graphics chipset, running Windows Vista Home Premium. I conducted two tests, using both Internet Explorer 8 and Mozilla Firefox 3.5. In the end, I discovered that while Flash Player 10.1 does improve Flash video playback, the improvement may not be universal. (For footage of my hands-on tests, browse to the online version of this article at find.pcworld.com/64169.)

For the Internet Explorer test, I used a high-quality 480p clip from the *V* television series on Hulu. Between the two versions of Flash that I used, I noticed only a minor difference in visual quality. Flash Player 10.1 video playback in this instance was slightly smoother than it was under Flash Player 10.0.32, not drastically so. The *V* clip was still a little choppy even with Flash 10.1's hardware acceleration.

For the Firefox test, I used a high-quality 480p clip from *Legend of the Seeker* on Hulu. This time, the two versions exhibited a significant difference: In Flash Player 10.0.32, the video had a lot of noticeable stuttering, while in Flash 10.1 the footage ran fairly smoothly.

Adobe Flash Player 10.1 is definitely an improvement over version 10.0.32, and it will probably be a godsend for netbook users. Specifically, among netbooks the HP Mini 311 (find.pcworld.com/64193) stands to benefit the most since it is the first model on the market to pack a GPU—nVidia's Ion. For such machines, streaming high-definition video is visibly better with the new Flash Player version.

—Sarah Jacobsson

Visit the GeekTech blog at go.pcworld.com/geektech for more hacks, tweaks, and tips.

ILLUSTRATION: GORDON STUDER

OVER 6 BILLION DEVICES
CONNECT WITH USB
USB is everywhere, worldwide. And there's a reason it's so popular—its simplicity, speed and ease-of-use are unmatched. In the world of computers, peripherals and mobile devices, USB inspires confidence as the most widely-accepted, reliable form of connectivity out there, delivering speed, effortless charging and plug and play simplicity. Now that's a technology the world can agree on.
BILLIONS
OF DEVICES
CAN'T BE WRONG.
LOOK FOR PRODUCTS FEATURING THESE LOGOS AT YOUR FAVORITE RETAILER.
HI-SPEED
CERTIFIED
USB
SUPERSPEED
CERTIFIED
USB
Message brought to you by USB Implementers Forum

Ditch Power Cords, Wires, Cables, and Hassles

Thanks to wireless technology, you can escape the snake pit of power, audio, and video cables. Here are a few intriguing gadgets that can help you live a nearly cord-free tech life.

Powermat: Wireless Device Charger

The Powermat uses magnetic induction to juice up electronic gadgets. The technology allows you to skip messing around with bulky plug-in adapters—instead, when you want to charge your phone, you just put it on the Powermat.

Dell Latitude Z600: Laptop With Wireless Charger

For charging a laptop sans wires, Dell offers a specialized solution. Its new Latitude Z600 laptop works with an optional docking station that uses inductive charging to power the battery.

LG's Wireless HDTVs

The new LHX and LH85 HDTVs from LG cut the cables—except the power cord—by using a WirelessHD transmitter box that works up to 30 feet from the screen. (Sony offers several WirelessHD sets, too.) Video devices, including game consoles, DVD and Blu-ray players, and cable boxes, connect to the transmitter.

LG Electronics Solar Car Kit HFB-500

LG's HFB-500 is a $100 Bluetooth car speakerphone that charges via sunlight—a boon for people who live in sunny locales. And wireless charging is perfect for a car's dashboard, where a rat's nest of cords can be dangerous.

Logitech Performance and Anywhere Mouse MX: Wireless Mice

Logitech is recharging the category of cordless mice with two new laser units that are designed to work well on most surfaces in the home—including clear glass.

Big Storage in a Small Package

Western Digital's My Passport Essential USB hard drives require no external power source, yet they can perform automatic backups of your data just as wired drives can. (For more on portable hard drives, see page 89.)

PRIMIUM HTPC

Irreplaceable Prestige

Moneual recommends Windows 7

Experience the award-winning **Moneual 972i**, with its elegant, hand-crafted 100% aluminum chassis and 7inch touch screen LCD. Watch connected to your large-screen TV through HDMI, DVDs, Blu-ray Discs, cable TV, home videos, photos, and Internet videos can all be enjoyed in 1080p quality. Freely rerun, pause, and record cable TV, or add music and transitional effects for a photo slide show with a personal touch.

MONEUAL 312

MONEUAL 320

MONEUAL 972i

MONEUAL™

amazon.com MonShopper.com

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

Pricing and Availability: Prices, availability, and terms of any offer may change without notice or obligation. Taxes if applicable are not shown.
Moneual is not responsible for price, typographical, photographic or other errors and reserves the right to cancel any order resulting from such errors.
Microsoft and Windows are registered trademarks with Microsoft Corporation in the United States and/or other countries. © 2010 Moneual. All rights reserved.

OVER 100 5STAR RATINGS

PCWorld

"25 Products
We Can't Live Without"
March 2008

Is This Your Password System?

Ours is Better!

Amazingly **fast and easy to use**, **RoboForm automatically**:

- ✓ Remembers your usernames and passwords.
- ✓ Logs you into all your favorite websites.
- ✓ Reduces your many passwords to just one.
- ✓ Increases security and helps protect your identity.
- ✓ Fills long forms and so much more!

We've been saving you time and making your life easier since 1999. More than 26 million downloads, and **over 100 five star ratings** later we are by far the World's #1 Rated Password Manager.

RoboForm has earned prestigious recognition including PC Magazine Editors' Choice, CNET's Best Software of the Year, and PC World's **"25 Products We Can't Live Without."**

PC World Readers Download RoboForm for FREE!

RoboForm®

www.RoboForm.com/PCW

The True Cost of Wireless Carriers' Netbooks

BY MARK SULLIVAN
AND PATRICK MILLER

YOU CAN BUY a deeply discounted netbook from either AT&T or Verizon if you're willing to sign up for a two-year data plan—but with either provider's netbook deals, the ultimate price will be about the same.

We discovered this similarity after examining the two-year costs of ownership of various netbooks sold by AT&T and Verizon (at the time of writing, Sprint and T-Mobile weren't offering such deals). The two wireless broadband carriers have adopted a pricing model comparable to the one they use for selling cell phones.

Verizon offers three different netbooks: the Gateway LT2016u ($100), the HP Mini 10 ($150), and the HP Mini 311 ($200). Bought elsewhere without the data plan, the Gateway would cost around $300; the HP Mini 10, about $400; and the HP Mini 311, $450.

AT&T has a larger variety, including the Lenovo S10 ($100), the Dell Inspiron Mini 10 ($150), and the Acer Aspire One ($200). If you purchase any of these particular netbooks elsewhere (sans data plan), you'll pay about $330 for the Lenovo, $350 for the Dell, and $350 for the Acer.

> When you buy a subsidized netbook, the money you save is a pittance compared with the data fees you'll pay.

Data and Speed Costs

Unlike smartphone data plans, which typically promise to provide unlimited data for $30 per month, data-only 3G service for netbooks gives you much less for much more. Both AT&T and Verizon offer two tiers of data-only service: For $40 per month, you get up to 200MB (from AT&T) or 250MB (from Verizon) of data per month; for $60 per month, you get 5GB of data per month.

Exceed your monthly bandwidth cap, and you'll pay extra: Verizon charges 10 cents per additional 1MB on the lower tier and 5 cents per additional 1MB on the higher tier; AT&T charges $10 per additional 100MB on the lower tier and a whopping 50 cents per additional 1MB on the higher tier.

You pay for speed, too. Verizon's EvDO Mobile Broadband network advertises download speeds of 0.6 to 1.4 megabits per second and upload speeds of 0.5 to 0.8 mbps. AT&T's DataConnect plans advertise slightly higher speeds: downloads at 0.7 to 1.7 mbps and uploads at 0.5 to 1.2 mbps. Of course, actual results vary—check out our 3G tests (find.pcworld.com/64143) and compare.

AT&T's and Verizon's subsidized netbooks have almost »

True Cost of Subsidized Netbooks

ONE-TIME COSTS[1]	AT&T netbooks	Verizon netbooks	Netbook and 3G service unbundled[2]
	Dell Mini 10	HP Mini 110-1046NR	Dell Mini 10
Netbook price	$150	$200	$370[3]
Service activation fee	$36	$35	$35
MONTHLY CHARGES[4]			
Data plan (5GB/month limit)	$60	$60	$60
Total cost (over two-year contract term)	**$1626**	**$1675**	**$1845**
Cost of ownership (monthly)	**$68**	**$70**	**$77**

FOOTNOTES: [1] Prices apply to online purchases (in-store prices can vary). Prices do not include taxes, insurance, and other cellular-data fees. [2] Netbook purchased from Dell online. USB modem and two-year 3G service plan purchased from AT&T. [3] Price includes $20 for a USB modem stick. [4] Prices are for a subsidized netbook with a two-year, 5GB/month data plan.

HERE IS A brief comparison of the total cost of ownership for two netbooks that U.S. wireless broadband service providers AT&T and Verizon currently sell. Browse to find.pcworld.com/64125 for an expanded, more-detailed chart.

PCWORLD.COM

U.S. wireless carriers have long drawn complaints—see "10 Things We Hate About Wireless Carriers" at find.pcworld.com/64160 and "5 Ways Wireless Carriers Gouge You" at find.pcworld.com/64161.

identical total costs. If you settled for the lower data cap, you'd spend around $1100 over the 24 months of your service contract, whether you went with AT&T or with Verizon.

But a monthly data allotment of 250MB is barely enough to keep most people on top of their e-mail, so the majority of users would be better served by the higher data cap—in which case they'd spend about $1625 over two years with either wireless company (assuming that they never exceeded their data maximum in any month). So if AT&T and Verizon 3G provide coverage of roughly equal quality in your area (a big assumption, obviously), AT&T gets the nod for offering a bigger selection of netbooks. On the other hand, if you exceed your monthly allotment, AT&T charges significantly more.

Unappealing Alternatives?

If you would rather not buy your netbook from a phone company, you can buy it at an unsubsidized price elsewhere. But you still have to purchase 3G service from some wireless carrier, and it's cheaper to sign up for a two-year stretch—especially when you consider the cost of the USB modem you must also buy to connect your netbook to the 3G goodness. A USB modem from AT&T costs $120, and one from Verizon ranges from $50 to $200.

If you are determined to avoid a long-term contract, you can purchase a netbook at its "no-commitment price" ($450 from AT&T, $600 from Verizon). Depending on how much you spend on the netbook, however, this option would put you over the $2000 mark for two years of ownership.

Clearly, buying through a wireless carrier is no way to save money on a netbook. But using a netbook in large part entails accessing the Web via fast wireless Internet service; the netbook itself is really just a lightweight endpoint. If you think about the purchase that way, the sticker shock you receive from the two-year price of a subsidized netbook may well subside.

SKEPTICAL SHOPPER GINNY MIES

Money-Saver Sites You Haven't Heard Of

Looking for some new ways to find deals and conserve cash? Check out these bargain-hunting Websites.

RECESSION OR NOT, everyone looks for ways to save money without too much compromise. Thankfully, the Web has many deal-hunting tools to help you fulfill your shopping urges without breaking the bank. Beyond the old standbys like Craigslist or FatWallet.com, a few new sites have sprouted up with truly unique ways to help you stretch your budget. One caveat: These sites require some quality hunting time as well as daily visits, so don't expect to find the perfect deal on your first look.

Voyij

Voyij (www.voyij.com) aggregates deals from all the other travel Websites (Hotwire, Kayak, Priceline) and makes them searchable. You simply input your departing city, general travel dates, destination, and budget, and Voyij goes to work. It's ideal for flexible travelers, as finding deals with exact dates in mind can be difficult. But Voyij is still worth browsing. You can also follow its Twitter feed and receive alerts about deals on hotels or flights even if you don't have a particular trip in mind.

Groupon

Groupon (www.groupon.com) is quickly becoming an addiction for me. Every day, the site features a product or service from a business in your area (Groupon has deals in just about every major American city) at a discounted price. Here's the catch: You get that deal only if enough people sign up for it. Luckily, the Groupon community is rapidly growing, and you can invite friends to Groupon to make the same purchase. I've seen deals on everything from frozen pizza to Pilates classes, so you're bound to find something appealing.

Kashless

You know how useful Craigslist and Freecycle are for finding free stuff. Kashless (kashless.org) is also a site for digging up free loot, but you get rewarded for your activity there, too. With the Kashless Rewards program, members earn points for posting an item, inviting a friend to the site, receiving an item, and so on. You can then redeem your points toward products and coupons from different brands like Amazon, Best Buy, Cold Stone Creamery, and more. And why do you get rewarded for scrounging through somebody's free pile? According to Kashless, you're extending the life of a product, reducing raw-material demand, and eliminating waste. You definitely deserve that free sundae at Cold Stone.

ToolzDo

ToolzDo (www.toolzdo.com) is similar to Kashless, but with more of an emphasis on trading in neighborhoods. It is not just a market for free stuff, but lists items and equipment for rent, swap, and sale as well. For example, if you're looking for a digital camera, you can search and see a combined result of rental, swap, and giveaway options to choose from. And if you can't find exactly what you're looking for, you can post a wanted ad. You can also post ads for whatever you wish to sell or give away. ToolzDo doesn't have the community size of other sites, but it is definitely one to keep an eye on. ToolzDo even offers free resources and guides for small-business owners, rental professionals, and nonprofit organizations looking to make a little extra cash on the site.

ILLUSTRATION: HARRY CAMPBELL

New.

Quieter than ever before.

Introducing Bose® QuietComfort® 15 Acoustic Noise Cancelling® headphones.

Our best headphones. Since we introduced the world's first noise cancelling headphones over 20 years ago, we have conducted continuous research to improve this technology. Now, we have engineered significant advances in noise reduction to make the QC®15 headphones our quietest ever. Exclusive Bose technologies electronically sense more of the sounds around you, reducing more noise across a wider range of frequencies. And we didn't stop there. We developed a new ear cushion that further reduces unwanted noise. It works in harmony with the electronics to deliver a better listening experience and a comfortable fit.

Try them for yourself risk free. When you fly, the engine roar fades even further away. When you listen to music at home or at work, fewer distractions get in the way. Less noise, along with our acclaimed lifelike sound, a fit that stays comfortable for hours and the quality you expect from Bose. It all adds up to a combination of benefits unmatched in the industry. So now you can relax and appreciate music, movies or just some serenity more than ever before. We invite you to try QC15 headphones for yourself risk free for 30 days. And when you call, ask about making **12 easy payments,** with no interest charges from Bose.* We're so sure you'll be delighted, we'll even pay to ship them to your door.

Welcome to an even quieter world.

To order or learn more:
1-800-729-2073, ext. Q7718 or visit Bose.com/QC

BOSE®
Better sound through research®

*Bose payment plan available on orders of $299-$1500 paid by major credit card. Separate financing offers may be available for select products. See website for details. Down payment is 1/12 the product price plus applicable tax and shipping charges, charged when your order is shipped. Then, your credit card will be billed for 11 equal monthly installments beginning approximately one month from the date your order is shipped, with 0% APR and no interest charges from Bose. Credit card rules and interest may apply. U.S. residents only. Limit one active financing program per customer. ©2010 Bose Corporation. Patent rights issued and/or pending. The distinctive design of the headphone oval ring is a trademark of Bose Corporation. Financing and free shipping offers not to be combined with other offers or applied to previous purchases, and subject to change without notice. Risk free refers to 30-day trial only and does not include return shipping. Delivery is subject to product availability. C_007915

ON YOUR SIDE MARLA MIYASHIRO

I BOUGHT A refurbished TomTom One 130 S GPS device from Amazon. Unfortunately, its maps were outdated. Upgrading to current maps would be costly since TomTom charges by the age of the map data. TomTom support told me that its current map guarantee—which says that if the map loaded on your device isn't the latest version, you can get it for free—does not apply to refurbished devices. But Amazon's product description says TomTom "brings the Navigator back to like-new conditions," which I thought meant that it included current map data. Am I stuck with either using an out-of-date GPS unit or paying a high upgrade fee?

Charles Pollman, Dawsonville, Georgia

OYS responds: After we contacted TomTom about Pollman's issue, a representative stated that, though Pollman's GPS unit doesn't qualify for its map guarantee, the company would offer him a free map upgrade. Shortly thereafter, TomTom updated Pollman's account, enabling him to download the current map.

We recommend reading customer reviews of products you're thinking of purchasing; other people may alert you to potential pitfalls. If you're considering a refurbished GPS device, ask the manufacturer and the vendor about their map-update and warranty policies.

Rankling Repair Delay

Ken Bromberg of Highlands Ranch, Colorado, bought an Alienware M15 laptop for his son. When the case began to come apart, Alienware repaired it, but soon the laptop began showing the Blue Screen of Death, which reported an "uncorrectable hardware error." The Brombergs sent the PC to Alienware again. The company agreed that it had caused the issue, and said that it would make repairs even though the laptop was past its one-year warranty. The Brombergs got the laptop back, but the BSOD recurred, so they sent the computer a third time. After not receiving it for over seven weeks, Ken Bromberg contacted us for help.

An Alienware rep told us the company was experiencing delays in repair parts, which caused the long turnaround time. He also said the company has several ways to help compensate for delays. Alienware repaired the Brombergs' laptop within a week of our involvement and

gave them a three-month warranty extension and $100 in Amazon gift cards.

If you experience a long delay after sending a product in for repair, ask the company to compensate you.

Belkin Surge Protector Recall

In cooperation with the U.S. Consumer Product Safety Commission, Belkin is recalling about 68,700 SurgeMaster surge protectors (models F9G930-10, F9G930-v10, F9G930-10-W, F9G930G-CL, and F9G930-10-SN made in 2003; the model number and the date of manufacture are located on the back of the units).

The reason for the recall: The molding of the plastic 360-degree rotating plug can crack or detach from the plug, posing a shock hazard. At this writing, Belkin has received seven reports of the plug molding cracking, but no injuries have been reported. Consumers who own any of these surge protectors should stop using them and telephone Belkin at 800/952-1465 to order a free replacement. For more information, visit the company's site at www.belkin.com/recall.

Recalled: Nokia Cell Phone Chargers

NOKIA RECENTLY SAID that it would replace for free millions of faulty cell phone chargers that pose a shock hazard to users. The plastic casing surrounding the chargers in question could separate, exposing the unit's internal components—hence the shock hazard. The fault was discovered during a routine quality inspection, and Nokia says that it knows of no incidents where a user has been injured by the flaw.

Three separate chargers are affected: model numbers AC-3E and AC-3U manufactured between June 15, 2009, and August 9, 2009, as well as model number AC-4U manufactured between April 13, 2009, and October 25, 2009. To see if your unit is affected, check the label where your charger's voltage and manufacturing information is printed. From the label, you should be able to determine your model number and the name of the manufacturer.

To return your charger unit, go to Nokia's dedicated charger exchange Website (at find.pcworld.com/64167) and enter the model and identification numbers. The Website will then lead you through the steps required to exchange your charger. If you're not sure your charger unit is affected, you can also check your model on the exchange site. If your charger is part of the recall, Nokia recommends that you stop using the charger altogether.

You can also get an exchange by calling Nokia directly at 888/665-4228.

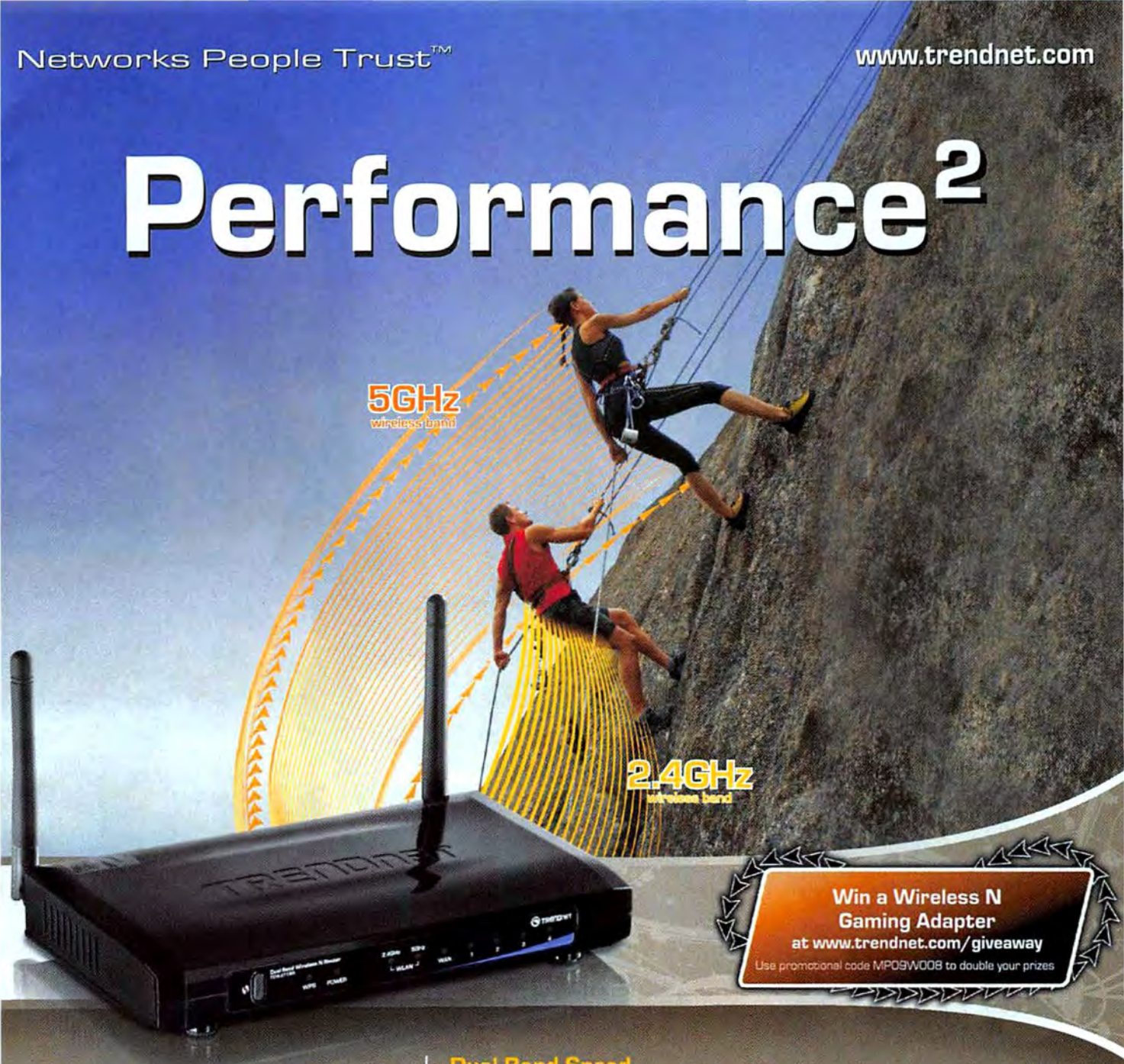
—Ian Paul

ILLUSTRATION: HARRY CAMPBELL

Networks People Trust™

www.trendnet.com

Performance²



Win a Wireless N Gaming Adapter
at www.trendnet.com/giveaway
Use promotional code MP09W008 to double your prizes

300Mbps Concurrent Dual Band Wireless N Router
TEW-671BR

Dual Band Speed

Experience unmatched wireless performance from two separate 300Mbps wireless bands at the same time!

Network Management

Stream HD videos on the uncrowded 5GHz band while surfing the Internet on the 2.4GHz band.

Advanced Security

Create virtual networks to give friends access to the Internet only, to block visibility of the 2.4GHz or 5GHz bands and to block access to hardwired computers.

Visit trendnet.com or call 1-888-326-6061

No purchase necessary to win. Void where prohibited by law. Sweepstakes is open to legal residents of the United States who are at least 18 years of age. One entry per person. For a complete set of rules, visit www.trendnet.com/giveaway.

amazon.com Buy.com J&R MICRO CENTER newegg TigerDirect.com

TRENDnet®

©2010 TRENDnet All rights reserved

Crucial has over 280,000 possible memory upgrades. There's one to meet your needs and your budget.

At Crucial, we're the Memory Experts℠. A DRAM upgrade makes computing easier. We have guaranteed-compatible upgrades for nearly every system out there — desktop or notebook, PC or Mac®.

For product information, online tools and more go to www.crucial.com/pcworld

crucial™
The Memory Experts℠

*For a limited time, place an order over $40 at www.crucial.com/pcworld and get free shipping (7-12 business days) within the contiguous U.S.

©2009 Lexar Media, Inc. All rights reserved. Information is subject to change without notice. Crucial and the Crucial logo are trademarks and The Memory Experts is a service mark of Micron Technology, Inc. All other trademarks are the property of their respective owners. Lexar Media, Inc. is a subsidiary of Micron Technology, Inc. Lexar Media, Inc. is not responsible for omissions or errors in typography or photography. Ad expires 30 days after publication.

Furnish Your Office Cheaply via Craigslist

BY PATRICK MILLER

CRAIGSLIST ISN'T JUST for job postings, used couches, and romantic pursuits; the classified-ads site is also exceptionally good for finding office furniture (cubicles, desks, chairs, and so on) at unusually low prices. Craigslisting is an art in itself, however, so we have some tips that will help you obtain the equipment your office needs.

Looking to outfit your small business or home office on a tight budget? Check the Craigslist classified-ad site for bargains.

A no-frills office chair and desk at OfficeMax are at least $170, a phone/fax costs another $60, and new cubicle units can be $500 to $3000 apiece, depending on configuration, height, and filing options. Spend a few minutes on Craigslist, though, and you'll find plenty of office furniture that sellers need to get rid of for cheap—or even for free.

However, though you might find great items in the 'Free Stuff' section, you have to be fast to pick them up, because in many cases they're sitting out on the street for the vultures (that's you) to pick over. And while our tips here will help you streamline your search, bargain hunting on Craigslist can be time-consuming. When budgeting, figure time into the calculation: If you'll end up spending an extra 3 hours to save just $20 on a used item, you might be better off buying it new at full price.

Narrow Down Your Search

Zero in on the relevant 'For Sale' categories ('Furniture', 'Business', and 'Free Stuff' are sensible choices), and then start searching. Try entering a general query ("office furniture") in 'Free Stuff' just to see what's available. If nothing comes up, move on to 'Furniture' and 'Business'.

On the San Francisco Bay Area Craigslist, I got 600 results for "office furniture," so I pared things down by checking 'has image'; if the seller couldn't be bothered to post a picture, I probably wouldn't want the item anyway. I also set the minimum price to $2 because I didn't want to see 'For Sale' ads from furniture dealers who submit listings with a tagged price of $1 but don't state any actual prices in their ads. Generally speaking, furniture dealers charge higher prices than furniture owners do.

If your needs are specific—filing (or "file") cabinets, say, or a receptionist's desk—the process is much easier. Narrow the search with your price range (and desired location, if applicable). As the "filing cabinet"/"file cabinet" example suggests, it's wise to conduct separate searches for alternative terms. In my tests a search for "filing cabinet" produced 15 results, while another for "file cabinet" generated 31 matches, with only 4 items repeated from the "filing cabinet" list. (A search for "file filing cabinet" returned only those overlapping entries.) Craigslist lets you specify a search as the source for an RSS feed; just click the yellow RSS button and add the search to your reader to stay current without actively prowling the site every 10 minutes.

Services like Craiglook (craiglook.com) and Searchtempest (www.searchtempest.com) offer Craigslist search functions for power users, such as slightly more refined options (terms to exclude, for example) and the ability to search other »

ILLUSTRATION: JOHN FERMAN

PCWORLD.COM

To get even more out of Craigslist, try automating your searches with assistance from the free CL Genie service. Read all about it in Rick Broida's Hassle-Free PC blog at find.pcworld.com/64148.

Craigslist portals for nearby regions.

If you can't find what you're looking for, try posting your own ad. Though Craigslist's 'Items Wanted' section gets far less love than its 'For Sale' category does, posting a list of your desired items can't hurt. If possible, give a phone number, too; sellers generally prefer the immediacy of a phone call.

Sealing the Deal

Once you discover a bargain, you need to buy it—and doing so isn't a simple, one-click affair. Here are a few tips.

Speed it up: Most sellers want to move stuff as quickly as possible—within minutes or hours, not days. When sellers provide a phone number, it's because they want you to call it rather than send an e-mail. If you have to use e-mail, include your phone number so that the seller can reach you immediately. To minimize the odds of having the ideal office chair pulled out from under you, buy that chair promptly. Dithering over transportation arrangements can cost you time and money, too: If you need a truck, line it up before you start the Craigslist search process, so it'll be ready to go when you need to pounce.

Indicate interest: Sellers don't want to wade through a dozen diffident potential buyers to find one who will follow through. Asking plenty of questions during your initial phone call is a good way to get details and to show the seller that you're interested in buying the item. Sometimes, establishing a clear interest can be more important than speed—after all, if sellers are using their valuable after-work hours to unload something, they want to deal with a buyer who won't waste their time.

Look for sellers with multiple listings: More often than not, sellers who are getting rid of office furniture are clearing out an office—which means that they usually have several items available and may be inclined to deal with (and perhaps work out a bargain with) people willing to take more than one piece off their hands. One-stop shopping saves you multiple trips around town, too.

NET WORK MICHAEL SCALISI

Office Live Add-In Eases File Sharing

With this Web-based add-in, you can access your documents on any PC.

IF YOU USE Microsoft Office and you frequently work on different computers, check out the Office Live add-in for Office Live Workspace (currently in public beta; find.pcworld.com/64141). This free online service lets you store and share up to 5GB of Word, Excel, and PowerPoint documents, and the add-in allows you to work with documents in Office Live Workspace without leaving the comfort of your Microsoft Office app.

Without your having to change the way you work, your documents will follow you whenever you're on an Internet-connected computer running Office; if you're away from your own PC, you can access your content from any other system. Office Live Workspace makes sharing documents across the Internet a breeze, too.

Setting Up Workspace

You need a Windows Live ID; if you already have a Hotmail account, you're good to go. Visit the Office Live Workspace Web page, click *Get Started Now*, log in with your Live ID, and create your workspaces by following the on-screen prompts. Then click *Install Office Live Update* to install the add-in for Office XP, 2003, or 2007.

Working with the add-in couldn't be simpler. To open a document from Office Live Workspace, click the Office button (in Office 2007) and select *Open from Office Live*. After the software authenticates your Live ID, you'll be able to browse the workspace as if it were your local file system. Saving files to the workspace is just as easy—select *Save to Office Live*. In Office 2003 and XP, the add-in puts Open and Save buttons right on your toolbar.

Microsoft even created a version for Macs, under a different name; it's included with Office 2008 SP2. You can find the feature on the File menu under *Open from Document Connection*. To access it, you opt to add a new location and then sign in to Office Live Workspace. For people who bounce between different operating systems, it's somewhat frustrating that the PC and Mac versions of Office are so different. Still, I find it convenient to be able to save a file from my PC and then open it on my Mac.

While some people are incredibly organized in managing files, others are more haphazard about where they save their documents. Saving to a cloud service such as Office Live Workspace makes finding files and managing versions easier. Despite Microsoft's claims that Office Live Workspace is designed for managing Word, Excel, and PowerPoint documents, I had no trouble uploading other file types. This is important, since projects often aren't limited to Office documents. Managing alternative file types requires working directly with the Office Live Workspace Web page.

For people who use Microsoft Office exclusively and participate in a minimal amount of collaboration, this Office Live setup is great. For more-extensive sharing and collaboration, Google Docs is still a more comprehensive approach. Unlike the Office Live add-in, Google Docs permits multiple users to edit a single document simultaneously, and it doesn't require all users to purchase a compatible version of Office. Things may change when Microsoft finally releases all of the free Web versions of its Office 2010 Suite (find.pcworld.com/64142). On the other hand, the offline abilities of Google Docs are rudimentary at best, and that is where Microsoft Office still shines.

ILLUSTRATION: HARRY CAMPBELL

Windows®. Life without Walls™. Panasonic recommends Windows.

intel Centrino 2 vPro™ inside™

Protect. Manage.

IN YOUR WORLD, BUSINESS NEVER STOPS. NEITHER SHOULD YOUR COMPUTER.

7 TIMES MORE RELIABLE THAN THE INDUSTRY AVERAGE.

For over fifteen years, Panasonic Toughbook® computers have delivered maximum reliability and performance by building ruggedness into every one of our mobile laptops from the inside out—from the shock-mounted hard drives, vibration-resistant LCD screens and spill-resistant designs, to the dependable built-in wireless. No matter how extreme the demands of your job, Toughbook computers powered by Intel® Centrino® 2 with vPro™ technology take care of business.

Learn more: 1.888.223.1184 / panasonic.com/toughbook

TOUGHBOOK®

LAPTOP EDITORS' CHOICE BEST NOTEBOOKS OF THE YEAR
Toughbook 30

EPEAT GOLD
Toughbook U1

TOUGHBOOK
FOR A TOUGHWORLD™

Toughbook 52* Toughbook 30** Toughbook 19*** Toughbook F8**** Toughbook U1

Panasonic ideas for life

Intel, the Intel logo, Centrino, Centrino Inside, Intel vPro and vPro Inside are trademarks of Intel Corporation in the U.S. and other countries. Toughbook notebook PCs are covered by a 3-year limited warranty, parts and labor. To view the full text of the warranty, log on to panasonic.com/business/toughbook/support.asp. Please consult your Panasonic representative prior to purchase. Panasonic is constantly enhancing product specifications and accessories. Specifications subject to change without notice. (*CF-52EV, CF-52GF and CF-52GU, **CF-30K, ***CF-19K, ****CF-F8EW are Intel® Centrino® 2 with vPro™ technology) ©2009 Panasonic Corporation of North America. All rights reserved. NeverStops_H_FY09-3

TECH AUDIT

Paperless-Office Software Rescues Ambulance Service

Learn how Georgia-based IT pros streamlined document processing for first responders.

WHEN THE FIRST responders at Georgia-based National EMS (nationalems.com) go to work, they save lives. They also produce a mountain of paperwork, all of which must be accurately managed and securely stored for a minimum of seven years.

The storage of these documents was a monumental task, and the labor required to handle them was overwhelming the 12-person office staff. Every few months, the office filing cabinets filled up, at which point the files had to move to a warehouse. Also, since the company works with Medicare and Medicaid, staffers had to make copies of documents for use in multiple files. A few dozen times a day, employees had to take time to pull files from storage.

To get the paperwork under control, National EMS called Computer Troubleshooters NRD. Our solution simplified the process while meeting the stringent requirements of the Health Insurance Privacy and Portability Act and other government regulations.

STAFFERS AT NATIONAL EMS now have Kodak i1220 duplex scanners to digitize files.

Smarter Document Management

To digitize the paperwork, we installed Kodak double-sided sheet-fed scanners. All billing personnel now have scanners at their desks, and two larger Kodak i1220 scanners are available for common use. Remote workers have the small scanners, as well, and can scan to the server.

We also deployed Cabinet NG document management software (www.cabinetng.com), which provides a secure, audit-driven system that allows staffers to comply with regulations more easily. We recommended the Synchronizer and Retriever options for integrating the software into the existing infrastructure. Synchronizer permits either a one-time import or an ongoing synchronization with a database such as that of the company's billing software. Retriever links Cabinet NG to existing programs and Web apps; when an employee calls up a customer in a program, Retriever pulls the appropriate documents in Cabinet NG.

The electronic workflow allows staffers to perform tasks—such as routing time sheets to a single manager for approval and moving folders to someone for review—quickly. Future plans include automating some of the document creation and instantly routing files to the person who needs to handle them next. We will be able to create alerts and conditions for any document necessary.

By reducing the amount of paper produced, and by eliminating high-volume copy machines, National EMS will save about $6000 annually. The company will also regain roughly 80 labor hours per week, since employees no longer need to file and retrieve paper documents. Electronic tracking features in Cabinet NG will improve worker accountability, as well. And over the next few years, the company will be able to repurpose its warehouse space as existing paper archives reach the required seven-year storage period.

—Doug Smith, Computer Troubleshooters NRD

To read more about real-world tech solutions, see the Tech Audit blog at find.pcworld.com/64147. If you're an IT provider serving the small to midsize business market, and you'd like to learn how you can contribute to *PCWorld Tech Audit*, send e-mail to techaudit@pcworld.com. We're always looking for more talented pros.

