Lab Report: All-in-One **SECURITY** Suites p.58 | Smart **HDTV** Buying Tips p.41

PCWorld

JANUARY 2008 • WWW.PCWORLD.COM

FIVE-MINUTE WINDOWS FIXES

Speed Up Vista & XP
Clear Out Junk
Eliminate Hassles

Sleek, Powerful Digital Cameras at the Right Price p.106

Exclusive Ratings: The Most (and Least) Reliable Brands p.115

PRINTED IN USA • $6.99

©2008 CDW Corporation

When your company is ready to grow, we're there to make sure your technology does too.

When CENTURY 21 Lullo in Addison, Illinois, decided to expand their operations, Frank Demarest, Marketing and IT Director, called CDW. Frank's CDW Account Manager and a team of CDW Technology Specialists developed a customized voice and data solution. Within days of project implementation, Lullo's agents were able to constantly access their files and clients. Giving them an advantage in the competitive Chicago real estate market. At CDW, we're there with dedicated account managers and expert advice from highly-trained technology specialists. Not to mention, we have an extensive in-stock inventory of the latest technology from the top name brands. So call today and find out how technology solutions from CDW can help your company grow.

CDW.com | 800.399.4CDW

CDW

The Right Technology. Right Away.™

RESTAURANT SUPPLIES
PAYROLL
RECEIPT
GAS
BILL

Is running your business getting in the way of running your business?
Then get QuickBooks and spend less time on your paperwork and more time on your business. It's the easiest way to:
CREATE INVOICES
PAY BILLS
TRACK SALES
www.QuickBooks.com
Intuit
QuickBooks
Pro 2008
Get back to business.

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 emails, precious family photos, contacts, MP3s, financial documents, and other important files between desktops, laptops, servers, and external drives.

GoodSync will:

- ✓ Automatically synchronize and backup all your data.
- ✓ Prevent file deletion and data loss.
- ✓ Organize/transfer files between multiple devices.
- ✓ Eliminate information clutter, remove duplicates.
- ✓ Let you enjoy 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.

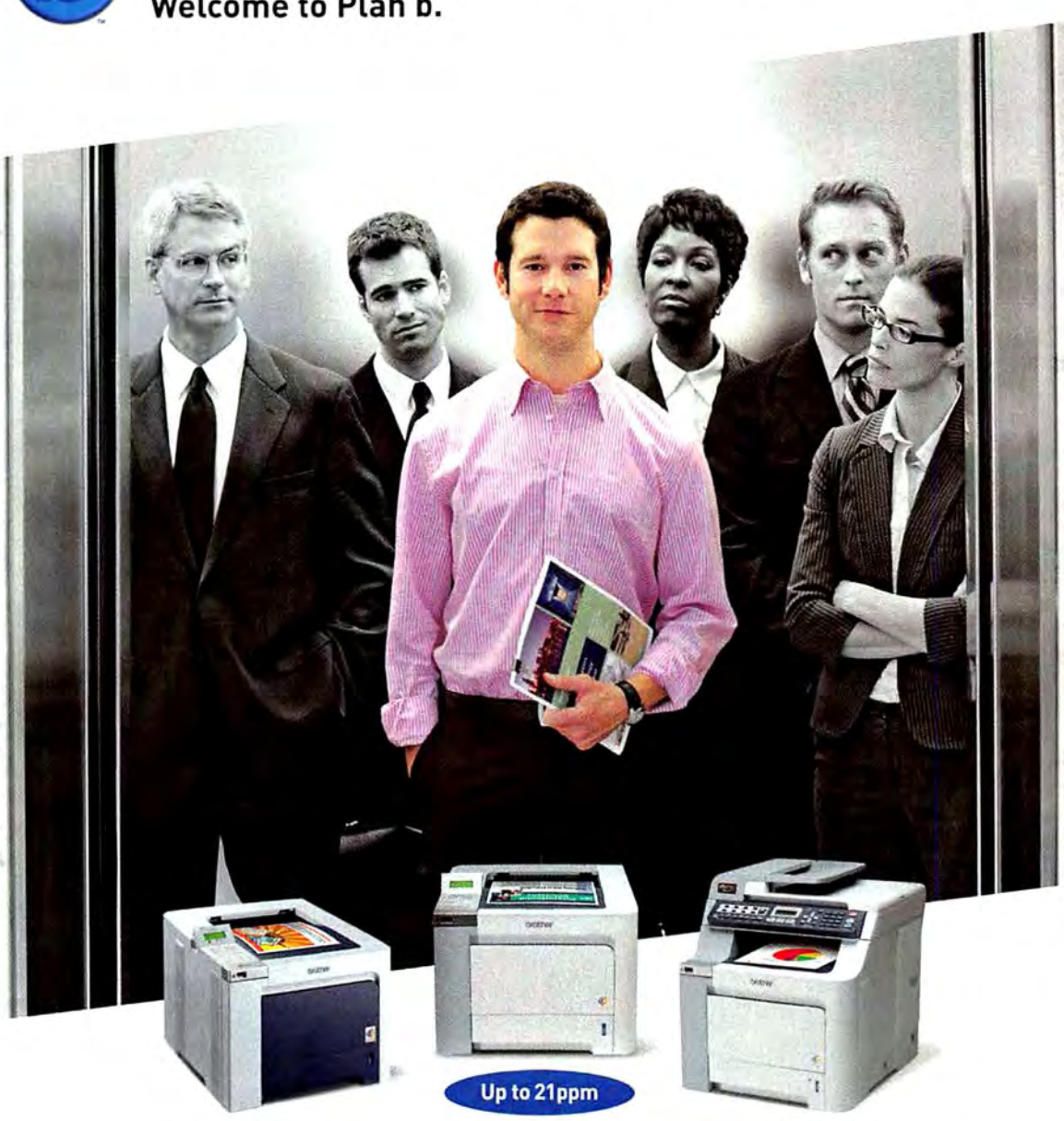
PC World Readers
Download GoodSync Today
It's FREE!

GoodSync
Get in Sync with GoodSync

www.GoodSync.com/PCW

intel
Core 2
Duo
inside
Dual-core.
Do more.
REDEFINING YOUR STANDARDS
AREA-51® 7500
AREA-51® m9750
Alienware engineers settle for nothing but the best. Elite customizations and components like the Intel® Core™ 2 Duo Processor propel the Area-51 7500 and Area-51 m9750 toward greatness. Come see the difference for yourself.
Call toll-free or visit online to learn more at:
WWW.ALIENWARE.COM/PCWORLD
1.800.ALIENWARE
Financing is available*
*Financing: Alienware Titanium Account / ATA. Offered by CIT Bank to qualified U.S. residents with approved credit. CIT Bank determines credit worthiness, APR, credit limit, and eligibility for promotional offers. Taxes, fees, shipping, handling, and any other applicable charges are extra, and vary. Monthly payments based upon prerebate price. Minimum monthly payments of $15 or 3% of account balance, whichever is greater. Alienware, Alienware Aurora head logos and Area-51 are registered trademarks or trademarks of Alienware Corporation. Alienware can not be held responsible for errors in photography or typography. Actual case may vary in design. Availability may change without notice. Intel, the Intel logo, Intel Core and Core Inside are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. All other registered trademarks and trademarks are the property of their respective owners.

Perfect printers for those who know the predictable choice isn't necessarily the best choice. Welcome to Plan b.



HL-4040CN
Network Ready Color Laser Printer
$399*

HL-4070CDW
Wireless Color Laser Printer
$499*

MFC-9440CN
Color Laser All-in-One
$699*

Plan A is following the crowd. Plan A is doing the expected. When it comes to printing, Plan A is not your best choice. It pays to look a little closer and then choose Plan B from Brother.® We make printers and all-in-ones that give you more. More features. More affordability. And up to 21ppm† color and monochrome output speeds. It's the value we build into all our products. And your reward for being smarter. And choosing Plan B. **Visit us online at www.brother.com**

At your side.
brother®

Available at: Office Depot, OfficeMax, Staples, Fry's Electronics, BestBuy.com, Costco.com, Brandsmart, Microcenter, J&R Computer World, CDW, Insight, PC Connection, PC Mall, Zones, Quill, PC Nation, TigerDirect.com, Provantage, Amazon.com, Buy.com, Newegg.com and other fine resellers.

*Estimated street price, dealer price may vary. †pages per minute.

© 2008 Brother International Corporation, Bridgewater, NJ
Brother Industries, Ltd. Nagoya, Japan

106

PCW

JANUARY 2008
Volume 26 • Number 1 • www.pcworld.com

47

» FEATURES

96 Fast Windows Fixes
Fine-tuning and repairing Windows doesn't have to take forever. Our quick tips will help you whip the OS into shape and save you even more time in the long run.

106 Pocket-Perfect Picture Takers
Snapshot digital cameras have been getting better and better, adding features such as image stabilization and face recognition. For this roundup, we looked at 16 cameras; 10 made our chart.

115 Technology's Most (and Least) Reliable Brands
Want advice on the best vendors for PCs, laptops, printers, cameras, routers, and music players? We asked 60,000 PCW readers for their experiences and insights on product reliability and service.

96

» DEPARTMENTS

13 Techlog

15 PCW Forum

144 Full Disclosure

» FORWARD

18 A Look at Leopard
What's inside the new Mac OS?

19 Plugged In

24 GeekTech

28 Beta Watch

30 Gadget Freak

» CONSUMER WATCH

41 How to Check Out an HDTV
Ten tips for in-store shopping.

42 Skeptical Shopper

44 On Your Side

» BUSINESS CENTER

47 Choose the Right Backup
Direct-attached, NAS, or online.

48 Net Work

» SECURITY ALERT

53 Lock Down Portable Drives
New products guard mobile data.

54 Bugs and Fixes

56 Privacy Watch

» REVIEWS AND RANKINGS

58 Security Suites
We test the antivirus protection that eight software packages offer.

62 Palm Centro

64 Top 10 All-Purpose Laptops

68 Top 10 Inkjet Printers

72 LG Dual-Format DVD Player

82 Top 5 Power Desktop PCs

86 Download This

68

» HERE'S HOW

126 11 Undocumented Firefox Tips
Customize your Firefox browser for optimal use, from keyboard shortcuts to password storage.