Tech Audit is written and produced in cooperation with IT professionals in the field. All recommendations and opinions expressed represent the independent judgment of the authors and do not necessarily reflect those of *PCWorld* or its editorial staff. ●

MEET THE PROS

Computer Troubleshooters

DOUG SMITH (far right) is the owner and proprietor of Computer Troubleshooters NRD, a Covington, Georgia–based IT firm with more than 50 years of combined IT experience on staff. Together, the team holds more than 50 industry-standard certifications, including multiple MCSEs. Contact the firm at 404/477-1302 or visit www.comptroubnrd.com.

FEBRUARY
2010

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

acer

TravelMate
TIMELINE

NEW TRAVELMATE TIMELINE
WORK SMARTER, TRAVEL LIGHTER

Acer® TravelMate® 8571

- Genuine Windows® 7 Professional
- Intel® Centrino® 2 Processor Technology
  Intel® Core™2 Duo Processor SU9400
- 4GB DDR3 1066 SDRAM
- 320GB[1] hard drive

TM8571-6465 (LX.TTX03.059)

$999

Visit acer.com/us

Windows 7 Professional

Acer TravelMate Timeline means long-lasting efficiency for your business, and with Windows® 7 Professional pre-installed you get more done, faster and easier, wherever you are.

circle-line.eu - ADV

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

Acer® Aspire® 4540

- Genuine Windows® 7 Home Premium
- Acer CineCrystal 14.0" display, 1366 x 768 resolution
- 4GB DDR2 667 SDRAM
- 320GB[1] hard drive
- Integrated Super-Multi drive
- 5-in-1 card reader
- 802.11b/g/Draft-N WLAN, gigabit LAN, V.92 modem
- Integrated webcam
- One-year limited warranty[2]

Acer Aspire 4540

- Genuine Windows® 7 Home Premium
- AMD Athlon™ X2 Dual-Core Processor M300

AS4540-1047 (LX.PFN02.052)

$549

Windows 7 Home Premium

Windows® 7 Home Premium allows you to manage and share information more easily, enjoying your photos, music, videos, games and DVDs.

acer

Acer® TravelMate® 6593

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

Acer TravelMate 6593

- Genuine Windows® 7 Professional
- Intel® Centrino® 2 with vPro™ technology Intel® Core™2 Duo Processor P8700
- 4GB DDR3 1066 SDRAM
- 320GB[1] hard drive, 7200RPM

TM6593-6639 (LX.TPV03.006)

$1,099

Acer TravelMate 6593

- Genuine Windows® 7 Professional
- Intel® Centrino® 2 with vPro™ technology Intel® Core™2 Duo Processor P8700
- 3GB DDR3 1066 SDRAM
- 250GB[1] hard drive, 7200RPM

TM6593-6585 (LX.TPV03.007)

$999

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

ASPIRE one
Your **second** connection

Acer® Aspire® One D250

- Genuine Windows® 7 Starter
- 10.1" display, 1024 x 600 resolution, Acer CrystalBrite Technology
- 1GB DDR2 667 SDRAM
- 160GB[1] hard drive
- Multi-in-one card reader
- 802.11b/g/Draft-N WLAN, 10/100 LAN
- Integrated webcam
- Up to nine hours battery life[4]
- One-year limited warranty[2]

Acer Aspire One D250

- Genuine Windows® 7 Starter
- Intel® Atom™ Processor N270
- Six-cell battery
- 2.8 lb

AOD250-1410 (LU.S680D.206) - Sapphire blue chassis
AOD250-1719 (LU.S670D.233) - Diamond black chassis

$349

Acer Aspire One D250

- Genuine Windows® 7 Starter
- Intel® Atom™ Processor N270
- Three-cell battery
- 2.4 lb

AOD250-1827 (LU.S680D.205) - Sapphire blue chassis
AOD250-1579 (LU.S670D.234) - Diamond black chassis

$329

Acer B273HU bmidhz

- 27" wide-screen TFT LCD
- 2048 x 1152 maximum resolution
- 40000:1 dynamic contrast ratio
- 160°/160° horizontal/vertical viewing angles
- VGA, DVI (HDCP), HDMI, four USB signal connectors
- 400 cd/m² brightness
- 5ms response time
- Two 1.5W integrated speakers
- Height, tilt and swivel adjustments

(ET.HB3HP.001)

$445

Acer D240H bmidp

- 24" wide-screen TFT LCD
- 1920 x 1080 maximum resolution
- 80000:1 dynamic contrast ratio
- 170°/160° horizontal/vertical viewing angles
- VGA, DVI (HDCP), HDMI, USB signal connectors
- 300 cd/m² brightness
- 2ms gray-to-gray response time
- Two 2.0W integrated speakers
- Digital photo frame function
- 1GB[3] storage
- CompactFlash®, Secure Digital card reader
- Tilt adjustment

(ET.FD0HP.001)

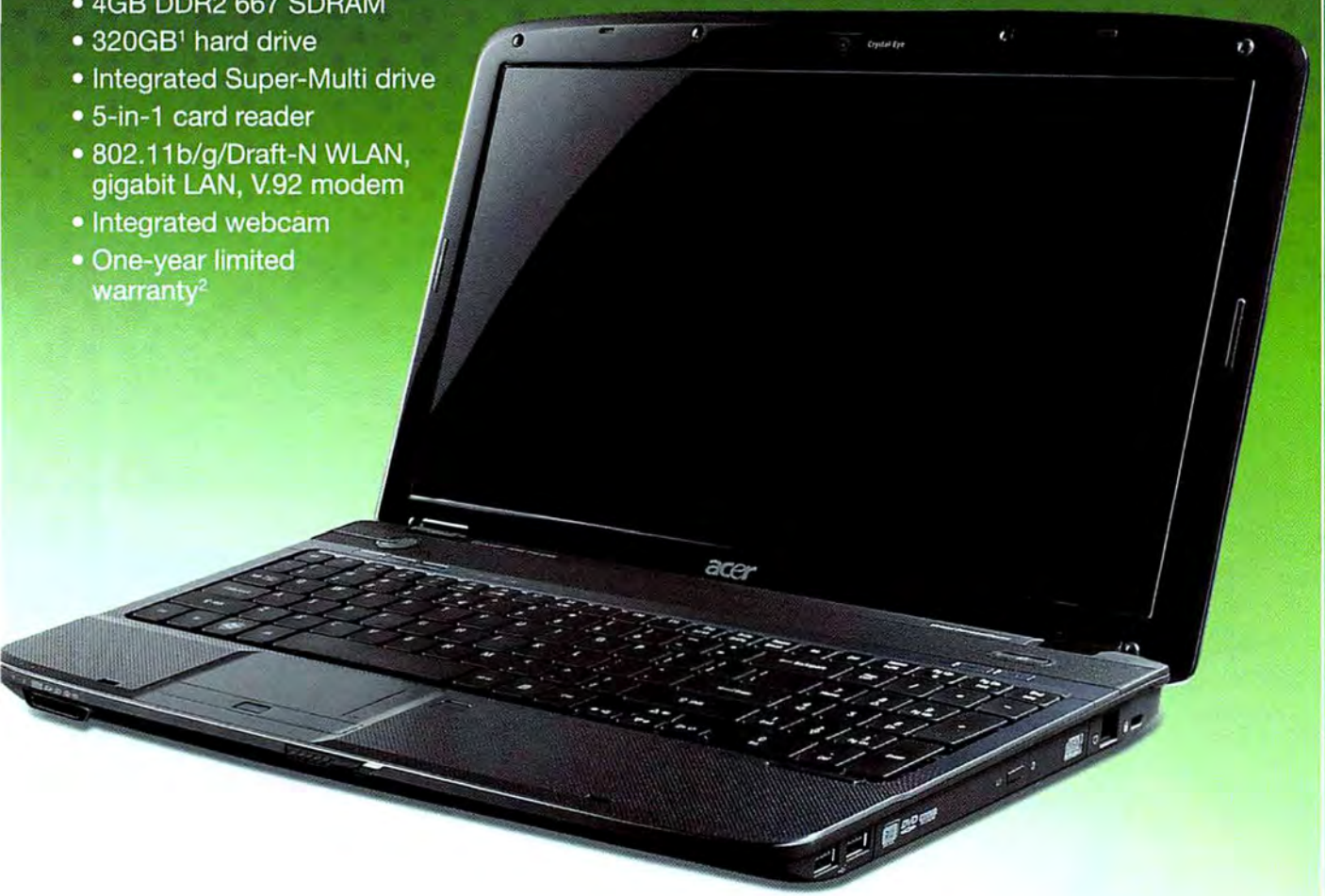
$325

acer

Acer® Aspire® 5542

Dolby® Surround Sound

- Genuine Windows® 7 Home Premium
- Acer CineCrystal 15.6" display, 1366 x 768 resolution
- 4GB DDR2 667 SDRAM
- 320GB[1] hard drive
- Integrated Super-Multi drive
- 5-in-1 card reader
- 802.11b/g/Draft-N WLAN, gigabit LAN, V.92 modem
- Integrated webcam
- One-year limited warranty[2]



Acer B243HL bmdrz

- 24" wide-screen TFT LCD
- White LED backlight
- 1920 x 1080 maximum resolution
- 8,000,000:1 dynamic contrast ratio
- 170°/160° horizontal/vertical viewing angles
- VGA, DVI (HDCP), four USB signal connectors
- 250 cd/m² brightness
- 5ms response time
- Two 2.0W integrated speakers
- Height, pivot, tilt and swivel adjustments

(ET.FB3LP.002)

$299

Acer Aspire 5542

- Genuine Windows® 7 Home Premium
- AMD Athlon™ X2 Dual-Core Processor M300

AS5542-1462 (LX.PHA02.058)

$549

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

Acer Aspire Z5610
Forget the mouse

Acer® Aspire® Z5610

- Genuine Windows® 7 Home Premium
- 23" wide touch-screen with integrated speakers
- 4GB DDR3 1333MHz SDRAM
- 320GB[1] SATA hard drive
- Super-Multi drive
- Multi-in-one card reader
- 802.11b/g/Draft-N wireless LAN
- Integrated webcam
- Wireless keyboard and mouse

All-in-One PC

Touch-Screen

Acer Aspire Z5610

- Genuine Windows® 7 Home Premium
- Intel® Pentium® Processor E5300

ASZ5610-U9072 (PW.SCY02.032)

$899

Acer T230H bmidh

- 23" wide-screen TFT LCD
- Touch-screen capable[5]
- 1920 x 1080 maximum resolution
- 80000:1 dynamic contrast ratio
- 160°/160° horizontal/vertical viewing angles
- VGA, DVI (HDCP), HDMI™ signal connectors
- 300 cd/m² brightness
- 2ms gray-to-gray response time
- One 1.5W integrated speaker
- Height, tilt and swivel adjustments

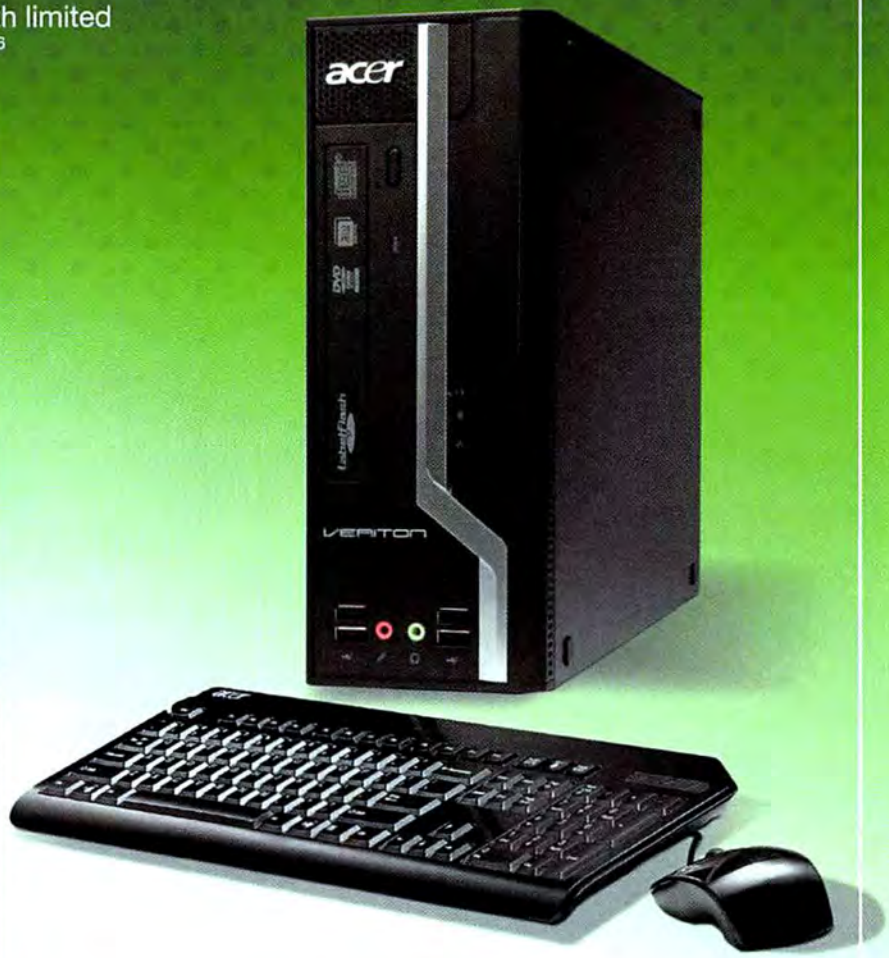
(ET.VT0HP.001)

$379

Acer® Veriton® X480G

- Genuine Windows® 7 Professional
- Downgrade right to Genuine Windows® XP Professional[3]
- Super-Multi drive
- Gigabit LAN
- PS/2®-style keyboard and optical mouse
- 4.0" W x 15.6" D x 10.5" H
- Three-year limited warranty[2] with limited on-site service during first year[6]

Compact PC



Acer Veriton X480G

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

VX480G-EQ8400C (PS.V9703.005)

$699

Acer Veriton X480G

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

VX480G-ED7600C (PS.V9703.004)

$599

Acer Veriton X480G

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

VX480G-ED5300C (PS.V9703.006)

$479

Acer S243HL bmii

- 24" wide-screen TFT LCD
- White LED backlight
- 1920 x 1080 maximum resolution
- 8,000,000:1 dynamic contrast ratio
- 170°/160° horizontal/vertical viewing angles
- VGA, two HDMI™ (HDCP) signal connectors
- 250 cd/m² brightness
- 2ms gray-to-gray response time
- One 2.0W integrated speaker
- Tilt adjustment

(ET.FS3LP.001)

$299

Acer G245H bmid

- 24" wide-screen TFT LCD
- 2010 Olympics model
- 1920 x 1080 maximum resolution
- 80000:1 dynamic contrast ratio
- 170°/160° horizontal/vertical viewing angles
- VGA, DVI (HDCP), HDMI™ signal connectors
- 300 cd/m² brightness
- 5ms response time
- Two 2.0W integrated speakers
- Tilt adjustment

(ET.FG5HP.001)

$259

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

acer

Acer® TravelMate® 5530

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

Acer TravelMate 5530

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

TM5530-5155 (LX.TQ903.004)

$749

Acer TravelMate 5530

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

TM5530-5369 (LX.TQ903.006)

$649

Protect Your Investment with an Acer Notebook Service Upgrade

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 for one billion bytes. Some utilities may indicate varying storage capacities. Total user-accessible capacity may vary depending on operating environments.
[2] For a free copy of the standard limited warranty end-users should see a reseller where Acer products are sold or write to Acer America Corporation, Warranty Department, P.O. Box 6137, Temple, TX 76503.
[3] The alternate operating system can be installed in place of, not in addition to, the pre-loaded operating system.
[4] With six-cell, 5800mAh battery and depending on configuration and usage
[5] Touch-screen capability requires appropriate software installed on the PC connected to the display. This software does not come with the display.
[6] 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**

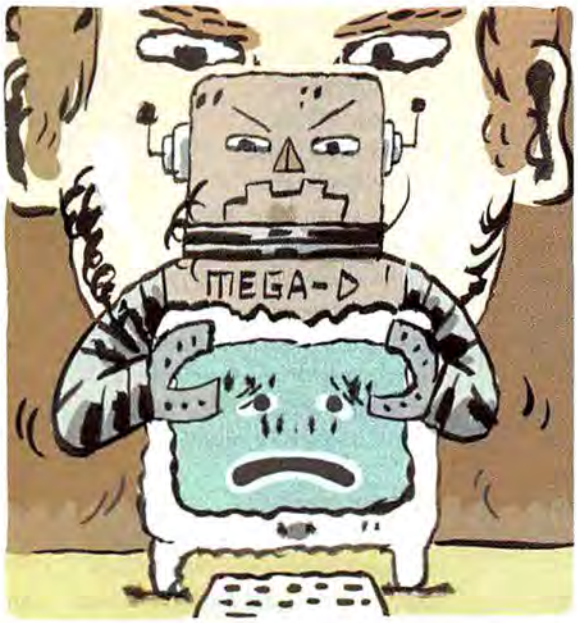
© 2010 Acer America Corporation. All rights reserved. Pricing is effective from January 15, 2010 through February 28, 2010. Information is subject to change without notice. Prices shown are estimated street prices and do not include tax or shipping. Retailer or reseller prices may vary. Product images are representations of some of the models available and may vary from the model you purchase. Acer, the Acer logo, Aspire, TravelMate and Veriton are registered trademarks of Acer Inc. Microsoft, Windows, the Windows logo, and Windows Vista are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. Other names and brands may be claimed as the property of others.

Good Guys Bring Down the Mega-D Botnet

BY ERIK LARKIN

Chalk up one for the defenders. Here's how a trio of security researchers used a three-step attack to defeat a 250,000-pronged botnet.

FOR TWO YEARS as a researcher with security company FireEye, Atif Mushtaq worked to keep Mega-D bot malware from infecting clients' networks. In the process, he learned how its controllers operated it. Last June, he began publishing his findings online (find.pcworld.com/64162). In November, he suddenly switched from defense to offense. And Mega-D, a powerful, resilient botnet that had forced 250,000 PCs to do its bidding, went down.



Targeting Controllers

Mushtaq and two FireEye colleagues went after Mega-D's command infrastructure. A botnet's first wave of attack uses e-mail attachments, Web-based offensives, and other distribution methods to infect huge numbers of PCs with malicious bot programs.

The bots receive marching orders from online command and control (C&C) servers, but those servers are the botnet's Achilles' heel: Isolate them, and the undirected bots will sit idle. Mega-D's controllers used a far-flung array of C&C servers, however, and every bot in its army had been assigned a list of additional destinations to try if it couldn't reach its primary command server. So taking down Mega-D would require a carefully coordinated attack.

Synchronized Assault

Mushtaq's team first contacted Internet service providers that unwittingly hosted Mega-D control servers; his research (find.pcworld.com/64163) showed that most of the servers were based in the United States, with one in Turkey and another in Israel.

The FireEye group received positive responses except from the overseas ISPs. The domestic C&C servers went down.

Next, Mushtaq and company contacted domain-name registrars holding records for the domain names that Mega-D used for its control servers. The registrars collaborated with FireEye to point Mega-D's existing domain names to nowhere. By cutting off the botnet's pool of domain names, the antibotnet operatives ensured that bots could not reach Mega-D-affiliated servers that the overseas ISPs had declined to take down.

Finally, FireEye and the registrars worked to claim spare domain names that Mega-D's controllers listed in the bots' programming. The controllers intended to register and use one or more of the spare domains if the existing domains went down—so FireEye picked them up and pointed them to "sinkholes" (servers it had set up to sit quietly and log efforts by Mega-D bots to check in for orders). Using those logs, FireEye estimated that the botnet consisted of about 250,000 Mega-D-infected computers (find.pcworld.com/64164).

Down Goes Mega-D

MessageLabs, a Symantec e-mail security subsidiary, reports that Mega-D had "consistently been in the top 10 spam bots" for the previous year (find.pcworld.com/64165). The botnet's output fluctuated from day to day, but on November 1 Mega-D accounted for 11.8 percent of all spam that MessageLabs saw.

Three days later, FireEye's action had reduced Mega-D's »

ILLUSTRATION: MARK TODD

PCWORLD.COM

See find.pcworld.com/64229 for advice on reducing your exposure to malware when you shop online. And at find.pcworld.com/64230, learn how to safeguard your PC against being conscripted into a botnet.

market share of Internet spam to less than 0.1 percent, MessageLabs says.

FireEye plans to hand off the anti-Mega-D effort to ShadowServer.org, a volunteer group that will track the IP addresses of infected machines and contact affected ISPs and businesses. Business network or ISP administrators can register for the free notification service; see find.pcworld.com/64166.

Continuing the Battle

Mushtaq recognizes that FireEye's successful offensive against Mega-D was just one battle in the war on malware. The criminals behind Mega-D may try to revive their botnet, he says, or they may abandon it and create a new one. But other botnets continue to thrive.

"FireEye did have a major victory," says Joe Stewart, director of malware research with SecureWorks. "The question is, will it have a long-term impact?"

Like FireEye, Stewart's security company protects client networks from botnets and other threats; and like Mushtaq, Stewart has spent years combating criminal enterprises. In 2009, Stewart outlined a proposal to create volunteer groups dedicated to making botnets unprofitable to run. But few security professionals could commit to such a time-consuming volunteer activity.

"It takes time and resources and money to do this day after day," Stewart says. Other, under-the-radar strikes at various botnets and criminal organizations have occurred, he says, but these laudable efforts are "not going to stop the business model of the spammer."

Mushtaq, Stewart, and other security pros agree that federal law enforcement needs to step in with full-time coordination efforts. According to Stewart, regulators haven't begun drawing up serious plans to make that happen, but Mushtaq says that FireEye is sharing its method with domestic and international law enforcement, and he's hopeful.

Until that happens, "we're definitely looking to do this again," Mushtaq says. "We want to show the bad guys that we're not sleeping."

BUGS & FIXES

ERIK LARKIN

Zero-Day Patch for Internet Explorer 6 or 7

A critical bug in IE; plus patches for Office, Java, Shockwave, and Mac OS X.

A DANGEROUS vulnerability in Internet Explorer 6 and 7 became publicly known before a fix was available, raising the specter of a high-risk zero-day attack.

The bug involves the way IE handles Cascading Style Sheets (CSS) objects, and could let an attacker run any command on a targeted Windows XP, Vista, Server 2003, or Server 2008 PC. Bad guys have already posted sample attack code online. IE 8 is not affected. For more information, see the advisory at find.pcworld.com/64180.

Meanwhile, a bug in the way Windows handles Embedded OpenType could allow a baddie to take over vulnerable Windows XP, 2000, or Server 2003 computers via malicious Websites or poisoned Office documents. The bug can't harm Vista or Server 2008, and doesn't affect Windows 7. Visit find.pcworld.com/64181 for details.

Office File Flaws

Two other patches repair Office flaws in Excel and Word affecting Office XP and 2003, and Office 2004 and 2008 for Mac.

The Excel bug endangers Office 2007, Office Excel Viewer 2003, and the Office Excel Viewer Service Office Compatibility Pack for Word, Excel, and PowerPoint 2007 File Formats. The Word flaw also affects Open XML File Format Converter for Mac, Office Word Viewer 2003, and Office Word Viewer. Microsoft rates the flaws as important; see find.pcworld.com/64182 (Excel) and find.pcworld.com/64183 (Word).

Microsoft has also released two critical fixes for business networks. One closes a hole in the Web Services on Devices application programming interface; it's critical for Vista and Server 2008 (find.pcworld.com/64184). The second flaw affects only Windows 2000 systems running License Logging Server (find.pcworld.com/64185).

Java and Opera Bump Up

Sun's Java Runtime Environment (JRE) and Java Development Kit (JDK) Update 17 closes a number of holes, including a serious flaw that allows attacks via Web pages. Java will check monthly to see whether updates are available, but you can check manually, too: Open Control Panel and double-click the *Java* icon. On the Update tab, click *Update now*. After updating, you may need to remove old Java versions manually with Add or Remove Programs. For details, or to download the latest Java, head to find.pcworld.com/64186.

Version 10.10 of Opera's Web browser fixes numerous bugs, including one that might let malicious JavaScript on a Web page launch an attack. Click *Help•Check for updates* to confirm that you have the latest version of Opera, and download version 10.10 at find.pcworld.com/64188.

Fix Shockwave and Mac OS X

An attack on critical vulnerabilities in Shockwave Player versions prior to 11.5.1.601 could "run malicious code on an affected system," Adobe says. Check your Shockwave version at find.pcworld.com/64189, and get the latest iteration (11.5.2.602) at find.pcworld.com/64190.

Finally, the Mac OS X 10.6.2 update corrects various problems involving PDF files, H.264 movies, TIFF images, and other things. Get it via Software Update, and read more at find.pcworld.com/64191.

BUGGED?

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

ILLUSTRATION: HARRY CAMPBELL

Worried about cybercrime?

ESET will protect you.

ESET Smart Security 4

Effective, fast protection for your PC

Our award-winning security technology is the most effective way to stop viruses, spyware, hackers, spam and other internet threats. By blocking threats the second they're released, we'll keep your internet experience safe and secure. Without slowing you, or your system, down.

www.eset.com

© 2009 ESET, LLC. All rights reserved. Trademarks used herein are trademarks or registered trademarks of ESET, LLC. All other names and brands are registered trademarks of their respective companies.

eset

Security Alert

Fake Swine Flu E-Mail Leads to Real Malware Infection

A NEW MALWARE campaign uses fake e-mail messages that purport to inform recipients of the government's H1N1 vaccination programs, but in reality try to install the Zeus Trojan horse.

Both McAfee and Symantec have issued warnings about the toxic e-mail missives, which are spoofed to look as though they originated at the "Centers for Disease Control and Prevention (CDC)," according to a screenshot in a McAfee blog post (find.pcworld.com/64225). Subject lines vary, but may use wording such as "Create your personal Vaccination Profile" or "Governmental registration program on the H1N1 vaccination." For more examples of subject lines and for the e-mail's body text, see McAfee's warning (above) or Symantec's post (find.pcworld.com/64226).

A link in the bogus message leads to a malicious but seemingly legitimate site that instructs victims to download a tool to create a vaccination profile. The URL for the deceptive site employs a common ruse: starting with what appears to be a genuine name (in this case, "online.cdc.gov...") but ending with an obscure actual domain (such as "...yhnbad.com.im"). The domain-name highlighting function in Internet Explorer 8 can help foil this trick (see find.pcworld.com/64228 for more on this feature), as can the Locationbar2 add-on for Firefox (find.pcworld.com/64227).

The downloaded executable file is, of course, the Trojan horse payload, which McAfee lists as a "very recent Zeus Trojan variant." Uploading such downloads to VirusTotal (www.virustotal.com) can help identify new malware that some malware engines might miss.

—Erik Larkin

PRIVACY WATCH ERIK LARKIN

Google's Dashboard Approach to Privacy

Dashboard gathers privacy controls and settings for most Google services onto one page—but only for Google accounts.

IF YOU USE Gmail, Google Calendar, Google Docs, or any of the ever-growing array of Google services, you may have cringed at the trove of personal data the company has gathered. To allay concerns, Google launched Dashboard, a single page housing privacy controls and settings for most of its services.

The Dashboard page, accessible at google.com/dashboard, gives you an overview of calendars or documents you share, your chat history, and sites you've authorized to access your Picasa pictures or Gmail contacts (such as a social networking site that can use your contact list to help you find other users, à la Facebook). You'll also find a list of search queries you've performed while logged in to Google. If you use the Google Toolbar and have enabled the Web history feature, you'll see your browsing history, too.

A Clean Search Slate

If seeing so much personal information stored on Google servers makes you uneasy, you can clear it or stop sharing it. Click *Remove items or clear Web history*, and remove some or all search terms. If you wipe your search slate clean, Google will assume that you want to opt out of saving such data, and it will automatically stop doing so. You can tell Gmail to stop saving your chat history, and decide whether YouTube can use your Google account info to target ads.

Google hasn't created any new privacy features or options for Dashboard; it has just made them easier to find. And faster, effortless control over our personal data is clearly a good thing. "It's definitely progress," says Ari Schwartz of the Center for Democracy and Technology, a consumer and privacy advocacy group.

But Dashboard is no privacy panacea. For one thing, it allows access to saved data tied to a Google account, but not to information (such as saved searches) tied to the unique identifier within a cookie. Google that says doing so would raise additional privacy concerns, because while logging in to a Google account verifies a person's identity, you have no such login option for a cookie. And allowing anyone sitting at a PC to see all of the searches tied to a cookie currently on that PC could reveal plenty of sensitive information.

It's a valid concern, but both Schwartz and Marc Rotenberg, of the Electronic Privacy Information Center, say that if the cookie-associated data is that sensitive, perhaps Google shouldn't be collecting it at all. That consideration, along with Dashboard's clear nudge to sign up for a Google account, leads Rotenberg to conclude that the new step is just "privacy theater," primarily for show, and isn't a real step toward securing users' sensitive information.

Security Starts at Home

Google and other online companies could do more to protect account holders' personal data. But the new Dashboard's promise of fast and easy access to settings and controls is a step forward.

Paradoxically, though, Dashboard can bust your privacy: If bad guys guess or steal your Google account information, they will have the same access to your Dashboard data that you have. So be sure to keep your Google password safe. ●

ILLUSTRATION: HARRY CAMPBELL

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

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

Monitor and Protect your Children Online with Spector Pro

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

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

PC MAGAZINE EDITORS' CHOICE
Spector Pro

About.com

SpectorSoft®

Take the next step

Call us today at **1.877.288.5702**

Visit us online at **www.SpectorProiswatching.com**

© Copyright 2009 SpectorSoft Corporation. All rights reserved. PC Magazine Editors' Choice Award Logo is a trademark of Ziff Davis Publishing Holdings Inc. Used under license.

Reviews & Rankings

BLU-RAY CHART toppers (from top): the Samsung BD-P3600 (#3), Panasonic DMP-BD60K (#1), and LG Electronics BD390 (#2).

Blu-ray Players for $300 or Less

As their prices fall, Blu-ray Disc players add streaming media capabilities to their already state-of-the-art high-definition image quality.

TODAY'S BLU-RAY Disc players do a lot more than play Blu-ray movies. Even so, they cost much less than they did a year ago.

Every model on our *Top 10 Blu-ray Disc Players* chart (see page 49) has an ethernet port for accessing Internet-based supplemental disc content via BD-Live. Seven of the ten support Web-based streaming media delivery.

Widgets and Web services are now a major feature of Blu-ray players. Rather than buy a dedicated box to handle streaming, you can buy a Blu-ray player that combines the pristine high-definition images of Blu-ray and the instant gratification of Netflix On Demand, YouTube, and other Web content.

Through Netflix On Demand, Netflix subscribers can access their Instant Queue over their TV. Other streaming services that one or more players we tested accommodate are Pandora Internet Radio, PlayStation Network, VieraCast (which includes Amazon On Demand and Picasa Vudu), and YouTube.

You'll get far superior image quality from a Blu-ray movie than from a streamed video, even if it's a high-def stream, but still the streaming options are convenient and worthwhile extras.

Every model on our chart can read digital images and music files from USB or SD Card; some can read AVCHD camcorder video and other video formats, too.

Price drops are another big development in this category. A couple of premium-priced models hit the $300 mark, and a handful come in at $250, but a typical player now costs $200.

All of the ranked models produced enticing high-def images, but we noted differences in image quality and (even more) in how the players handled standard-def. There, the Panasonic DMP-BD60K and the Sony BDP-S560 earned top honors.

Panasonic DMP-BD60K

Its price has fallen from $300 last spring to $160 today, but the DMP-BD60K remains at the top of its class, with lots of features, stellar image quality, and terrific design.

In our tests, the DMP-BD60K deftly handled every type of video content we threw at it, from bright cartoon colors to subtle shades of gray in a black-and-white film. The DMP-BD60K also

PHOTOGRAPHS: ROBERT CARDIN

INSIDE

52 LG ELECTRONICS N4B1

56 SONOS ZONEPLAYER S5

58 CISCO FLIPSHARE TV

62 SONY BRAVIA KDL-52XBR9

did a fine job of upscaling regular DVDs, producing well-balanced colors and surprisingly rich detail.

Compact, sleek, and attractive, this player will fit wherever you want to put it. Its Power and Eject buttons are large and well positioned.

Though the programmable remote control isn't backlit, it has large buttons, and the playback buttons are blue and thus stand out visually.

The DMP-BD60K features Panasonic's VieraCast Web portal for accessing certain Web content sites, including Amazon On Demand, Picasa, and YouTube.

On all counts, the Panasonic DMP-BD60K is a well-made Blu-ray player, and it ranks among the best such devices you can buy today.

LG BD390

When you pop a Blu-ray disc into the $300 LG BD390, prepare to be impressed. It delivered outstanding image quality in our tests. And with BD-Live, CinemaNow, DLNA, Netflix On Demand, Wi-Fi, and YouTube support, the BD390 provides top-flight networking capabilities.

Every Blu-ray disc we tried looked better on the BD390 than on our reference Sony PlayStation 3 player, with superb colors and dimensionality. In our black-and-white movie test, the sharp, clear whites on the BD390 made the PS3 presentation look yellowish by comparison. And an animated color scene had depth that was lacking on the PS3.

On upconverted DVDs, however, the BD390 didn't approach the same quality. It can stream content from CinemaNow, Netflix On Demand, and YouTube.

If you have a computer on your network that contains DLNA server software (such as Windows Media Player 11), the BD390 can use it to access multimedia files. The player supports DivX, JPEG, and PNG (photos), as well as MP3 and WMA (music).

The BD390's Power and Eject buttons are intelligently positioned on the front panel near the top of the machine, and are easy to press. The remote control, on the other hand, is disappointing.

The LG BD390 offers great images and plugs the Internet and your home network into your HDTV. It has its quirks; but if you can afford this unit, it's worth the price.

Samsung BD-P3600

The Samsung BD-P3600 carries a relatively high estimated street price of $300, but it delivers exquisite images from Blu-rays discs to your HDTV. And with an Internet connection, it can stream videos from Blockbuster, Netflix, and YouTube, and music from Pandora. Regrettably, the player makes the viewing experience more difficult than it should be.

In our image-quality tests for Blu-ray-based content, the BD-P3600 earned scores of Very Good almost across the board, showing better color and contrast than our reference Sony PlayStation 3 player. Night scenes looked realistically dark without losing detail, colors were believable, and black-and-white had excellent fidelity. In an animated scene, we saw texture that wasn't visible when we used other players. »

MIDDLE OF THE CHART (from top): LG's BD370 (#4), Samsung's BD-P1600 (#6), and Sony's BDP-S560 (#7).

Connect the BD-P3600 to the Internet, and you get four sources for streaming entertainment. One of them, Blockbuster on Demand, lets you rent or buy the right to stream movies (and in the future, TV shows).

The BD-P3600 also streams video from Netflix On Demand and music from Pandora, if you have accounts with those services.

The BD-P3600's unusual, soft-curved design looks cool, but the top hangs over the back about half an inch, making the connectors harder to reach. And since the buttons are on top, you can't put the player in the midst of a stack of components or on a tightly packed shelf in your rack system.

The player's wireless networking is the biggest challenge to set up. It lacks built-in Wi-Fi; instead, you must plug a wireless adapter into the back USB port—so you can't use that port for anything else.

Ultimately, the BD-P3600's negatives seem minor compared to what it gets right: a terrific picture and plenty of streaming Internet content.

LG BD370

The $200 LG BD370 can stream Internet video from CinemaNow, Netflix On Demand, and YouTube to your HDTV. And even by Blu-ray player standards, the BD370 delivers Blu-ray disc images with terrific clarity.

Images looked clear and detailed, with a dimensionality that popped out at us, making the visuals extraordinarily compelling. Matched against those on our reference Sony PlayStation 3 player, the BD370's images were obviously superior.

We can't offer the same praise for the BD370's handling of the more difficult task of upconverting DVDs.

ROUNDING OUT THE CHART (from top): The Insignia NS-WBRDVD (#10), Toshiba BDX2000 (#9), and Pioneer Electronics BDP-320 (#8).

But you don't need discs to enjoy the BD370. If you plug it into your network via the player's ethernet port, you can view movies and TV shows through CinemaNow, Netflix On Demand, and YouTube. LG's YouTube interface is fairly easy to use though it has some annoying quirks. For instance, the on-screen keyboard (needed for searches) is laid out alphabetically, not in the more familiar QWERTY format.

Physically, the BD370 is a mixed bag. A spring-loaded flap over the disc tray opens and closes with the tray, preventing it from being a serious annoyance. The Power, Eject, and Play/Pause buttons are poorly marked and confusing, but once you figure them out, they're easy to press. Another problem: The front panel has an excessively bright light, which you can't dim or turn off.

The remote control leaves much to be desired. Some commonly used buttons, such as Pop-Up Menu, are small and poorly placed. And LG hid the number buttons beneath a slide-away panel that resisted sliding open. The remote is programmable but not backlit.

Though those quirks are annoying, a great picture and a truckload of multimedia goodies make the LG BD370 one of the best Blu-ray players for its price.

Sony PlayStation 3 Game Console (120GB)

From the outset, the PlayStation 3 has billed itself as more than just another game console. And this machine lives up to its promise: It's still one of the most capable Blu-ray Disc players available.

The 120GB PS3 has built-in gigabit ethernet and supports BD-Live content that's deliverable via the Internet.

The PS3's movie playback experience works best if you start from scratch, inserting a disc into the front-loading slot as soon as you power up the unit. The total elapsed time from disc insertion to the start of the film is a respectable 24 seconds.

In their formal evaluation of the PS3's image quality, our judges rated color quality, detail, and brightness and contrast all Good—a step or two below the scores that some stand-alone players earned. Images routinely appeared a bit more crushed and a little less vibrant on the PS3 than they did on the other players on our chart. The differences in image quality were especially clear on our black-and-white film test, where the PS3 produced unsatisfactory gray tones in lieu of true black-and-white.

The 120GB model slims down from the original PlayStation 3, and it costs less, too. For $300, you can now enjoy watching 1080p HDMI output on a first-class, BD-Live-capable Blu-ray Disc player that also includes integrated Bluetooth and 802.11g, an upgradable 120GB hard drive, gigabit ethernet, support for 7.1-channel Dolby Digital sound (though the audio support doesn't match what stand-alone players provide), and Sony's powerful custom multiprocessing CPUs. Oh, and the unit plays PlayStation 3 games, too.

—Melissa Perenson and Lincoln Spector

MORE ONLINE

For a complete review and test report for each Blu-ray player ranked on our Top 10 chart, see find.pcworld.com/64242.

Top 10 Blu-ray Disc Players

Panasonic's DMP-BD60K delivers the best overall image quality and DVD upconversion.

LAB TESTED

	MODEL	Rating	Performance[1]	Features and specifications[2]	
1	BEST BUY Panasonic DMP-BD60K $160 find.pcworld.com/64202	★★★★½ SUPERIOR	• Color quality: Superior • Detail: Superior • Brightness and contrast: Superior • DVD upconversion: Very Good	• SD Card slot • Up to 7.1 channels of audio • Dolby TrueHD and DTS-HD Master Audio decoding	• Plays AVCHD, DivX, JPEG, MP3 • Streams Amazon Video on Demand, Picasa, YouTube
	▸ The DMP-BD60K delivers excellent image and audio quality; factor in its network streaming, and this model is a terrific bargain.				
2	LG Electronics BD390 $300 find.pcworld.com/64203	★★★★ VERY GOOD	• Color quality: Superior • Detail: Superior • Brightness and contrast: Very Good • DVD upconversion: Fair	• USB port; Wi-Fi • Up to 7.1 channels of audio • Dolby TrueHD and DTS-HD Master Audio decoding	• Plays DivX, JPEG, MP3, WMA • Streams CinemaNow, Netflix On Demand, Vudu, YouTube • DLNA access to media on PCs
	▸ Great Blu-ray images and the best streaming options we've seen to date on a Blu-ray Disc player justify the BD390's lofty price.				
3	Samsung BD-P3600 $300 find.pcworld.com/64204	★★★★ VERY GOOD	• Color quality: Very Good • Detail: Very Good • Brightness and contrast: Superior • DVD upconversion: Fair	• USB port; Wi-Fi • Up to 7.1 channels of audio • Dolby TrueHD and DTS-HD Master Audio decoding	• Plays DivX, JPEG, MP3 • Streams Netflix On Demand, Pandora, YouTube • DLNA access to media on PCs
	▸ The BD-P3600 delivers great-looking images and Internet streaming, but it should be a lot easier to use than it is in practice.				
4	LG Electronics BD370 $200 find.pcworld.com/64205	★★★★ VERY GOOD	• Color quality: Superior • Detail: Superior • Brightness and contrast: Superior • DVD upconversion: Fair	• USB port; Wi-Fi • Up to 7.1 channels of audio • Dolby TrueHD and DTS-HD Master Audio decoding	• Plays DivX, JPEG, MP3, WMA • Streams CinemaNow, Netflix On Demand, YouTube
	▸ A superb picture, a responsive interface, and lots of streaming goodness make the BD370 a fine player, despite some annoying quirks.				
5	Sony PlayStation 3 (120GB) $300 find.pcworld.com/64206	★★★★ VERY GOOD	• Color quality: Good • Detail: Good • Brightness and contrast: Good • DVD upconversion: Fair	• USB port • Up to 7.1 channels of audio • 120GB hard drive	• Plays PS3 games • Streams PlayStation Network • DLNA access to media on PCs
	▸ Slimline game console outputs good (not great) Blu-ray Disc images; it's a smart choice if you want to enjoy PlayStation 3 games, too.				
6	Samsung BD-P1600 $200 find.pcworld.com/64207	★★★★ VERY GOOD	• Color quality: Superior • Detail: Very Good • Brightness and contrast: Very Good • DVD upconversion: Fair	• USB port • Up to 7.1 channels of audio • Dolby TrueHD and DTS-HD Master Audio decoding	• Plays JPEG, MP3 • Streams Blockbuster, Netflix On Demand, Pandora, YouTube
	▸ The BD-P1600 has an annoying front-panel cover, but otherwise it offers superb color performance—and it has streaming video options.				
7	Sony BDP-S560 $300 find.pcworld.com/64208	★★★★ VERY GOOD	• Color quality: Very Good • Detail: Superior • Brightness and contrast: Superior • DVD upconversion: Very Good	• USB port; Wi-Fi • Up to 7.1 channels of audio • Dolby TrueHD and DTS-HD Master Audio decoding	• Plays JPEG, MP3
	▸ The BDP-S560 delivers very good images and Wi-Fi connectivity, but a poorly designed remote and no streaming extras lower its standing.				
8	Pioneer Electronics BDP-320 $250 find.pcworld.com/64209	★★★ GOOD	• Color quality: Very Good • Detail: Very Good • Brightness and contrast: Very Good • DVD upconversion: Good	• USB port[3] • Up to 7.1 channels of audio • Dolby TrueHD and DTS-HD Master Audio decoding	• Plays JPEG, MP3
	▸ This well-designed model delivers pleasing images, and it did well on DVD upconversion, but it omits any streaming capabilities.				
9	Toshiba BDX2000 $200 find.pcworld.com/64210	★★★ GOOD	• Color quality: Very Good • Detail: Very Good • Brightness and contrast: Very Good • DVD upconversion: Good	• SD Card slot • Up to 7.1 channels of audio • Dolby TrueHD and DTS-HD Master Audio decoding	• Plays JPEG, MP3, WMA
	▸ Great image quality prevents the Toshiba BDX2000 from being just another run-of-the-mill (albeit inexpensive) Blu-ray Disc player.				
10	Insignia NS-WBRDVD $180 find.pcworld.com/64211	★★★ GOOD	• Color quality: Superior • Detail: Very Good • Brightness and contrast: Very Good • DVD upconversion: Poor	• USB port; Wi-Fi • Up to 7.1 channels of audio • Dolby TrueHD decoding	• Plays JPEG, MP3, WMA • Streams Netflix On Demand
	▸ This low-cost model offers excellent image quality, wireless connectivity, and a pleasing Netflix interface; but its Wi-Fi setup falls short.				

FOOTNOTES: [1]Performance tests were conducted via HDMI, with video output to a 50-inch Pioneer Elite PRO-FHD1 plasma TV at its pure/bit-by-bit setting. [2]All players support BD-Live. Audio output depends on audio encoding on discs and chosen audio output connection (analog, coaxial, HDMI, or S/PDIF). [3]For BD-Live storage only. CHART NOTES: Prices are as of 12/10/09. All players output at 1080p over HDMI 1.3; all can play standard DVD movies; and all support 24p output, which matches the frame rate of film. For more details, see find.pcworld.com/56792.

Top 10 Color Laser Multifunction Printers

LAB TESTED

New models from Brother, Canon, and Oki are inexpensive, but struggle with photo quality.

	MODEL	Rating	Performance	Features and specifications
1	BEST BUY **Brother MFC-9450CDN** **$650** find.pcworld.com/62437	★★★★☆ VERY GOOD	• Text quality: Superior • Graphics quality: Fair • Tested speed: 10.8 ppm text/ 4.9 ppm graphics	• 21 ppm text • 21 ppm graphics • 2400-by-600-dpi maximum true color resolution
	▸ Good speed and cheap toner make the MFC-9450CDN a small-office bargain—as long as your color needs are simple.			
2	**Dell Multifunction Color Laser Printer 3115cn** **$899** find.pcworld.com/59860	★★★½☆ VERY GOOD	• Text quality: Superior • Graphics quality: Fair • Tested speed: 16.1 ppm text/ 5.4 ppm graphics	• 31 ppm text • 17 ppm graphics • 600-by-600-dpi maximum true color resolution
	▸ Speed and expandability are this Dell MFP's forte, making up for its subpar photos and quirks such as a confusing control panel.			
3	**Brother MFC-9440CN** **$600** find.pcworld.com/59859	★★★½☆ VERY GOOD	• Text quality: Superior • Graphics quality: Fair • Tested speed: 10.7 ppm text/ 4.8 ppm graphics	• 21 ppm text • 21 ppm graphics • 2400-by-600-dpi maximum true color resolution
	▸ This efficient printer, though only marginal for photos, is a solid choice for adding a little color to work documents.			
4	**HP Color LaserJet CM2320nf** **$599** find.pcworld.com/62301	★★★½☆ VERY GOOD	• Text quality: Superior • Graphics quality: Good • Tested speed: 10.9 ppm text/ 4.1 ppm graphics	• 21 ppm text • 21 ppm graphics • 600-by-600-dpi maximum true color resolution
	▸ The low-hassle design of this HP LaserJet is nice; if you print a lot, though, look for a model with cheaper black toner.			
5	**Brother MFC-9320CW** **$500 NEW** find.pcworld.com/64132	★★★½☆ VERY GOOD	• Text quality: Superior • Graphics quality: Fair • Tested speed: 8.6 ppm text/ 3.8 ppm graphics	• 17 ppm text • 17 ppm graphics • 2400-by-600-dpi maximum true color resolution
	▸ Brother's bargain unit includes Wi-Fi capability, but the tradeoffs are slow print speeds and mediocre graphics quality.			
6	**Konica Minolta Magicolor 4695MF** **$1299 NEW** find.pcworld.com/62440	★★★☆☆ GOOD	• Text quality: Very Good • Graphics quality: Very Good • Tested speed: 13.4 ppm text/ 3.4 ppm graphics	• 25 ppm text • 25 ppm graphics • 9600-by-600-dpi maximum true color resolution
	▸ This tanklike, heavy-duty unit can take a beating; it's rough around the edges, however, especially when scanning.			
7	**Canon Color ImageClass MF8350Cdn** **$699 NEW** find.pcworld.com/63540	★★★☆☆ GOOD	• Text quality: Superior • Graphics quality: Good • Tested speed: 11.0 ppm text/ 3.7 ppm graphics	• 12 ppm text • 8 ppm graphics • 2400-by-600-dpi maximum true color resolution
	▸ A busy office will appreciate this model's speed and features, but its toner pricing and photo quality are disappointing.			
8	**Xerox Phaser 6180MFP** **$999** find.pcworld.com/59861	★★★☆☆ GOOD	• Text quality: Superior • Graphics quality: Good • Tested speed: 17.2 ppm text/ 1.7 ppm graphics	• 31 ppm text • 20 ppm graphics • 600-by-600-dpi maximum true color resolution
	▸ This high-end unit offers good performance and features; just remember that it's not for the budget-conscious.			
9	**Oki Printing Solutions MC360 MFP** **$549 NEW** find.pcworld.com/64134	★★★☆☆ GOOD	• Text quality: Superior • Graphics quality: Good • Tested speed: 12.6 ppm text/ 4.5 ppm graphics	• 20 ppm text • 16 ppm graphics • 1200-by-600-dpi maximum true color resolution
	▸ Though the MC360 is cheap and fast, its toner is pricey; flesh tones in its images looked blotchy, and the design can be very confusing.			
10	**Xerox Phaser 6128MFP** **$599 NEW** find.pcworld.com/62455	★★★☆☆ GOOD	• Text quality: Superior • Graphics quality: Very Good • Tested speed: 8.9 ppm text/ 3.5 ppm graphics	• 16 ppm text • 12 ppm graphics • 600-by-600-dpi maximum true color resolution
	▸ The Phaser 6128MFP's print quality is great for the price, but text output is slow, replacement toner is expensive, and features are limited.			

CHART NOTES: Ratings are as of 11/2/09. Speeds are in pages per minute (ppm); resolutions are in dots per inch (dpi).

MORE ONLINE Visit our Printers Product Center at find.pcworld.com/63568 for the latest reviews, news, and how-to articles.

Identity theft is now the #1 crime in America.

It's time to protect yourself.

Protect yourself with SmartSwipe™—the credit card reader for your PC that provides safe online shopping, helping protect you from the risk of credit card fraud and identity theft.

Easy
Swipe your card, just like in the stores.

Fast
Never type in your credit card number again.

Secure
Never expose your card information to hackers and malware again.

Works on virtually every site accepting major credit cards.

SmartSwipe,™ it's finally safe to shop online.
Visit www.smartswipe.ca to find out why.

SMARTSWIPE™

LG N4B1 NAS Box: Ample Storage Plus a Blu-ray Drive

LG's N4B1 NAS box isn't a comprehensive media server, nor is it a particularly fast performer, but as a network-attached storage device, it's quick enough for home/small-business file serving.

This $700 unit is the sturdiest such box I've seen. And you can't beat its HTML configuration interface for looks or ease of learning and use. An integrated Blu-ray burner, however, is its most outstanding feature.

The Blu-ray writer lets you back the box's contents up to Blu-ray recordable or rewritable discs. In addition, you can use the drive to back up your CDs to disc images.

My other favorite N4B1 feature is its front-panel LCD, which lets you back up the box to both USB and Blu-ray as well as set the IP address without resorting to the HTML interface.

Though the N4B1 has only two USB ports (one in front and one in back), it also carries an SD memory card reader and an eSATA port for storage expansion or backup.

The N4B1 comes with four 500GB drives configured in a RAID 5 array for 1.5TB of storage. In performance, it finished in the middle of the pack. For a home or small-business environment it will do just fine—unless you want to stream multimedia content to a digital media adapter. The N4B1 serves up music only, and only to iTunes. This limitation doesn't mean you can't store or play video or images off of the unit; you can, but you have to conduct search, find, and play operations manually via a PC. For that reason, this NAS box is best for small businesses.

Considering the amount of storage on board and the integrated Blu-ray drive, it's a surprisingly affordable unit.

—Jon L. Jacobi

LG'S GOOD-LOOKING N4B1 NAS box integrates a Blu-ray burner.

★★★★☆ **VERY GOOD**

N4B1 | LG Electronics

NAS box has some unique features but weak multimedia streaming.

List: $700

find.pcworld.com/64177

BounceBack Essential Offers Easy PC Recovery

IF YOU LONG for the peace of mind of having a complete, up-to-date copy of your operating system and software, CMS's BounceBack Essential 9.1 will calm your soul—with little user intervention.

BounceBack Essential—the software also goes by the names BounceBack CDP and Instant PC Recovery, depending on where you look—is a $29 subset of the company's $69 BounceBack Ultimate package. Essential keeps only the current version of any file in one location—in effect, mirroring your main system, much as a RAID setup does. Essential requires a dedicated drive with enough room for all your data.

Installation requires only a few clicks along with correct entry of a serial number. After you have selected a drive to back up to, the software partitions it, renders it bootable, and copies your PC's contents onto it.

Once the initial backup is done, just let BounceBack run in the background. It can save changes at 1-minute to 60-minute intervals.

BounceBack Essential enables you to boot from the drive it's backing up to if your main installation fails, so you can keep working when you're on a deadline.

BounceBack Essential combines the strengths of imaging, file-based backup, and RAID mirroring; and it sidesteps most of the disadvantages of those other methods. It's quite possibly the best $30 backup program on the market.

—Jon L. Jacobi

BOUNCEBACK ESSENTIAL copies all your data to a dedicated drive.

★★★★½ **SUPERIOR**

BounceBack Essential 9.1

CMS Products

Reasonably priced backup software does the job with little fuss.

List: $29 (download); $39 (CD)

find.pcworld.com/64179

PHOTOGRAPH: ROBERT CARDIN

newegg.com®

ONCE YOU KNOW, YOU NEWEGG.®

Voted Best Place to Buy Online
6 Years in a Row!
-Shopper's Choice Award

YOUR I.T. HEADQUARTERS

NEWEGG.COM WHERE WE EAT, SLEEP, LIVE AND BREATHE COMPUTER TECHNOLOGY

Authorized Retailer:

AMD · Antec · ASUS · CORSAIR · crucial · EVGA · hp invent · intel · LG · LINKSYS by Cisco · Logitech · Microsoft · NVIDIA · OCZ · Seagate · SAMSUNG · SONY · Thermaltake · WD Western Digital · XFX

and more...

Also: newegg.ca · newegg business™

©2008-2009 Newegg Inc. All rights reserved

Follow us on:
TWITTER twitter.com/neweggdeals
FACEBOOK facebook.com/Newegg
MYSPACE myspace.com/newegg
YouTube youtube.com/newegg
EggXpert eggxpert.com

Top All-in-One PCs

From big touchscreens with Windows 7 to budget nettops, all-in-one PCs have come of age.

LAB TESTED

BIG-SCREEN ALL-IN-ONES (OVER 20 INCHES)	Rating	Performance	Features and specifications
1 **Sony VAIO L117FX/B** **$2000 NEW** find.pcworld.com/64213	★★★★☆ VERY GOOD	• WorldBench 6 score: 105 Very Good • Overall design: Good • Gaming: Fair	• 24-inch multitouch widescreen • 2.66GHz Core 2 Quad Q8400S • 6GB DDR2-800 RAM; 1TB storage • Blu-ray writer/reader, TV tuner
▸ Sony's all-in-one has multitouch for Windows 7, strong performance, a Blu-ray writer/reader, and lots of ports. But it's not cheap.			
2 **Lenovo IdeaCentre A600** **$1150** find.pcworld.com/64214	★★★½☆ VERY GOOD	• WorldBench 6 score: 87 Fair • Overall design: Very Good • Gaming: Fair	• 21.5-inch widescreen • 2.13GHz Core 2 Duo P7450 • 4GB DDR3-1066 RAM; 1TB storage • Blu-ray reader, TV tuner
▸ A lush display, unmatched upgradability, and extras such as an HDTV tuner and a four-in-one remote make the A600 hard to resist.			
3 BEST BUY **Gateway One ZX6810-01** **$1400 NEW** find.pcworld.com/64216	★★★½☆ VERY GOOD	• WorldBench 6 score: 105 Very Good • Overall design: Fair • Gaming: Good	• 23-inch multitouch widescreen • 2.33GHz Core 2 Quad Q8200S • 8GB DDR3-1333 RAM; 1.1TB storage • DVD±RW drive, TV tuner
▸ Gateway's all-in-one has the best performance this side of Apple's iMacs, and has the multitouch display and TV tuner that they lack.			
4 **Apple iMac (27-inch/Core i7)** **$2200 NEW** find.pcworld.com/64257	★★★½☆ VERY GOOD	• WorldBench 6 score: 128 Superior • Overall design: Good • Gaming: Superior	• 27-inch widescreen • 2.8GHz Core i7-860 • 4GB DDR3-1066 RAM; 1TB storage • DVD±RW drive
▸ Fastest all-in-one PC we've seen runs Windows and OS X and has a huge screen; lacks extras like multitouch, Blu-ray, and a TV tuner.			
5 **HP TouchSmart 600xt** **$1460 NEW** find.pcworld.com/64215	★★★☆☆ GOOD	• WorldBench 6 score: 92 Good • Overall design: Very Good • Gaming: Fair	• 23-inch multitouch widescreen • 2.13GHz Core 2 Duo P7450 • 4GB DDR3-1333 RAM; 750GB storage • Blu-ray reader, TV tuner
▸ This TouchSmart PC is boosted by Windows 7's gesture support, but HP's custom multitouch software is even more impressive.			
6 **Acer Aspire Z5610** **$900 NEW** find.pcworld.com/64254	★★½☆☆ FAIR	• WorldBench 6 score: 101 Good • Overall design: Fair • Gaming: Poor	• 23-inch multitouch widescreen • 2.6GHz Pentium Dual-Core E530 • 4GB DDR3-1333 RAM; 320GB storage • DVD±RW drive
▸ Despite its small hard disk and its omission of a Blu-ray drive, the 23-inch Z5610 still offers good bang for your buck.			

BUDGET ALL-IN-ONES (20 INCHES OR LESS)	Rating	Performance	Features and specifications
1 BEST BUY **MSI Wind Top AE2010** **$650 NEW** find.pcworld.com/64217	★★★★½ SUPERIOR	• WorldBench 6 score: 80 Superior • Overall design: Good • Gaming: Poor	• 20-inch single-touch widescreen • 1.5GHz Athlon X2 Dual-Core 3250e • 4GB DDR2-800 RAM; 320GB storage • DVD±RW drive
▸ MSI's Wind Top AE2010 does a great job of filling the gap between budget-oriented all-in-one PCs and flashier big-screen models.			
2 **HP Pavilion MS214** **$600 NEW** find.pcworld.com/64218	★★★½☆ VERY GOOD	• WorldBench 6 score: 59 Superior • Overall design: Good • Gaming: Poor	• 18.5-inch widescreen • 1.5GHz Athlon X2 Dual-Core 3250e • 2GB DDR2-800 RAM; 320GB storage • DVD±RW drive
▸ The MS214 delivers a decent mix of features, performance, and price—if you can do without a touchscreen and with slow networking.			
3 **Lenovo C300** **$550 NEW** find.pcworld.com/64221	★★½☆☆ FAIR	• WorldBench 6 score: 42 Good • Overall design: Fair • Gaming: Poor	• 20-inch widescreen • 1.6GHz Atom N330 (Dual-Core) • 4GB DDR2-667 RAM; 640GB storage • DVD±RW drive
▸ Lenovo's 20-inch C300 provides a big screen and lots of storage; some critical deficiencies, however, put a dent in its usefulness.			
4 **Asus Eee Top ET2002** **$600 NEW** find.pcworld.com/64219	★★½☆☆ FAIR	• WorldBench 6 score: 37 Fair • Overall design: Fair • Gaming: Poor	• 20-inch widescreen • 1.6GHz Atom N330 (Dual-Core) • 2GB DDR2-800 RAM; 320GB storage • DVD±RW drive, nVidia Ion graphics
▸ This 20-inch system's performance and display quality just aren't at the level that they need to be for a good user experience.			

CHART NOTES: Prices and ratings are as of 12/14/09. Apple iMac tested using Boot Camp and 64-bit Windows 7.

MORE ONLINE For a look at why all-in-one PCs are making a comeback, browse to our slideshow at find.pcworld.com/64241.

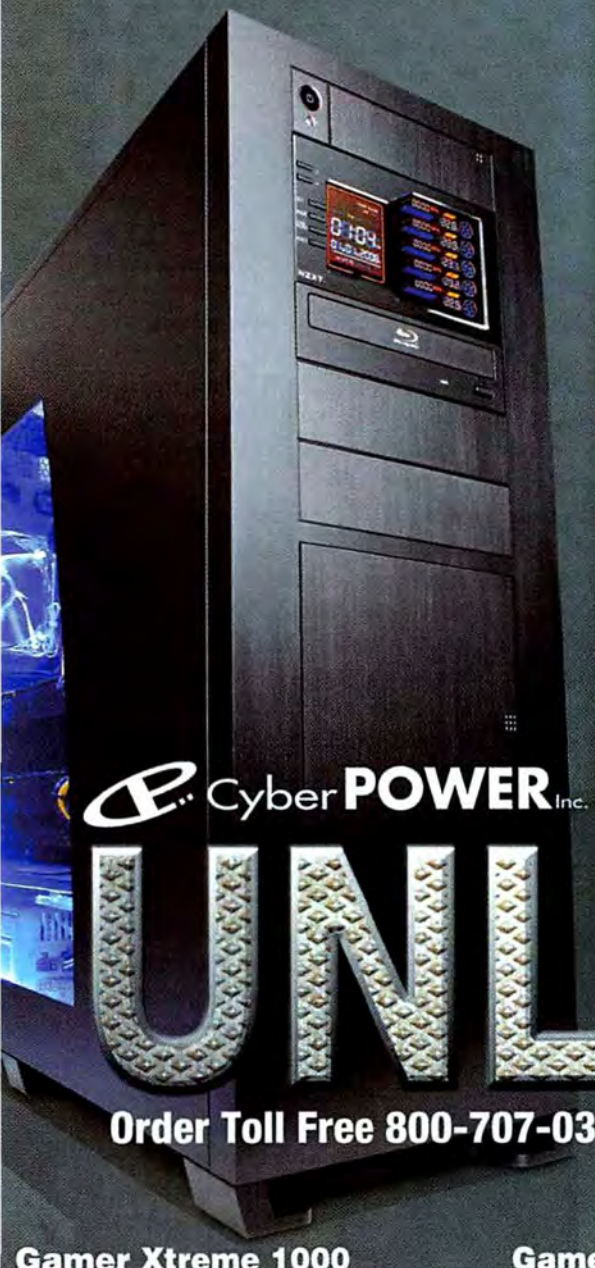
Windows®. Life without Walls™, CyberPower recommends Windows 7

www.cyberpowerpc.com

NEW

intel CORE i7 inside

Faster. Smarter.



Gamer Infinity 8800 Pro SE

Intel® Core™ i7-920 Processor
Genuine Window 7 Home Premium 64 Bit Edition

- MB Intel® X58 Chipset Mainboard
- RAM Corsair® 6GB DDR3-1333 Tri Channel Memory
- HD 1TB 7200RPM SATA-II 3.0Gb/s 16MB Cache Ultra Fast HD
- VGA ATI Radeon™ 5870 1GB Direct X 11 Video
- CASE Irwin Maelstrom Full Tower Case 800 Watt Power Asetek Liquid Cooling System

4X Blu-ray Player · DVD 24X±RW · HD 7.1 600 W · Xtreme Gear®

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

Extreme i7-975 3.33Ghz	$ 2335
i7-960 3.20Ghz	$ 1845
i7-940 2.93Ghz	$ 1665
i7-920 2.66Ghz	$ 1545

$1545

CyberPOWER Inc.

UNLEASH THE POWER

Order Toll Free 800-707-0393

YOUR UNLIMITED GAMING SOLUTIONS

Gamer Xtreme 1000

Intel® Core™ i3-530 Processor
Genuine Window 7 Home Premium 64 Bit Edition

- MB Intel® H55 Chipset Mainboard
- RAM Corsair® 4GB DDR3-1333 Dual Channel Memory
- HD 500 GB 7200RPM SATA-II 3.0Gb/s 16MB Cache Ultra Fast HD
- VGA NVIDIA® GeForce® GT 220 1GB
- CASE Apevia X-Crusier 2 Gaming case with 3 Meters & Controls 420 Watt Power Suppy

DVD 24X±RW · HD 7.1 600 W · Xtreme Gear® · Xtreme Gear® · FREE 802.11G

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

i7-970 2.93Ghz	$ 1135
i7-960 2.80Ghz	$ 825

Intel® Core™ i5 Processor

i5-750 2.66Ghz	$ 739
i5-670 3.46Ghz	$ 825
i5-660 3.33Ghz	$ 739
i5-650 3.20Ghz	$ 719

Intel® Core™ i3 Processor

i3-540 3.06Ghz	$ 655
i3-530 2.93Ghz	$ 645

$645

Gamer Infinity HD 5750

Intel® Core™ i7-920 Processor
Genuine Window 7 Home Premium 64 Bit Edition

- MB Intel® X58 Chipset Mainboard Supporting CrossFireX™/SLI™
- RAM Corsair® 6GB DDR3-1333 Tri Channel Memory
- HD 500GB 7200RPM SATA-II 3.0Gb/s 16MB Cache Ultra Fast HD
- VGA ATI Radeon™ HD5750 1GB
- CASE Apevia X-Dreamer 3 Gaming Case / 600 Watt Crossfire™ Power Asetek Liquid Cooling System

DVD 24X±RW · HD 7.1 600 W · Xtreme Gear® · Xtreme Gear® · FREE 802.11G

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

Extreme i7-975 3.33Ghz	$ 1885
i7-960 3.20Ghz	$ 1399
i7-940 2.93Ghz	$ 1228
i7-920 2.66Ghz	$ 1099

$1099

Gamer Xplorer X7-7700

Intel® Core™ i7 620M Processor
Intel® PM55 Chipset
Intel® WiFi Link 5300 802.11 A/G/N
Genuine Window 7 Home Premium 64 Bit Edition

- 4GB DDR-3 PC1333 Memory
- 500GB SATA150 Hard Drive
- 17" WSXGA TFT Display 1680x1050 pixels
- 8x DVD+/-RW Drive
- 1000/100/10 Network & 56K V.92 Fax/Modem
- NVIDIA® GeForce® GTS 250M 1GB
- 3-in-1 Built-in Media Reader, 1 HDMI Port, 1 Firewire Port IEEE-1394 & 3x USB 2.0 Ports, 1 PCMCIA Type II Slot, 3 Hours Battery Life, Weight only 7.6 Lbs. Free Carrying Case

Intel® Core™ i7 Processor
(1333/1066Mhz)

Extreme 920XM	$ 2259
820QM (8MB 1.73Ghz	$ 1665
720QM (6MB 1.60Ghz	$ 1469

(1066Mhz, 4MB L3 Cache)

620M (4MB 2.66Ghz	$ 1429

$1429

All Desktop systems come with 3 year Limited Warranty + lifetime toll free techsupport

NVIDIA®, nForce®, GeForce®, SLI™ are trademarks or registered trademarks of NVIDIA Corporation or its subsidiaries in the United States and other countries. CyberPower PCs use genuine Microsoft® Windows® • www.microsoft.com/piracy/howtotell
Celeron, Celeron Inside, Centrino, Centrino Inside, Centrino Logo, Core Inside, Intel, Intel Logo, Intel Core, Intel Inside, Intel Inside Logo, Intel Viv, Intel vPro, Itanium, Itanium Inside, Pentium, Pentium Inside, Viv Inside, vPro Inside, Xeon, and Xeon Inside are trademarks of Intel Corporation in the U.S. and other countries. All prices are subject to change without notice or obligation. CyberPower is not responsible for any typographical and photographic errors. Copyright ©2008 CyberPower. All rights reserved.

TomTom's XL 340S Live: Data-Feed Services

THE TOMTOM XL 340S Live comes with an easy-to-read screen.

THE XL 340S Live is TomTom's second wirelessly connected GPS device (after the Go 740 Live). Its GPRS radio module serves live traffic updates, weather reports, Google Local searches, and fuel-price data.

At $300, the XL 340S Live is a bargain for a connected GPS device. Initially, you get a three-month subscription to the Live services; after that, they're $10 a month.

The unit has a 4.3-inch screen, comes bundled with TomTom's unique EasyPort mounting bracket, and includes maps for all 50 states, Puerto Rico, Canada, and Mexico. The built-in 7 million points-of-interest database, supplemented by Google Local Search, lets you find relevant POIs quickly.

The XL 340S Live uses TomTom's IQ Routes technology to provide the best route and to estimate your time of arrival based on historical speed data and traffic patterns. If a better route becomes available, you'll get an option to switch to it. The unit's text-to-speech feature provided clear directions at appropriate intervals.

To reach the Live services, you click a Live Service icon on the first screen of the main menu. You can search for fuel prices in any of five categories of fuel, and search by distance, price, or cheapest nearby source.

Google Local Search lets you conduct searches by name for POIs that are nearby, near your destination, in a specific city, or near any other 'Navigate to' option.

Whether the XL 340S Live is for you depends on how much you value its connected features. If you have a data plan on a smartphone, you could buy the unconnected XL 340S plus the optional $60 traffic receiver.

—Craig Ellison

★★★★½ **SUPERIOR**

XL 340S Live | TomTom

Inexpensive for a connected GPS device—if you want those services.

List: $300

find.pcworld.com/64192

Affordable New Sonos Music Streamer Sounds Great

I'VE REVIEWED LOTS of products from Sonos, makers of multiroom network music-streaming components. I've called their gear elegant, reliable, and great-sounding, but never inexpensive. At $399, however, the new ZonePlayer S5 is quite affordable, though it won't appeal to everyone.

The S5 looks a bit like an iPod dock, and its price is in line with high-end docks from companies like Bose. But most people won't connect their S5 directly to an iPod. Instead, they'll wire it (via ethernet cable) to a router so that they can access music from their PC's hard drive, or from Internet radio and Web music sites.

THE SONOS ZONEPLAYER S5 has an elegant design—and top audio.

Though the S5 has no control interface other than volume buttons, you can operate it via free software that you've loaded to your PC or Mac, via a free controller app for your iPhone or iPod Touch, or via the elegant, attractive, and (at $349) expensive Sonos CR200 Controller.

In any case, you won't be disappointed by the S5's sound. The player has five speakers, each with its own dedicated amplifier, and it aced all my sonic tests.

The Sonos system provides an exceptional wealth of listening options. For instance, you can search for podcasts and listen to them directly through the ZonePlayer. And it comes with preloaded connections to thousands of radio stations.

But if, say, you just want a stand-alone music player in a room that doesn't house your router, you'll have to buy a Sonos ZoneBridge (for $99) for a router connection.

Otherwise, however, you'll be hard-pressed to find an all-in-one music-streaming system that sounds better or offers more versatility.

—Edward N. Albro

★★★★½ **SUPERIOR**

ZonePlayer S5 | Sonos

Terrific listening options and sound; must be connected to your router.

List: $399

find.pcworld.com/64187

APC revolutionizes the UPS... again.

Cutting-edge UPS technology from the inventors of Legendary Reliability.

What do you get when you combine 25 years of Legendary Reliability with the latest in UPS technology? Introducing the new APC Smart-UPS range of interactive, intuitive, and energy-saving UPSs, designed to protect critical server and network equipment from power threats and downtime.

New APC Smart-UPS: Smarter. Easier. Greener.

Thanks to millions of dollars in research, APC can proudly claim that only the new Smart-UPS features the unique battery life expectancy predictor, telling you the exact month and year for battery replacement. Precision temperature-compensated charging extends battery life; unique power meter function monitors energy usage; and a patent-pending "green" mode boosts online efficiencies up to 99 percent, saving on utility costs. Plus, the interactive LCD provides detailed status, configuration, and diagnostic information previously available only via software.

When dollars count and performance is critical, insist on the more intelligent, more intuitive APC Smart-UPS. Now more than ever, the name on the outside guarantees reliability on the inside: APC Smart-UPS.

Intuitive alpha-numeric display: Get detailed UPS and power quality information at a glance - including status, about, and diagnostic log menus in your choice of up to five languages.

Configurable interface: Set up and control key UPS parameters and functions using the intuitive navigation keys. On rack/tower convertible models, the display rotates 90 degrees for easy viewing.

Energy savings: A patent-pending "green" mode achieves online efficiencies approaching 99 percent, reducing heat loss and utility costs.

Download a FREE copy of APC's White Paper #10, "Preventing Data Corruption in the Event of an Extended Power Outage."

Visit www.apc.com/promo Key Code p447w • Call 888-289-APCC x8283 • Fax 401-788-2797

APC by Schneider Electric

©2010 Schneider Electric, All Rights Reserved. Schneider Electric, APC, Legendary Reliability, and Smart-UPS are owned by Schneider Electric, or its affiliated companies in the United States and other countries.
e-mail: esupport@apc.com • 132 Fairgrounds Road, West Kingston, RI 02892 USA • 998-2150

FlipShare TV Brings Your Video to the Big Screen

THE FLIPSHARE TV box comes with a PC USB dongle and a remote.

FLIP POCKET camcorders make video capture (and YouTube posting) easy. Now, a companion set-top box seeks to make viewing such videos on your HDTV equally effortless. But while the $149 FlipShare TV capably streams high-def video from a PC hard drive, the quality of online videos can vary.