129 Answer Line

135 Steve Bass's Hassle-Free PC

COVER PHOTOGRAPH: © PHOTODISC/GETTY/VEER
COVER DESIGN BY GREG SILVA

Because all maps are NOT created equal.

Laptop GPS **Handheld GPS** **Bluetooth GPS**

Optimize Routes

Aerial Imagery

Easily Visible Routes

Avoid Urban Areas

USGS 7.5-Minute Quads

DeLorme Street Maps

Discover GPS only a renowned mapping company can deliver with three great new GPS receivers available with a variety of DeLorme software, maps, and imagery included. The LT-20 USB laptop GPS includes new *Street Atlas USA 2008 DVD* software starting as low as $69.95. Step up to the BT-20, a flexible GPS that uses Bluetooth or a wired USB laptop connection, ideal for PDAs and laptops. See why everyone is talking about the new PN-20 handheld GPS, with topographic and street maps, plus amazing aerial imagery. GPS navigate in real-time using a variety of renowned DeLorme maps and see why all maps are not created equal.

800.561.5105
www.delorme.com

DeLORME
We bring technology down to earth™

Cyberpower recommends Windows Vista™ Home Premium

GAMER INFINITY SLI™ ULTRA

- NVIDIA® nForce® 780i LT SLI™ Chipset MB Supporting 3 Way X16 SLI™
- Genuine Windows Vista™ Home Premium
- Corsair® 4GB PC6400 DDR2 800 Dual Channel Memory
- 500GB 7200RPM SATA-II 3.0Gb/s 16MB Cache Hard Drive
- (2) NVIDIA® GeForce® 8800 GT 1GB DDR3 in SLI™ Mode Powered by EVGA
- 20X DVD+-RW Drive & 16X DVD-ROM
- High Definition 7.1 Surround Sound
- Logitech 5.1 Subwoofer Speakers
- Logitech Keyboard
- Logitech Optical Wheel Mouse
- X-Jupiter Full-Tower Gamer Server Case 600Watt
- CoolerMaster Aquagate S1 Liquid Cooling System
- Free 802.11G Wireless PCI Network Adaptor
- 3 Year Limited Warranty + Lifetime Toll Free 24/7 Techsupport
- Add ViewSonic VG2230WM 22" SXGA Active Matrix Gaming LCD Display for $368

Intel® Core™2 Duo Processor

(12MB Cache, 1333Mhz FSB)	
Extreme QX9650 3.00Ghz	$ 2659
(8MB Cache, 1066Mhz FSB)	
Quad Q6700 2.66Ghz	$ 2149
Quad Q6600 2.40Ghz	$ 1855
(4MB Cache, 1333Mhz FSB)	
E6850 3.00Ghz	$ 1855
E6750 2.66Ghz	$ 1759
E6550 2.40Ghz	$ 1739

GAMER INFINITY 8800 PRO SE

- NVIDIA® nForce® 680i LT SLI™ Chipset MB Supporting 2 Way X16 SLI™
- Genuine Windows Vista™ Home Premium
- Corsair® 2GB PC6400 DDR2 800 Dual Channel Memory
- 500GB 7200RPM SATA-II 3.0Gb/s 16MB Cache Hard Drive
- NVIDIA® GeForce® 8800 GT 1GB DDR3 Powered by EVGA
- 22" Widescreen Gaming LCD
- 20X DVD+-RW Drive & 16X DVD-ROM
- High Definition 7.1 Surround Sound
- Logitech 5.1 Subwoofer Speakers
- Logitech Keyboard
- Logitech Optical Wheel Mouse
- Microsoft® Optical Intelli Explorer Mouse
- CoolerMaster Cosmo Silent Gaming Tower Case 600Watt SLI Power
- Free 802.11G Wireless PCI Network Adaptor
- 3 Year Limited Warranty + Lifetime Toll Free 24/7 Techsupport

Intel® Core™2 Duo Processor

(12MB Cache, 1333Mhz FSB)	
Extreme QX9650 3.00Ghz	$ 2319
(8MB Cache, 1066Mhz FSB)	
Quad Q6700 2.66Ghz	$ 1859
Quad Q6600 2.40Ghz	$ 1599
(4MB Cache, 1333Mhz FSB)	
E6850 3.00Ghz	$ 1599
E6750 2.66Ghz	$ 1495
E6550 2.40Ghz	$ 1469

GAMER XPLORER X5-7900

- Intel® Centrino® Duo Mobile Technology
  - Intel® Core™2 Duo Processor
  - Mobile Intel® 965PM Express Chipset
  - Intel® PRO Wireless 4965A/B/G/N Networking
- Genuine Windows Vista™ Home Premium
- 2GB PC5300 DDR2 667 Memory
- 160GB SATA150 Hard Drive
- NVIDIA® GeForce® Go 8600 GT 512MB
- 8X DVD+-RW Drive
- 15.4" WSGA TFT Display 1280x800 Pixels
- 10/100/1000 Network Card & 56K V.92 Modem
- 4-in-1 Built-in Media Reader
- 1 PCMCIA Type II Slot
- 1 Firewire IEEE 1394 & 3 USB 2.0 Ports
- 3 Hours Battery Life
- Weight only 6.8 Lbs
- Free Carrying Case
- 1 Year Limited Warranty + Lifetime Toll Free 24/7 Techsupport

Intel® Core™2 Duo Processor

(800Mhz FSB)	
T7700 4MB L2 Cache, 2.40Ghz	$ 1249
T7500 4MB L2 Cache, 2.20Ghz	$ 1169
T7250 4MB L2 Cache, 2.00Ghz	$ 1129

GAMER INFINITY 9000 GS

- NVIDIA® nForce® 680i LT SLI™ Chipset MB Supporting 2 Way X16 SLI™
- Genuine Windows Vista™ Home Premium
- Corsair® 2GB PC6400 DDR2 800 Dual Channel Memory
- 320GB 7200RPM SATA-II 3.0Gb/s 16MB Cache Hard Drive
- NVIDIA® GeForce® 8800 GT 512MB DDR3 Powered by EVGA
- 20X DVD+-RW Drive & 16X DVD-ROM
- High Definition 7.1 Surround Sound
- 600Watt Subwoofer Speakers
- Logitech Keyboard
- Logitech Optical Wheel Mouse
- Raidmax Sagitta II Gaming Tower w/ 500 Watt SLI Power
- CoolerMaster Aquagate S1 Liquid Cooling System
- Free 802.11G Wireless PCI Network Adaptor
- 3 Year Limited Warranty + Lifetime Toll Free 24/7 Techsupport
- Add ViewSonic Q19WB 19" 5ms Active Matrix SXGA Gaming LCD Display for $217

Intel® Core™2 Duo Processor

(12MB Cache, 1333Mhz FSB)	
Extreme QX9650 3.00Ghz	$ 1975
(8MB Cache, 1066Mhz FSB)	
Quad Q6700 2.66Ghz	$ 1459
Quad Q6600 2.40Ghz	$ 1169
(4MB Cache, 1333Mhz FSB)	
E6850 3.00Ghz	$ 1169
E6750 2.66Ghz	$ 1075
E6550 2.40Ghz	$ 1055

TOLL FREE 800. 707. 0393 or WWW.CYBERPOWERPC.COM

Intel®, the Intel® logo, Intel Inside®, Intel Inside® logo, Intel® Core™ 2 Duo, Intel® Core™ Duo, Intel® Centrino®, Intel® Centrino® logo, Celeron®, Intel® Xeon™, Intel® SpeedStep®, Itanium®, Pentium®, Pentium® III Xeon™ are trademarks or registered trademarks of Intel® Corporation or its subsidiaries in the United States and other countries. All prices are subject to change without notice or obligation. CyberPower is not responsible for any typographical and photographic errors. Copyright © 2007 CyberPower. All rights reserved. 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/howto

© 2007 Microsoft Corporation. All rights reserved. Available programs, features, and functionality vary by device, Windows Mobile® operating system version, and version of Exchange Server used. For some devices, Microsoft Office Mobile may be purchased separately. Connectivity and synchronization may require separately purchased equipment and/or wireless products (e.g., Wi-Fi card, network software, server hardware, and/or redirector software). Service plans are required for Internet, Wi-Fi, and phone access. Features and performance may vary by service provider and are subject to network limitations. See device manufacturer, service provider, and/or corporate IT department for details. © 2007 AT&T Intellectual Property. All rights reserved. AT&T, AT&T logo and all other marks contained herein are trademarks of AT&T Intellectual Property and/or AT&T affiliated companies.

EDITOR IN CHIEF Harry McCracken
EDITORS Edward N. Albro, Ramon G. McLeod
MANAGING EDITOR Kimberly Brinson
ART DIRECTOR Barbara Adamson
EXECUTIVE EDITOR Alan Stafford
TEST CENTER DIRECTOR Ulrike Diehlmann

PCW

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

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

EDITORIAL

SENIOR EDITORS
Yardena Arar, Mike Barton, Eric Dahl, Kalpana Ettenson, Anne B. McDonald, Narasu Rebbapragada

SENIOR PRODUCTS EDITOR
Melissa J. Perenson

SENIOR ASSOCIATE EDITORS
Eric Butterfield, Liane Cassavoy, Dennis O'Reilly

SENIOR REPORTER Tom Spring

ASSOCIATE EDITORS
Danny Allen, Mark Sullivan

ONLINE COMMUNITY MANAGER
Kellie Parker

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

EDITORIAL ASSISTANT Amber Bouman

ONLINE RESEARCHER Kristina Saar

ART AND DESIGN

DEPUTY ART DIRECTORS Jeff Berlin, Beth Kamoroff

DESIGNER Chip Taylor

MEDIA SPECIALIST Chris Manners

IMAGING SPECIALIST Robert Cardin

CONTRIBUTING EDITORS

Grace Aquino, Steve Bass, Laura Blackwell, Scott Dunn, Cheryl England, Stuart J. Johnston, Erik Larkin, Stephen Manes, James A. Martin, Aoife M. McEvoy, Melissa Riofrio, Scott Spanbauer, Lincoln Spector, Kirk Steers, Carla Thornton, Dan Tynan, Peggy Watt

PC WORLD TEST CENTER

MANAGER OF BENCHMARK DEVELOPMENT
James Motch

DATA MANAGER Jeffrey Kuta

SENIOR PERFORMANCE ANALYST
Elliott S. Kirschling

SENIOR DATA ANALYST Tony K. Leung

DEVELOPMENT ANALYST Thomas Luong

PERFORMANCE ANALYST Chen Xing Wang

SENIOR TEST CENTER COORDINATOR
Greg Adler

FOUNDERS

FOUNDER David Bunnell

FOUNDING EDITOR Andrew Fluegelman

MAILING LISTS

Occasionally we make our subscribers' names available to other companies whose products may interest you. To have your name excluded from these mailings, send a request along with your mailing label to PC World 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 *PC World*. Write to *PC World*, Reprints and Permissions, 501 Second St. #600, San Francisco, CA 94107, or send e-mail to permissions@pcworld.com; include a phone number.