After you attach the bundled USB dongle to your PC, you connect the box to your TV set via its composite-video or HDMI ports. A user interface appears on the TV and states when the box is communicating with the FlipShare software on your PC.

The remote's menu button brings up your options: clips on your hard drive, videos that users have put on their FlipChannels, and your favorites. To create a FlipChannel or to view other people's videos, you must set up a free account via the PC software.

Video streamed from a laptop to my HDTV had bright colors, smooth motion, and great audio. FlipChannel videos did not look as good, probably because of the additional network hops required to transmit the stream to my Wi-Fi-connected laptop and then over to the box. In my tests, I noticed stuttering and audio loss—the same problems I've had with streaming other Internet video services through my laptop to a TV.

For Flip-camcorder fans who are willing to pay handsomely to view their own videos on a big screen, the FlipShare TV does the job.

—Yardena Arar

★★★½☆ VERY GOOD

FlipShare TV | Cisco

Set-top box streams video to a TV well, but the price is a bit high.

List: $149

find.pcworld.com/64144

Top 5 High-Definition Pocket Camcorders

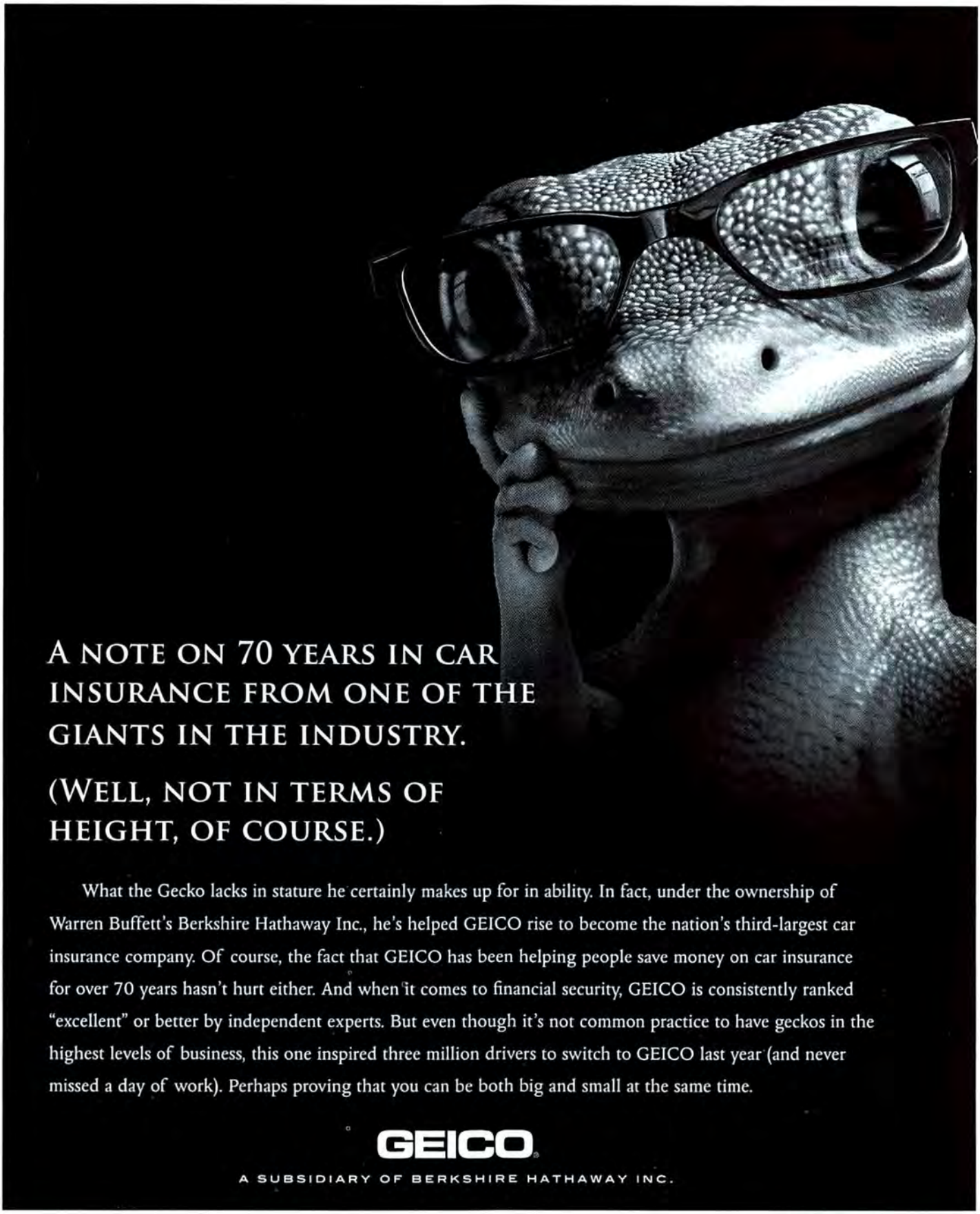
LAB TESTED

With one of these compact cameras, you can capture great video wherever you go.

	MODEL	Rating	Performance	Features and specifications
1	BEST BUY **Kodak Zi8 HD Camcorder** **$180** find.pcworld.com/64120	★★★★½ SUPERIOR	• Video quality: Superior • Low-light video: Very Good • Audio: Good	• Storage: SDHC card • USB connector: Flip-out • HDMI: Yes • Still images: 5 megapixels
	▸ The full-featured Zi8 captures the best HD pocket-camcorder footage we've seen, but its interface and digital zoom often get in the way.			
2	**Flip Video MinoHD (Second Generation)** **$230** find.pcworld.com/64121	★★★★½ SUPERIOR	• Video quality: Very Good • Low-light video: Superior • Audio: Good	• Storage: 8GB drive • USB connector: Flip-out • HDMI: Yes • Still images: No
	▸ The second-generation MinoHD is the sexiest and most solidly built pocket camcorder we've tried, and it offers very good video quality.			
3	**Flip Video Flip UltraHD** **$200** find.pcworld.com/64122	★★★★½ SUPERIOR	• Video quality: Very Good • Low-light video: Superior • Audio: Good	• Storage: 8GB drive • USB connector: Flip-out • HDMI: Yes • Still images: No
	▸ The UltraHD improves an already excellent line of camcorders with a wider-angle lens, better low-light footage, more storage, and an HDMI-out port.			
4	**Creative Technology Vado HD Pocket Video Cam** **$230** find.pcworld.com/64123	★★★★☆ VERY GOOD	• Video quality: Very Good • Low-light video: Fair • Audio: Fair	• Storage: 8GB drive; • USB connector: Flip-out • HDMI: Yes • Still images: No
	▸ Despite its ordinary looks, Creative's high-definition pocket camcorder impresses with its extensive feature set and solid performance.			
5	**Sony Webbie HD MHS-PM1** **$170** find.pcworld.com/64124	★★★½☆ VERY GOOD	• Video quality: Good • Low-light video: Fair • Audio: Very Good	• Storage: Memory Stick card • USB connector: Separate cable • HDMI: No • Still images: 5 megapixels
	▸ The flashy, well-priced MHS-PM1 doesn't deliver outstanding video quality, but it does offer great features and versatility for an HD pocket camcorder.			

CHART NOTE: Ratings are as of 11/23/09.

PHOTOGRAPH: ROBERT CARDIN (TOP)



GEICO is the third-largest private passenger auto insurer in the United States based on 2008 market share data as reported by the National Association of Insurance Commissioners, March 2009. At December 31, 2008 Government Employees Insurance Company had admitted assets of $12.5 billion, and policyholder surplus of $4.1 billion (including $33.4 million in paid up capital stock). Total liabilities were $8.4 billion, including $7.7 billion in reserves. Additional information is available at: http://www.geico.com/about/corporate/financial-information. Government Employees Insurance Co. · GEICO General Insurance Co. · GEICO Indemnity Co. · GEICO Casualty Co. These companies are subsidiaries of Berkshire Hathaway Inc. GEICO: Washington, D.C. 20076. GEICO Gecko image © 1999 – 2009. © 2009 GEICO

Attractive Palm Pixi Is Designed for Messaging

THE PIXI WORKS with an optional ($80) Touchstone inductive charger.

PALM'S PIXI ($100 with a two-year Sprint contract) is a slimmer version of the Palm Pre, in both specs and design. The 2.2-by-4.4-by-0.4-inch, 3.3-ounce WebOS phone supports gestures for scrolling, paging, going back, and pinch and zoom. The 2.6-inch, 320-by-400-pixel display is large enough for composing e-mail and text messages. Colors look accurate, and details are sharp.

Unfortunately, I had to use my nails to type on the unit's small, gummy keys. I wish that Palm had revised the keyboard for a phone that's meant for heavy messaging.

Call quality over Sprint's 3G network was very good. Parties on the other end said that my voice was sufficiently loud and clear. I heard no static, and no calls dropped.

In multitasking tests, the Pixi handled 11 apps without crashing, but I saw lag when browsing the Palm App Catalog or playing videos.

The Web browser renders pages beautifully. Since the Pixi lacks Wi-Fi, you're at the mercy of Sprint's 3G network; in my tests, media-heavy pages loaded slowly.

The no-frills, 2-megapixel camera snapped decent pictures, though the colors were somewhat washed out in a few of my shots.

Video playback was mostly smooth. The 2.6-inch screen was comfortable for watching just short YouTube clips. The Pixi also comes with the Sprint TV app, but those videos tended to stutter and looked slightly blurry.

If you want a phone mostly for messaging and social networking, consider the Pixi.

—Ginny Mies

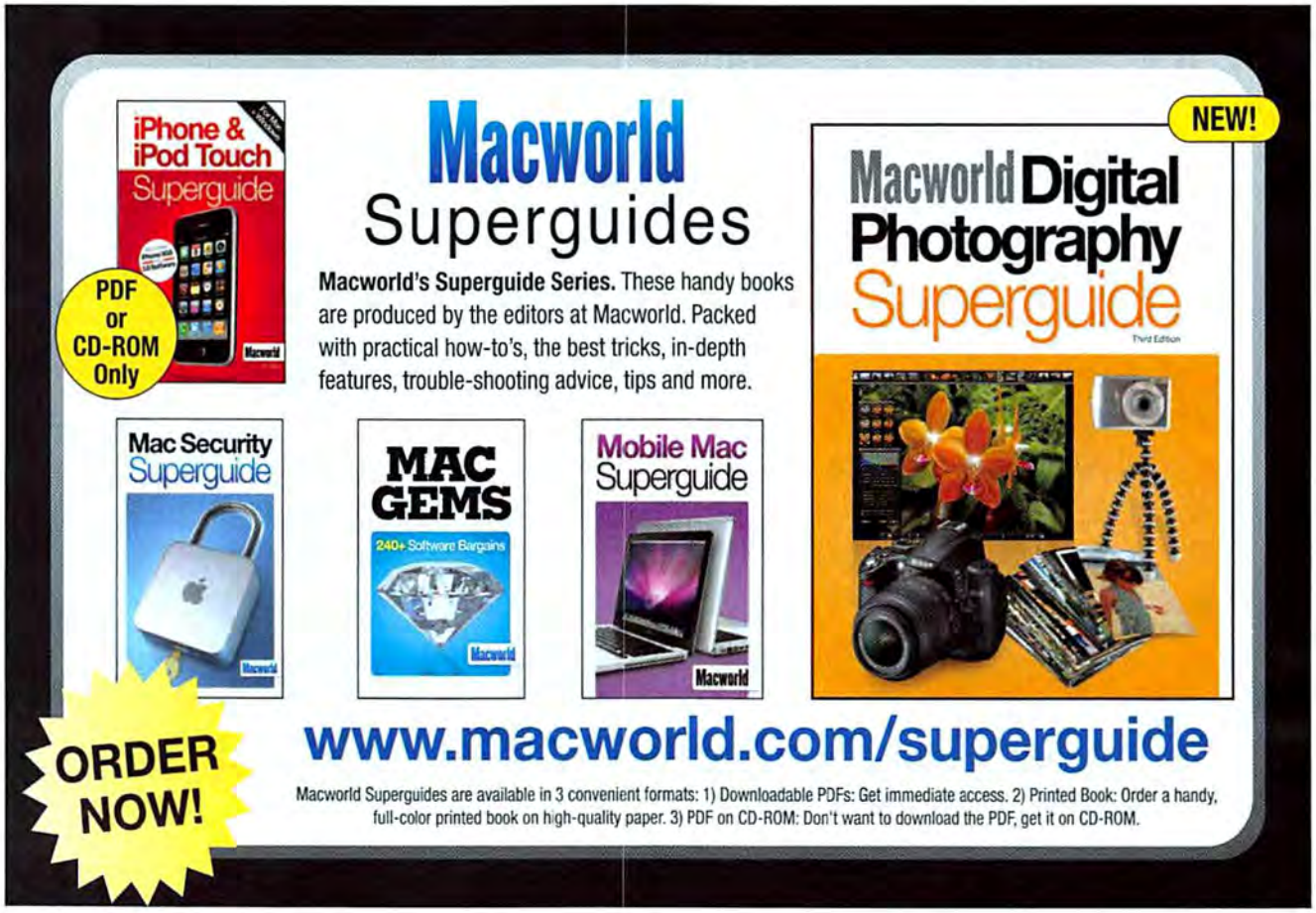
★★★½☆ VERY GOOD

Pixi | Palm

WebOS phone performs decently, but its keyboard needs reworking.

List: $100 (with two-year contract)

find.pcworld.com/64130



Behold II: Gorgeous but Expensive

SAMSUNG'S Behold II ($230 with a two-year T-Mobile contract) has a brilliant display and a superior camera, but its high price may turn off potential buyers.

Measuring 4.6 by 2.2 by 0.5 inches and weighing 4.2 ounces, the phone is pocketable and light. On the 3.2-inch, 320-by-480-pixel, capacitive-touch AMOLED display, colors are vivid and accurate, and interface animations look smooth.

The phone has 200MB of internal memory and is expandable up to 16GB. Samsung says it offers 6 hours of talk-time battery life, which would be pretty good.

In my tests, call quality over T-Mobile's 3G network was fine for the most part. Voices sounded clear and natural, with ample volume.

Though the touch keyboard is small, the autocorrect is reliable. I saw a slight lag between my typing and the appearance of text on screen.

Running the TouchWiz 2.0 interface over Android OS 1.5, the Behold II gives you three home pages that you can customize. The interface also has a separate Cube Navigation Menu for media.

The Web browser performs well. I noticed stuttering as I scrolled media-heavy pages, but navigation was generally smooth. Video playback on this display looks terrific, too.

The 5-megapixel camera is the phone's headlining feature. My photos were impressive, with bright colors and sharp details. Along with an LED flash, an 8X digital zoom, and autofocus, you get fun shooting modes, plus brightness controls. The touch interface makes it easy to adjust settings while you're in shooting mode.

—Ginny Mies

THE 3D-LIKE CUBE menu lets you access multimedia features.

★★★★☆ **VERY GOOD**

Behold II | Samsung

Multimedia junkies will like this pricey phone's display and camera.

List: $230 (with two-year contract)

find.pcworld.com/64131

iProlog CORPORATION

Yes You Can...

Print for 75% less!

inkgard™

INK & TONER SAVING SOFTWARE

Save! 75% Ink and Toner

SMART INK CONTROL

Works with any inkjet & laser printer!

Compatible with Windows 7

Also Compatible with Windows Vista/XP/2000

Inkgard™ is the easy download that optimizes image quality for maximum print yield and... is fun to use!

- Make 1 cartridge last as long as 4
- Maintain optimum print quality
- Works with any inkjet and laser printer
- BONUS: Powerful PDF generator

Only $9.99 annual subscription

Visit www.inkgard.com/PC1 for details or call 858-217-3130

Save even more with Inkgard™ cartridges for maximum yield and quality

HP, Canon, Dell, Epson, Lexmark and more

FREE Inkgard!

Get Inkgard™ FREE with purchase of any ink or toner cartridge!

Samsung, Sony HDTVs Offer Internet-Video Features

SOME HIGH-DEF TVs today are more than just televisions—they are multimedia machines. We looked at Samsung's $1200, 50-inch PN50B650 plasma and Sony's $2000, 52-inch Bravia KDL-52XBR9 LCD, both of which offer plenty of media features and options for viewing video and information from the Internet.

Image, Sound Quality

The PN50B650 did nicely in PCWorld Labs image-quality tests, generally scoring well for brightness, contrast, and color, with natural-looking and pleasing skin tones. Regrettably, it had difficulty with motion, particularly on our demanding diagonal-panning test, where it violently vibrated in what ought to have been a smooth pan over a still photo. You're not likely to see anything so problematic in normal TV viewing, but it's a sign that other issues may crop up.

Sony's KDL-52XBR9 scored particularly high for brightness and contrast, expertly handling light, dark, and midrange areas within images. As for color, while the set did a respectable job, two of our judges noticed a slight green tint. It had some motion issues, too, but they were minor. The set aced our horizontal-pan test, and it performed reasonably well (producing only a slight judder) in our diagonal-pan test.

When I cranked the Samsung's volume all the way, the sound distorted heavily. At a comfortable 60 percent volume, I still heard distortion on high notes. The Sony, at top volume, had little distortion; at 60 percent, it had no distortion at all. Neither set's pseudo-surround effect was much like the real thing; for actual surround, you need a separate sound system.

Internet Functions

Both sets shine when you link them to your home network via their ethernet port.

On the Samsung, you can watch YouTube, view Flickr photos, or enjoy a vast selection of Yahoo Widgets, such as news, sports, and weather. You can follow Twitter feeds or play Texas Hold 'em. You can watch movie trailers on Yahoo Video or view full movies via pay-on-demand services from Amazon and Blockbuster.

THE SAMSUNG PN50B650 offers lots of Internet-based functions.

The Sony has a remarkably extensive collection of Internet news and video options. Among them are Yahoo Widgets (called Bravia Widgets), Amazon and Yahoo movies on demand, Blip.TV, Sports Illustrated, CBS (clips and a few full episodes), the Fearnet horror-movie channel, Netflix, and YouTube.

With both sets, the ethernet connection also lets you access media stored on any networked computer that's running DLNA server software. Windows Media Player 11 and 12 qualify, and plenty of other DLNA server apps, many of them free, are available for Windows, Mac OS, and Linux. You can also plug a flash drive into either TV's USB port and view media that way. Your music choices are more limited with USB than with DLNA: Both sets can play only MP3 files natively. Over DLNA, they can play any format that the server software supports.

Samsung put a lot of great extras into the PN50B650, and is selling the set for a reasonable price; if you're not finicky about audio and video quality, it's a versatile and fun big-screen HDTV. Meanwhile, despite its tendency to favor green, the Sony Bravia KDL-52XBR9 is a very good choice, especially if you want to sit in an easy chair and watch the Internet on a 50-inch HD screen.

—Lincoln Spector

SONY'S INTERNET-SAVVY KDL-52XBR9 has great image quality.

★★★★☆ VERY GOOD

PN50B650 | Samsung

This capable and versatile HDTV provides great Internet extras.

List: $1200

find.pcworld.com/64237

★★★★☆ VERY GOOD

Bravia KDL-52XBR9 | Sony

Multimedia and Internet functions make this TV worth the high price.

List: $2000

find.pcworld.com/64238

PHOTOGRAPHS: ROBERT CARDIN

70,000 apps.

One app to rule them all.

Presenting App Gems From the editors of Macworld

Don't get overwhelmed by the 70,000+ apps at the iTunes store, buy the one app that sorts them all for you.

App Gems
www.appguide.com

Let the experts at Macworld deliver a daily app recommendation direct to your iPhone. We search through the clutter, looking for the best and the brightest, hand-picking apps from all categories and presenting you with our daily favorites. You'll also get access to our exclusive Essentials collection with customized categories, top-rated lists, news feeds and lots more!

Nokia Booklet 3G: Smart Looks, Slow Components

WITH A LAPTOP-LIKE design, meager specs (the 1.6GHz Intel Z530 Atom CPU, 1GB of RAM, and a 4200-rpm 120GB hard drive), and a 10.1-inch display, the tiny Booklet 3G is a fairly well-constructed portable with a focus on 3G wireless. But are you willing to pay $599, sans contract, for Nokia's maiden effort in the netbook market (or $299 with an AT&T data plan)?

THE BOOKLET 3G has a somewhat retro, upscale design.

In WorldBench 6 tests, the Booklet slogged along to a mark of 27—that's what happens when you have an underpowered machine running Windows 7. From a cold start, it takes 45 seconds to boot into the Windows 7 Starter Edition desktop. Try opening more than two applications at a time, and brace for the lag. The battery life is a somewhat better story—in our tests the Booklet lasted an impressive 8 hours, 39 minutes.

The device's smart styling is almost techno-retro, making it look like, well, a large cell phone. The glossy plastic lid may be a smudge magnet, but it nicely offsets the sturdy aluminum case.

But then try to use the machine. The 10.1-inch display, with its native 1280 by 720 resolution (not to mention the unit's HDMI output), may lead you to believe that you'll be able to enjoy HD video on it. Between the poky CPU and the low-speed hard drive, I found it tough to watch a 480-by-320 video in full screen. Colors and contrast were muted, and the glare was extremely noticeable unless I looked at the screen dead-on.

The hinge mechanism has almost no grip; the slightest bump kicks the screen back. As a test, I tried just slightly flicking my wrist while holding the machine, and the screen flopped out.

The keyboard has small, scrunched keys. In contrast, I really liked the touchpad: Spacious, with two big, satisfying mouse buttons, it makes navigating easy.

Measuring 10.4 by 7.3 by 0.8 inches and weighing 2.7 pounds, the unit feels substantial. On the edges are three USB ports, plus a combo mic and headphone jack; I recommend using headphones, because the built-in speakers barely rise above a whisper. Also on the side are the power switch and SD and SIM card slots.

As for software, the big draw looks to be Nokia Ovi Suite, the company's set of connectivity apps, which didn't come with our initial test unit. We hope to look at that in the near future.

Nokia has what it takes to make a smart-looking portable. But because of its poor components and its quirks, this product is too pricey.

—Darren Gladstone

★★☆☆☆ **FAIR**

Booklet 3G Nokia

Rugged and solidly built, but too pricey considering its quirks.

List: $599 (without contract); $299 (with two-year contract)

find.pcworld.com/64129

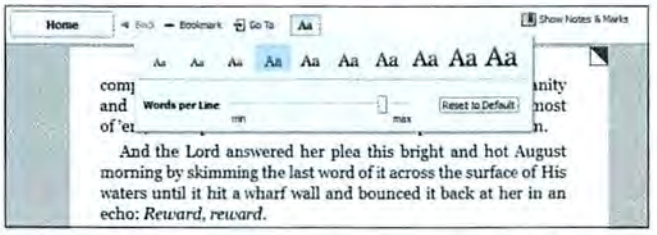
QUICK TAKE

Kindle for PC: A Basic E-Reader App

AMAZON'S FREE KINDLE for PC e-reader app handles the basics well. It installs in a jiffy. After you log in, you can look at archived items or shop at the Kindle Web store. Books appear as color thumbnails, sortable by author or title.

You click a book to bring up the reading interface. To turn pages, you can use your arrow keys or the scroll wheel of your mouse. Pages look good and crisp. You have ten font sizes to choose from, and you can set the page width. You can also view annotations and bookmarks, set bookmarks, and navigate. The 'Sync to Furthest Page Read' command lets you pick up where you left off if you've been reading a book on another Kindle device (or on the Kindle for iPhone app). This feature worked smoothly when I tried it.

Kindle for PC, however, does not let you create annotations; this seems odd considering that the iPhone app supports not only note creation but also the application of highlights to text. Kindle for PC lacks search capability, too. Amazon plans to add support for both features.



IN KINDLE FOR PC, you can adjust the text size and the page width.

If you don't mind doing without annotation features, the simple and intuitive Kindle for PC offers a cheap way to get going with the Kindle store. find.pcworld.com/64235

—Yardena Arar

T-Mobile's Laptop Stick Keeps You Connected

T-MOBILE'S WebConnect Jet is more stylish than its predecessor, the WebConnect USB Laptop Stick. Its shiny front has a blinking status light, and an adjustable hinge makes it unobtrusive. You get easy access to the SIM card, and an SDHC Card slot (supports up to 8GB).

The Jet can manage Wi-Fi and mobile-broadband connections, and it works internationally via 3G. The service

THE WEBCONNECT JET gives your laptop broadband access.

($60 for 5GB a month) also gives you access to T-Mobile hotspots. The latest software interface is much cleaner and more responsive than T-Mobile's earlier version.

A similar Verizon modem lacks the hinge, and its global version costs more. The Jet is a great deal if T-Mobile's 3G service is widespread enough for your needs.

—Melissa J. Perenson

★★★½☆ **VERY GOOD**

WebConnect Jet | T-Mobile

T-Mobile's second USB laptop modem looks good and works well.

List: Free (with two-year contract); service is $60 for 5GB per month

find.pcworld.com/64233

DOWNLOAD THIS

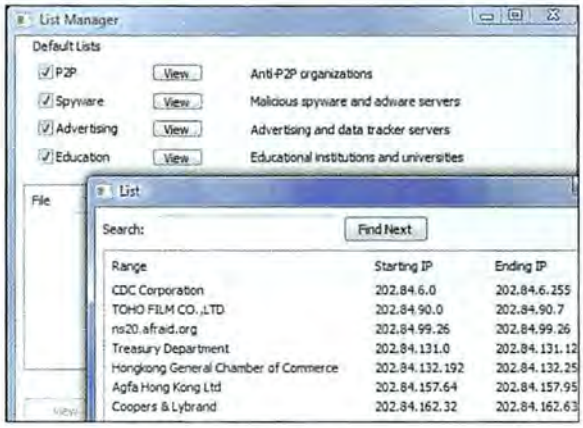
Defend Your Privacy and Manage Your Windows

YOUR PC IS your private place, where everything suits you perfectly—right? Well, these downloads can help. A free utility hides your Internet forays from a wide list of nosey parkers, and a Firefox add-on protects your privacy by telling you what the sites you visit may do with your information. Once you're safe in your own space, a desktop utility lets you settle in by customizing your windows.

PeerBlock

They're lurking out there: sleazy spyware companies, unscrupulous advertisers, and people you just don't want looking at what your computer is doing. PeerBlock offers low-level blocking of packets coming from, or going to, a long list of hosts. While any decent firewall will let you block hosts one by one, PeerBlock does a lot of the work for you, providing several frequently updated lists of host addresses. It's easy to add more blocklists, or to unblock a range of addresses for a short period (or forever). This is a useful first line of defense. find.pcworld.com/64198

—Ian Harac

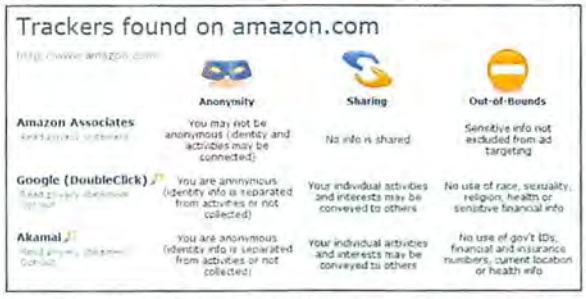


PEERBLOCK'S DATABASE MAINTAINS several categories of IP addresses that you might want to keep off your case.

TrackerWatcher

As you browse the Web, sites watch you. They gather information about you, potentially share it with others, and possibly keep it for a very long time. Which sites collect this information, and which don't—and what do they do with it? You have no way to know, unless you use TrackerWatcher. This excellent, free Firefox add-on evaluates the privacy-tracking features of the sites you visit, and reports the results to you in detail. You'll see four areas: whether you are anonymous when you browse the site; whether the site shares information with other parties; whether the site gathers sensitive information about you based on your activities there, such as your race, religion, and so on; and whether the site retains your personal information, and if so, for how long. Based on what you discover, you may not want to keep browsing that site. find.pcworld.com/64199

—Preston Gralla



TRACKERWATCHER DETAILS WHAT personal information Websites collect about you—and what they do with that data.

WindowSpace

If you typically juggle many open windows, WindowSpace could make managing them more efficient. You can maximize a window vertically or horizontally with a hotkey, minimize it to the system tray, or have it "snap" to the edges of other windows or the screen for smooth positioning. The app includes a number of predefined hotkeys for its custom options, but you can change them to suit your preferences. The same goes for the options listed when you right-click a window's title bar and look under the WindowSpace item. find.pcworld.com/64200

—Erik Larkin

Essential Windows Tricks

BY RICK BROIDA

Whether you run Windows 7, Vista, or XP, these 25 tricks will make your PC faster, safer, and even more fun to work with. »

ILLUSTRATIONS BY EDWIN FOTHERINGHAM

The Verdict is in:

Windows 7 is Microsoft's best operating system ever. The new version is stocked with genuinely handy interface upgrades (hello, Aero Snap), long-overdue networking improvements (we love you, homegroups), touchscreen support (long live tablet PCs), and the best Windows Media Center experience yet (ClearQAM support at last—find more on page 73).

Like every OS, though, Windows 7 can benefit from a few tweaks here and some add-ons there. We've rounded up 25 tips that can help you make Windows 7 faster, easier, safer, or more fun. And since many people still run XP or Vista, we've identified the tips that work with those Windows versions as well.

make it Faster

Is Windows 7 really speedier than Windows Vista or XP? Different tests have yielded varying results, but ultimately your experience depends on your hardware and the applications you run. Of course, with just a few simple tricks, you can wring better performance from any machine.

Go 64-Bit

works in: **VISTA, 7** Windows loves RAM. The more memory that you supply, the less the OS has to rely on the comparatively poky hard drive. But if you want Windows to address more than 3GB of memory, you have to run the 64-bit version. If you're buying Windows 7 as an upgrade, you should find a 64-bit installation disc in the box; ignore the 32-bit disc entirely. In addition to recognizing more RAM, 64-bit Windows makes better use of your PC's processor, giving you the best Windows experience possible.

Turn Off the Eye Candy

works in: **VISTA, 7** Everybody loves bells and whistles, but Windows' eye candy come at a price—especially on older PCs with single-core processors or minimal RAM. If you're more concerned with zippy performance than you are with transparent windows and animated controls, consider turning off the visual effects.

Startup Delayer lets you control how applications load at boot time.

Open the Control Panel, type **visual** in the Search field, and click *Adjust the appearance and performance of Windows*. Choose *Adjust for best performance*, and then click *Apply*. After a few seconds you'll see a decidedly starker Windows interface—and enjoy a much snappier response. If the look is too plain, you can choose the *Custom* option and then select any effects you want to restore. Just remember: The more you enable, the greater the performance hit.

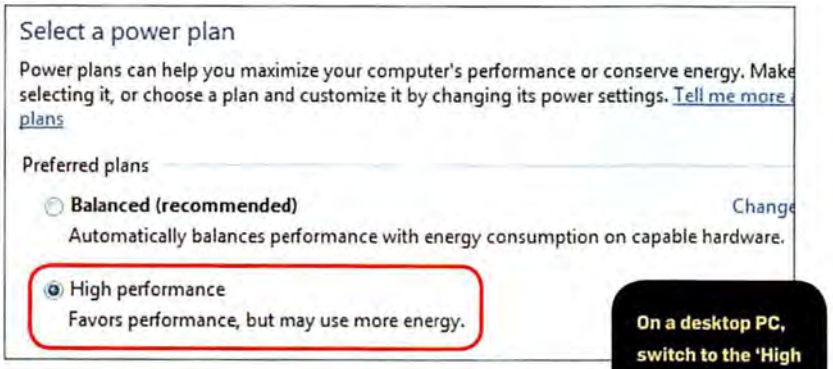
Boot More Quickly

works in: **XP, VISTA, 7** Does Windows 7 actually boot more rapidly than other Windows versions? Yes, a little. But the more programs you install, the slower your PC will start (something that's true of all Windows editions). Many apps force Windows to run them at startup—a situation not unlike a dozen cars trying to merge into one lane.

Startup Delayer (find.pcworld.com/64149) is a great tool that tells the startup programs you select to sit tight, be patient, and run a little bit later—after some of the traffic has cleared. The end result is that your computer boots much more quickly.

The utility presents you with a list of all the programs that start when your system does. To set a delay for any of them, just drag the item to the white bar at the bottom of the window. You will see a line representing the application; drag it left or right to decrease or increase the delay.

Startup Delayer is a freebie, and it's



On a desktop PC, switch to the 'High performance' plan for better results.

one of the best ways we know of to speed up a slow-booting computer. Even one that runs Windows 7.

Tweak Your Power Settings

works in: **VISTA, 7** Using Windows' power-management features to save energy makes sense—but you shouldn't do it at the expense of productivity. For example, if you are working on a desktop PC (or using a plugged-in laptop as your desktop), you don't need your machine's hard drive to turn off after 5 minutes, your processor to throttle back when idle, or your video playback to be 'optimized for power savings'. Since you're not attempting to preserve battery life on this machine, you should crank every performance setting up to the maximum.

By default, Windows Vista and 7 both come configured for 'Balanced' performance. To crank things up a bit, click *Start*, type **power**, and select *Power Options*. Choose the *High performance* plan. (If you don't see it listed, click *Show additional plans*.) Now your machine will run with desktop-optimized power settings. If you want to tweak individual settings, such as how long the hard drive should sit idle before shutting down, click *Change plan settings*•*Change advanced power settings*.

Remove Shovelware

works in: **XP, VISTA, 7** To this day many computer manufacturers insist on stuffing their new systems with unnecessary, unwanted software that consumes precious hard-drive space and slows the machine's startup. We're talking security suites you may not require, games you might not want, and vendor-branded utilities that are more nuisance than necessity.

Kick that junk to the curb. You can venture into the Control Panel and click *Uninstall a program*. Alternatively, use one of our favorite free utilities, Revo Uninstaller (find.pcworld.com/62049), to make a clean sweep; the tool not only uninstalls software, but also removes leftover files and Registry entries. Just make sure not to firebomb anything important, like Adobe Flash Player or Microsoft .Net Framework.

Switch to Chrome

works in: **XP, VISTA, 7** Quick: What's the single most-used app on your PC? The Web browser, almost certainly. So it's no surprise that one way to make your Windows experience faster is to switch to the swiftest browser, and that's Google Chrome. As we reported in "Browser Speed Tests" (find.pcworld.com/64150), Chrome loads pages faster than Firefox 3.5 (which ran a close second), Internet Explorer 8, Opera 10, and Safari 4. Granted, the advantage may amount to only a second or two, but those seconds add up. »

EXPERT tip: Eliminate the Aero Peek Delay

works in: **7** Aero Peek, one of Windows 7's most celebrated enhancements, temporarily turns all your windows transparent when you mouse over the Show Desktop button. If you accept the default settings, the effect takes nearly a full second to kick in. But why wait? A simple Registry hack will enable instantaneous transparency.

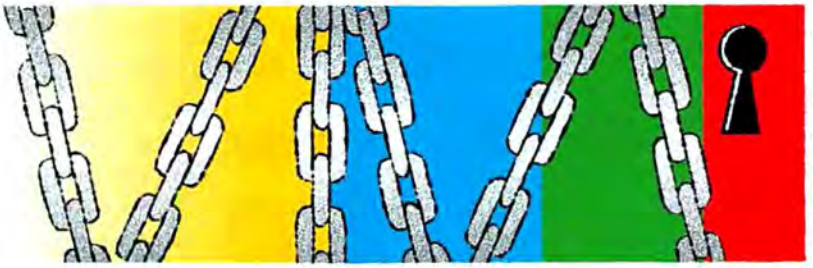
Press the **<Windows>** key to pop open the Start menu, type **regedit** in the search box, and press **<Enter>**. Then, within the Registry, navigate down to *HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Explorer\Advanced*.

Right-click an empty area in the right pane, and then choose *New•DWORD (32-bit) Value*. In the field, enter the name **DesktopLivePreviewHoverTime**. By default, Windows assigns a value of 0, which is exactly what you want. Restart the PC (or log off and back on). Next time you mouse over Show Desktop, you'll be Peeking at light speed.

EXPERT tip: Run Performance Monitor

works in: **7** If you like charts, numbers, and data sets, Windows 7 has just the tool for you. Performance Monitor tracks your PC's hardware and applications in real time, generating all kinds of data that you can review and compare. It's aimed more at system administrators than at everyday users, but if you're trying to confirm a sneaking suspicion that, say, iTunes is single-handedly tanking your system's performance, it can help.

To access Performance Monitor, press the **<Windows>** key, type **perfmon**, and press **<Enter>**. You can start assessing your system by expanding the Monitoring Tools folder and clicking *Performance Monitor*. From there you'll probably need to delve into the built-in help files, as the tool isn't exactly user-friendly. For more, check out the Microsoft Developer Network blog post on using Performance Monitor, at find.pcworld.com/64151.



make it Safer

Still looking for a good reason to trade Windows XP in for Windows 7? One word: security. The new operating system is inherently better at fighting infections, blocking hackers, and thwarting phishing attempts. And with the extra tools described here, you can lock it down like a digital Fort Knox.

Install Microsoft Security Essentials

works in: **XP, VISTA, 7** Windows 7 comes equipped with some solid security tools, including a robust firewall and the spyware-blocking Windows Defender. On top of that, you need a good antivirus program, one that works quietly in the background and won't bog down your system. Microsoft's Security Essentials (find.pcworld.com/64078) provides real-time protection against viruses and other kinds of malware, and its performance impact is negligible; *PCWorld* security guru Erik Larkin says it "holds its own" against other free antivirus utilities. Sounds like a fine alternative to paying an annual fee for virus protection.

The free Security Essentials antimalware app offers good protection.

Install Web of Trust

works in: **XP, VISTA, 7** The seemingly innocent act of clicking a Web link—even one that's at the top of a Google search-results page—can result in "drive-by downloads" infecting your computer. Scary, right? But how do you know whether a link is safe to click? Try using Web of Trust (find.pcworld.com/64152), a browser add-on that will warn you of unsafe sites.

Specifically, the plug-in adds color-coded icons to every link that your search engine produces: green for safe, yellow for risky, and red for dangerous. You can also right-click any link, such as one that appears in an online forum, and choose *View WOT scorecard* to perform a manual safety check.

WOT is free, and available for both Firefox and Internet Explorer. Although its rating icons add a little clutter to some Web pages, we recommend it very highly for anyone who is concerned about security.

Create a System-Repair Disc

works in: **7** Stop—before you do one more thing with your PC, dig out the box it came in. Do you see a Windows 7 disc or a system-recovery disc? They're less common these days, so chances are it falls to you to create your own. And it's vital that you do so, because if your system ever becomes unbootable, a recovery CD or DVD might be your only recourse.

Thankfully, Windows 7 makes the task exceedingly easy. Just pop in a blank, recordable CD or DVD (you'll need a burner, natch), click *Start*, type **repair**, and choose *Create a System Repair Disc*. Follow the instructions from there, remembering to label the disc when you're finished.

If you ever run into trouble, boot your system with the repair disc. It includes a variety of recovery and diagnostic tools, and also lets you choose a System Restore point to help get your PC back to a previous, working state.

Make this disc *now*. If you wait until after you have a problem, it's too late.

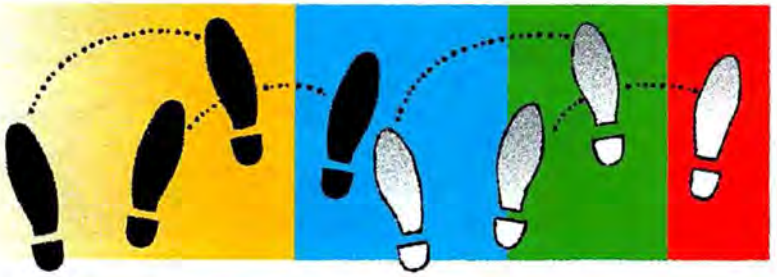
EXPERT tip

Tweak the UAC

works in: **7**

You remember the User Account Control, right? Incessant annoyance? Poster child for everything that was wrong with Windows Vista? Yep, that UAC. It's back in Windows 7, and its heart remains in the right place: It's still meant to protect you from running dangerous software or making unauthorized changes to your system—you know, of the malware, identity-stealing variety.

UAC can still be annoying, though. Fortunately Microsoft now gives you control over when and why UAC issues warnings. To tweak the settings, click *Start*, type **account**, and select *Change User Account Control settings*. You'll see a slider with four notification levels. By default, UAC is now a little less intrusive than it was in Vista, notifying you only when programs attempt to make changes and not when you make changes to Windows yourself. Want UAC to take a hike altogether? Drop the slider down to *Never notify*.



make it Easier

When is an operating system easy to use? When it works the way you want it to work. Here's how to make your Windows life simpler and more productive.

Close All Your Apps in a Flash

works in: **XP, VISTA, 7** Done working for the day? Don't try to close programs individually. Instead, close them all in one fell swoop with a click of the Close All Windows icon. Unlike the Show Desktop function, which merely minimizes all open windows, Close All Windows (find.pcworld.com/64153) terminates each running program. Don't worry about losing your work: If an open document needs saving, the program will prompt you—the same as if you had clicked the red Close button up in the corner.

To make the best use of Close All Windows, pin it to your taskbar. (XP and Vista users can add the icon to the Quick Launch toolbar.)

Move the Taskbar

works in: **VISTA, 7** Widescreen monitors are great for watching movies and organizing windows side by side, but much of the time all that real estate goes to waste. Why not move the Windows taskbar to the side? This may sound crazy at first (and you'll need a while to get used to the results), but since Web pages, Word documents, and the like run top-to-bottom, the more vertical space you can give them, the better.

By relocating the taskbar to the left side (or the right), you free up vertical space for the stuff you use every day while making smarter use of wasted horizontal space.

Right-click an empty area of the taskbar and clear the check mark next to *Lock the taskbar*. Next, left-click and hold on an empty area of the taskbar, and drag it to the left (or right) side of the screen. Once you get close, you'll see it lock in, at which point you can release the mouse button.

Vista users may want to extend the width of the taskbar (by clicking and dragging the right edge) to better see the labels for currently running programs. But Windows 7 users can keep the taskbar narrow, as the new OS doesn't use taskbar labels anyway.

EXPERT tip

Turn Your PC into a Wi-Fi Hotspot

works in: **7** Say that you have a broadband card in your laptop, but no way to share its whiz-bang wireless connection with your iPod Touch or another PC. Or maybe you've paid for a hotel's Wi-Fi service but you don't want to pay again just to connect other devices.

You need Connectify (find.pcworld.com/64156), a clever utility that turns your Internet-connected PC into the equivalent of a Wi-Fi hotspot. Though at press time it was an early-stage beta, it worked quite well on our test systems. After installing the program, just click the Connectify icon in the system tray, choose the connection you want to share, and then enter a name and password for your wireless network.

Now fire up your other devices and look for the new connection. Join it, enter the password, and you're off to the Internet races. Keep in mind, however, that because Connectify is still in development, it may not work perfectly with every device. On the plus side, the utility is free while it stays in beta, and it may remain an ad-supported freebie once it's finished.

Reload Apps After a Reboot

works in: **XP, VISTA, 7** Windows XP, Vista, and 7 have at least one thing in common: They always urge you to reboot after installing new updates and patches. Afterward, you'd think the OS would be courteous enough to restore your running programs, much as Firefox and Internet Explorer 8 restore tabs after a crash or restart—but, alas, no.

Thankfully, the no-cost Cache My Work (find.pcworld.com/64155) can reopen your apps after a reboot. It's especially handy for those times when you step away from your PC only to discover upon your return that Windows has restarted without even asking you.

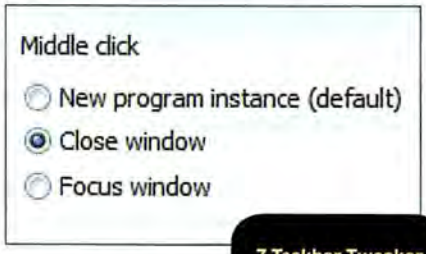
The tool builds a list of "cacheable" programs that are currently running. Check off the ones you want to restore, and click *Save*. (The utility also gives you the option of restoring Windows Explorer windows, a nice touch.)

Install Apps in a Flash

works in: **XP, VISTA, 7** So you just made the move to a Windows 7 machine, and now you need to install all of your software. Talk about a hassle, what with digging out the CDs, downloading programs from various sites, and then babysitting your system while it installs one application after another. There has to be an easier way.

There is. Ninite (ninite.com), an awesome free service, automatically downloads and installs popular no-fee apps. Just scroll through its list of 70-plus programs, checking off what you want. It offers current versions of nearly every major freebie, including Firefox, iTunes, Microsoft Security Essentials, OpenOffice, Picasa, Skype, and Steam. »

Once you've made your picks, click *Get Installer* to download a small executable file. Run that file and sit back while Ninite goes to work. How long the process takes depends on how many programs you've selected. We chose a baker's dozen (including the trial version of Office 2007 Standard, which we already own—now we just have to type in the security key), and Ninite was done in all of 10 minutes. That makes the service a must-have for anyone setting up shop on a new PC.



7 Taskbar Tweaker lets you adjust settings to suit your work style.

Tweak the Taskbar

***works in:* 7** Jump Lists, program pinning, rich thumbnail previews—the Windows 7 taskbar definitely offers some nice amenities. However, since it's "your" Windows (at least according to Microsoft's recent, ubiquitous ads), you should be able to make the taskbar work exactly the way you want it to. But you need an add-on to do that.

Enter 7 Taskbar Tweaker (find.pcworld.com/64154), a free tool that...well, the name says it all. This utility offers six taskbar adjustments, including one that replaces the Jump List with the old-fashioned window menu when you right-click a running program.

Other options include disabling thumbnail previews, turning off window grouping, opening (rather than pinning) a file that you've dragged to a taskbar program, and cycling through windows when you left-click a grouped button. Our favorite tweak reassigns the middle mouse button to close or focus a window instead of opening a new instance of the program.

make it More Fun

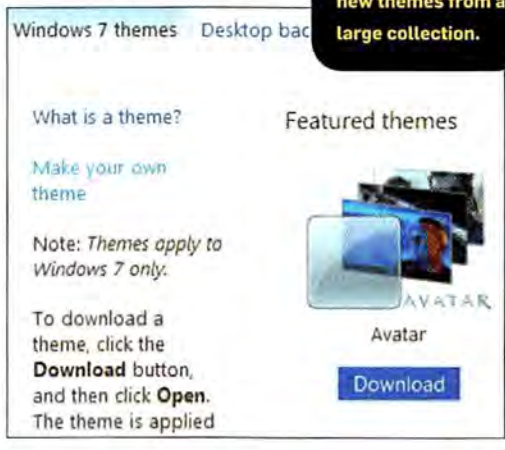
Looking for entertainment? Windows 7 has a couple of tricks up its sleeve: media sharing and Windows Media Center. The latter is available in the Home Premium, Professional, and Ultimate editions of the operating system; only Starter doesn't have it. Here's how to get more enjoyment out of your Windows entertainment applications.

Autorotate Your Wallpaper

***works in:* 7** Wouldn't it be nice if Windows greeted you with a new wallpaper every time you start your PC? Or at regular intervals throughout the day? Windows 7 makes that simple.

Press the **<Windows>** key, type **background**, and then click *Change desktop background*. By default Windows will show you its stock background art, but you can peruse different images (such as those in your Pictures Library) by clicking the *Picture location* drop-down or choosing *Browse* to pull from a folder on your hard drive.

To spiff up Win 7, you can download new themes from a large collection.



Pick *Select All* if you want to add all the displayed photos to the wallpaper rotation, or click the checkbox next to each individual photo. Then click *Change picture every* and set the desired interval (how often Windows will swap wallpapers) to 30 minutes, 1 day, or whatever. Finally, click *Save changes*.

Download Themes

***works in:* 7** Microsoft stocked Windows 7 with some seriously stunning Aero themes—packages of wallpapers, sounds, and a pervasive color palette. To see that array of choices, press **<Windows>**, type **theme**, and click *Change the theme*. You can browse what's there or click *Get more themes online* to tap into Microsoft's Personalization Gallery (find.pcworld.com/64157). The gallery is home to about a dozen branded themes, plus 20 international themes. You'll also find instructions on creating your own theme or customizing existing themes.

Watch TV, Tuner-Free

***works in:* 7** Although Windows Media Center does a pretty good TiVo impression with its DVR features, you typically need at least one TV tuner to watch and record live shows. If your PC doesn't have a tuner, however, you can stream a limited selection of shows on demand in the Windows 7 version of WMC.

Click *TV•Guide* to see a grid of In-

ternet TV, headlined by CBS Primetime and CBS Classic. Within those categories you'll find everything from *The Amazing Race* to *Twin Peaks*, all ready for near-instant streaming (WMC will need to perform a couple of one-time updates first). Alas, while CBS offers full-length episodes of certain shows, you'll have to settle for clips of others. The same goes for most of the non-CBS shows mixed into the grid's other categories.

Stream Your Media to Other PCs

works in: **7** Much like the popular Orb service (find.pcworld.com/64158), Windows 7 allows you to stream music, photos, and videos (including recorded TV) from your home PC to other systems running Windows 7. That's great if you're on the road with your laptop or netbook and you want to see the football game you recorded at home. What's not so great is the number of hoops you have to jump through. Here's how to set it up.

Start Windows Media Player, and click *Stream•Allow Internet access to home media*. Click *Link an online ID*, and select *Add an online ID provider*. On the Web page that appears, choose either *Download for 32-bit* or *Download for 64-bit*, depending on which version of Windows 7 you have. Save and then run the downloaded file, which installs the Windows Live ID Sign-in Assistant app.

When that's done, return to the Link Online IDs window and, under Online ID Provider, click *Link online ID*. Enter your Windows Live ID username and password. (Don't have a Live ID? Just click the link in the box to sign up.) Finally, click *OK*. Return to Windows Media Player, and click *Allow Internet access to home media*.

That's one PC done. On the second system (say, your laptop), you'll need to repeat the procedure. Afterward, you'll be able to browse the Other Libraries section in Windows Media Player to find the music, videos, pictures, and/or recorded TV that you want to view from afar.

Win 7's Media Center has a selection of TV shows ready for streaming.

Ditch the Antenna, Keep Your Digital Channels

works in: **7** In previous Windows versions, Media Center could tune in (and record, DVR-style) locally broadcast digital channels—but only if you used an ATSC tuner and connected a reasonably good set of rabbit ears. This over-the-air approach worked well enough, but Windows 7 offers a much better option: ClearQAM, which delivers unencrypted digital channels via your basic-cable feed (assuming that you are still a cable subscriber, of course).

All you need is a tuner card that supports ClearQAM technology (which virtually all current models do). With that, you should be able to tune in your local channels in all their digital, high-def goodness, no antenna required.

If you already own a tuner, such as AverMedia's AverTVHD Volar Max, just install the latest drivers, disconnect your antenna, and replace it with your cable-TV coaxial cable. You'll need to restart Windows and then run through Media Center's signal setup, under *Tasks•Setup•TV•TV Signal•Set Up TV Signal*. Don't be surprised if you gain some additional channels compared with what you received from the antenna alone.

If you're shopping for a tuner add-on, check out the SiliconDust HDHomeRun (www.silicondust.com), which has two ClearQAM-compatible tuners. Instead of plugging into one of your PC's USB ports as most tuners do, this "network tuner" connects to your router and lets you watch and record live TV on any Windows Media Center–equipped PC in your house. It runs about $150. ●

EXPERT tip: Watch Netflix From the Couch

works in: **VISTA, 7**

If you're a Netflix subscriber, the Netflix Windows Media Center plug-in isn't just optional, it's practically essential. Just click *Movies•Netflix* in Media Center to install the plug-in and sign in to your account. Then get ready for a shock: The Netflix plug-in offers way more functionality than you get from, say, a stand-alone Roku box or an Xbox 360. Although those devices also provide Netflix access, they limit you to viewing your queues and streaming movies from your Instant Queue. The WMC plug-in, on the other hand, lets you browse and search the entire Netflix catalog, adding movies to your standard queue or Instant Queue as you go. Netflix memberships start at $9 per month.

EXPERT tip: Enjoy Hulu in Your Living Room

works in: **VISTA, 7**

Hulu Desktop (find.pcworld.com/64243) is an experimental, Hulu Labs–devised application that gives you a 10-foot, remote-controllable interface for the TV-streaming service. Just one problem, however: You have no way to reach that interface from within Windows Media Center.

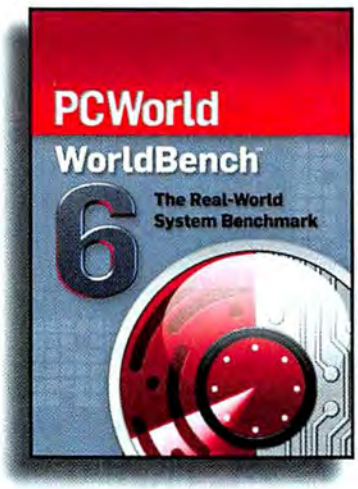
The free but unimaginatively named Hulu Desktop Integration download (find.pcworld.com/64201) adds a Hulu Desktop icon to WMC. One click closes the latter and opens the former in maximized, full-screen view. When you're done streaming, click *Close* to exit Hulu Desktop and return to WMC. It doesn't get much easier than that.

NOW Available From PC World

Test Your PCs

The PC World Labs Way

www.worldbench.com



WorldBench 6

runs on all editions of Windows 7,
Windows Vista, and Windows XP,
including all 64-bit and 32-bit versions.

You can purchase one of three different licenses for WorldBench 6, according to your needs:

- **A Single User license** ($249) allows you to install and use the software on a single computer at a time.
- **A Small Business license** ($999) allows you to install and use the software for your internal business purposes on up to 5 computers at a time.
- **A Corporate license** ($2499) allows you to install and use the software for your internal business purposes on up to 25 computers at a time.

www.worldbench.com

Your company's bottom line depends on the performance of its PCs.

To assess and compare system performance across your organization, use the benchmarking software developed by the experts at PC World Labs.

Real-World Performance

WorldBench is the core set of applications that PC World uses to test desktop and laptop PCs. The results play an important role in PC World's computer reviews—the reviews you trust. Because our benchmark uses actual programs performing common functions, it is an excellent barometer of PC performance outside the lab and on your desk.

Automatic Testing

From Web browsing to file encoding to general tasks, the automated test scripts that run in WorldBench 6 are designed to deliver a tough evaluation of today's top computers. Although multicore processors and larger amounts of RAM are appearing even in budget PCs, it's important to have benchmarks that can accurately assess—and challenge—systems with a wide variety of configurations. WorldBench 6 delivers.

Since it's automated, the suite can report errors and restart failed tests without user input. It then records the results, including the final WorldBench 6 score as well as the individual results of each application's workload, in both text and graphs.

Refined over the past decade, WorldBench is currently used in over 30 countries by Fortune 500 corporations, government agencies, and international media outlets.

Visit www.worldbench.com today and secure your DVD of WorldBench 6.

PCWorld

Greatest Windows Tips of All Time

If you don't know every one of these 26 classic tricks, utilities, and shortcuts for XP, Vista, or Windows 7, you're not getting your money's worth out of Windows.

Toggle between apps: Use **<Alt>-<Tab>** to switch open programs without touching your mouse. The oldest—and still the best—Windows timesaver.

Navigate app windows: Press **<Ctrl>-<Tab>** to cycle through an application's windows (or through a Web browser's tabs). First cousin of the tip above, and probably the most underrated tip ever.

When in doubt, type it out: If you don't want to hunt through nested menus and the like, you can access most functions, applets, or files the old-fashioned way—by entering them into the Search box. Type **Calculator**, **Control Panel**, or even the name of a piece of music on your hard drive, and press **<Enter>**.

Unobtrusive updates: Keep your OS current by opening Windows Update (Automatic Update in XP) and setting it to *Download updates but let me choose whether to install them*. (To get there, press the **<Windows>** key and type **Windows Update**.) That way, you won't have Windows urging you to restart when you don't want to (or worse, triggering a restart when you're away from the PC with an unsaved document open).

Tweak your taskbar: Right-click the Taskbar and choose *Properties* to find options for switching to the old Start menu, choosing which icons show in the notification area, setting default programs to appear in the Start bar menu, and more.

Full-frontal folders: In Windows Explorer, click *Folder Options* (located under the Organize menu) to reveal hidden files, show the full path in the title bar, display file extensions, and more.

Partition, partition, partition: Make backups and restores easier by partitioning your hard drive (see find.pcworld.com/64173 for details) and keeping one partition for the OS and the other for your documents and data.

Make your text special: Need a special character such as © or á? Press the **<Windows>** key and type **character map** in the field to bring up an app that will let you copy and paste the characters you need.

Sticky keys (the good kind): Holding down two keys at once—such as <Ctrl>-C to copy—is a royal pain. Press the **<Shift>** key five times to start Sticky Keys, a feature that allows you to initiate a keyboard shortcut by merely pressing <Shift>, <Ctrl>, <Alt>, or <Windows> instead of holding that particular key down. Press **<Shift>** five more times to toggle Sticky Keys off.

Simple screen capture: Take a screenshot by pressing **<Print Screen>**, which copies an image of your full screen to your clipboard so that you can paste it into Paint or your preferred image editor. To capture just the active window, use **<Ctrl>-<Alt>-<Print Screen>**. For more fine-tuned controls, try Screenshot Captor (find.pcworld.com/64174).

Take a shortcut: Right-click on any application icon, bring up the Properties menu, and click the *Shortcuts* tab. You can specify a keystroke combination to start your application here. Our personal favorite: Making a shortcut for Windows 7's Snipping Tool makes screenshots much easier. *(Windows 7 only)*

Line 'em up: Want to arrange two (or more) windows side by side in Windows XP or Vista? Hold down **<Ctrl>** and »

PCWorld Greatest Windows Tips of All Time

click on the desired windows in the taskbar; then right-click the taskbar and select *Tile Vertically*. In Windows 7, you can simply drag any open window to the right or left edge of your screen and then let go.

Instant classic (control panels): Miss Windows' old Control Panel, which conveniently displayed all of its items at once? In Windows XP and Vista, just open the Control Panel and select *Switch to Classic View*. In Windows 7, click the *View by* drop-down menu in the upper-right corner and select your preference.

Speed Up Your Services

Manage the Task Manager: Windows' built-in Task Manager (press **<Ctrl>-<Alt>-<Del>** and click *Task Manager*) is great for seeing what your system is up to, but power users will prefer Process Explorer (find.pcworld.com/64175), which shows more details that can help you find a memory leak or troubleshoot a pesky DLL problem.

Index this, not that: The Windows Search indexer speeds up built-in search functions, but the indexing process itself can consume system resources at inconvenient times. Open *Indexing Options* in Control Panel (or press the **<Windows>** key and type **Indexing Options**). The resulting dialog box will let you specify which folders or types of data are indexed to avoid bogging down your PC needlessly.

Clean up your startup: If your PC drags its feet during the startup process, press the **<Windows>** key and type **msconfig** to open the System Configuration utility. Check in the Startup tab to see what your machine is loading. Your computer might be loading services or apps that you don't need or want to use on startup.

Nudge your network: If you have network problems, try opening the command prompt (enter **cmd** in the Start menu's search box) and typing **ipconfig /renew** to reset your network connection.

Sharing is caring: For a little assistance in tracking your shared folders, right-click *My Computer* (or *Computer* in Windows 7) and click *Manage* to bring up the Computer Management tool. Then click *Shared Folders* to see a list of all of your machine's shared folders, file-sharing sessions, and open files.

Essential Add-Ons

Look, Ma, no mouse: XP users should grab Launchy (find.pcworld.com/64176), a free keyboard-driven launcher application that allows you to access programs, files, and even Websites with just a few keystrokes. (Vista and Windows 7 users get the same functionality from the Start menu's search tool.)

Cleaner than you found it: To make sure that your programs uninstall completely, use Revo Uninstaller (find.pcworld.com/62049)—it's often more thorough than the programs' own supplied uninstaller routines.

Annoyance buster: If you're tired of User Account Control dialog boxes popping up all the time in Windows Vista, but you don't want to disable the security feature completely, grab TweakUAC (find.pcworld.com/61960) to set it to Quiet Mode. Windows 7 has its own UAC controls, but can still benefit from TweakUAC.

Get your hands dirty with Greasemonkey: Optimize your Web browsing with Greasemonkey for Firefox (find.pcworld.com/61166), an add-on that lets you choose among thousands of user-designed scripts (userscripts.org) for blocking ads, changing the layouts of popular sites, and more. (Variants also exist for Internet Explorer, Chrome, and Safari; see find.pcworld.com/64197.)

Work Your Windows Key

Lock your doors (and Windows): Stepping out for a minute? Remember to press **<Windows>-L** to lock your computer's screen so that no one can nose around without entering your account password.

Run, Windows, run: To access the Run command easily, press **<Windows>-R**.

Keyboard explorer: Want to open a new Windows Explorer window without leaving the keyboard? Press **<Windows>-E**.

Declutter your desktop: Access your desktop instantly by pressing **<Windows>-D** to hide all of your open windows. Press **<Windows>-D** again to return to where you were before. ●

PHOTOGRAPH: ROBERT CARDIN

iBUYPOWER Recommends Windows® 7 Home Premium

Grab Your Gear
PREPARE FOR BATTLE

NEW intel CORE i7 inside
Faster. Smarter.

GAMER PALADIN F725

- Intel® Core™ i7-920 Processor
- Intel® X58 Chipset Motherboard
- ATI Radeon™ HD 5750 1GB Video Card
- NZXT® Guardian 921 Gaming Case with NVIDIA Custom Painted Side Panel + 700W Power Supply
- Genuine Windows® 7 Home Premium
- High Definition Surround 3D Premium Sound

DVD±RW 22x | MEMORY 3GB CORSAIR DDR3-1333 | HARD DRIVE 500GB SATA-II
MOUSE | KEYBOARD | SPEAKERS

Components included with system

$1019

• Intel® Core™ i7-975 Processor Extreme Edition	$1809
• Intel® Core™ i7-950 Processor	$1319
• Intel® Core™ i7-920 Processor	$1019

GAMER PALADIN Q840

- Intel® Core™ 2 Duo Processor E7500
- Intel® P45 Chipset DDR3 Motherboard
- NVIDIA® GeForce™ GT 240 1GB Video Card
- Certified CPU Liquid Cooling System · Overclock Proof
- PSI ArmorX Blue Case + 700W Certified Power Supply
- Genuine Windows® 7 Home Premium
- High Definition Surround 3D Premium Sound

DVD±RW 22x | MEMORY 4GB CORSAIR DDR3-1333 | HARD DRIVE 500GB SATA-II
MOUSE | KEYBOARD | SPEAKERS

Components included with system

$769

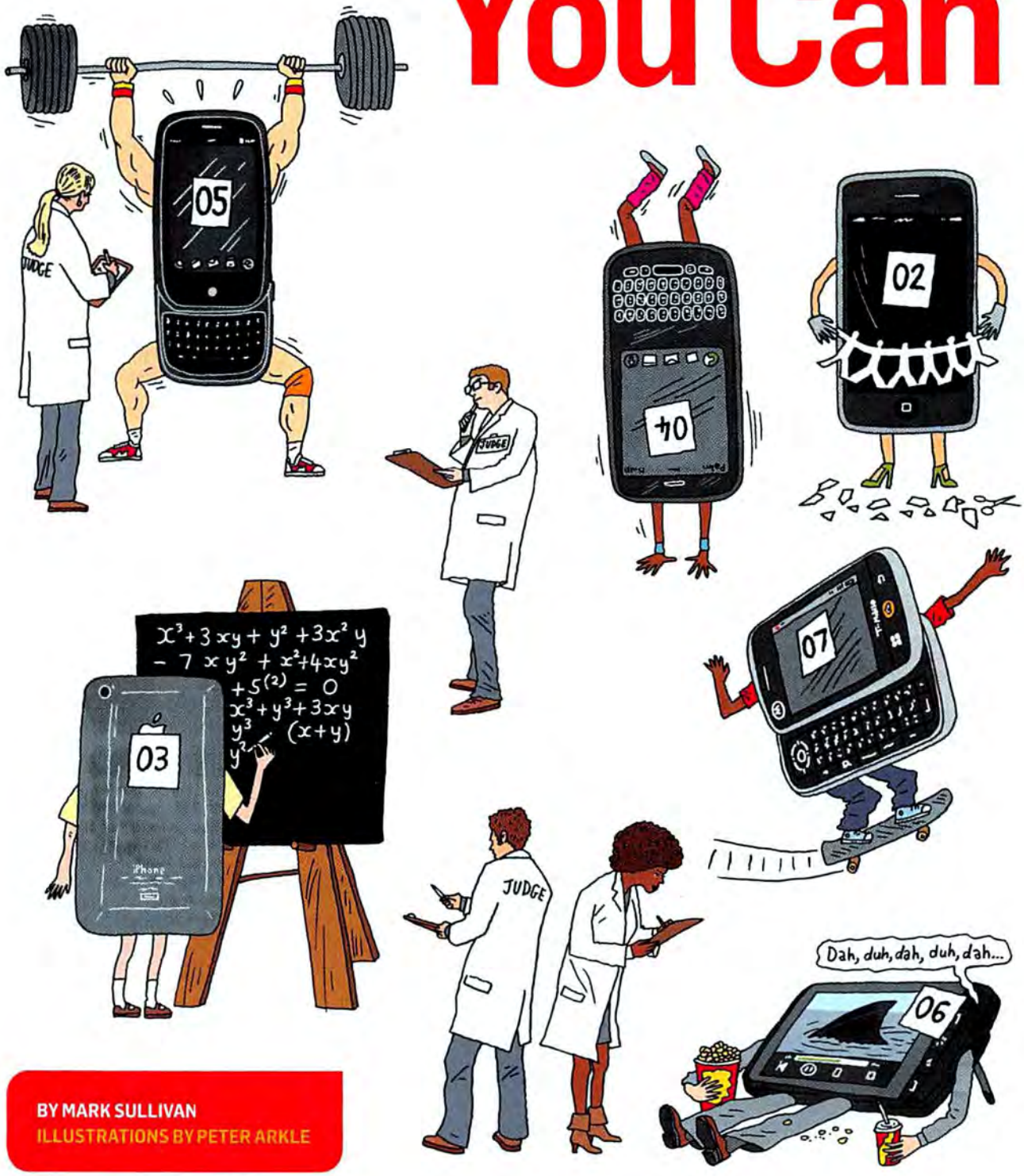
• Intel® Core™2 Extreme Processor QX9775	$2369
• Intel® Core™2 Quad Processor Q9650	$1009
• Intel® Core™2 Quad Processor Q8200	$819
• Intel® Core™2 Duo Processor E8600	$949
• Intel® Core™2 Duo Processor E7500	$769

Toll Free: 888-462-3899

iBUYPOWER

www.ibuypower.com

The Smartphones You Can

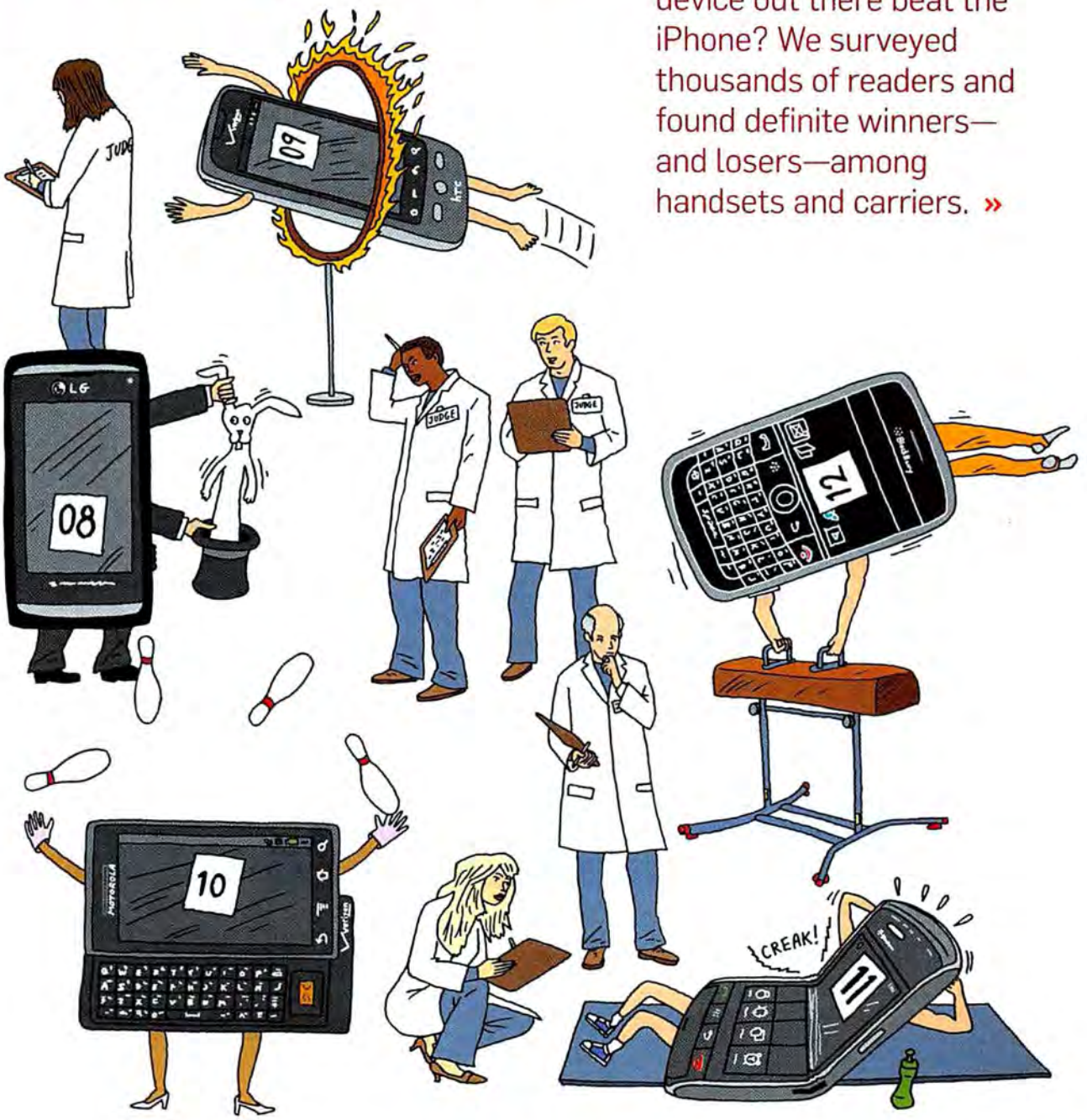


BY MARK SULLIVAN
ILLUSTRATIONS BY PETER ARKLE

Rely On

Which mobile carriers offer clear, fast network connections?

Which can solve your smartphone support problems? And can any device out there beat the iPhone? We surveyed thousands of readers and found definite winners—and losers—among handsets and carriers. »



We Americans

pay a hefty slice of our monthly budget—$80, on average—for the convenience (and fun) of owning a smartphone. In total, U.S. consumers will spend $4.8 billion on smartphones and wireless services (voice and data messaging) in 2010, according to market research firm In-Stat.

With all that money being spent on mobile technology, you would expect an abundance of critical research and analysis indicating which products and services work well for the money, and which ones don't. But little information exists. That's why *PCWorld* initiated this survey, asking owners of all kinds of smartphones to relate their real-world experiences with buying, using, and troubleshooting the devices.

Perhaps the central finding of our survey is that smartphone owners have plenty of complaints, yet seem willing to tolerate many of the shortcomings of their wireless service providers, as well as of the manufacturers of the phones. The survey asked the opinions of some 3500 smartphone owners during the month of October 2009, and the results revealed mediocre or poor reliability and ease of use in a number of major smartphone brands, and poor problem resolution and network service from some major wireless service providers. Surprisingly, however, smartphone owners registered noticeably low levels of dissatisfaction about these deficiencies.

Almost 60% paid less than $200 for their smartphone.

PCWorld Survey Findings

Note: *The percentage numbers contained in our survey results carry a margin of error of 3.3 percent, unless otherwise indicated.*

Who's Hot, and Who's Not

The Apple iPhone, at least for now, is still the hottest and best-loved smartphone. The carrier that sells and connects the device, AT&T, is, well, not so beloved. Verizon and Sprint are the best-liked wireless carriers among the smartphone users we surveyed.

Whether the best device might someday pair with the best (compatible) network—Verizon—has been much debated this past year, but Verizon's recent anti-iPhone ads and the release of its "iPhone killer" Droid make that union less likely.

The good news is that both networks and devices are changing so fast that Apple's lockup with AT&T may not seem so important a year from now. Better devices running on faster networks should enter the market in the coming months and years, especially if new competitors such as cable companies, WiMax providers, and dark horses like Google begin selling smartphones and wireless service.