To order reprints of your company's editorial coverage in *PC World*, call 717/399-1900 ext. 135.

PCW COMMUNICATIONS

PRESIDENT, CEO Michael Kisseberth

SENIOR VP, COO/CFO Vicki Peilen

SENIOR VP, GENERAL MANAGER, ONLINE Stephan Scherzer

SENIOR VP/GROUP PUBLISHER
Michael Carroll

VP, HUMAN RESOURCES Kate Coldwell

INTERNATIONAL DATA GROUP

FOUNDER, CHAIRMAN Patrick J. McGovern

PRESIDENT, IDG COMMUNICATIONS
Bob Carrigan

SUBSCRIPTION SERVICES

Access your subscription account online—24 hours a day, 7 days a week—at www.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: PC World Subscriber Services, P.O. Box 37571, Boone, IA 50037-0571 (Include a mailing label with correspondence.)

WEB: www.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 *PC World*. We reserve the right to edit letters. *PC World* pays $50 for published *Here's How* tips and questions; accepted submissions will be acknowledged by payment. Editors cannot guarantee personal responses to all questions.

ANSWER LINE: answer@pcworld.com

BUGS AND FIXES: bugs@pcworld.com

FULL DISCLOSURE:
stephen_manes@pcworld.com

STEVE BASS'S HASSLE-FREE PC:
hasslefreepc@pcworld.com

PCW FORUM: forums@pcworld.com

ON YOUR SIDE:
onyourside@pcworld.com

PLUGGED IN: eric_dahl@pcworld.com

PRIVACY WATCH:
privacywatch@pcworld.com

BACK ISSUES

Starting with the March 2003 issue of *PC World*, back issues are available at www.pcworld.com/backissues. Back issues cost $8 per issue for U.S. delivery, and $12 for international delivery; prepayment in U.S. currency to *PC World* is required. Or send a check or money order to PC World Products, PO 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.

PC MAGAZINE EDITORS' CHOICE
November 2, 2006
Spy Sweeper 5.2 with Antivirus

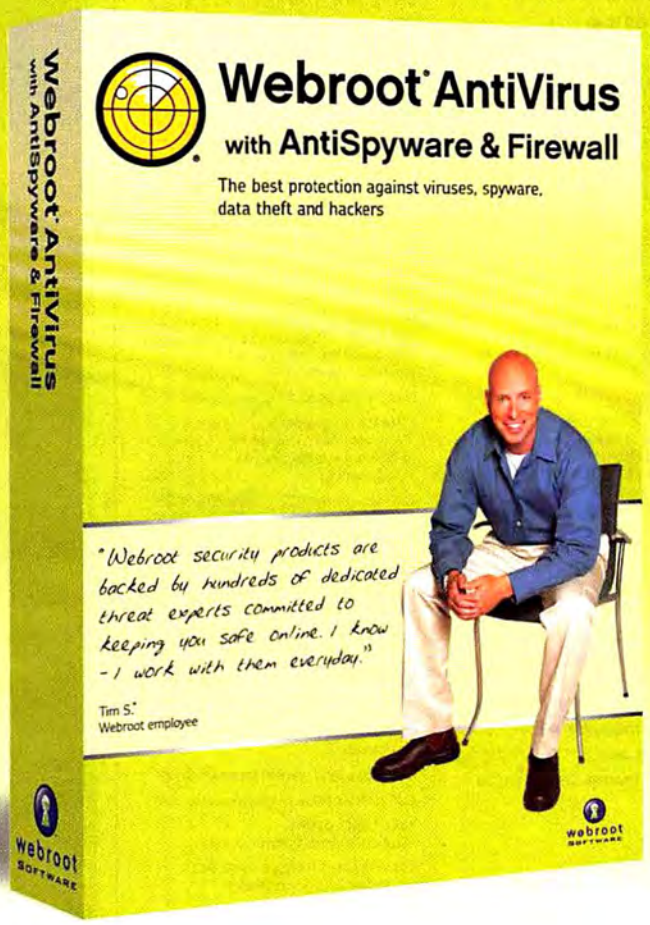
vb 100 VIRUS virusbtn.com

westcoast labs Checkmark www.check-mark.com

SC MAGAZINE AWARDS 2007 WINNER Honored in the U.S.

PC WORLD Best BUY
Spy Sweeper 5.0
October 2006

ICSA labs CERTIFIED www.ICSALabs.com Antivirus



Clearly, experts like our technology.

We designed Webroot AntiVirus with AntiSpyware & Firewall with what our customers want — nothing but award-winning technology. So each piece is designed to protect you from intruders, without getting in the way. And it all works together to deliver better security and better protection.

To top it off, you get free US-based telephone support, just in case you need it. So, if you want **better security, better support, and better peace of mind**, call Webroot at 1.866.865.3302 or visit **www.webroot.com/wav** today. Webroot security products are also available at leading retailers nationwide.

webroot SOFTWARE

The Best Security in an Unsecured World™

© 2007 Webroot Software Inc. Webroot is a registered trademark of Webroot Software Inc. All other names and trademarks are the rights of their respective holders.
Tim S. is an actual Webroot employee, not an actor or model. PC Magazine Editors' Choice Award Logo is a registered trademark of Ziff Davis Publishing Holdings Inc. Used under license.

Techlog

HARRY McCRACKEN

The Best Advice on Who to Buy From

IN A PERFECT world, there would be no need for our Reliability and Service study. Ugly terms such as "dead on arrival," "failed component," and "phone hold time" would be unknown. PCs and related technology products, in other words, would simply work. And they would keep on working for as long as you owned them.

Then there's the *real* world—the one in which even the sturdiest of devices may die without warning, and in which every buying decision is in part about how the company in question will treat you after you've plunked down your money. In that world, advice from other buyers is enormously helpful. Which is why, for almost a decade and a half now, we've helped *PC World* readers help each other by inviting them to rate major manufacturers' product reliability and tech support.

You'll find the results of the survey's latest installment in Jeff Bertolucci's "Technology's Most (and Least) Reliable Brands" on page 115. Detailed, company-specific information also appears in the Test Report sections of hardware evaluations at PCWorld.com.

You need to find dependable products and dependable companies. The experiences of 60,000 fellow PC World readers can help.

Based on data from more than 60,000 print and online readers, our ratings cover desktop and laptop computers, printers, digital cameras, networking routers, and audio players. Respondents told us whether they'd suffered any product failures during the past three years; those who had reason to contact the manufacturer for support also reported on that experience.

"We lavish more time and money on this project than on any other, for good reason," explains PCW editor Ed Albro, a seven-year veteran of the study. "Our Test Center can tell you if a PC or camera works well right out of the box. But we can't tell you how well it will stand up a year and a half later. That kind of information comes from all those readers who participate in the survey."

Much has changed since our first study in 1994. For one thing, that one covered only PCs. (Come to think of it, much of the other gear we now rate hadn't been invented yet.) Back then, readers were rating computers that usually cost several thousand dollars a pop—and likely rolled off of the manufacturer's own assembly lines. In that pre-Web era, vendors provided nearly all support via phone lines...and the person on the other end of the line was almost certainly in the United States.

The More Things Change...

Fast-forward to the present day: Computers and other tech products are less expensive than ever. Many devices are made by contract manufacturers, not the company whose name is on the box; much of the tech support comes from other countries where English is spoken and labor costs are low. As "Technology's Most (and Least) Reliable Brands" shows, the resulting products have tended to be less reliable, and after-sale service has gotten glitchier.

Yet for all that's different about how stuff is manufactured and supported today, "the bottom line remains the same," says Ed. "Readers understand that products can malfunction. But what infuriates them is when the company involved passes the buck, argues that it's the consumer's fault, or provides service like it just doesn't care."

Which lets me segue into a shameless plug for PCWorld.com: Even if you didn't participate in our latest survey, you can join the conversation about products you use and companies you do business with, courtesy of the site's User Review and Article Comment features. We'd appreciate your contributions. More important, so would the millions of folks who rely on PCW to help decide what to buy—and what to avoid.

Read Editor in Chief Harry McCracken's blog at blogs.pcworld.com/techlog.

PICK OF THE MONTH

"WHICH VERSION OF Linux should I try?" Ever since the highly polished, user-friendly incarnation of the open-source operating system called Ubuntu came along, there has been an easy answer to that question. And the new version 7.10 (also known, in idiosyncratic Ubuntu fashion, as "Gutsy Gibbon") is the slickest and simplest edition yet. Gutsy is a hit with hard-core Linux geeks as well as more agnostic types (like me) who enjoy dabbling in Windows, Mac OS X, and Linux depending on the job at hand. And even if you never touch it, you should be grateful that it exists: I can't imagine a better incentive for Microsoft to try to please Windows users than the existence of an operating system this good that happens to be free.

For more on Gutsy Gibbon, see Neil McAllister's review on page 84. And if you take the plunge and install it, check out *Free Agent* columnist Matthew Newton's essential setup tips at find.pcworld.com/59227.

Stop going outside to use your cell phone...