Customer Service

Mobile users are satisfied, not thrilled, with service providers' tech support.

WIRELESS SERVICE PROVIDER	Average phone hold time	Phone service rating (on a scale of 1 to 7)[1]	Problem was never resolved (percentage of cases)	In-person service rating (on a scale of 1 to 7)[1]	Overall service rating (on a scale of 1 to 7)[1]
AT&T	6.5 minutes	5.7	17.6%	5.7	5.2
Sprint	4.4 minutes	5.6	18.9%	n/a[2]	5.2
T-Mobile	6.6 minutes	5.7	14.1%	n/a[2]	5.4
Verizon Wireless	4.7 minutes	5.7	15.1%	5.3	5.4

[1] Mean of scores on a scale of 1 to 7, with 1 being worst and 7 being best. [2] n/a = not available; we received too few responses to rate the company on this measure.

What Technical Support Means

Average phone hold time: Based on the average time smartphone owners waited on hold to speak to a phone support representative.

Phone service rating: Based on a cumulative score derived from smartphone owners' ratings of several aspects of their experience in phoning the company's technical support service. Among the factors considered were whether the information was easy to understand, and whether the support representative spoke clearly and knowledgeably.

Problem was never resolved: Based on the percentage of survey respondents who said the problem remained after they contacted technical support.

In-person service rating: Based on a cumulative score derived from phone owners' ratings of several aspects of technical support received at a service provider's retail location. Among the factors considered were the ease of getting a representative's attention in the store, and the knowledge, fairness, and attitude of the rep.

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

Tech Support: Many Problems Go Unresolved

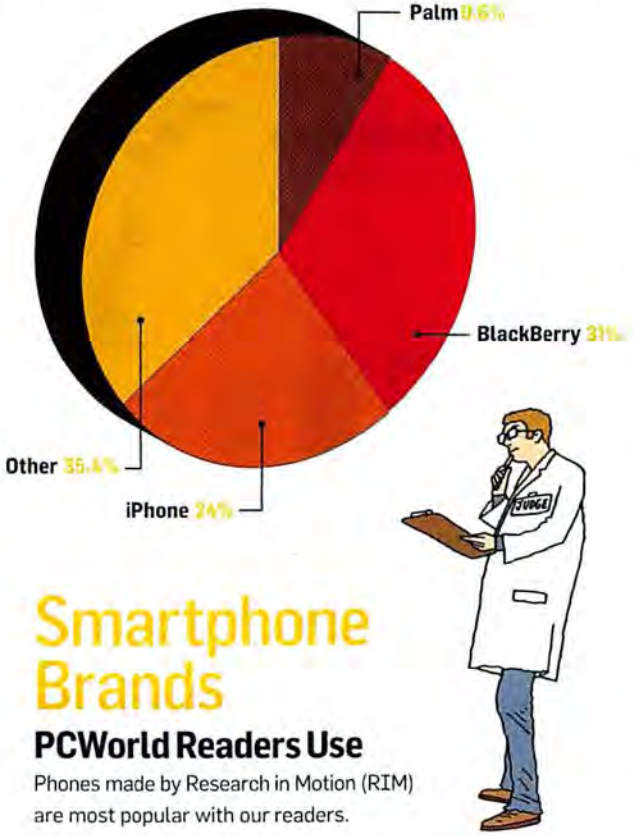
Smartphones are complex devices, and becoming more so. This increases users' reliance on service providers (and sometimes handset makers) to help keep the gadgets running.

Service providers are usually the first lines of support, shifting support issues over to the phone manufacturer only in severe cases. Service providers end up handling users' problems about 66 percent of the time; smartphone manufacturers take care of things about 21 percent of the time, and electronics retailers do so only 1 percent of the time (the remaining 12 percent of respondents said "other" or "don't know").

Technical support must be judged on how well, and how fast, it helps users troubleshoot problems. The support systems (Web, phone, and in-store) of service providers and manufacturers fail to fully resolve smartphone technical breakdowns surprisingly often. Of smartphone owners who reported having had to call tech support, 17 percent say their problem was never resolved; 21 percent say their problem was only "somewhat" resolved.

One carrier did even worse: 19 percent of the Sprint customers in our survey said their problem was never resolved, and another 28 percent said their problem was only partly resolved.

Nevertheless, smartphone users report moderate satisfaction with the tech support they've received. On a 7-point scale (with 1 being "extremely dissatisfied" and 7 being "extremely satisfied"), readers ranked the four major service providers—AT&T, Sprint, T-Mobile, and Verizon—in the low 5 region, meaning they were "somewhat satisfied" with service provider tech support. Specifically, T-Mobile and Verizon each scored 5.4 out of 7, while AT&T and Sprint each scored 5.2.



Smartphone Brands

PCWorld Readers Use

Phones made by Research in Motion (RIM) are most popular with our readers.

Satisfied With Phone Support

To access tech support, smartphone owners experiencing problems usually elect to call (as opposed to using Web-based or in-store support). And in general, smartphone users say they're satisfied with the quality of the phone support.

We asked users to rate support departments on the quality of the information given, on the reps' communication skills and problem-solving abilities, and on other criteria. Customers of all four major carriers responded uniformly, and rather positively. Sprint customers gave its support an overall score of 5.6 out of 7, while AT&T, T-Mobile, and Verizon customers graded those companies' tech support a 5.7 out of 7.

In 43 percent of cases, we found, support issues are resolved through phone support alone, and, in almost 50 percent of cases, after contact with just one phone rep.

Still, many of our survey takers expressed frustration. "It took too long to solve the problem," says Sprint Palm Pre user Javier D. Margo Jr. "I spent 5 hours continuously either chatting online or speaking directly, often to two different reps (one from Sprint, one from Palm) at the same time."

"If they don't know the answer or how to solve the problem, [they should] take the person's number, find the solution to the issue, then call the person back," suggests one AT&T customer who asked that his name not be used. "That way," he adds, "the customer doesn't have to wait through transfers and holds while somebody goes to ask somebody else."

Sprint, Verizon Do Better on Hold Times

First impressions count, and often the first taste of service provider support that smartphone owners receive is the length of time that they have to wait on hold to speak to a rep.

We saw some real differences in the hold times reported by customers of the four major wireless service providers. Sprint and Verizon customers reported average hold times of just 4.4 minutes and 4.7 minutes, respectively. Meanwhile, AT&T and T-Mobile customers told us they waited on hold an average of 6.5 minutes and 6.6 minutes, respectively.

Smartphone owners as a whole have mixed opinions about the acceptability of hold times. About 49 percent of our survey takers said hold times were completely acceptable, while 33 percent called them somewhat acceptable, and about 18 percent considered them unacceptable. »

In-Store Support: You May Have to Wait

Smartphone users are a bit more satisfied with the tech support they receive in service provider stores, compared with phone or online support. For 15 percent of smartphone problems, a visit to an AT&T, Sprint, T-Mobile, or Verizon store provided a resolution to the issue.

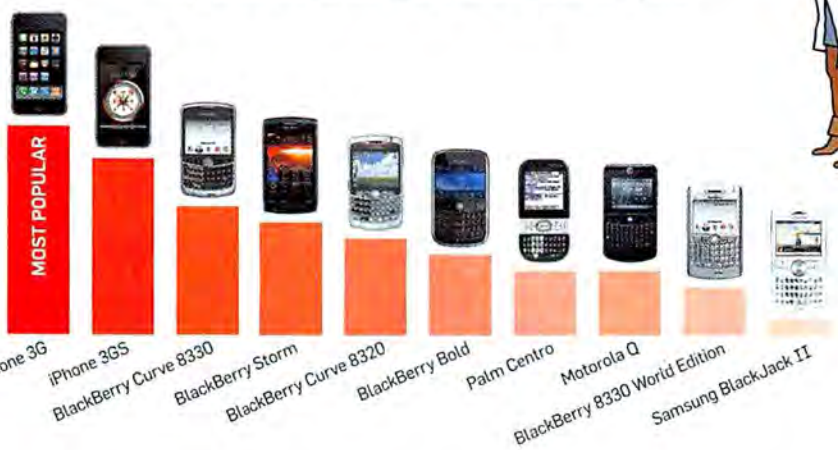
When asked about the attitude, knowledge, problem-solving skills, and timeliness of in-store reps, subscribers graded staffers in AT&T and Verizon stores fairly well at 5.7 and 5.3, respectively, on our 7-point scale.

Our results suggest that Sprint and Verizon may not have enough staff in stores to help customers quickly. Thirty-five percent of Sprint customers said they were kept waiting in the store too long before getting attention. About 28 percent of Verizon customers complained of long in-store wait times.

Most Popular Smartphone Models

Among PCWorld Readers

By specific model, two Apple iPhones take the top spots.



Sprint, Verizon Networks Are Best Liked

Without the networks that connect handsets to the Internet, smartphones are little better than paperweights. The network connection is where service providers make most of their profit, and customer perceptions of the performance of the networks is hugely important to service providers.

Big wireless companies make grand claims—"America's fastest" and "the nation's most dependable"—based largely on their own research and that provided by paid third parties. Since commissioned studies can lead to biased results, we turned to real-world wireless customers to learn about the value of the major wireless services. Specifically we asked smartphone owners to grade the speed and reliability of their Internet connection and the quality of their voice calls.

We found that among the big four carriers, Sprint's customers are happiest overall with the performance of their network. In particular, Sprint customers like the speed and reliability with which the Sprint network connects them to the Internet. More than 70 percent of Sprint's customers said that they were "very satisfied" or "extremely satisfied" with the speed of their smartphone's Internet connection. Sprint scored even better on the reliability of its network when connecting: Almost 80 percent of Sprint subscribers in the survey said that they were highly satisfied.

Verizon won the day on pure voice-call quality, with 86 percent of its subscribers saying they were highly satisfied with the sound and connection quality of calls. Sprint came in a close second; almost 85 percent of its subscribers said they were either very or extremely satisfied with the quality of voice service.

The AT&T and T-Mobile networks didn't fare too badly in our survey either. Both scored well, between the 70th and 80th percentiles (along with Sprint and Verizon), in overall satisfaction with network service.

AT&T and T-Mobile did stumble in a couple of key areas, however. Only 59 percent of T-Mobile subscribers described themselves as highly satisfied with the speed of their wireless Internet connection. T-Mobile's competitors all scored above the 65th percentile in this area.

AT&T fared poorly on voice-call quality. Though 74 percent of the company's subscribers in our survey said they were completely satisfied with call quality, AT&T's competitors scored well above the 80th percentile on this measurement.

Some anecdotal evidence suggests that AT&T's voice network performance is highly variable from coverage area to coverage area, and even over time, as in the example provided by AT&T subscriber and iPhone user Tammy Zink:

"A year ago, when I first got the phone, I was worried about AT&T's reputation, but AT&T's call service was fabulous—no dropped calls, great reception all the time. However, in the past six months, almost every call is dropped, and reception is lousy. I now cringe when the phone rings or I have to make an important call."

Over the past two years, smartphones, and the iPhone in

"It took too long to solve the problem.

I spent 5 hours continuously either chatting online or speaking directly, often to two different reps (one from Sprint, one from Palm) at the same time." —Javier D. Margo Jr., Rio Grande City, Texas

particular, have caused wireless Internet usage to rocket. To better accommodate the demand, AT&T and other providers have been "tuning" their networks. As network resources are shifted to bolster one wireless service, however, another service may suffer—in this case, voice service.

The findings of a new survey by *Consumer Reports* seem to agree with our results. *Consumer Reports* asked subscribers of the major wireless providers in 26 cities for their thoughts about their cell phone service, and found that AT&T subscribers were the "least satisfied" of all in 19 of those cities.

AT&T had the same general reaction to *Consumer Reports'* findings as it did to ours, saying neither study paints a true picture of U.S. wireless users' experience.

AT&T points to its own third-party research showing that its network is not only the fastest in the United States, but is also among the best regarding dropped calls. "In one of the most common measures of reliability—dropped calls—AT&T's national performance is within two-tenths of 1 percent of the highest score among major providers, with only 1.32 percent of calls dropped nationally," says AT&T spokesperson Jenny Bridges in an e-mail to *PCWorld*. She adds: "That translates to a difference of less than 2 calls out of 1000."

So far, AT&T has suffered most from the network-taxing effects of escalating data service usage, but it may be Verizon's turn in 2010. With the release of its impressive Droid phone (and others), Verizon might find its wireless customers demanding unprecedented amounts of Web connectivity.

We asked smartphone owners ten questions about the ease of use of their handsets, including how satisfied they were with the ease of using nine of the most important functions—things like browsing the Internet, syncing data, sharing files, taking pictures, and playing music and video.

The iPhone scored higher than its peers in all but one of those areas (users gave the iPhone only an "average" score on the quality of the photos and videos it shoots). When asked about their overall satisfaction with their phone's ease of use, 82 percent of iPhone owners said that they were "very" or "extremely" satisfied with their device.

Apple Will Be Challenged

But this state of affairs won't last. A new wave of Google Android–powered phones, such as Verizon's Droid, will almost certainly rival the iPhone in ease of use. At the time of our survey, however, the new Android phones were not in use in high enough numbers to affect our results. Next year's survey will likely tell a different story.

"According to the feedback I've gotten from companies that design user interfaces for smartphones, the consensus is that the iPhone interface has gotten a little dated," IDG mobile device technology analyst Will Stofega says.

With Android, Stofega adds, Google "has done a very nice job on its interface, and I expect it to be very popular, depending on how it's implemented."

Android phones won't be the only ones gunning for Apple's ease-of-use throne in the coming months. Stofega notes »

Ease of Use: Apples vs. Lemons?

According to our survey takers, Apple's iPhone remains in a league of its own in ease of use. Part of the device's vast appeal is its design—inside and out. Aesthetically pleasing, the iPhone's user interface looks simple and intuitive, helping users access its many functions.

Network Service

Sprint customers are the most satisfied with network performance.

WIRELESS SERVICE PROVIDER	Percentage of respondents who were highly satisfied with speed of data service[1]	Percentage of respondents who were highly satisfied with reliability of data service[1]	Percentage of respondents who were highly satisfied with voice call reliability[1]	Overall network performance score[2]
Sprint[3]	71.6	79.6	84.5	78.6
Verizon Wireless[4]	66.9	78.0	86.1	77.0
T-Mobile[5]	58.6	78.1	82.5	73.1
AT&T[6]	67.0	75.2	73.8	72.0

[1] Percentage of respondents who answered "very satisfied" or "extremely satisfied," on a satisfaction scale of 1 to 7. [2] Composite of previous three data and voice satisfaction scores. [3] Margin of error is +/- 4.4%. [4] Margin of error is +/- 3%. [5] Margin of error is +/-5.7%. [6] Margin of error is +/-2.5%.

that Nokia is pushing hard to develop its own Symbian operating system to meet and surpass the ease-of-use standard that the iPhone set. New phones using this updated and touchscreen-friendly operating system should begin appearing during 2010.

Today, Apple simply dominates its competitors in design. Its closest rival here was Nokia, which earned just one higher-than-average score—that for the ease of use of the cameras in its smartphones. Nokia placed second in "overall reliability," but with a paltry 59 percent of users reporting high satisfaction with ease of use.

More than 90% of smartphones in use today are less than two years old.

PCWorld Survey Findings

Among those faring most poorly with survey takers in ease of use were HTC, Motorola, RIM (BlackBerry), and Samsung. Asked about the overall ease of use of their devices, 55 percent of BlackBerry users were completely satisfied, while just 45 percent of HTC owners, 43 percent of Samsung users, and 42 percent of Motorola phone users were completely satisfied.

Samsung users gave their smartphones worse than average marks in all ease-of-use categories except two—both of those having to do with the video cameras in the phones. (Samsung chose not to release any comments on the results of our survey.)

Motorola users expressed frustration with setting up their smartphones, syncing data with computers, browsing the Internet, and locating and playing back music and video. Motorola smartphones also received below-average marks on the quality of their sound and video playback.

Common complaints among all users included difficult-to-use keyboards, slow-to-respond touchscreens, clumsy file management, hard-to-use cameras, poor sound quality, and difficult or slow syncing. Other gripes: hard-to-customize user interfaces, cameras that take pictures when not asked to, operating systems that don't multitask, and browsers that won't play Flash content.

Reliability: Operating Systems Fail the Most

The more technology you pack into a device, the more things can break. And smartphones usually have lots of features—microphones, speakers, touchscreens, cameras, an operating system, applications, an accelerometer, compasses, and more.

With all that stuff in there, you would expect high rates of component and software failures. And you would be right. In our survey, 31 percent of smartphone owners reported one or more significant problems with their device before it was two years old.

And readers told us that when something fails in a smartphone, in about 35 percent of cases it's the operating system.

"My biggest complaint is that the response is slow and the interface is clunky!" says Sprint HTC Touch Pro user John Abercrombie. "Sometimes it 'locks up' the OS and the only way out is to remove and reinsert the battery."

Sprint customer and Palm Treo user Duane Calvin says his phone's OS "now reboots itself several times a day; I have no idea when it has shut down." »

What the Reliability Measures Mean

Problem on arrival: Based on the percentage of survey respondents who reported finding one or more problems with the device out of the box.

Any significant problem: Based on the percentage of survey respondents who reported having any hardware or software problem at all within the past two years of phone use.

Severe problem: Based on the percentage of survey respondents who reported a problem that rendered their device impossible to use.

Overall satisfaction with reliability: Based on the owner's overall satisfaction with the reliability of the device.

Manufacturer Reliability

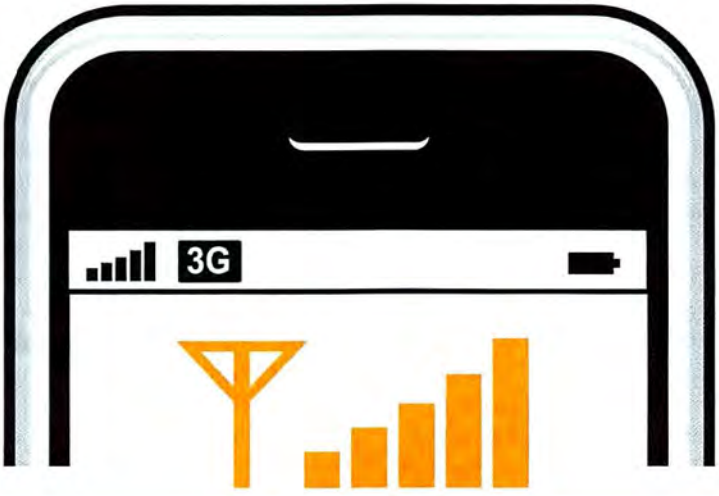
iPhone users are most satisfied with reliability but still report problems.

SMARTPHONE MANUFACTURER	Problem on arrival	Any significant problem	Severe problem	Overall satisfaction with reliability
Apple	◒	○	◒	●
LG	◒	○	●	◒
Nokia	◒	◒	◒	◒
Motorola	◒	◒	◒	◒
RIM (BlackBerry)	◒	◒	◒	◒
Samsung	●	◒	◒	○
HTC	◒	◒	◒	○
Palm	◒	◒	○	◒

● Better ◒ Average ○ Worse

For each measure, we determined whether the vendor's score was significantly "better," significantly "worse," or roughly consistent ("average") with those of its peers. If a vendor drew fewer than 50 responses in one of our measures, we discarded the results as statistically insignificant. This prevented us from rating some smaller vendors.

Signal Problems ?



zBoost your Bars!

www.Wi-Ex.com

zBoost brings signal indoors so you can use your
cell phone smartphone & wireless data card

Award Winning

International CES Innovations 2010
Design and Engineering Awards Honoree

zBoost
extending cell zones

By Wi-Ex.com

2010 2007 CTIA Emerging Technology Awards CTIA Emerging Technology Awards

"A year ago, when I first got the phone, ... AT&T's call service was fabulous—no dropped calls, great reception all the time. However, in the past six months, almost every call is dropped, and reception is lousy. I now cringe when the phone rings or I have to make an important call." —Tammy Zink, Cape Coral, Florida

Of the major smartphone brands, HTC and LG phones had higher rates of OS failure than their peers. Of HTC owners who reported a problem, 44 percent said the culprit was the operating system software. Thirty-nine percent of problems with LG devices could be blamed on the OS.

After the OS, breakdowns in miscellaneous features such as Bluetooth connections or GPS functions were the cause of 24 percent of problems, surveyed smartphone owners said.

These failures, survey takers told us, were especially common in HTC and Samsung smartphones. In HTC devices, a feature failure was the problem in 29 percent of cases; in Samsung phones, in 30 percent of total problems reported. Meanwhile, owners of Apple, LG, and Palm phones reported lower-than-average numbers of feature breakdowns.

Battery issues accounted for about 11 percent of reported problems. Only HTC, LG, and Samsung had significantly higher incidences of battery problems than the average of all handset manufacturers. Apple and Palm owners reported marginally less battery trouble.

We also asked about severe problems that rendered phones impossible to use. Among all those who reported problems (regardless of the type of phone they use), about 13 percent said their problem was "severe" enough to flatline the phone.

LG owners reported fewer severe problems. LG phones developed just as many problems as other phones, but only 8 percent of those problems rendered the phone impossible to use. Palm owners reported a higher incidence of severe problems, at 19 percent—or six points above the average.

Still, 64 percent of smartphone owners said they were "very" or "extremely" satisfied with the reliability of their devices.

Seventy-four percent of iPhone users said they were highly satisfied overall with their phone's reliability—the highest score of any smartphone. Samsung owners reported the lowest rates of overall satisfaction, at only 55 percent.

For Now, They're Still New Toys

Smartphones are a relatively new technology. The first iPhone, for example, hit the market only a few years ago—on June 29, 2007, to be exact. The devices, and the networks that connect them, have certainly improved since then. As our survey shows, however, they're still a work in progress.

Yet satisfaction levels remain strangely high among users. Perhaps consumers remain a bit dazzled by the always-on, connect-anywhere technology of smartphones—and are willing to overlook a few basic shortcomings in the devices, as well as in the companies that make, sell, and support them.

For all the money that smartphone owners pay, they should expect more. Here's hoping that as smartphones become less novel, expectations will rise—and users will get the reliability and service that they routinely demand from other devices. ●

Ease of Use

The iPhone smokes its rivals on usability.

BETTER

SMARTPHONE MANUFACTURER	Easy to set up phone	Satisfaction with setup help	Easy to sync data with PC	Easy to browse Internet	Easy to share media	Easy to locate and play back music and video	Easy to shoot still or video pictures	Satisfaction with quality of photos and video	Satisfaction with quality of sound and video playback	Overall satisfaction with ease of use
Apple	●	●	●	●	●	●	●	◒	●	●
Nokia	◒	◒	◒	◒	◒	◒	●	◒	◒	◒
Palm	◒	◒	◒	◒	◒	○	◒	◒	◒	◒
LG	○	◒	○	◒	◒	○	◒	●	○	○
RIM (BlackBerry)	○	◒	◒	◒	◒	○	◒	◒	○	○
HTC	◒	○	◒	◒	◒	○	○	○	○	○
Motorola	○	◒	○	○	◒	○	◒	◒	○	○
Samsung	○	○	○	○	○	○	◒	◒	○	○

● Better ◒ Average ○ Worse

For each measure, we determined whether the vendor's score was significantly "better," significantly "worse," or roughly consistent ("average") with those of its peers. If a vendor drew fewer than 50 responses in one of our measures, we discarded the results as statistically insignificant. This prevented us from rating some smaller vendors.

ABERDEEN
SERVERS AND STORAGE

WHAT'S THE DEAL WITH THESE GUYS?

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

Companies need to increase ROI without being taken to the cleaners by manufacturers selling servers featuring entry-level benefits with enterprise-level pricing.

Aberdeen gets it. Businesses are in desperate need of Network Attached Storage servers that simply deliver the best bang for the buck.

Look at these features and benefits:

	Dell PowerVault	HP StorageWorks	Aberdeen AberNAS
Hot-Swap Disk Drives	✓	✓	✓
Hardware RAID	✓	✓	✓
Dual Port Gigabit Ethernet	✓	✓	✓
Built-in Replication	✓	✓	✓
Microsoft® WSS 2008 Models	✓	✓	✓
iSCSI Target	✗	✓	✓
Linux Storage System Models	✗	✓	✓
System Recovery Disk	✗	✓	✓
DAS Storage Expansion	✗	✓	✓
VMware® Ready Certified	✗	✗	✓
Independent OS Drive	✗	✗	✓
Out of Band RAID Management	✗	✗	✓
Available w/ 2TB Drives	✗	✗	✓
Warranty	3 Years	3 Years	5 Years

Who gives you the best bang for the buck?

	Dell PowerVault NX300	HP StorageWorks X1400	Aberdeen AberNAS 163
Intel® Xeon® Processor	E5504 2GHz	E5504 2GHz	E5504 2GHz
Memory	3GB	2GB	3GB
Drive Interface	SATA	SATA	SATA
Installed Capacity	2TB	2TB	2TB
Rails	Included	Included	Included
Windows Storage Server 2008	$3,419	$4,635	**$2,995**
Linux Storage System	Not Available	Not Available	**$2,995**

Prices for the above specific configurations obtained from the respective websites on Oct. 12, 2009. Intel, Intel Logo, Intel Inside, Intel Inside Logo, Pentium, Xeon, and Xeon Inside are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. VMware is a registered trademark or trademark of VMware, Inc. in the United States and/or other jurisdictions. For terms and conditions, please see www.aberdeeninc.com/abpoly/abterms.htm. pcw04

888-499-4771
www.aberdeeninc.com/pcw04

NEW Enterprise Version Available!

Synchronize Your Life!

GoodSync Award Winning Backup and Synchronization Solution

Automatic backup and synchronization made easy...

Now you can automatically compare, synchronize, and back up your precious family photos, music, email, contacts, and other important files - between desktops, laptops, servers, and external drives, as well as through FTP, SFTP, DAV, and S3 servers.

GoodSync will:

- ✓ Automatically backup all your important files.
- ✓ Synchronize your data between multiple devices.
- ✓ Organize/transfer information between computers.
- ✓ Sync multiple file copies to prevent data loss.
- ✓ Help you achieve complete **peace of mind**!

GoodSync's powerful technology is years ahead of the pack. Excellent reviews by industry experts and customers alike solidify **GoodSync** as a leader in file backup and synchronization.

PC World Readers
Download GoodSync Today
It's FREE!

GoodSync
Get in Sync with GoodSync

www.GoodSync.com/PCW

A Terabyte in Your Pocket

BY JON L. JACOBI

The latest portable hard drives are bursting with capacity—and new features. Here's what to look for in a miniature storage device.»

PHOTOGRAPHS BY ROBERT CARDIN

Good things come in small packages—

and when it comes to storage, the saying couldn't be more true. No matter what size your data set is, you can find a stylish, pocketable wonder of modern miniaturization to store it and transport it.

All portable storage units do basically the same thing, but these days they come in more flavors than you'll find at Baskin-Robbins. PC World Labs tested 22 models, from Samsung's credit-card-size

LAB TESTED

More Online

For reviews of all 22 portable hard drives we examined, go to find.pcworld.com/64255.

Top Portable Hard Drives Are Fast, Mobile

	MODEL	Rating	Performance	Features and specifications	Bottom line
1	BEST BUY Iomega eGo Mac Edition 500GB $100 find.pcworld.com/64244	★★★★☆ VERY GOOD	• Overall performance: Superior • Copy files (3.7GB): 95 seconds • Malware scan: 403 seconds • Software: Very Good	• 500GB • 5400 rpm • FireWire 800/400, USB 2.0 • Cost per gigabyte: 20 cents	This speedy, colorful drive has FireWire 800 and 400 ports, and useful software (Retrospect Express and Iomega QuikProtect).
2	Western Digital My Passport Essential 1TB $200 find.pcworld.com/64246	★★★★☆ VERY GOOD	• Overall performance: Very Good • Copy files (3.7GB): 141 seconds • Malware scan: 523 seconds • Software: Very Good	• 1TB • 5400 rpm • USB 2.0 • Cost per gigabyte: 20 cents	This palm-size (though thicker than usual) 1TB USB drive performed well. The included WD SmartWare software is nicely designed, too.
3	WiebeTech ToughTech XE Mini 500GB $255 find.pcworld.com/64245	★★★★☆ VERY GOOD	• Overall performance: Superior • Copy files (3.7GB): 62 seconds • Malware scan: 384 seconds • Software: Good	• 500GB • 5400 rpm • eSATA, FireWire 800, USB 2.0 • Cost per gigabyte: 51 cents	The ToughTech XE Mini comes with dual FireWire 800 ports; its eSATA interface made it the fastest drive we saw, but it lacks USB bus power.
4	Verbatim SureFire 500GB $140 find.pcworld.com/64247	★★★★☆ VERY GOOD	• Overall performance: Superior • Copy files (3.7GB): 92 seconds • Malware scan: 382 seconds • Software: No bundled software	• 500GB • 5400 rpm • FireWire 800, USB 2.0 • Cost per gigabyte: 28 cents	The SureFire 500GB has neither bundled software nor a snazzy design, but it's a great performer when used with FireWire 800.
5	Seagate FreeAgent Go 1TB $230 find.pcworld.com/64248	★★★★☆ VERY GOOD	• Overall performance: Good • Copy files (3.7GB): 173 seconds • Malware scan: 499 seconds • Software: Very Good	• 1TB • 5400 rpm • eSATA, FireWire 800, USB 2.0 • Cost per gigabyte: 23 cents	This 1TB drive fits in an optional Go docking station ($20); it lagged a bit behind WD's 1TB drive in our file-reading and installation tests.
6	Western Digital My Passport Elite 500GB $130 find.pcworld.com/64251	★★★½☆ VERY GOOD	• Overall performance: Very Good • Copy files (3.7GB): 140 seconds • Malware scan: 518 seconds • Software: Very Good	• 500GB • 5400 rpm • USB 2.0 (includes drive dock) • Cost per gigabyte: 26 cents	The best USB performer we tested, this My Passport model comes with versatile WD SmartWare software and a docking station.
7	Rocstor Airhawk A9 320GB $135 find.pcworld.com/64249	★★★½☆ VERY GOOD	• Overall performance: Superior • Copy files (3.7GB): 84 seconds • Malware scan: 357 seconds • Software: No bundled software	• 320GB • 7200 rpm • FireWire 800/400, USB 2.0 • Cost per gigabyte: 42 cents	The sleekly designed Airhawk A9 320GB is speedy, with test results similar to those of other drives tested via FireWire 800 or e-SATA.
8	Rocstor Rocport ID9 320GB $140 find.pcworld.com/64250	★★★½☆ VERY GOOD	• Overall performance: Superior • Copy files (3.7GB): 91 seconds • Malware scan: 394 seconds • Software: No bundled software	• 320GB • 7200 rpm • FireWire 800/400, USB 2.0 • Cost per gigabyte: 43 cents	Distinguished by a boxier, more colorful design than its Airhawk sibling, the Rocport ID9 320GB performed almost as well.
9	Seagate FreeAgent Go Special Edition 500GB $145 find.pcworld.com/64252	★★★½☆ VERY GOOD	• Overall performance: Good • Copy files (3.7GB): 149 seconds • Malware scan: 521 seconds • Software bundle: Very Good	• 500GB • 5400 rpm • USB 2.0 (includes drive dock) • Cost per gigabyte: 29 cents	Stylish design, large capacity, and a docking station that can handle even the 1TB Go keep this drive in play as your storage needs grow.
10	CMS V2ABS 500GB $195 find.pcworld.com/64253	★★★☆☆ GOOD	• Overall performance: Very Good • Copy files (3.7GB): 160 seconds • Malware scan: 493 seconds • Software bundle: Very Good	• 500GB • 5400 rpm • USB 2.0 • Cost per gigabyte: 39 cents	The V2ABS 500GB includes CMS's BounceBack Professional software, which uniquely lets you boot from the drive if your main drive fails.

CHART NOTE: Ratings are as of 12/14/2009.

120GB S1 Mini to the latest capacious yet svelte 1TB Seagate FreeAgent Go and Western Digital My Passport Essential SE 1TB drives. We tested dockable models, ruggedized units, and multiple-interface units that can connect to almost any PC. Many of them came with surprisingly capable customized software packages that pop up the minute you attach the drive.

There's something for everyone; and some of the test results we obtained will surprise—if not delight—PC fans.

1TB to Go: Western Digital's My Passport Elite (left) and Seagate's FreeAgent Go.

Multiple Interfaces

Our lineup of drives includes models from Adata, Buffalo Technology, CMS, Hitachi, HP, Iomega, LaCie, Rocstor, Samsung, Seagate, Toshiba, Verbatim, Western Digital, and WiebeTech. Of the 22 drives we tested, 17 exclusively use the USB 2.0 interface. Most of those 17 have a mini-USB port, but the Western Digital models use micro-USB connectors (most often found on cell phones).

Five drives have FireWire 800 or 800/400 interfaces as well as USB 2.0, and the WiebeTech ToughTech XE Mini has an eSATA port, too. Though it offers tremendous speed, eSATA remains rare on portable drives. The Airhawk, Rocport, and SureFire models are termed *triple-interface drives* while the WiebeTech is called a *quad-interface drive*.

Models with extra interfaces tend to cost a bit more, but dual-interface USB/FireWire 400, triple-interface USB/FireWire 400/FireWire 800, and quad-interface USB/FireWire 400/FireWire 800/eSATA drives behave better under many circumstances and deliver superior performance when connected via something other than USB.

Depending on the test, the eSATA-based WiebeTech ToughTech XE Mini and the FireWire 800-linked Rocstor Rocbit FX KT, Rocstor Airhawk A9, Rocstor Rocport ID9, and Iomega eGo ran approximately two to three times as fast as the USB 2.0 drives.

Though eSATA is the fastest interface, two drawbacks inhibit its practical value in portable drives. First, the eSATA connector was not designed to carry power, so you must use an AC adapter to power a drive using the eSATA interface. Second, eSATA drives aren't reliably hot-pluggable; in order for it to show up under Windows Explorer as a drive letter, you must plug the drive in before you boot or you must reboot after attaching it.

FireWire 400 and 800 behave the same way USB 2.0 does, except that they're better. Seconds after you plug a unit in, the drive letter appears; and unlike with USB 2.0, underpowered ports are rare.

Unfortunately, FireWire 800 ports are hard to find except on Macs. Adding one to a Windows PC costs $30 or so for an add-in card and even more for a notebook adapter card. FireWire 800 is backward-compatible with FireWire 400 (with an adapter cable); and thanks to cameras and DVRs, those ports are relatively common. The FireWire drives we tested included a FireWire 400 port or an 800-to-400 adapter cable, so you can probably patch together a FireWire 400 setup without an additional cash outlay.

Power is an important issue with portable drives: eSATA requires a separate AC adapter, and many USB ports on netbooks, laptops, and even PCs are underpowered. No one wants to carry an AC adapter around with them. Of the 22 models we reviewed, 21 relied for power on a single USB 2.0 port on a desktop PC. The sole exception was »

Interfaces: Iomega's eGo (left) and Rocstor's Rocport ID9 (right) use USB, FireWire 400, and FireWire 800. WiebeTech has eSATA, USB, and FireWire 800.

PHOTOGRAPHS: ROBERT CARDIN

the WiebeTech ToughTech XE Mini, with its unpowered combination USB 2.0/eSATA port. But even the WiebeTech didn't need an AC adapter when attached via FireWire 400 or 800.

One way to deal with underpowered USB ports is to use a two-to-one USB cable that draws power from two separate USB ports. Iomega's eGo drive, all three Rocstor units, and Seagate's FreeAgent Go docking station shipped with these hedge-your-bet accessories.

Ruggedness: Buffalo's MiniStation Metro Portable (left), Hitachi's SimpleTough 320GB, and Adata's Sport SH93 tolerate careless treatment.

A raceway on the Hitachi stores the drive's cable.

Yet another USB drawback that you might run into: USB 2.0 drives attached to PCs sometimes prevent them from clearing POST (power-on self-test) and booting. I've never been able to trace the cause of this phenomenon, but I've experienced it on a number of different PCs.

Capacity

Not so long ago, 1-terabyte hard drives cost hundreds of dollars each. And they didn't exist in the 2.5-inch form that permits the drives in this roundup to be so portable. Today, you can easily slip a 1TB unit into your pocket. Two of the drives in this roundup—Seagate's FreeAgent Go 1TB and Western Digital's My Passport Essential SE 1TB—fit a terabyte of capacity into a 2.5-inch mechanism, thanks largely to adding a third platter. The extra platter makes the units (especially the Seagate) slightly thicker and heavier than a typical 2.5-inch portable drive, but they remain highly portable just the same.

Samsung's supersmall S1 Mini—the only 1.8-inch hard drive that we tested here—had the smallest capacity in the roundup (120GB). Of the other units we tested, four offered 250GB of storage, six had 320GB, eight had 500GB, and one had 640GB, though most of them are available in different capacities.

The amount of storage you need depends on how you use the drive. If it's strictly for business documents, even the 120GB S1 Mini probably offers plenty of space. On the other hand, if you want to rip and watch your DVD collection from a hard drive, even 1TB may eventually be too little.

Western Digital's My Passport Elite includes an LED gauge on the front of the unit that tracks available capacity. Depending on how you use your storage device, this feature could be extremely handy. The drive comes with a dock, and with multiple drives in play, the gauge offers a nice way to determine which one has the most space available for your next operation or project.

Performance

Drives equipped with an eSATA or FireWire 800 bus were much faster than their USB 2.0 cousins, and eSATA was about 10 percent faster than FireWire 800. We also noticed differences in performance within each bracket. The Rocstor Airhawk A9 was the fastest of the drives we tested via FireWire 800, by 7 percent. The other three FireWire 800 drives finished within a couple of percentage points of each other.

Among USB 2.0 drives, the two Western Digital My Passport models earned top marks for performance. Most of the other drives had minor differences in test scores. Generally, 1.8-inch drives are slower than 2-inch mechanisms; so the Samsung S1 Mini's second-to-last-place finish is less surprising than its beating the Toshiba Portable Hard Drive 640GB (whose performance improves if you manually launch the included software and reformat the drive).

The type of interface you use has more influence on your portable hard drive's performance than any other factor; and vendors can replace the mechanism inside any model whenever they please.

Rugged Design

Hard-drive manufacturers' efforts to improve the shock resistance of their bare hard drives have yielded innovations such as incorporating sensors for g-force (acceleration due to gravity) to detect when a drive is falling through space. Even so, hard drives remain too fragile to withstand even normal use without additional protective measures.

To reduce shock and vibration in hard drives, manufacturers place rubber washers at points where the drive is screwed to the enclosure and use rubberized external coatings and bumpers as high-tech slings inside the box.

PHOTOGRAPHS: ROBERT CARDIN

Dock It From Your Pocket

Western Digital's slim My Passport Elite drive comes with a USB dock.

VENDORS SUCH AS Seagate and Western Digital provide docking stations that obviate the need to fiddle around with a cable each time you connect the drive to your PC. A docking station may save you only a few seconds each time you attach the drive, but those seconds add up in the long run. Docking stations are also incredibly handy when you use multiple drives for rotating backups or archiving (storing individual projects on their own drives, as audio recording and photography studios often do).

Both Western Digital's My Passport Elite and Seagate's FreeAgent Go Special Edition ship with a dock. The Seagate dock's design seemed a bit better balanced than the WD dock's; but if you do a lot of swapping, a bit of double-sided tape wouldn't be out of place with either unit. Another point in favor of the FreeAgent Go docking system is that the much thicker FreeAgent Go 1TB will still fit in the standard Go series dock, thanks to a cleverly placed notch in its case. Now if only someone would make a FireWire 800 dock.

The goal is to reduce the effective g-force to a level that the drive can withstand in both its nonoperational state (with its read/write heads parked safely off the disk platters) and its operational state (with the read/write heads engaged). Vendors claim that their bare drives possess a shock resistance to g-force of up to 400g when operational, and up to 1000g when nonoperational, but you should treat portable hard drives as delicate mechanisms. A drive that might survive a 3-foot fall while not plugged in would probably sustain damage if it suffered the same fall while in use.

One way to minimize your portable drive's risk of damage is to use a short cable. This helps keep the drive out of the way of flying hands and elbows, and increases the likelihood that the cable will unplug and the drive will park its read/write heads before the unit hits the floor. Drive manufacturers call this automatic action *emergency retract*; according to Seagate, it takes from 40 to 80 milliseconds, depending on where the heads are when power is cut off. The drive taps residual electromotive force from the spinning platters to perform the emergency operation.

Every drive in our roundup withstood the mild bumps that we subjected them to, and a couple of designs stood out for their ruggedness: Adata's bright yellow Sport SH93 and Hitachi's SimpleTough 320GB. The SH93's USB port is capped with soft rubber, and the company claims that the resulting seal can withstand immersion in 1 meter of water for 30 minutes without leaking. An integrated raceway around the SH93's rubberized waist lets you store the included cable.

The SimpleTough comes with a conveniently integrated, nonremovable cable, as does the Buffalo MiniStation Metro Portable, the CMS V2ABS, and the LaCie Little Disk 250GB. Only the SimpleTough's cable is ruggedized with a corrugated, high-grip surface, however. Hitachi claims that it's waterproof, too.

Software

Many vendors try to make their portable drives stand out from the pack with bundled encryption software, backup software or both. Since the focus is on ease of use, most of the programs offer fewer options than some of the better-known stand-alone applications do.

Adata, Rocstor, and Verbatim shipped their drives to us without any bundled software. But you can choose from an array of free backup software at find.pcworld.com/69239. Except for the Adata, all of these drives are FireWire models.

For many PC users, software is a key factor in the buying decision, and having software especially tailored to your drive is convenient. Many of the drives' software bundles come preloaded and launch automatically when you connect the drive to your PC's USB port.

The Buffalo Technology, Samsung, Seagate, and Western Digital drives came with both backup software and data-encryption software. The Hitachi, Iomega, LaCie, Toshiba, and WiebeTech drives provided backup software only.

The Hitachi drives bundled Arcsoft TotalMedia Backup. This program is easy to use, but the only way you can define additional file types to back up is by using a filter. The company does supplement its bundle with Hitachi Ultimate Online Backup (which »

Tiny Size:

Car keys (left) aren't out of scale with Samsung's 120GB S1 Mini and WD's 500GB Elite drive.

includes 2GB of free storage).

Similarly, Iomega's eGo offers Mozy Home; its Retrospect Express Backup and QuikProtect programs let you add individual files to a backup set. You get 2GB of free online storage at Mozy Home with the eGo.

CMS's BounceBack Ultimate handles various backup chores, but it's unique in letting you mirror your system's main hard drive. If the main system subsequently fails, you can boot from the external drive and keep working.

Western Digital's SmartWare was one of the friendliest application packages we looked at, and it offers full-drive security (most competing packages support only file and folder encryption). On the other hand, we couldn't figure out how to modify or add to the default file selections (Pictures, Movies, Music, Documents, and Other). HP's SimpleSave automates main-drive backup effectively; like SmartWare, it auto-selects files, but it lets you modify those selections.

Seagate's Manager Software for its FreeAgent drives is as friendly as WD's, but it offers only folder encryption. On the other hand, it supports folder-level syncing, and you can modify file selections for your backups individually.

Samsung's S1 Mini ships with a nice (but nameless) software app with a very pretty interface. We wish it let users add files individually to a backup, though.

Toshiba's Portable Hard Drive 640MB was relatively slow, but we liked the automatic launching and configuring functions in its version of NTI Backup Now EZ—the only version that handled both file-based and image backups.

LaCie drives ship with the highly configurable (though harder) Genie Backup Assistant, and with a syncing program.

Software: HP's SimpleSave automatically selects files to back up, but allows customization.

Security

If your portable drive contains sensitive data, encrypting it to keep it away from prying eyes is a good idea. Vendors favor software-dependent encryption; and in the drives that we reviewed, they split just about evenly between full-drive encryption and file and folder-level encryption. The better choice for you depends on whether you want quick and unfettered access to some files while vigorously defending the rest, or whether you want everything protected at full strength.

Western Digital's and Buffalo's drives adopt the full-drive approach. Both use a small partition (the OS sees it as a CD drive) to provide access to their utilities; but once you set a password, you can't access the main partition where your data resides. Samsung's SecretZone creates password-protected images that you can mount as virtual removable drives for seamless access; otherwise, however, it leaves your drive available. Seagate uses an encrypted folder that you can add files to and delete files from via a stand-alone encryption tool.

If you use your drive exclusively on your own desktop PCs and laptops, a software approach to security is fine, though some people may dislike the idea of installing and possibly running an unrecognized piece of software on their system. RocStor's Rocbit FX KT drive offers an far more elegant solution: It uses a mini-USB security dongle containing an encryption key to unlock the encrypted data on the drive. No dongle, no data. The drive comes bundled with two dongles in case you misplace one. **Tip:** Always remove security dongles when you aren't around—even if you're just making a dash for a cup of coffee. For some reason, devices with security dongles parked in them tend to attract more than their fair share of attention.

Security: Rocstor's Rocbit FX KT includes a mini-USB dongle containing an encryption key.

What You Want

The portable hard drive you buy should have a USB 2.0 port for universal connectivity. Of course, that's a bit like saying that the car you buy should have four wheels: It's nearly impossible to find a portable drive that lacks USB. Still, both FireWire and eSATA are handy options to have, too—FireWire 800, in particular. And the more data you transfer, the handier they become.

Toshiba's slower-than-average Portable Hard Drive 640 would have been on our must-avoid list, if not for its well-designed backup software. The Samsung S1 Mini is slow, too, but extreme portability and adept security software intercede on its behalf. WiebeTech's quad-interface ToughTech XE Mini sounds enticing—and if you're looking for eSATA speed, it has the goods. Because it can't run on USB bus power, however, you can't leave its AC adapter at home.

Seagate's FreeAgent Go portable drives win our nod for archiving or rotating backups; the dock and capacities are state-of-the-art even though the drive's USB performance is only middle-of-the-pack. WD's My Passport Elite is your best bet if you need a combination of small size and big USB performance. Rocstor's Rocbit FX KT should appeal to anyone who needs to satisfy strict security requirements, and Adata's SH93 is a winner if you need a portable drive that can survive a hiking trip. ●

PHOTOGRAPHS: ROBERT CARDIN

RESTAURANT PRO EXPRESS™

Point of Sale System for Restaurants

More Profit! • More Sales! • More Customers!

Save Time, Reduce Theft, Speed Checkout, Increase Accuracy,
Reduce Costs, Make Better Business Decisions by Computerizing your Restaurant

The #1 Rated Restaurant Point of Sale

- Fine Dining, Table Service
- Quick Service, Fast Food
- Delivery, Takeout, Drive-Thru
- Cafeterias, Hotels, Gift Shops & Retail Stores
- Rated # 1 for Ease of Use
- Rated # 1 for Restaurant Features
- Single or multi-user
- One restaurant or multiple restaurants
- Credit card authorization in 2-3 seconds
- Gift Cards & Loyalty Cards
- Track your inventory and customers
- Detailed Sales Reports
- Rated # 1 in Customer Service
- FAST and EASY order-taking

All-In-One Terminals ~~$1899~~
Posiflex, IBM

Cash Drawers ~~$189~~
MMF, Indiana, APG, Logic Controls

Receipt Printers ~~$299~~
Epson, Star, Ithaca, Citizen

Pole Displays ~~$289~~
Logic Controls

Table-Side Ordering- ~~$499~~
Symbol, HP Palm

Touch Screen Monitors ~~$499~~
ELO Flat Panel, CRT

Credit & Debit Card Processing ~~$349~~
PC Charge
Credit Card Readers, Pin Pads, Signature Pads ~~$179~~
Unitech, MagTek, Verifone, Topaz, HHP

DINER'S CHOICE

Gift Cards and Loyalty Cards

Restaurant Pro Express software for Windows $ 795

Replace your Cash Register with Restaurant Pro Express in any type of restaurant. With over 1,000 of the most desired restaurant point of sale features, Restaurant Pro Express will help you compete in a difficult restaurant environment by controlling your costs, reducing errors, increasing efficiency, increasing your profits and increasing your sales. Restaurant Pro Express provides faster checkout, table seating, split checks, tip tracking, unlimited menu items and modifiers, and THE FASTEST, MOST EFFICIENT WAY TO SERVICE YOUR CUSTOMERS.

Specializing in Point of Sale since 1985

DEALERS WANTED!
Join our dealer program. It's FREE. It's the fastest way to make money...AND we make it EASY.

For More Info Call Toll Free!
1-800-722-6374

FREE DEMO!!

1-800-PC-AMERICA
WWW.PCAMERICA.COM

CALL TOLL FREE: 1-800-722-6374 • PH:845-920-0800 • FX: 845-920-0880
PC AMERICA, 1 Blue Hill Plaza, Second Floor, Box 1546, Pearl River, NY 10965

Promotion

PCW | CE Hot Product Showcase

Phonewatch with Communicator

Kempler & Strauss' stylish W Phonewatch is the world's smallest full-function GSM unlocked cell phone watch.
It incorporates cell phone, color photo-video camera and mp3 player.
and is optimized for use with kempler & strauss' included bluetooth-enabled Communicator micro handset which enables users to wirelessly answer phone calls and control the integrated mp3 player.
The w Phonewatch features an intuitive micro-touch touchscreen interface.
Price tag under $200

Available online www.kemplerusa.com
Works with AT&T and T-Mobile

KEMPLER & STRAUSS™

W PHONEWATCH

Ultra-Thin, Credit Card-Sized USB Drive

Carry important documents and files in your wallet

The Slim Data USB Cards, which are available in 2GB and 4GB capacities, are high-quality, plug-and-play, ultra-slim USB flash drives the same size and thickness as a credit card.

It can be conveniently carried in a wallet minimizing the chance of loss or misplacement and enabling users to keep their USB storage with them at all times.

Available online www.slimdatausb.com

SLIM data

Watch your PC Shows on your TV

IGUGU InterneTV gives the user the freedom to enjoy any video content from the Internet the way it's meant to be enjoyed... from the comfort of a couch.

Today PC's are the most powerful entertainment systems, IGUGU was developed to unleash the entertainment potential of the PC and the Internet place-shifting content from the desktop to the TV where it can be enjoyed in a Home Entertainment Center.
Complete solution price tag under $80

iGUGU™ INTERNETV

The most powerful Videogame Console

IGUGU Gamecore transforms your PC into the most powerful TV Videogame Console. With IGUGU GAMECORE you can wirelessly play and control 97% of PC-resident games and 100% of the online games available on the web.

Using a 2.4Ghz RF connection and its 6 accelerometers for Motion Sensing provides an outstanding gaming experience on your Plasma or LCD HDTV.
Complete solution price tag under $80

Available online www.igugu.com

iGUGU™ GAMECORE

Promotion

PCW | CE Hot Product Showcase

CarMD® Handheld Tester & Software Kit Empowers Drivers

Easy-to-use CarMD® device lets you monitor your vehicle's health without popping the hood. Catch hidden problems before they cost you big bucks, keep your car green and double-check repair costs. Updateable software (now for Windows® 7) means the CarMD you buy today will work on the vehicle you buy tomorrow.

IF YOU HAVE A CAR OR TRUCK, YOU NEED CARMD!

***PCWorld* readers save 15%** (MSRP: $98.99)
When you buy online at CarMD.com with code: PCWCE10
(offer good through 5/31/10)

www.CarMD.com

High Definition All-in-one Media Player

PATRIOT

The Patriot Box Office is an all-in-one media player that frees your digital media library and brings it to your living room. Box Office supports most media formats and offers numerous ways to connect to your media library: 3 USB ports, internal 2.5" hard drive (not included), UPnP streaming, 10/100 Ethernet connection and optional WiFi USB adapter.

Available at:

amazon.com newegg.com Fry's NCIX.com

Expand Your View with a New USB Monitor

Add a second monitor to your Laptop today via your USB Port. DoubleSight Smart USB Monitors utilize a single USB cable for both power and video - no video port required. PC & MAC Compatible. 7" and 9" Models available. Lightweight & Portable. Perfect for Laptops, Netbooks and Desktops.

www.DoubleSight.com

Get One Now → Buy.com amazon.com DELL Walmart.com STAPLES PROVANTAGE

Affordable Color E-Book

The GR100 expands on current E-book reader technology by offering a 6 inch color LCD touchscreen with crystal clarity. With a built in stereo speaker, this is not just an E-Book reader, but a total multimedia device. Expand the internal memory by using an SD card to hold up to thousands of books. A rechargeable battery rounds out this device to be extremely portable.

BEYOND E-TECH

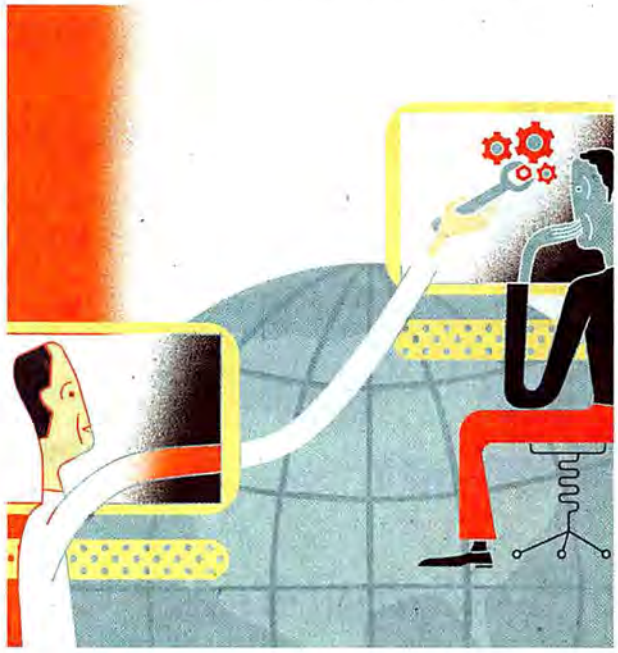
info@beyondetech.com (877) 220-DUET

Here's How

Troubleshoot Windows Problems Remotely

Microsoft's Internet-based remote-access tools let you quickly fix Windows problems on far-away PCs. Here's how to use them.

BY TONY BRADLEY



WHETHER YOU'RE an IT pro or the go-to geek in your social circle, often the biggest hassle you face in fixing a computer problem is simply getting to the PC that needs help. Fortunately, Microsoft offers a few good Internet-based options that simplify the task of connecting to a troubled system.

With Microsoft's Remote Assistance, Remote Desktop Connection, and Problem Steps Recorder, you can control a remote PC as if you were sitting at the keyboard in front of it. Not only do these tools save you a trek, but they also help you avoid scenarios where you try to assist a friend who can't seem to use menus properly or identify settings and dialog-box messages accurately. Instead of guiding a clueless soul to Control Panel and beyond, you can drive the controls yourself and fix problems quickly.

Remote Assistance

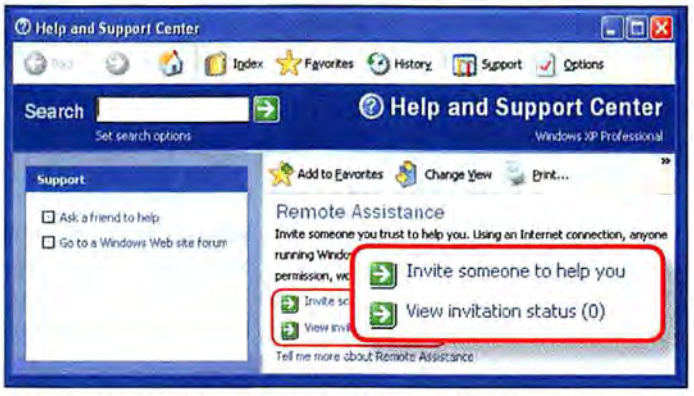
With Remote Assistance, you can provide safe and secure tech support for distant computers, whether for your company or for family members and friends.

Unlike many other remote-access tools, Remote Assistance doesn't open a user's Windows PC to the Internet so that any outsider can connect at will. The user must initiate the Remote Assistance request and approve the incoming connection.

This tool has existed since the debut of Windows XP in 2001, but its features have evolved a bit over the course of the transition from XP to Vista to Windows 7. In Windows 7, click *Help and Support*, select *More Support Options* at the bottom of the window, and choose *Remote Assistance*. To find the utility in one of the earlier versions of Windows, click *Help and Support* and run a search for 'Remote Assistance'.

Once Remote Assistance is open, the utility offers a choice as to how to send a request for help. The method and format of the request have changed over time. In Windows XP, the options are limited to a choice between instant messaging and e-mail. In Windows 7, the user can send an e-mail message, save the invitation as a file to be sent as an IM attachment, or use Easy Connect to establish a relationship between two Windows 7 systems that afterward can connect via Remote Assistance instantly.

Selecting the e-mail request option opens the user's default e-mail client



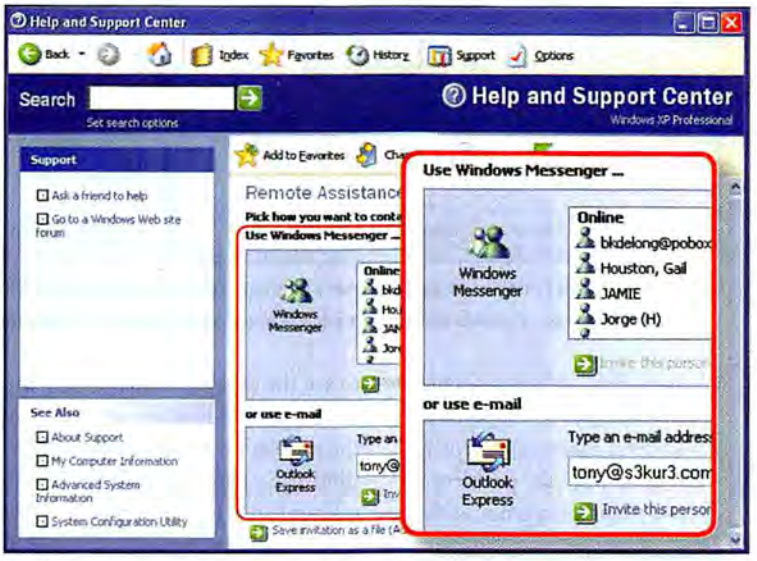
REMOTE ASSISTANCE lets PC users with uncertain troubleshooting skills invite an outside person to connect with their system to help solve problems.

ILLUSTRATION: OTTO STEININGER

and creates an e-mail message asking for help; it also provides a file attachment that the recipient will use to connect to the computer that needs assistance. In both Windows XP and Vista, the system prompts the user to create a password for the remote helper to use in order to gain security clearance to connect with the PC; Windows 7 creates its own (ostensibly more secure) password and passes that along to the person doing the troubleshooting.

After you (the helper) receive and click on the attachment, you must enter the password to start the connection to the remote PC. At this point, the person who asked for your help will see a prompt requesting permission to establish the incoming connection and warning that the connection will allow you to see everything on their Windows desktop.

As long as the Remote Assistance session remains connected, both you and the person you're helping will be able to observe the same Windows desktop. A chat function permits you to communicate with each other to troubleshoot and resolve the problem.



WINDOWS XP LETS users request assistance via instant messaging or e-mail.

Remote Desktop Connection

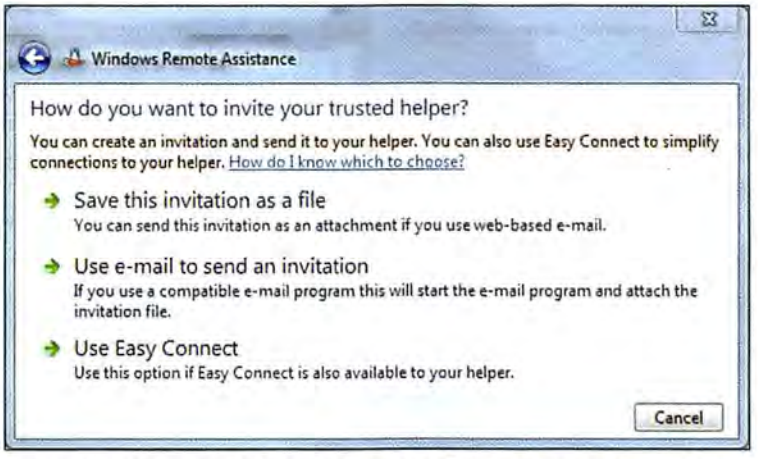
Remote Assistance is good for troubleshooting remote systems on a one-time, as-needed basis; but if you find it necessary to connect with a remote system regularly, use Remote Desktop Connection. This versatile Windows tool enables you to control any remote PC; it's especially valuable for administrators who need to connect with servers or other critical systems.

Before you can use Remote Desktop Connection to link up to a remote system, that PC must be configured to accept such connections. In either Windows Vista or Windows 7, right-click *Computer* and select *Properties*, or open *Control Panel* and select *System*; then choose the *Remote settings* link in the left pane. In Windows XP, right-click *My Computer*, choose *Properties*, and select the *Remote* tab.

The Remote Settings control panel lets you allow or disallow remote systems to connect with that computer. Members of the Administrators group automatically have access to all systems whose Remote Desktop Connection is turned on. If you would like for users who aren't already administrators on a particular PC to be able to connect to it using Remote Desktop Connection, you must add them here. Once the system has enabled Remote Desktop Connection, the utility will provide you with the address to use in order to connect to the PC remotely.

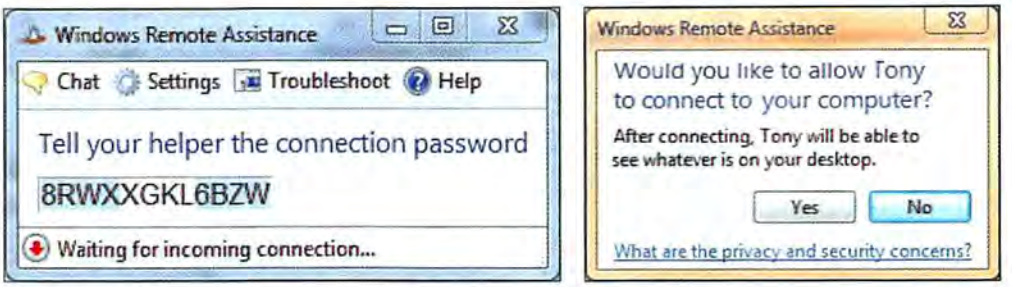
To begin a Remote Desktop Connection session, click *Start•All Programs•Accessories• Remote Desktop Connection*. In the Remote Desktop Connection window, you can enter either the IP address or the computer name of the system you want to connect to, as well as the username you're using for the connection. Once you've initiated the connection process, the software will ask you to enter a valid username and password for the remote PC, unless you saved the connection credentials from a previous session on that PC.

Both Windows Server 2003 and Windows Server 2008 allow multiple simultaneous connections via Remote Desktop Connection, but desktop systems allow just one connection at a time. Remote Desktop Connection (unlike Remote Assistance) does not let the local user see the desktop. A person sitting in front of the PC will see the screen blacked out while the Remote Desktop Connection session is engaged. »



IN WINDOWS 7, users can set up an invitation to a designated troubleshooting helper and later send it as an attached IM file, as an e-mail message, or via Easy Connect.

If someone logs back in to the system locally, the session will terminate; so when you use Remote Desktop Connection to troubleshoot a PC, tell the person at the other end to sit back and relax while you do your thing.



WINDOWS XP AND Windows Vista invite users to create their own passwords; Windows 7, however, generates complex passwords—like this one—automatically and instructs users to share them with their remote helper.

Problem Steps Recorder

Windows 7 comes with a very helpful new tool called Problem Steps Recorder.

REMOTE DESKTOP CONNECTION asks you to enter an IP address or computer name, plus your username, to establish secure credentials.

This cool utility enables users to document, automatically and step-by-step, the actions that led to or created a computer problem. Users can then send the compiled recording out to a help desk or to another individual so that the helper can review precisely what happened and—maybe—figure out where things went wrong.

Problem Steps Recorder is a big deal for several reasons. First, in many instances involving an uncooperative system, users can't identify exactly what the problem is; and help-desk agents, at their end, frequently have trouble re-creating the computer misbehavior that the users describe. Though Windows Remote Assistance allows both the user and the helper to see the desktop at the same time and to work on the problem simultaneously, third-party support providers rarely use that utility as a troubleshooting tool.

Second, since it's easy to send Problem Steps Recorder sessions as an e-mail message or an instant-messaging file attachment, the user and the help desk don't have to be connected in real time. Having access to a visual recreation of the problem and having the option of resolving the issue offline and subsequently informing the user about the solution give help-desk agents the freedom to work more efficiently—and without the pressure of having a frustrated user waiting and watching on the other end of a connection.

Problem Steps Recorder is unavailable in Control Panel or through any Windows menus. To open Problem Steps Recorder and create a session, press the **<Windows>** key on your keyboard and type **psr.exe** into the search field. Press **<Enter>**, and you will see a simple console with options for starting or stopping the recording, and for adding comments.

Problem Steps Recorder sessions are not videos; they consist of a collection of annotated screenshots. The utility compiles the resulting session into an MHTML file that you can send either as an e-mail message or as a file attached to an instant message. The MHTML file is viewable only in Internet Explorer.

Another nice thing about Problem Steps Recorder is that you don't have to reserve it for occasions when problems arise. You can use it to create tutorials or documented how-to sessions for complex or confusing tasks, thereby educating users and preemptively avoiding potential problems.

Of course, connecting to a troubled PC and observing the problem directly are only the first steps that you will have to take in solving a remote-computer difficulty. But if you can avoid traveling to the remote system, you have already made fixing the problem a little bit easier.

PROBLEM STEPS RECORDER automatically records each of the steps that occur prior to a crash, error, or other PC hassle, making it easier for a knowledgeable person to troubleshoot the problem remotely.

Fix Four Common Windows 7 Upgrade Problems

Upgrading to Microsoft's latest operating system can be fraught with frustration for some users. Here's how to tackle a quartet of showstoppers.

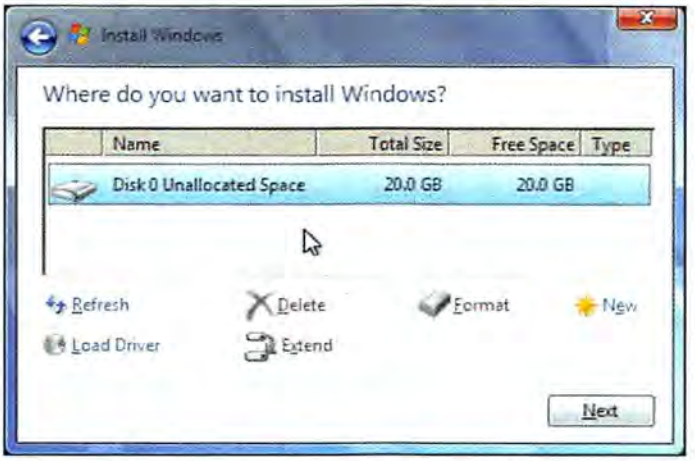
AN EXPERIENCED PC user knows that not every attempt to upgrade an operating system goes smoothly—but arming yourself with that understanding does little to offset the annoyance you're bound to feel when confronted with seemingly unresolvable installation problems. Like its predecessors, Windows 7 has presented some of its adopters with a few serious upgrade bugs. But don't worry: I'll explain how to exterminate them.

Before you embark on your Windows 7 upgrade, though, be sure to attach your system directly to your router via a wired ethernet connection. This will give Windows 7 the opportunity to download the latest installation updates straight from Microsoft at the outset of the upgrade process. By the time you read this article, Microsoft may have come up with fixes for some of the following upgrade bugs, so your first step in any upgrade scenario should be to make sure that you have a wired Internet hookup to your PC to take advantage of them.

Installation Hangs at 62 Percent

The first installation problem that you're likely to encounter when upgrading from Vista to Windows 7 may not be obvious at first. But after your progress bar sits at 62 percent for more than 10 minutes, you'll know that something is wrong. The culprit is a service called Iphlpsvc, which may stop responding to your system during the installation. Fortunately, the solution is relatively easy. If you don't feel like messing around with your PC's settings, download and install Microsoft's automated fix for the problem, MicrosoftFixit50319 (find.pcworld.com/64195). Just follow the wizard, and it should resolve the difficulty in about a minute.

If you would rather correct the problem yourself, start by rebooting your PC. After logging back in, click *Start*, right-click *Computer*, and choose *Properties*. Next select *Advanced•Environment variables•System variables•New*. In the 'Variable name' field, type **MIG_UPGRADE_IGNORE_PLUGINS**. In the 'Variable value' field, type **IphlpsvcMigPlugin.dll**. Click *OK* to close the windows, and then restart your installation.



TO PERFORM A clean installation of Windows 7, you need to boot from the DVD, select your target drive, and click 'Delete'. Then click 'Next'.

Endless Reboots

A more obnoxious (and unfortunately more common) Windows 7 upgrade headache is the reboot loop. This irritating bug causes your system to reboot and then to present a message declaring that Windows 7 could not be installed and that the previous version of the OS (Vista) has therefore been restored. But the next time you reboot the PC, the operating system attempts to resume the upgrade process, leading to the same error after the next reboot. And so on. As Einstein noted many years ago, that's the very definition of insanity.

To escape this endless reboot cycle, select *Vista* from the boot menu at startup, and then insert your old Windows Vista installation disc into your PC's optical drive. When the Vista setup menu appears, exit setup. Click *Start•All Programs•Accessories*. Right-click *Command Prompt* and choose *Run as Administrator* from the contextual menu. Then, at the command prompt, type **D:\boot\Bootsect.exe /NT60 All**, replacing *D* with the letter of the drive containing your Vista installation disc. This instruction resets the boot parameters for the system.

Now reboot your machine and begin the installation process again.

CREATING A SYSTEM variable that ignores the Iphlpsvc plug-in will prevent the installation routine from hanging at the 62 percent complete mark.

Bad Product Key

You paid good money to upgrade to Windows 7, but when you try to activate the new installation, using the product key that came with the disc, you may receive an »

IF WINDOWS 7 gets stuck in a reboot loop during installation, insert the Vista CD and enter (approximately) the above at the Command Prompt.

error message reporting that your product key is not valid. The fix for this problem isn't difficult, but it is time-consuming.

This problem is not so much a bug as it is a result of unfriendly engineering. The invalid-product-key warning arises when you attempt to install an upgrade edition of Windows 7 on an already-formatted drive. You must install the upgrade edition on a system that already has either Windows XP or Vista installed on it. If the setup routine fails to locate a previous installation of XP or Vista, Windows 7 concludes that you are illicitly attempting to install the OS on a new computer rather than upgrading an old machine. As a result, your upgrade product key won't work.

To resolve this issue, you must have either XP or Vista installed on your hard drive at boot time. And satisfying that prerequisite may very well mean digging out your old XP or Vista discs and performing a fresh installation of the old OS before trying to install Windows 7 once again.

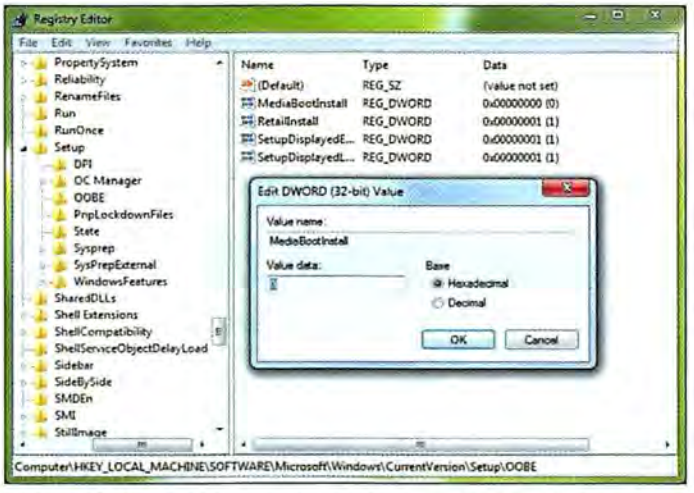
Windows 7 requires you to have Service Pack 1 installed on Vista, or Service Pack 3 installed on Windows XP; be sure to run your automatic updates on the old OS before moving on to the Windows 7 upgrade. If you have a backup of your XP or Vista system handy, the most foolproof fix may be to restore that backup on your hard drive and then to retry your Windows 7 upgrade.

Once you've reinstalled XP or Vista on your hard drive, boot from that drive and then insert your Windows 7 upgrade DVD. You'll still have the option to perform a clean installation of Windows 7 on your system, if that's what you want to do. Just make sure that your primary hard drive has a qualifying previous version of Windows installed on it; then boot from the Windows 7 DVD and select *Custom (Advanced)* as your installation type. You can then format the drive using Windows 7, without encountering the invalid-product-key error at activation time.