Create an indoor Cell Zone™ with zBoost

Get 10% off at
www.Wi-Ex.com/PCW
ends 1/31

SIGNAL for your Workspace

msrp: $169

- Decrease dropped or missed calls for a single user
- Create your own Cell Zone - up to 6 ft from antenna
- Compact size, zero installation - take your zBoost zP with you
- Compatible with all phones and U.S. carriers (Except Nextel)

SIGNAL for your Home/Office

msrp: $399

- Decrease dropped or missed calls
- Increase indoor cell coverage up to 2500 sq ft
- Support multiple users simultaneously
- Compatible with all phones and U.S. carriers (Except Nextel)

zBoost® extending cell zones

More Awards • More Sales • More Locations
More than all other signal boosters ... COMBINED

www.Wi-Ex.com
Extending Cell Zones
1-800-871-1612

PCW Forum

Many of our readers have negative attitudes toward Windows Genuine Advantage. Some people have decided to give up Microsoft for good; others stay and deal with it. What do you think of WGA? Will it cause you to switch to Linux or Mac? Tell us your opinions and plans at find.pcworld.com/59143.

Microsoft's Copy Protection

The WGA problem ["Microsoft's Copy Protection: Time to Mend It—Or End It," *Techlog,* November] is the last straw for me. In a year, I will be using freeware on my laptop and on my two PCs. I am going to dump all my Microsoft products into cyberspace and let them undergo explosive decompression. At least with freeware I know to expect bugs and little tech support. I believe that Microsoft has overstepped the boundaries of "reasonable measures" for protecting its technology.

Anthony J. Nino Jr.
Amherst, New Hampshire

I totally agree with everything you had to say [about WGA], and I back you 100 percent. I grow tired of being the "good guy" who always gets punished because I am following the rules. The biggest problem with Microsoft is its monopoly. I would love to see Linux or Apple become more popular, or at least gain more market share, but until that happens, we can only sit back and take it.

Pat Ferrell, Maple Valley, Washington

I agree entirely with your statements on the intrusive WGA protection prevalent in Windows since the advent of XP; in fact, this is just another in the growing list of items that are pushing this lifelong PC user to seriously consider switching to a Mac. Microsoft seems to like treating paying customers as criminals. I am a customer; the customer is always right. If Microsoft has lost sight of that as a company, then it's time to take my business elsewhere.

Robbie Wahl, Birmingham, Alabama

Mother's Maiden Name

With regard to Lincoln Spector's suggestion [*Answer Line,* October, page 140], one should never use your mother's maiden name to verify your ID—it can be purchased online. The purpose of the mother's maiden name is to provide a unique bit of information known only to you. Instead, use a complex pass phrase that includes special characters.

Rick Cunnington, Oro Valley, California

While viewing "In Pictures: Slick New Cell Phones for Fall," [find.pcworld.com/59145], I was shocked to see that not one word was spent discussing how well each worked as a phone!

Bryan C. Cole Smith, Wenonah, New Jersey

Macs in PC World, Redux

I get so aggravated when people write to *PC World* saying you should cover Macs [*PCW Forum,* November]! IDG prints *Macworld* for all those people who live on that planet, even if it is a cleaner, happier world than my shabby, broken-down, virus-ridden "PC World." I like it here. It's enough to make me want to record a Chris Crocker–style YouTube video pleading, "Leave *PC World* alone right now!"

Marvin Biver, Okeechobee, Florida

Someone is always complaining about Mac articles in *PC World.* However, isn't PC a contraction for "personal computer"? If so, why isn't a Mac a personal computer? Since when were Windows-based computers voted the only "PC" machines? It's your magazine, and you can write what you want. And you are good at it. Hug a penguin.

Jeff Tomich, Charlotte, North Carolina

I think the ability to run Mac OS X on a PC would be great for everyone except Microsoft. People would take an old PC, run OS X, like it, and then buy a Mac.

RNR19952, from the PC World forums

Financial Info on the Internet

Regarding the December *Beta Watch* item on Mint.com: Anyone who would knowingly give their financial account log-ins to a third party on the Internet is asking for trouble. Yes, Mint's TOS/EULA states that the site won't divulge your info. But it also says that the terms are subject to change without notice. So what happens when some unscrupulous megacorp buys it out? As cool and useful as this service is, I don't think it's worth the potential risk.

izzyamar, from the PC World forums »

ILLUSTRATION: HARRY CAMPBELL

APRICORN

© 2007 Apricorn, Inc.

The Power to Secure your Data *anywhere.*

Aegis Secure Drives

Not a week goes by without headlines of sensitive data being stolen or lost in public, compromising both companies and individuals.

The Aegis line of portable drives provides solutions and peace of mind for all levels of users. Your data is safe with Aegis. With your choice of real-time AES 128-bit hardware or software encrypton, biometric fingerprint or password access, you can ensure that only the RIGHT eyes get to see your sensitive data.

Aegis Mini
1.8" Hard Drive
Up to 120GB capacity

Aegis Portable
2.5" Hard Drive
Up to 250GB capacity

Aegis Bio
Encrypted Hard Drive
with Biometric Access

Aegis Vault
Encrypted Hard Drive
wtih Password Protection

Go to WWW.APRICORN.COM/PCWORLD
for exclusive offers for PC World readers 800.458.5448

PCW Forum

Linux Leadership

Goodness, what an absolutely pointless article ["Don't Look to Linus Torvalds for Leadership," find.pcworld.com/59147]. Torvalds isn't supposed to be the "Leader of Linux." The whole point of Linux is that it's a community thing. That's what has made it so successful. I'm also curious as to what exciting changes the author thinks should have been in this kernel release. The #1 priority of the Linux kernel is to be *stable*. I'm sure they could throw in all sorts of amazing bleeding-edge features, but then it would end up bloated and unstable and...well, just like Windows. Also, the fact that you finger Torvalds for the kernel's being boring is just stupid. *Hundreds* of people are working on it.

Waldorf, from the PC World forums

Let me get this straight. Linus Torvalds pioneers this new development model and motivates people to work with him, based on a meritocratic "let the code win" ideal. And this is so disruptive because it is *not* your standard corporation and Torvalds is *not* your standard CEO. And now this article has the gall to criticize him because he doesn't act like a regular CEO or run his organization like a standard corporation? That difference is probably the biggest driver of his smashing success. Why ask him to abandon that and operate like a "suit"?

corndog, from the PC World forums

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

TELL US WHAT YOU THINK

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

The "Write" Stuff: Digital Scribe

The Digital Scribe from IOGEAR is the perfect tool for all of you who love computers, but still have a place in your heart for a good old pen and notepad. Essentially, the Digital Scribe converts handwriting into digital text, making it easy to take notes and edit them in your computer. Additionally, diagrams and doodles can also be saved as jpegs or tiffs.

Find out more at **www.iogear.com/scribe.**

Juiced Up: GearJuice™-Mobile Pocket Power

The ultra-slim, portable GearJuice™ -Mobile Pocket Power from IOGEAR is a nifty gadget that provides that very important juice (battery power) to all your everyday gadgets. Has your cell phone ever run out of power right when you really needed it? Just plug in the GearJuice™ for a quick recharge. In fact, the GearJuice™ can supply three full charges before needing a recharge.

Find out more about the GearJuice™-Mobile Pocket Power at **www.iogear.com/gearjuice.**

THERE ARE HUNDREDS OF TELEVISIONS TO CHOOSE FROM. WHICH ONE IS RIGHT FOR YOU?

WE CAN HELP.

Shop and Compare at PC World Online

pcworld.com/shopping

PC WORLD

his notebook may crash, but his drive won't.

Samsung Solid State Drive
A new-generation Flash drive available in notebooks from leading OEMs.

endurance (MTBF[1])	> over 2 million hours
shock resistance	> 1500G / 0.5ms
read speed	> 100MB / sec
write speed	> 80MB / Sec
active power consumption	< 0.5W
system boot speed[2]	< 24 sec
operating temperature	-25C ~ 85C

solid state reliability

Introducing the new Samsung Flash Solid State Drive (SSD). No moving parts, except some hardworking electrons. A mean time between failures (MTBF) six times longer than a hard drive. Virtually unlimited shock resistance. And power use that extends battery life up to 20%. With a Samsung SSD inside your notebook, your data is always there when you need it.

www.samsungssd.com

SAMSUNG

[1]Mean Time between Failure
[2]HP NX9420, XP Pro, Core Duo Processor 2.0Ghz, 512MB RAM, ICH 7, i945 Chipset
© 2007 Samsung. All rights reserved.

STORAGE VISIONS™ 2008 CONFERENCE

January 5th & 6th at The Flamingo, Las Vegas, NV

International CES — Produced by CEA

EntertainmentStorage.org — ENTERTAINMENT STORAGE ALLIANCE™

AN ENTERTAINMENT STORAGE ALLIANCE™ EVENT

2008 Conference Theme:

Your Digital Life—
The Coming Revolution

Preserving, Protecting and Sharing your Life Using Digital Storage

You heard about the podcasting trucker at the 2005 Storage Visions™ Conference. The 2007 Conference was both pod- and web-cast! The 2008 Conference will explore the pod-, web-, life-casting consumer revolution and how you can preserve, protect, and search your life on Digital Storage.

Corporate Sponsors

Platinum Sponsors

hp invent

SAMSUNG

Silver Sponsors

mempile Without Limits

TOSHIBA

Bronze Sponsors

OMNEON

Silicon Image

TRUSTED COMPUTING GROUP

www.trustedcomputinggroup.org

The Vision:

By 2015 Personal Data will greatly exceed Commercial Data!*

**In the typical tech-savy home.*

BE Where Digital Storage Converges with Content Creation and Delivery!

FIND HOW all the new information trends will drive major storage growth over the next 10 years!

JOIN CEO's, Industry Leaders, manufacturers and end users at Storage Visions 2008!

FIND HOW Digital Content will be Created, Protected and Stored from the executives, analysts and professionals at the forefront of Digital Technology!

What Industry Leaders are Saying...

"The Conference paid for itself 5 times over!" —David Kreft, NSA

"Storage Visions is a valuable source of information on current status and future trends in magnetic and optical storage, and on applications that harness (and will harness) storage capabilities. I make it a point to attend each year while I'm in Las Vegas for CES."
—Brian Dipert, Senior Technical Editor: Mass Storage, Multimedia, PC's and Peripherals, Electronic Design News (EDN)

"We are a startup company in stealth mode that received a jump start from the Storage Visions Conference in 2004. There were several presenters addressing various storage markets, one of which caught our eye and our full attention. Subsequent to the Storage Vision Conference, we built a company around this primary market and recently landed an OEM agreement with one of the leading server vendors. Thank you Storage Visions for the opportunities you create each year." —Name Withheld by Request

Sign Up Now!

Sign up at www.storagevisions.com

If you are a user, manufacturer or reseller of digital content solutions, learn how you can speak, exhibit or sponsor at Storage Visions 2007.
Call us at 408 871-8808

WWW.STORAGEVISIONS.COM

Cyberpower recommends Windows Vista™ Home Premium

AMD Smarter Choice

GAMER ULTRA SLI™ PRO

- Asus M2N-E nForce® 500 SLI™ Chipset MB with Dual 16X PCI Express
- **Genuine Windows Vista™ Home Premium**
- Corsair® 4GB PC6400 DDR2 800 Dual Channel Memory
- 500GB 7200RPM SATA-II 3.0Gb/s 16MB Cache Hard Drive
- (2) NVIDIA® GeForce® 8800 GT 1GB DDR3 in SLI™ Mode Powered by EVGA
- 20X DVD+-RW Drive & 16X DVD-ROM
- NVIDIA® nForce® 5 7.1 3-D Surround Sound
- Logitech 5.1 Subwoofer Speakers
- Logitech Keyboard & Logitech Optical Wheel Mouse
- CoolerMaster Cosmo Silent Gaming Tower Case 600Watt SLI™ Power Supply
- CoolerMaster Aquagate S1 Liquid Cooling System
- Free 802.11G Wireless PCI Network Adaptor
- 3 Year Limited Warranty + Lifetime Toll Free 24/7 Techsupport
- Add ViewSonic VG2230WM 22" SXGA Active Matrix Gaming LCD Display for $368

AMD Athlon™ 64 X2 Processor

6400+ CPU Black Edition	$ 1659
6000+ CPU	$ 1595
5600+ CPU	$ 1575
5200+ CPU	$ 1555
5000+ CPU Black Edition	$ 1579
4400+ CPU	$ 1525
4200+ CPU	$ 1515

GAMER ULTRA 9000 GT

- Asus M2N-E nForce® 500 SLI™ Chipset MB with Dual 16X PCI Express
- **Genuine Windows Vista™ Home Premium**
- Corsair® 2GB PC6400 DDR2 800 Dual Channel Memory
- 320GB 7200RPM SATA-II 3.0Gb/s 16MB Cache Hard Drive
- NVIDIA® GeForce® 8800 GT 512MB Powered by EVGA
- 20X DVD+-RW Drive & 16X DVD-ROM
- NVIDIA® nForce® 5 7.1 3-D Surround Sound
- 600Watt Subwoofer Speakers
- Logitech Keyboard & Logitech Optical Wheel Mouse
- Raidmax Sagitta II Gaming Tower w/ 500Watt SLI Power
- CoolerMaster Aquagate S1 Liquid Cooling System
- Free 802.11G Wireless PCI Network Adaptor
- 3 Year Limited Warranty + Lifetime Toll Free 24/7 Techsupport

AMD Athlon™ 64 X2 Processor

6400+ CPU Black Edition	$ 1059
6000+ CPU	$ 995
5600+ CPU	$ 969
5200+ CPU	$ 949
5000+ CPU Black Edition	$ 979
4800+ CPU	$ 939
4400+ CPU	$ 919
4000+ CPU	$ 899

GAMER XPLORER-64 9550

- AMD Turion™ 64 X2 Mobile Technology
  - AMD PowerNow! Technology
  - HyperTransport Technology
  - Enhanced Virus Protection Technology
- **Genuine Windows Vista™ Home Premium**
- 2GB PC5300 DDR2 667 Memory
- 160GB SATA150 Hard Drive
- ATI Mobility Radeon™ HD 2600 XT 256MB w/ HDMI
- 8X DVD+-RW Drive
- 15.4" WXGA Wide-Screen TFT Display 1280x800 Pixels
- Gigabite Network Card & 56K V.92 Modem
- Wireless 802.11G 54Mbps Networking
- 3-in-1 Built-in Media Reader
- 1 PCMCIA Type II Slot
- 1 Firewire IEEE 1394 & 3 USB 2.0 Ports
- 5 Custom Colors to Choose From
- Weight only 6.39 Lbs; Free Carrying Case
- 1 Year Limited Warranty + Lifetime Toll Free 24/7 Techsupport

AMD Turion™ 64 X2 Mobile Technology

TL-66	$ 1379
TL-64	$ 1285
TL-62	$ 1245
TL-60	$ 1199
TL-56	$ 1175

GAMER ULTRA SLI™ ELITE

- Asus M2N-E nForce® 500 SLI™ Chipset MB
- **Genuine Windows Vista™ Home Premium**
- Corsair® 2GB PC6400 DDR2 800 Dual Channel Memory
- 320GB 7200RPM SATA-II 3.0Gb/s 16MB Cache Hard Drive
- (2) NVIDIA® GeForce® 8500 GT 512MB Powered by EVGA
- 20X DVD+-RW Drive & 16X DVD-ROM
- NVIDIA® nForce® 5 7.1 3-D Surround Sound
- 600Watt Subwoofer Speakers
- Logitech Keyboard
- Logitech Optical Wheel Mouse
- X-Jupiter Jr Mid-Tower Case 500Watt w/ See Through Window
- Free 802.11G Wireless PCI Network Adaptor
- 3 Year Limited Warranty + Lifetime Toll Free 24/7 Techsupport
- Add ViewSonic G7B 17" Active Matrix Gaming LCD Display for $195

AMD Athlon™ 64 X2 Processor

6400+ CPU Black Edition	$ 999
6000+ CPU	$ 929
5600+ CPU	$ 909
5200+ CPU	$ 889
5000+ CPU Black Edition	$ 915
4800+ CPU	$ 875
4400+ CPU	$ 859
4200+ CPU	$ 845

CyberPower Inc.

AMD Turion 64 X2 MOBILE TECHNOLOGY

- Smarter use of your time; do more in less time because now you can do multiple things faster than ever before.
- True multi-tasking: Run all your applications at the same time with increased performance. Also the perfect choice to power Media Center PCs – the hub of your digital home.
- AMD PowerNow!™ for longer battery life.
- True multi-tasking capability – get more done in less time.

AMD 64 Athlon X2

TOLL FREE 800.707.0393 or WWW.CYBERPOWERPC.COM

AMD™, the AMD™ Arrow logo, AMD™ Athlon™, and combinations thereof are trademarks of Advanced Micro Devices, Inc. All prices are subject to change without notice or obligation. CyberPower is not responsible for any typographical and photographic errors. Copyright © 2007 CyberPower. All rights reserved. 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

Forward

Apple's Leopard OS: More Momentum for Macs

BY MELISSA PERENSON AND ERIC DAHL

Leopard won't erase years of PC dominance, but it's another step toward an OS that Windows fans can (and should) love. We'll show how Leopard could change the PC world.

A FUNNY THING happened while the world waited for Apple's new operating system: Mac sales began to take off. The company's iPod and iPhone remain strong, but its notebook and desktop sales recently reached an all-time quarterly high—even before Mac OS X 10.5, or "Leopard," hit store shelves.

With such momentum preceding Leopard's arrival, and with Apple actually having delivered the OS, Leopard can only sweeten the Mac's appeal to potential buyers.

Is it time to think seriously about making your next PC a Mac? We'll show you how Leopard should keep Mac sales climbing, and we'll take an in-depth look at the new features in the operating system that should drive more PC users to convert.

Leopard's Impact

Most industry experts we talked to don't expect Leopard to be a game changer in and of itself. But Apple's new OS is one more weapon that will help the company make even further inroads into Microsoft Windows–dominated territory.

By most accounts, Leopard succeeds in ways that Vista didn't upon its release at the end of January 2007. Apple delivered Leopard in a (mostly) timely fashion—only a few months late, compared with Microsoft's years of delay. And the software, while not faultless, delivers on its promise of useful innovations and tweaks.

The Vista comparisons are significantly damaging to Microsoft. "People have heard about all of the issues and problems with Vista, so probably a bigger percentage of consumers will now consider looking at Apple," says Gartner analyst Van Baker. "If they do, Apple will snag those new users."

Leopard charges in at a time when awareness of Apple is at an all-time high. "Five years ago, the average consumer wouldn't really notice a new Apple operating system," says Doug Bell, research analyst with IDC. "With Apple being such a big brand now, this news is grabbing more attention."

Apple's transition to Intel processors, along with the onslaught of virtualization software such as Parallels and VM Ware Fusion, allows Windows users to stick with their old OS as a backup while moving over to Apple hardware. If you prefer to dual-boot to run Windows on your Mac, Boot Camp—formerly an unsupported beta—has now become a part of Leopard as well.

Hardware Shifts

Apple is already benefiting from its iPod and iPhone success. The company says it sold 2.2 million Macs in July, August, and September—a new high-water mark, albeit still a fraction of the 10.2 million iPods sold during

PCWORLD.COM

For more in-depth coverage of Leopard, see our Mac Info Center at www.pcworld.com/ic/mac. And head to find.pcworld.com/59229 to see how some of Vista's features match up with those of Leopard.

ILLUSTRATION JUDE BUFFUM

that same time. According to IDC, Apple has been growing its market share in the United States at a rate of over 30 percent over the past four quarters.

The exploding popularity of laptops is helping Apple as well, says Ross Rubin, an analyst at The NPD Group research firm, who notes, "There, Apple already has an advantage, because notebooks tend to be more personal products: Consumers put a higher premium on style, and they're willing to pay more, too."

According to IDC, U.S. desktop-PC sales have been declining for over a year, yet Apple has shown double-digit growth in the last two quarters. Apple is also growing like gangbusters in laptop sales, posting 43 percent growth from the second quarter of 2006 to the second quarter of 2007. Sales of Windows-based notebooks grew by a comparatively small 26 percent in the same period, though of course those sales started at a much higher level.