If the same activation error message pops up after you've followed these instructions, your best bet is to activate Windows 7 by phone. To do so, click *Start•Computer•Properties*, and choose *Click here to activate Windows now*. Look for the option to activate by phone, dial the number the system provides, and follow the voice-guided instructions. In the worst-case scenario, a Microsoft support person will help you activate your license.

Windows 7 Refuses to Activate

If you have already installed Windows 7 on your system via a clean install, and you don't want to go through the hassle of restoring your old version of Windows before reinstalling again, you can use a Registry hack to force Windows to behave as though it has already been properly activated.



TO OBTAIN ANOTHER 30-day grace period before validating, edit the value of the MediaBootInstall Registry key to 0 and then run the rearm command.

Be forewarned, however, that you should not think of this trick as a substitute for acquiring a legitimate Windows product key; it is strictly a stopgap measure to buy you another 30-day grace period, after which you'll be prompted as before to activate your copy of Windows 7 with your key.

Navigate to the MediaBootInstall Registry key by pressing **<Windows>** and typing **regedit** in the search field. After your Registry Editor opens, use the folder tree in the left pane to navigate to HKEY_LOCAL_MACHINE/Software/Microsoft/Windows/CurrentVersion/Setup/OOBE/. Once there, you should see 'MediaBootInstall' in the right-hand pane. Double-click it to see its value. If it's a 1, change it to a **0** and click *OK*.

Now close the Registry Editor, and select *Start•All Programs•Accessories*. Right-click *Command Prompt* and select *Run as administrator* from the context menu that pops up. At the prompt, type **slmgr /rearm**. You should then see a dialog box informing you that the command has completed its instructions successfully, and that you now need to restart.

Once you've restarted your computer, it will be time to activate your PC. Press the **<Windows>** key and type **Activate Windows**. Then press **<Enter>** and follow the prompts to complete the normal activation process. This time, the installation process should go smoothly.

—Robert Strohmeyer

Five Tips for Better Photo Printing Results

SPECIAL PHOTO INKS, like the ones in these HP Vivera cartridges, are formulated to deliver the highest-quality inkjet printer output.

HERE ARE FIVE tips to help you get better output from an inkjet photo printer.

1. Choose the right print size: For good results your image file should have enough pixels for a printed photo to be sharp at the desired size. You will need at least 200 dots per inch for acceptable image quality, and at least 300 dpi for excellent print quality.

Figuring the maximum acceptable print size (in inches) is easy: Divide the photo's pixel size by 200 (or by 300 for higher-quality prints).

Not sure how many pixels are in your photo? Right-click the image file's icon, choose *Properties*, and click the *Details* tab. You should see the width and the height listed in pixels. (If you are using Vista or Windows 7, you can just click a photo's icon and look for the information in the details pane at the bottom of the folder.)

For a 2000-by-3400-pixel photo, dividing each dimension by 200 yields 10 by 17, so a printed photo can be 10 by 17 inches with acceptable quality. For a higher-quality printout, dividing the pixel size by 300 gives you a 6 by 11 maximum; for the best results, the print should not exceed about 5 by 7 inches.

2. Choose the right paper: Plain paper absorbs ink from an inkjet printer, washing out the colors, destroying fine detail, and reducing the overall sharpness of the print. For better results, use the printer manufacturer's recommended photo paper.

The two most common varieties of photo paper are glossy and semiglossy (or "matte"). Glossy paper is shiny and gives your photos visual punch, but it can generate glare in direct sunlight, and it smudges easily. Matte paper isn't quite as sharp as glossy paper, and can lose fine detail in the surface, but I like its freckled finish.

3. Stick with the manufacturer's ink: I recommend using the ink that your printer's manufacturer endorses (and sells). Printers work best with specific ink formulations, and using remanufactured or refilled cartridges often yields lower-quality prints—especially of photos.

4. Verify the print settings: Is the paper loaded properly? If you print on the wrong side of photo paper, the paper won't absorb the ink correctly, and your printed photo won't look good.

Did you specify the right paper type and ink type in the print settings dialog box? Make sure that the settings match the stated specs.

5. Maintain your printer: Run your printer's printhead cleaning and alignment utilities (usually available via the printer options in the Windows Control Panel) every month or so. And even if your printer is intended just for photos, I strongly advise you to print on it at least once a week to prevent the nozzles from gumming up.

—Dave Johnson

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

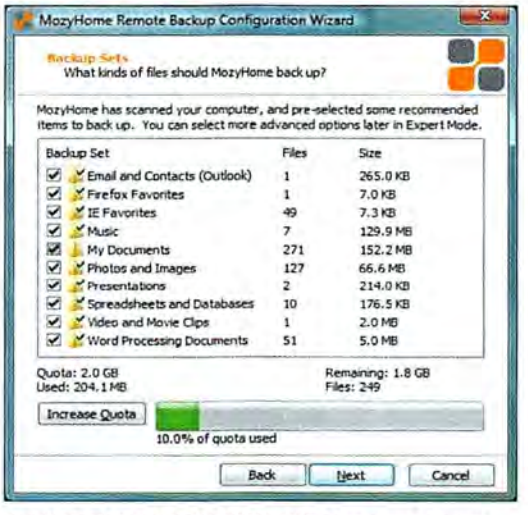
My external backup drive is full. How do I keep backing my system up now?

—Rat74136, PCWorld.com forums

THIS PROBLEM is why I prefer simpler, more space-efficient backup programs like Rebit (www.rebit.com) and MozyHome (find.pcworld.com/61957), which automatically remove older versions of files and keep only the most recent versions.

If your backup system doesn't work this way, you'll be better off either backing up to an external drive large enough to fit two complete backup sets (defining a set as one full and several incremental backups), or using two separate external drives. That way, you can delete the more out-of-date backup to make room for a new one.

Alternatively, you can make the backup set smaller by removing large files that you seldom change, (such as photos and music) and backing them up separately, perhaps even burning them to DVD.



REMOTE-BACKUP PROGRAMS LIKE MozyHome let you specify which files to select for automated backup.

When your external backup is full, you have two options. You can buy a second drive and start a new backup set on it, with the intention of deleting what's on your current drive when that one runs out of space. Or you can take a deep breath, delete everything on the current drive, and then immediately start over with a full backup.

—Lincoln Spector

RICK BROIDA'S HASSLE-FREE PC

Two Annoyance Busters and One Extremely Cool Laptop Trick

Make your old apps play nice with Windows 7, get your disc out of a stuck CD drive, and turn a decommissioned laptop into a second monitor.

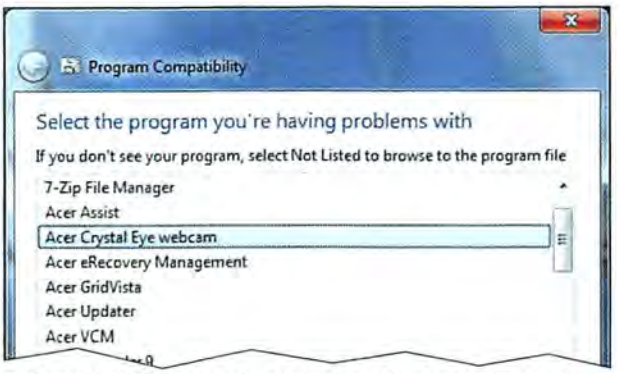
LIKE EVERY OTHER technology upgrade, Windows 7 suffers from its share of mismatches with existing apps and devices. I'll show you how to make all your old stuff work with your new OS. I'll also describe how to retrieve your media whenever it gets jammed in an optical drive. And in the interest of conservation, I'll point you to a tool for using any old laptop as a second display for your PC.

Overcome Windows 7 Compatibility Issues

Windows 7 has the same core code as Windows Vista, so application compatibility should be a nonissue, right? Wrong. Recently I tried to apply a firmware update to a Blu-ray drive, but the installer was designed for Vista and produced an error in Windows 7.

Meanwhile, I've had ongoing problems getting my iPhone to sync with iTunes, even though it worked just fine in Vista.

As much as I like Windows 7, I have to admit that at times like these I wish I could turn back the clock and run Vista, or even XP—and it just so happens that I can. That's because Win 7 has a little-known feature for troubleshooting app compatibility. Here's how to use it:



THE WINDOWS 7 Program Compatibility tool automatically troubleshoots and corrects conflicts between the new OS and old software.

1. Right-click the icon of the application that isn't working properly, and then click *Troubleshoot compatibility*.

2. Windows will try to detect compatibility issues; if it finds any, it will give you two options: 'Try recommended settings' and 'Troubleshoot program'. I suggest that you choose the first option first. If it doesn't work, you can always go back and try the second option (which gives you the opportunity to specify the previous version of Windows that you want to achieve compatibility with).

3. After Windows applies the settings that you've selected, click *Start Program* and see whether the change has solved the compatibility problem. Click *Next* to have Windows apply the settings permanently, or try again with different settings.

This tool solved both of my problems. For iTunes, I let Windows pick the settings (it chose XP with Service Pack 2)—and my iPhone synced perfectly. For the firmware updater, I chose Vista with SP1 (the installed OS before my Win 7 upgrade), and again it worked.

Compatibility problems can be vexing, but I'm glad that Microsoft thought to supply a simple, effective workaround.

Open a CD or DVD Tray That Won't Eject

My refurbished Sony Media Center PC has one annoying glitch: The Blu-ray drive's Eject button doesn't work. As a result, discs stay trapped in the drive unless I minimize Windows Media Center, open Computer, right-click the drive icon, and choose Eject. Grrrrr.

While working with Sony tech support to resolve the issue, I found a faster, easier solution: a tiny freeware app called EjectCD.

After extracting the program from the .zip file, I pinned it to the Windows 7 taskbar. (Vista users can accomplish the same result by enabling the Quick Launch toolbar and dragging it there.)

Now a click of the EjectCD icon opens the drive. And because I know the ancient secrets of the taskbar, I can use a keyboard shortcut. Every icon there (and in the Quick Launch toolbar) is automatically assigned a numerical value, beginning with 1 for the icon situated closest to Start, then 2 for the one next to it, and so on. Pressing the <Windows> key and the appropriate number launches the program.

So I simply pinned EjectCD in that first position. Now, a little tap of **<Windows>-1** runs the application and opens the drive.

I haven't been able to pin down the origin of this tool—I discovered it in an OverclockersClub forum (and you can grab it at find.pcworld.com/64231)—but it has worked like a charm for me.

Turn a Spare Laptop Into a Second Monitor

Adding a second monitor to your workstation can greatly improve your productivity. Most desktops (and laptops) let you add a second screen, and monitors are pretty affordable these days. But nothing beats the price of gear you already own—like an old laptop.

MaxiVista (find.pcworld.com/64232) is a clever utility that lets you turn an extra laptop into a second monitor. The only requirement is that both systems be connected to your home network. The program has been around for years, but only the new version 4 offers support for Vista and Windows 7 (including their 64-bit editions).

Most users will likely pair their desktop with a laptop, though it's just as easy to configure two laptops, a laptop and a netbook, and so on. The software now supports third and fourth PCs as well.

I put MaxiVista to work on a desktop PC running Windows 7 and a laptop running Vista. It worked flawlessly. Even Win 7 features like Aero Snap worked on the secondary system. Very impressive.

MaxiVista costs $40. A 14-day trial version is available, and you should install it first to confirm that your configuration works properly. It's a great way to put an old or unused PC to good use. ●

Students, parents, and teachers

Get Some Hot Deals this Winter!

up to **85%** Off

$5 Off

your order of $50 or more!

Use **Promo Code 748186** when placing your order.

Hurry, this offer ends 2/28/10.
Prices are subject to change.

10AMGPWFEB

Adobe **Creative Suite 4 Design Premium Student Edition**
MSRP $1,799 | Save $1,400 | **$398.95**
Mac #DW962669 Win #DW961113

Microsoft **Windows 7 Ultimate**
Win #DW1308281 (Upgrade) **$219.95**
Win #DW1308297 (Full) **$319.95**

Microsoft **Office Professional 2007**
MSRP $499 | Save $400 | **$99.95***
Win #DW784349
*Offer expires 2/12/10. While supplies last.

ACADEMIC SUPERSTORE

Visit us online or call now: **www.AcademicSuperstore.com/pwfe | 1-800-580-9237**

Digital cameras

PCW

Networking

GPS

Finding the perfect
tech gadget
has never been easier.
pcworld.com/shopping

MP3 players

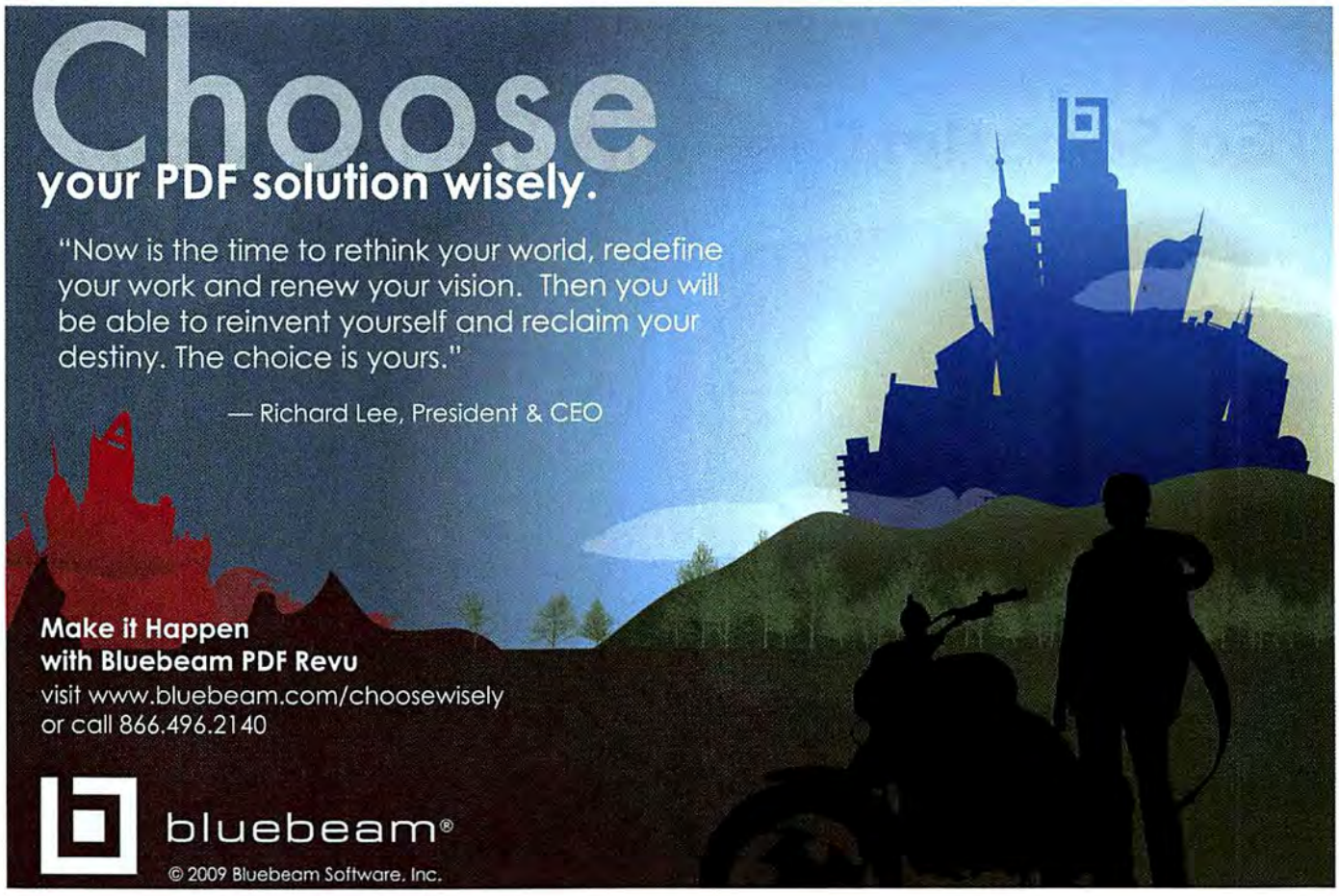
HDTVs

Laptops

Choose
your PDF solution wisely.

"Now is the time to rethink your world, redefine your work and renew your vision. Then you will be able to reinvent yourself and reclaim your destiny. The choice is yours."

— Richard Lee, President & CEO



Make it Happen with Bluebeam PDF Revu
visit www.bluebeam.com/choosewisely
or call 866.496.2140

bluebeam®

© 2009 Bluebeam Software, Inc.

Third Edition
Updated for the iPhone 3GS and 3.0 software!

Be an iPhone & iPod Touch Pro

Get the most out of your devices with this 172 page e-book.

ORDER NOW!

macworld.com/superguide

Macworld Superguides are available in 2 convenient formats for only $12.95:
- Downloadable PDFs: Get immediate access
- PDF on CD-ROM: Order the CD-ROM and always have a back-up

DRIVESAVERS®
DATA RECOVERY

We can save it!®

Want proof? www.drivesavers.com 800.440.1904

Granite
D·I·G·I·T·A·L

High End External FireWire and SATA Cables

Host Adapter
HUB/Repeaters
Gender Adapters

(888) 819 - 2190
granitedigital.com

InSightCruises.com/Mac-10
May 2-9, 2010

Mac Mania 10

Roundtrip NYC to Bermuda

NEW LOW PRICE!

$6.99 (Wow!) Qty 3+
Qty 2: $7.99
Qty 1: $8.99
Remanufactured HP 51645a (No. 45) ink cartridge.

More great deals at...
1-800-INKFARM
inkfarm.com
the ink & toner supersite.™

PC World

PHONE: 415/243-0500
FAX: 415/442-1891
E-MAIL: letters@pcworld.com
WEB: www.pcworld.com
MAIL: PC World Editorial, 501 Second St. #600, San Francisco, CA 94107

PRESIDENT, CEO Mike Kisseberth
EXECUTIVE ASSISTANT Caroline Ward

ADVERTISING SALES

VP, SALES
Stacey Levy (415/978-3255)

EAST

EASTERN ACCOUNT DIRECTOR
Amy Singer (201/634-2317)

ACCOUNT MANAGER, BUSINESS DEVELOPMENT
Kathy Rebello (508/820-0440)

SALES ASSOCIATE
Shari Redan (207/899-2099)

MIDWEST

SENIOR ACCOUNT DIRECTOR
Kathy McKay (847/251-9274)

SALES ASSOCIATE
Shari Redan (207/899-2099)

WEST

SOUTHWEST ACCOUNT DIRECTOR
Cindy Hamilton (949/442-4005)

NORTHWEST ACCOUNT DIRECTOR
Elaine Ebner (415/267-4578)

SALES ASSOCIATE
Chrissy Schneider (415/978-3269)

NORTHWEST ACCOUNT DIRECTOR
Melissa Gruber (415/974-7373)

SALES MANAGER, BUSINESS DEVELOPMENT
Duane Hampson (415/978-3133)

SALES ASSOCIATE
Meggen Thorp (415/978-3266)

SALES MANAGER, BUSINESS DEVELOPMENT
Niki Stranz (415/243-3664)

ACCOUNT MANAGER
Carol Johnstone (415/978-3390)

ACCOUNT COORDINATOR
Paul Moretti (415/243-3575)

PC WORLD REPRINTS
permissions@pcworld.com

PCWORLD.COM AD OPERATIONS

DIRECTOR, AD OPERATIONS
Kevin Barden

AD PROJECT MANAGER
Leilani Lopez

AD OPERATIONS COORDINATORS
Keri Campbell, Andrew Galluccio

RESEARCH AND MARKETING

VP, STRATEGIC INTELLIGENCE
Jessica Lilie

MARKETING MANAGER
Jim Hopkins

RESEARCH ANALYST
Kyle Flick

CONSUMER MARKETING

PROCIRC, SUBSCRIPTION MANAGEMENT
Shawne Burke Pecar

PROCIRC, SUBSCRIPTION MANAGEMENT
Megan Guard, Susi Chapman

PROCIRC, RETAIL SOLUTIONS
Mark Peterson, Scott Hill

PRODUCTION

DIRECTOR, PRODUCTION
Nancy Jonathans

ASSISTANT PRODUCTION MANAGER
Eliza Wee

PREPRESS MANAGER
Tamara Gargus

ONLINE MANAGEMENT

EXECUTIVE VP/GENERAL MANAGER, ONLINE Stephan Scherzer

VP, BUSINESS DEVELOPMENT
Ulla McGee

DIRECTOR, BUSINESS AND PRODUCT DEVELOPMENT Brian Buizer

SENIOR PROGRAM MANAGER
David Lake

DIRECTOR, ONLINE MARKETING
Alexa Wriggins

NEWSLETTER SERVICES MANAGER
Michael E. England

EMAIL MARKETING MANAGER
DW Malouf

BUSINESS DEVELOPMENT COORDINATOR Alisha Billingsley

WEB DESIGN

DIRECTOR, WEB DESIGN
Jason Brightman

USER INTERFACE DESIGNER
Sky Collins

USER INTERFACE DEVELOPER
Ryan Eilders

SENIOR VIDEO PRODUCER
Chris Manners

TECHNOLOGY

CHIEF TECHNOLOGY OFFICER
Aaron Jones

DIRECTOR, IT & WEB OPERATIONS
Sean Greathouse

IT MANAGER Walter Clegg

SYSTEMS ANALYST Eileen Quan

IT SPECIALIST Scott Reyna

SENIOR SYSTEM/NETWORKS ADMINISTRATOR Wil Schultz

SENIOR WEB OPERATIONS ADMINISTRATOR Andrew Trice

DIRECTOR, APPLICATIONS DEVELOPMENT Jim Hutson

SENIOR APPLICATIONS DEVELOPERS
Wei Ming Xu, Bill Cappel, Alexis Barrera, Justin Counts, Kieran Fitzpatrick

HUMAN RESOURCES

VP, HUMAN RESOURCES
Kate Coldwell

HUMAN RESOURCES REPRESENTATIVE
Ellen Cobb

FINANCE

SENIOR VP, COO/CFO Vicki Peilen

DIRECTOR, FINANCE Diane Ryczek

DIRECTOR, ACCOUNTING
Michelle Reyes

DIRECTOR, FINANCIAL AD OPERATIONS Diane Hacker

DIRECTOR, ADVERTISING ACCOUNT SERVICES Kevin Greene

STAFF ACCOUNTANT
Scott Lum-Duenas

ADVERTISER'S INDEX

Type find.pcworld.com/ plus the five digit number below, to go directly to any advertiser in this list.

Advertiser	Page	Find-It #
1&1 Internet Inc.	2-3	63773
1&1 Internet Inc.	C2-1	63773
Aberdeen	87	63755
Acer America Corp.	33-40	63756
APC	57	63771
BitDefender Security	13	63751
Bose	25	63752
Citrix Systems	8	63753
Crucial Technology	28	63770
CyberPower Inc.	55	63764
DSolution	4	63757
Eset (NOD32)	43	63775
Fujitsu America	C4	63776
G7 Productivity Sys.	12	63746
GEICO	59	63758
IBM	C3	63777
iBuyPower.com	77	63766
iProlog Inc.	61	63747
KVC Hosting	6	63767
Moneual Lab	21	63748
NetSecure Tech	51	63779
Newegg.com	53	63763
Panasonic	31	63759
Patriot Memory	10	63768
pcAmerica	95	63774
Siber System, Inc.	22	63750
Siber System, Inc.	88	63749
SpectorSoft Corp	45	63761
TP-LINK Corporation	7	63769
TRENDnet	27	63762
USB Implementers Forum	19	63754
Wi-Ex	85	63778
WorldBench 6	74	63760

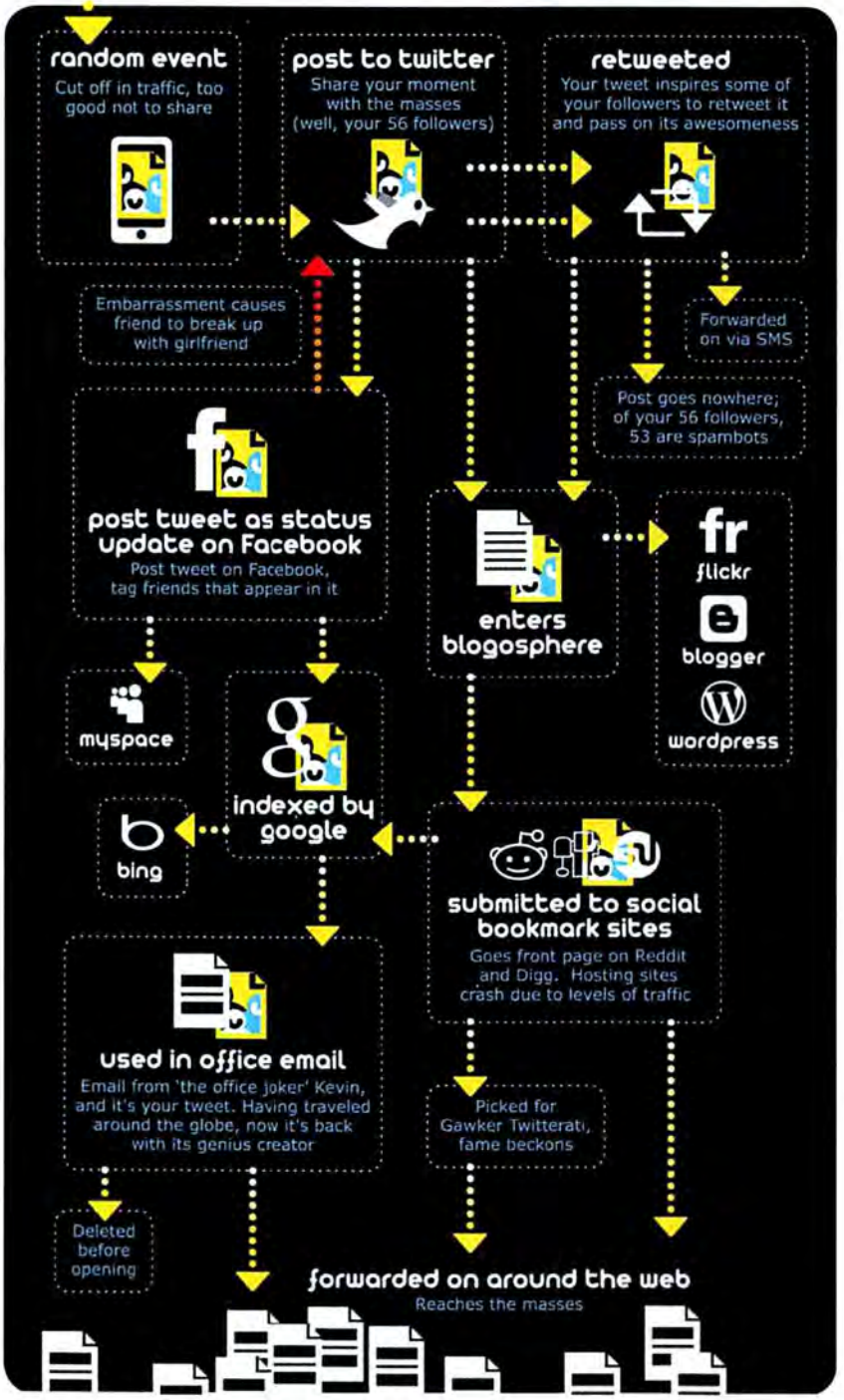
IDG INTERNATIONAL DATA GROUP

Volume 28, number 2. *PC World*™ (ISSN 0737-8939) is published monthly at $24.95 for one year (12 issues), $49.90 for two years (24 issues), $74.85 for three years (36 issues) by PC World Communications, Inc., 501 Second Street #600, San Francisco, CA 94107. Foreign orders must be prepaid in U.S. funds with additional postage. Add $12 per year for Canada; add $30 per year for airmail for all other countries. Canadian GST Registration #R124669680. Periodicals Postage Paid at San Francisco, California, and at additional mailing offices. Canada Post Publications Mail Agreement #40612608. Return undeliverable Canadian addresses to: Bleuchip Intl., P. O. Box 25542, London, ON N6C 6B2. POSTMASTER: Send address changes to PC World, Subscription Dept., P.O. Box 37571, Boone, IA 50037-0571. Editorial and business offices: 501 Second St. #600, San Francisco, CA 94107. 415/243-0500. Copyright © 2009, PC World Communications, Inc. All rights reserved. The trademark PC World is owned by International Data Group and used under license by PC World Communications, Inc. Technology Advice You Can Trust™, PC World Top 10™, Top 10™, PC World Top 100™, Top 100™, and Consumer Watch™ are trademarks of International Data Group, Inc., and used under license by PC World Communications, Inc. Printed in the United States.

The Back Page

Journey of a Tweet

The typical Twitter post has a life span of seconds; other tweets seem destined for greater glory, as diagrammed below by our friends at GDS Digital (ngonlinenews.com).



Plugged In

OMG, I'm Married A groom in Maryland updates his Facebook status while he's standing at the altar. Just be grateful that you weren't around when he started tweeting from the honeymoon suite.

Punctuation Envy AOL adds a period into its logo to help reinvent its brand. Good thinking—after all, the whole cutesy-punctuation thing worked so well for Yahoo!

Apple Surplus Apple's App Store is projected to offer 300,000 apps by the end of 2010. Approximately 220,000 will be related to bodily functions.

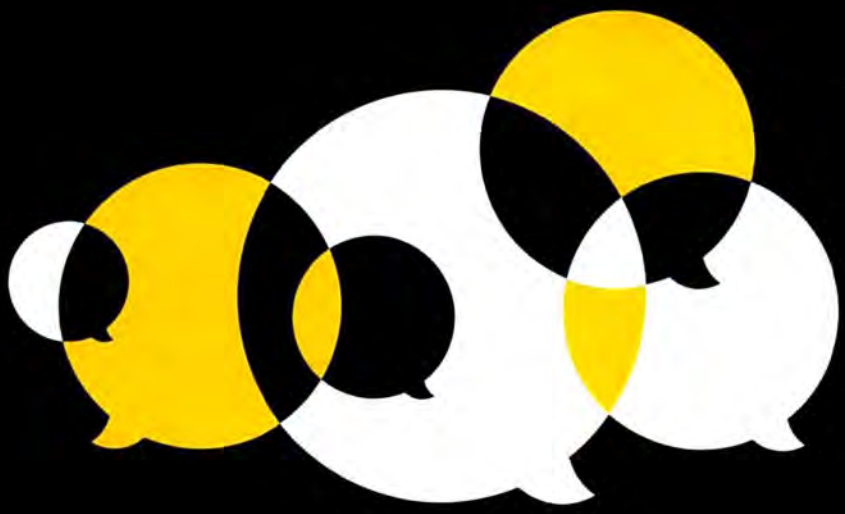
Twitter Squared One of Twitter's cofounders launches Square, a new service that lets you store credit cards on your cell phone. I'm wondering if purchases over $140 will be supported.

Death by Black Screen The Windows "black screen of death" sends the Internet into a short-lived frenzy. Oh come on, you didn't know? Blue was so last year. ●

—JR Raphael

Have a great idea for a Back Page item, from crazy hacks to twisted tech billboards? Send your suggestion to TheBackPage@pcworld.com. You'll earn a small slice of fame, our undying gratitude, and a nifty PCWorld mug.

ILLUSTRATION: ROBIN RICHARDS, GDS DIGITAL



Lotus knows how to have a meeting in the cloud.

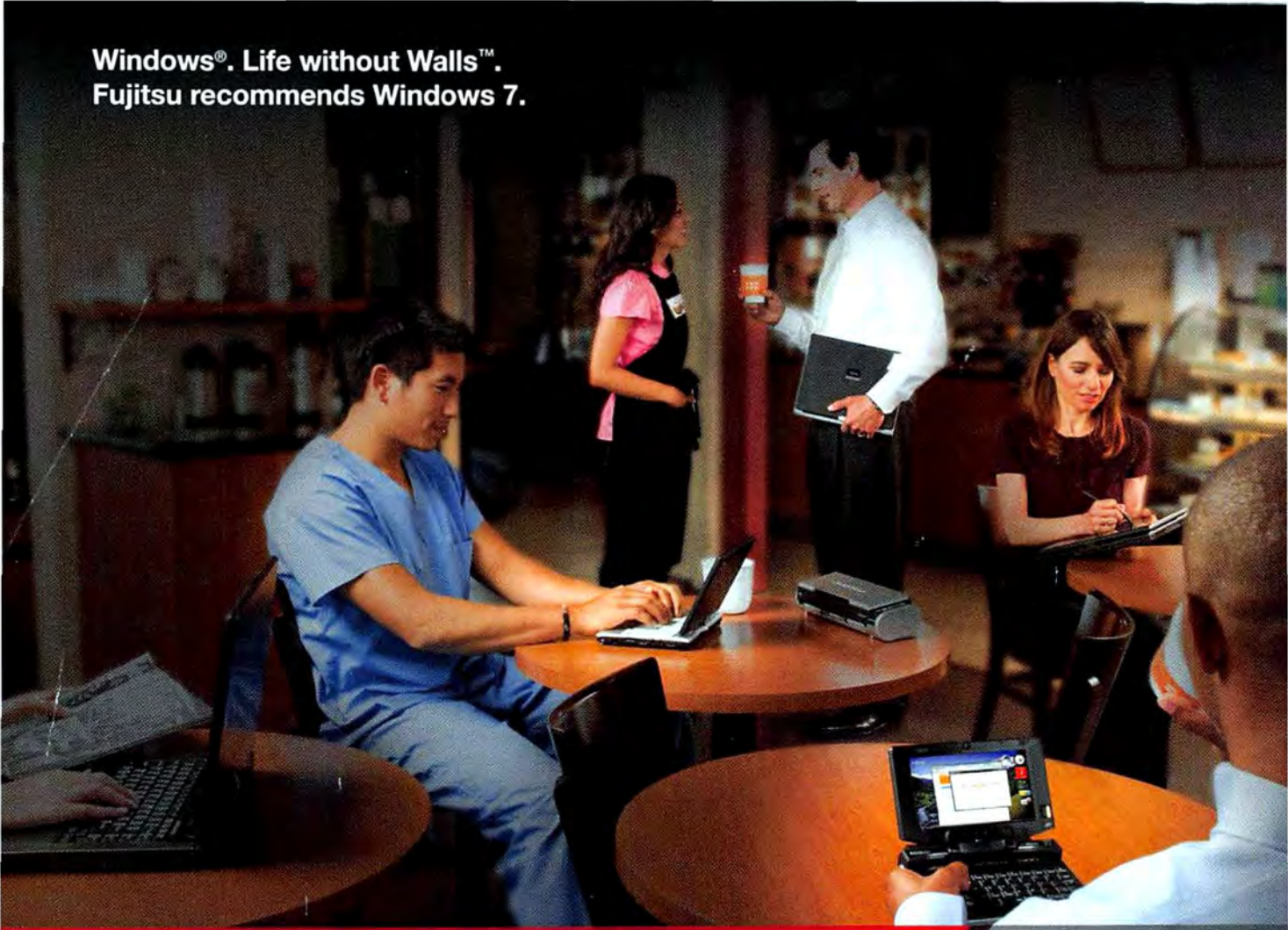
LotusLive™ delivers collaboration and social networking capabilities to a Web-based platform. So you and everyone else on your team can use the "cloud" as an excellent place to get things done.

Smarter software for a Smarter Planet.

lotusknows.com

IBM, the IBM logo, Lotus, LotusLive, Smarter Planet and the planet icon are trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. A current list of IBM trademarks is available on the Web at www.ibm.com/legal/copytrade.shtml. © International Business Machines Corporation 2009.

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



When your life is caffeinated, you need a notebook that keeps up.

FUJITSU

Fujitsu gives your mobile computing a serious boost—from ultra-portables that won't weigh you down to powerful desktop alternatives and everything in between like the Fujitsu LifeBook® T4410 Tablet PC. With Intel® Centrino® 2 Processor Technology for power, connectivity and long battery life, and with genuine Windows® 7 Professional to stay connected, stay productive, and stay away from the office; you'll be hooked.

See what Fujitsu is brewing.
www.fujitsudailyfuel.com

CDW·G PC Connection Insight

intel Centrino 2 inside™
Look for Intel Inside®

Fujitsu, the Fujitsu logo and LifeBook are trademarks or registered trademarks of Fujitsu Limited in the United States and other countries. Intel, the Intel logo, Intel Inside, Centrino and Centrino Inside are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the U.S. or other countries. Microsoft, Windows, and Life Without Walls are trademarks or registered trademarks of Microsoft Corporation in the United States and other countries. All other trademarks are the property of their respective owners.