The Apple juggernaut shows no sign of slowing down, either, at a time when PC sales are shrinking overall. If Apple continues its pace, the company could expand its market share out of the single digits, where it has remained for years.

Key Leopard Features

How might Leopard add to that momentum? After living with the OS for a while, we are convinced that while no single feature makes Leopard a must-buy, it has a lot for a converted Windows user to like. Here are a few of our favorite features.

QUICK LOOK LETS you page through documents, view images, or play media files without having to open the application they're associated with.

Quick Look: Firing up PowerPoint just to see if you're opening the right presentation can be a drag. Quick Look lets you peek through the contents of a file without actually opening it. Select a file in any view of Leopard's Finder and press the spacebar, and the file opens in Quick Look.

The feature works with a whole range of files, including images (and even some camera manufacturers' RAW files), text files, PDF documents, movies, Keynote presentations, Mail attachments, and Microsoft Word and Excel files. In this easy-access mode, you can even play a video or page down through multipage documents. You can also select multiple documents to preview them together in a single batch.

In Mail, Quick Look is especially handy. For example, you can use Quick Look to view an attachment without saving the attachment to your hard drive.

As convenient as Quick Look is, Apple hasn't made the feature the easiest thing to find. You'll likely either stumble on Quick Look by pressing the spacebar or begin using it via an icon in Finder (an icon that you may need to add by customizing the toolbar).

Spaces: Designed for heavy multitaskers, Leopard's virtual-desktop program, Spaces, allows you to clean up your work surface by organizing applications you want to have open at the same time on multiple desktops, but it doesn't go as far as existing third-party Mac or Windows utilities that let you distribute files or folders over the different desktops.

In the Spaces configuration screen you can choose what keyboard and mouse shortcuts will activate Spaces, toggle between spaces »

PLUGGED IN ERIC DAHL

LEOPARD RUNS ON PCs: Steve Jobs can't be happy that hackers already have his latest OS running on less-expensive PC hardware. I sure am, though.

GUTSY GIBBON: The latest alliterative animal release of Ubuntu is the best yet. Hardy Heron should be out in April. I'm hoping for Irritable Ibex next.

AUDIO SPAM: These days spammers are resorting to MP3 files to push bogus penny-stock tips. I'm still wondering who falls for this crap.

NET ACCESS BRAIN IMPLANT: Poll respondents favor the Web hardwired to their cranium. I can see the warnings now: "This is your brain on YouTube."

MICROSOFT UPDATE WOES: Update to breaking news—an updated version of Update updates PCs without your knowledge. Thanks, Microsoft!

CRYSIS IS HERE: What's more amazing, this game's graphics or the PC you'll need to run it? Ask me after I install my new DX10 video card.

LEOPARD'S SPACES FEATURE lets you organize applications and windows on multiple virtual desktops and switch between them with ease.

(desktops), or switch directly to a space. You can have up to 16 different spaces, arranged in four rows and columns.

Time Machine: If you've followed Leopard coverage at all, you already know about Apple's slick new automatic backup feature called Time Machine. Attach another drive to your system, and you'll have the opportunity to designate it for Time Machine backups. Once that's done, the OS will automatically back up changes to your files, and you can browse through them in a nifty 3D interface.

Or at least that's the theory. Time Machine doesn't always operate so smoothly, especially for those of us from the Windows world. For one thing, it requires that your backup drive use the HFS+ file system (most off-the-shelf external drives come formatted in NTFS), and at press time, it won't instruct you to launch Disk Utility and reformat the drive appropriately.

Smarter Mail and iCal: The information packed into an e-mail is often "trapped"—that is, to get contact info or event details transferred to your calendar, you have to cut and paste manually. Leopard has added some automated data-entry features that help out when you are using your e-mail as a quick-and-dirty substitute for a to-do list.

Hover the mouse pointer over a time mentioned in an e-mail, and a drop-down menu will appear, offering to create a new iCal event or to show the date in iCal. Although iCal intelligently populates the event with the time, location, and other information, you can edit the entry as needed (for example, you might not like the iCal subject line, which comes from the e-mail's subject line).

New notetaking and to-do-list assistants are available at the top of the mail application. Click on To Do, and Leopard inserts a header into the e-mail; in that header space, you can type what you want to do in response to the e-mail. Click on Notes, and you get a pop-up window that looks like a large sticky note for entering brief comments. You can then e-mail that note or set it up as another item on your to-do list.

Web Clip: With Leopard's release, Apple's Safari Web browser officially receives interesting new features. Its Web Clip function is particularly cool. Click the scissors icon on the new Safari toolbar, and mouse around the page until you've highlighted a section of the page that you want to clip. The browser will send that segment of the page to the OS X Dashboard, where you can check in for updates at any time.

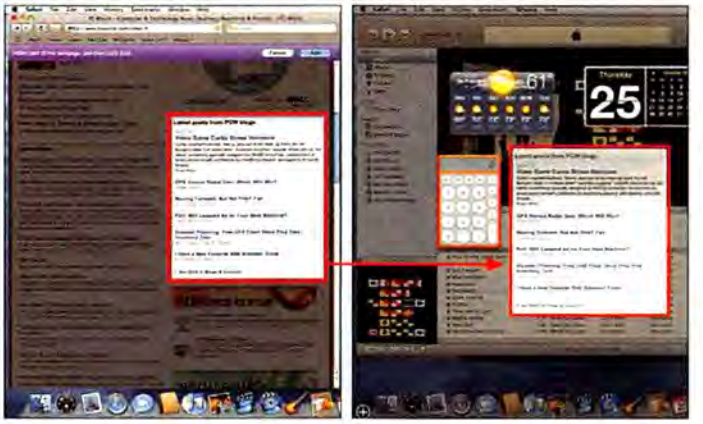
Limits of Innovation?

While none of Leopard's new features are earthshaking, this latest Mac OS update certainly packs a lot of innovation. And with the platform-bridging Boot Camp now part of the OS, we're sure to see more Macs popping up not only in homes and schools, but offices too.

But just how far can Apple go? At least one Mac expert thinks that some of the company's knack for creativity is tied to its relatively small market share. "Once Apple starts focusing on business, it will constrain Apple's ability to innovate," says John Siracusa, a longtime Mac user who covers Apple for ArsTechnica.com.

"Tons of developers have already committed to making Leopard-only software," Siracusa says. "Windows developers couldn't do that." Older versions of Mac OS disappear quite quickly—according to Siracusa, the previous edition typically disappears about six months after the new one's introduction. In effect, Apple and its developers get to throw away the old platform and largely start over each time they release a new OS. Try doing that in the Windows world, where previous generations of the Windows OS can stay active for years in corporate America.

With Boot Camp present in Leopard and virtualization software steadily improving, it's easier than ever to run a hybrid machine that brings you the best of both the Mac and Windows worlds. For now, you have to buy that machine from Apple.



SAFARI'S NEW WEB Clip lets you turn any fragment of a Web page into a constantly updating Dashboard widget—a neat alternative to an RSS reader.

Alternative Thinking About Reliability:

KEEP DOWNTIME WHERE IT BELONGS: OUTSIDE THE OFFICE.

The HP ProLiant DL380 G5 server comes with Systems Insight Manager (SIM) software. HP SIM has shown an average reduction in server downtime[1] of 77%, by monitoring your system and alerting you of potential server problems before they occur. Technology for better business outcomes.

intel Xeon® inside™
Quad-core. Unmatched.

HP ProLiant DL380 G5

$2249 (Save $958)

Lease for as low as $58/mo[3] for 48 months
Check hp.com for the most up-to-date pricing

Smart Buy (PN: 470064-511)

- Quad-Core Intel® Xeon® Processor
- 2GB PC2-5300 memory
- Supports small form factor, high-performance SAS or low-cost SATA hard drives
- Smart Array P400 controller
- Integrated Lights-Out (iLO2), Systems Insight Manager, SmartStart

Get More:

Smart Buy 24x7, 4 hour response, 3 years (PN: UE894E) $689

Smart Buy Add 1GB additional memory, (PN: 397409-S21) $189

HP StorageWorks Ultrium 448 Tape Drive SAS Bundle[2]

$1899

Lease for as low as $54/mo[3] for 48 months

Smart Buy (PN: AG739A)

- 400GB compressed capacity in half-height form factor
- Ships with Data Protector Express Software, One Button Disaster Recovery, a 1U Rackmount Kit, and a Host Bus Adapter

Get the full story in the IDC white paper at hp.com/go/sim3
or call 1-866-545-0298

1. IDC White Paper sponsored by HP, Gaining Business Value and ROI with HP Systems Insight Manager, Doc #206761, May 2007. 2. Prices shown are HP Direct prices; reseller and retail prices may vary. Prices shown are subject to change and do not include applicable state and local taxes or shipping to recipient's address. Offers cannot be combined with any other offer or discount and are good while supplies last. All featured offers available in U.S. only. Savings based on HP published list price of configure-to-order equivalent ($3207 – $958 instant savings= SmartBuy price $2249). 3. Financing available through Hewlett-Packard Financial Services Company (HPFS) to qualified commercial customers in the US and subject to credit approval and execution of standard HPFS documentation. Prices shown are based on a lease 48 months in term with a fair market value purchase option at the end of the term. Rates based on an original transaction size between $3,000 and $25,000. Other rates apply for other terms and transaction sizes. Financing available on transactions greater than $349 through October 31, 2007. HPFS reserves the right to change or cancel these programs at any time without notice. Intel, the Intel Logo, Xeon and Xeon Inside are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.
© 2007 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice.

Google's Mobile OS and Your Next Cell Phone

An actual Google phone doesn't exist (yet). But the company's plans for an ambitious open-source mobile operating system could have major implications for your next handset.

THERE'S NO GOOGLE phone yet, but the search giant's announcement of an open platform for mobile-phone apps is a step in the right direction. When will you see so-called Android phones from members of the newly founded Open Handset Alliance? Here's what we know so far.

Will there ever be a true Google Phone?

Google's CEO, Eric Schmidt, won't officially say. But Schmidt does say that if all goes as planned, we'll likely see many "Google phones" from a variety of wireless carriers. He also says that once software developers create a mature Android OS, it would be a prime time for Google to release a gPhone.

So what is this Android?

Android is a free, Linux-based mobile software platform available under the Apache open-source license. Google hopes it will become the operating system of mobile phones in the future. It will compete with platforms such as Apple's OS X on the iPhone, the BlackBerry OS, Microsoft's Windows Mobile, and the Palm OS. If carriers do adopt it, Android has a chance to drastically change the landscape for mobile phones by allowing outside developers to write cool new applications and letting you install those programs whenever you want—without having to get them through your carrier.

When will I be able to buy a Google-powered phone?

The first Android phones should arrive in the second half of 2008. The most likely candidates to release Google-powered phones here in the United States are the wireless carriers—Sprint Nextel and T-Mobile—that are part of the Open Handset Alliance (OHA), a group of 34 hardware and software companies plus wireless carriers committed to creating open standards for mobile devices.

HTC and Motorola, both members of OHA, will build phones for the Android platform. Forbes is reporting on an HTC-built OHA reference design code-named Dream that features a touch screen that swivels to reveal a full keyboard. HTC is considering a commercial version of the phone, and could release it as soon as the second half of 2008.

Will other carriers offer Android-based phones?

Don't hold your breath for AT&T and Verizon to jump on the Android bandwagon. They say they're worried that the open software could expose users to software attacks or security breaches.

But beyond the security issues, wireless carriers have financial considerations, as well. A phone that allows customers to use any mobile Web application for free could threaten the revenue of carriers that charge customers for identical applications, such as e-mail, games, and GPS features.

THE SOFTWARE DEVELOPERS' kit for Google's Android gives a peek at what the mobile OS's browser may look like.

Will service providers be able to lock down phones?

According to the Android license agreement, companies can modify the OS to suit their needs—including locking it down. Conceivably a carrier could place restrictions on applications, such as VoIP services, that take advantage of a mobile phone's Wi-Fi capabilities.

Though Google CEO Schmidt acknowledges that locking is possible, he believes it will be "unlikely" for a carrier to do so.

Could any lock-downs really last on an open-source OS?

You've seen what has happened with the iPhone, right? With an open platform driving all Android phones, hackers should be able to whip up unlocking apps similar to Jailbreak for any locked-down Android device even more easily. We'd bet that any popular locked phones won't remain that way for long.

What will I be able to customize on an Android phone?

The platform permits customization down to the screen you see when you open or turn on your phone. Imagine being able to customize your opening screen with personalized icons, news feeds, weather details, and voice-mail information. Think of a My Yahoo start page for your cell phone.

What kinds of apps will we see on Android?

Google's director of mobile platforms, Andy Rubin, has promised the world, stressing that mobile programs will be on a par with Web applications.

So far, developers have emphasized location-aware services that, for instance, link users to reviews of nearby restaurants automatically. Other proposals include online real-time multiplayer games and a photo app that matches pictures automatically with people you select from your address book.

—Tom Spring

Looking for a VoIP Phone System?

Built on Intel®, Powered by Microsoft®, AltiGen offers businesses a complete line of scalable VoIP solutions.

AltiGen Communications, Inc. is a leader and market innovator of VoIP telephone systems. Since 1996, AltiGen has shipped systems to more than 10,000 customers worldwide. We design, deliver, and support simple to manage phone systems, branch office and call center solutions that combine high reliability with integrated IP communications applications.

For more information on how AltiGen can help your business, please visit www.altigen.com or call 1-888-ALTIGEN

ALTIGEN COMMUNICATIONS

Feel the Bullets While Playing 3D Games

TN GAMES HAS devised a novel way to make 3D games feel more real. Its $189 3rd Space FPS Vest PC gaming accessory uses eight embedded contact points to mimic the sensation of being hit by bullets when you're playing first-person shooters.

The vest ships with a 3rd Space–enabled version of Call of Duty II, and it supports Quake 3, Quake 4, and Doom 3 via free patches.

"Our vest technology now provides gamers with an unprecedented opportunity to physically experience their action...to feel the rush of body slams, be crushed with g-forces, feel a stab wound, or be blasted with bullet fire, in either a single- or multiplayer game," says Mark Ombrellaro, the founder of TN Games.

—GamePro Staff

SEE THE 3RD Space FPS Vest in action at find.pcworld.com/59185.

GEEKTECH TOM MAINELLI

Microsoft's Best New OS (Hint: It's Not Vista)

A FEW YEARS back, when I replaced my aging Athlon XP–based home-built PC with a faster, quieter system, I stored the old one away presuming that someday I'd do something interesting with it. Microsoft's Windows Home Server (WHS) proved the perfect excuse to do just that. The end result is a highly useful, though sometimes frustratingly simplistic, addition to my home tech lineup.

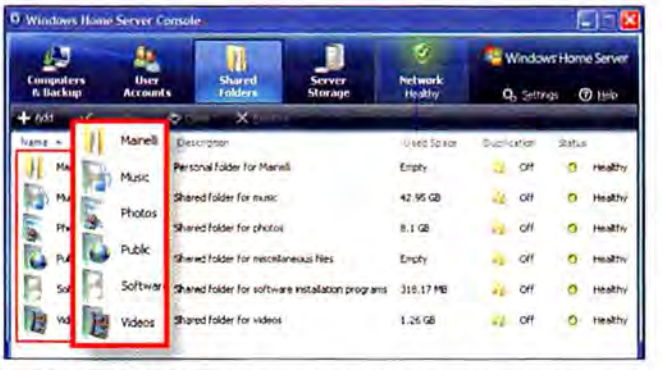
> Windows Home Server lets you store and stream media files, create backups, and connect remotely via the Web. Plus, it's great on older PCs.

WHS is Microsoft's first stab at a consumer server product that sits at the heart of your network where other PCs can access its content. Available now on hardware such as HP's MediaSmart Home Server (reviewed at find.pcworld.com/59144) or as a $180 software package from system-builder sites such as Newegg, WHS lets you store and stream media files, back up multiple PCs, and connect remotely via the Web. Plus, Microsoft says that add-on features such as video recording and home automation are on the way from third-party vendors.

WHS requires an ethernet connection between the server and the network (Microsoft deemed wireless networking too flaky). I installed a prerelease copy of the OS in about 2 hours; the only snag I hit involved enabling the remote Web access features. My router turned out to be the problem, and one I wasn't able to resolve with tech support. To connect client PCs to the server, you install a simple console application on each that also lets you tweak the server's settings.

Soon, I was streaming music, photos, and standard-definition video to my 802.11g-enabled notebook, flawlessly. I experienced some stutters with a high-def test video file, but that's an 802.11g bandwidth issue. Everything streamed cleanly to my ethernet-connected Windows XP Pro PC and my Xbox 360. The 360 connection is great, as it allows me to access media where I most enjoy it: on my couch, in front of my HDTV.

WHS also lets you back up the entire contents of each connected PC to the server's hard drive, as a compressed file that it updates daily with only the changes that have occurred since the last backup. The backup feature is quite slick, and it illustrates the degree to which Microsoft has successfully simplified an often-complicated process. You can add more hard drives to the server, and even enable data duplication (essentially RAID 1 data mirroring). But the nitty-gritty settings for such features are largely inaccessible, hidden behind basic wizards and check boxes.



OTHER COMPUTERS ON your home network can access server content and settings through the WHS Console application.

Simplicity is great, but I think enthusiasts like me will want access to more knobs and switches. Microsoft might envision a home server in every house, but I'm not sure the average PC user would even know what to do with one (yet). After having lived with the server for a few weeks, though, I can't imagine not having one—a clear sign that it's filling a need in my geek household. Better yet, it let me pull my old workhorse PC out of retirement.

PERSONALIZE. WRITE. NAVIGATE. SIMPLIFY.

Now there's a simple, easy, and more natural way to bring your big ideas to life. Use Bamboo, a new pen tablet from Wacom, to transform your thoughts into powerful communications. Touch the pen tip to the tablet to handwrite notes, mark up digital documents, make quick sketches, and sign your name.

Combine Bamboo with your Mac or Microsoft® Windows Vista™ and Office 2007. Handwrite email. Enter text by hand anywhere typed text is accepted. Navigate your desktop with a flick of the pen, and more. Starting at $69.

www.BambooPenTablet.com/PCW

BAMBOO™

wacom

CITY BEST BUY COMPUSA

New Zunes: Microsoft Finally Gets Them Right

IT TOOK THEM a while, but the folks at Microsoft have finally built a pretty good portable media player. The second-generation Zunes are among the first players to wirelessly sync media files with your PC. And with a new touchpad control to rival Apple's Click Wheel and some interesting new features built into the Zune player software, this latest generation should finally provide some real competition for the iPod.

Here's a look at some of the features that set these new Zunes apart. See find.pcworld.com/59255 for our full reviews of both flash- and hard-drive-based Zunes.

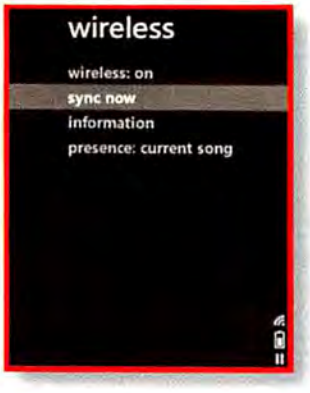
—Eric Dahl

The new Zune interface makes use of attractive typography and both horizontal and vertical scrolling. If you've selected an artist and an album, scrolling up and down will take you through the songs on that album, while scrolling left and right will switch to other albums by that artist.

The Zune's new touch-based control doubles as a clickable D-pad-style controller, which allows you to adjust your volume or fast-forward a track or two without taking the player from your pocket.

Flick your thumb up or down the touchpad repeatedly, and you begin to build up momentum while scrolling through long lists. At any time, you can tap to stop the scrolling.

Microsoft's second-generation Zune players come in several flavors: a $250 80GB hard-drive model and $150 4GB and $200 8GB flash-based units. The flash players are available in black, green, red, and pink.

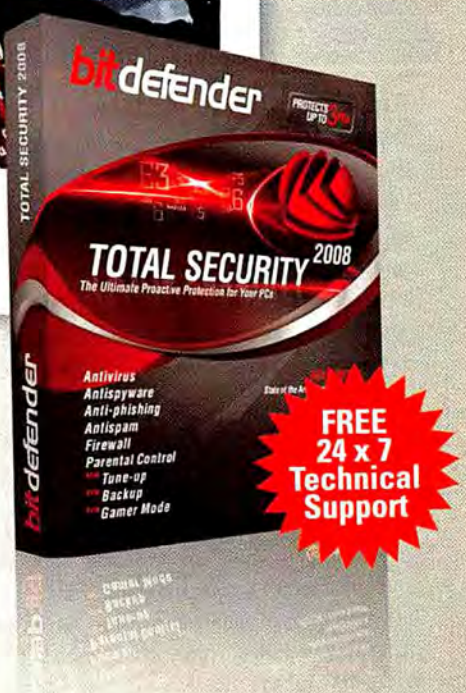


Wireless syncing isn't superfast, but it sure is convenient. Once you've set up your Zune to sync wirelessly with your PC, the latest podcasts and media files in your collection are just a few button presses away. Plug a Zune into a stereo dock, and you can recharge and sync it without going anywhere near your PC.

Microsoft has made a few tweaks to the Zune's wireless music-sharing feature. Originally, shared tracks could be played only three times and only within three days, and they couldn't be passed on. Now you can pass along shared tracks to other users and play them up to three times over any time period.

PHOTOGRAPHS: MARC SIMON

Are you exposing yourself?



If your security software depends on a list of "known" viruses, you're more exposed than you think.

BitDefender's lightning quick security solutions provide the most advanced 2 layer security, protecting you from "known" and "unknown" threats. Find out how exposed you are by downloading a free trial to see what threats are lurking on your system.

Total Security 2008 also includes:

- Gamer Mode
- System Tune Up
- System Back Up
- Parental Controls

bitdefender®
The Future of Security Now

Try it FREE for 30 Days

www.bitdefender.com/FREE/pcw

OfficeMax COMPUSA Fry's STAPLES that was easy. MICRO CENTER

Sprint, Clearwire Scrap Plans for WiMax Network

PLANS FOR A nationwide WiMax rollout continue to hit snags, as Sprint Nextel and Clearwire (a high-speed wireless ISP) have scrapped an agreement to build a nationwide WiMax network that would have brought broadband-speed data networks to mobile users.

Sprint insists that it remains committed to developing WiMax services and deploying a WiMax network, while Clearwire says that the companies will "continue their discussions regarding how best to collaborate for the deployment of a nationwide mobile WiMax network."

In their original letter of intent, the companies agreed to jointly build the first nationwide wireless broadband network in the United States using WiMax as the base technology. A WiMax network has the potential to boost wireless Internet access speeds for end users to between 1 and 5 megabits per second—equivalent to broadband speeds. Former Sprint CEO Gary Forsee estimated at the time of the original letter of intent that the companies' combined network would reach more than 100 million U.S. consumers.

Mike Jude, a senior analyst at Nemertes Research, says that the companies' decision is "a significant blow" to hopes that WiMax would have a fast nationwide rollout in 2008. However, he also notes that both companies remain firm in their resolve to bring WiMax to market on some level within the next year.

"Nobody's really backing away from the notion that they're going to deploy WiMax," Jude says. "I still think WiMax is going to be out there, but this kind of indicates it might not be as extensive as we thought it would be in 2008."

—John Cox and Brad Reed

BETA WATCH

EDWARD N. ALBRO

Kickstart: A Social Network for Your Résumé

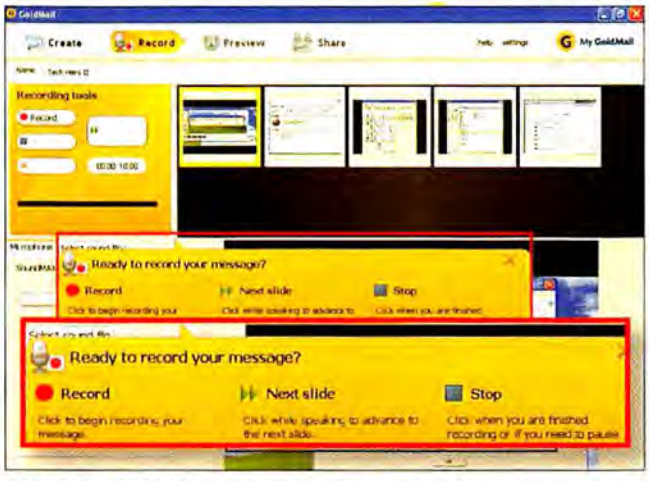
If you can't remember the words to your college's fight song, you're probably not among the people targeted for Kickstart, Yahoo's free new social network, now in a public beta. Kickstart squarely focuses on students and recent graduates trying to find a company cubicle to call their own. The basic Kickstart page looks like a résumé with work and education sections and is pretty no-nonsense: It has no space for the freeform chatting and photos that are staples of other social networks. kickstart.yahoo.com

Opera 9.5: Nifty Bookmark Sync

With the new public beta of the free Opera browser, you can automatically synchronize your bookmarks with Opera on another PC, or with the Opera Mini browser on your phone. And if you're at a machine that has only Internet Explorer or Firefox, you can access your bookmarks at a page on Opera's site. Another cool feature: full text search of your history pages, which helps you easily find pages that you should have bookmarked but didn't. If only more Web sites worked properly with Opera. find.pcworld.com/59231

GoldMail: E-Mail With Voice and Pictures

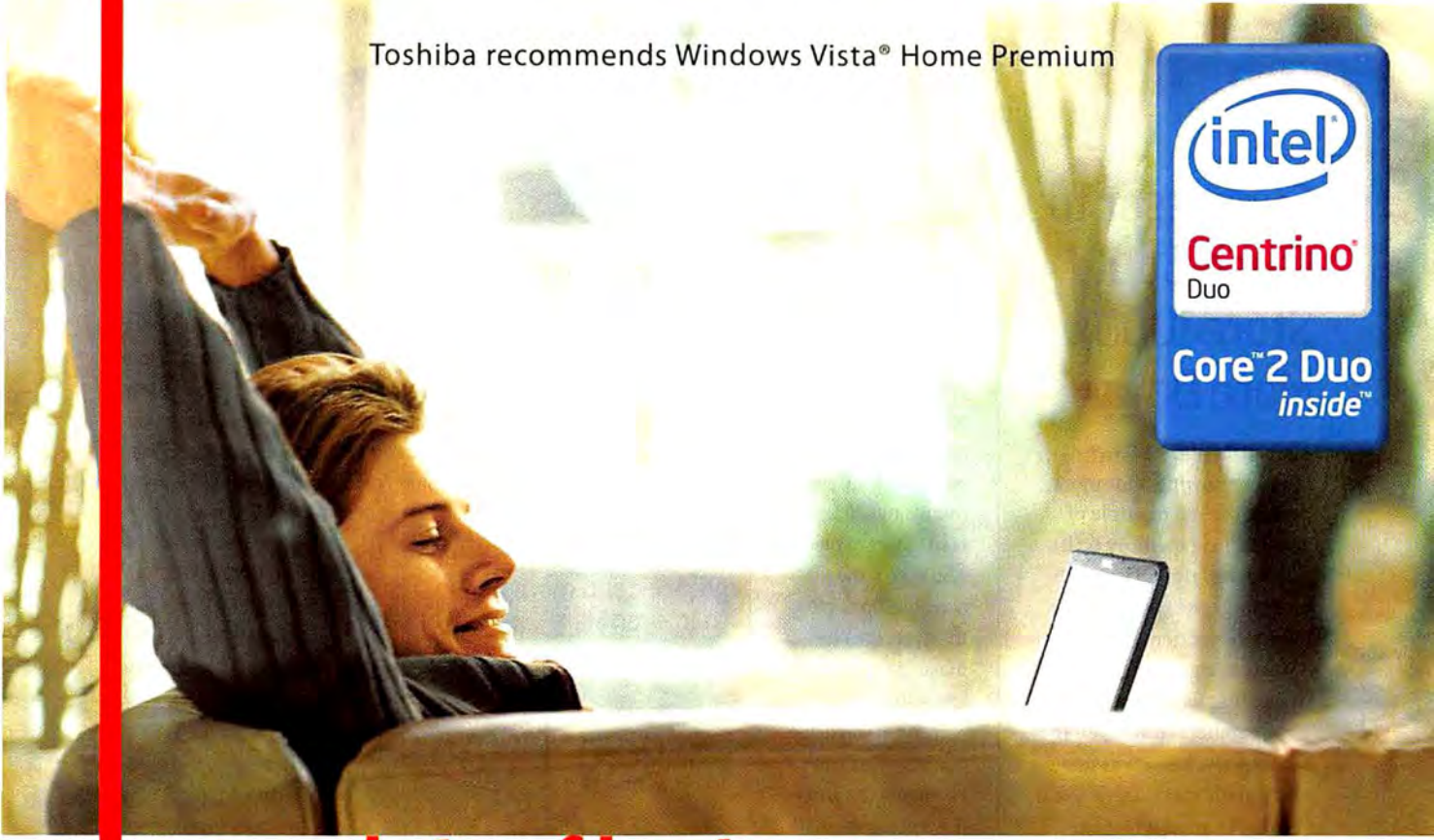
Ever since e-mail became the Internet's killer app, people have been trying to improve on it. The latest attempt is GoldMail, which transmutes an e-mail message into a sort of narrated slide show. Once you've downloaded the 11.4MB application, you can choose photos, screen shots, or PowerPoint slides to put into your message. Then you record a voice-over to explain the images, or choose a music file to accompany them. To share your project, you can e-mail a link to your creation or embed it in a blog or Web page. GoldMail looks useful for salespeople and other folks who really need visuals to get their message across. But it's too much of a hassle for run-of-the-mill notes. goldmail.com



GOLDMAIL LETS YOU easily pull together a series of images, record yourself talking about them, and send the message through e-mail.

ILLUSTRATION ROBERT NEUBECKER

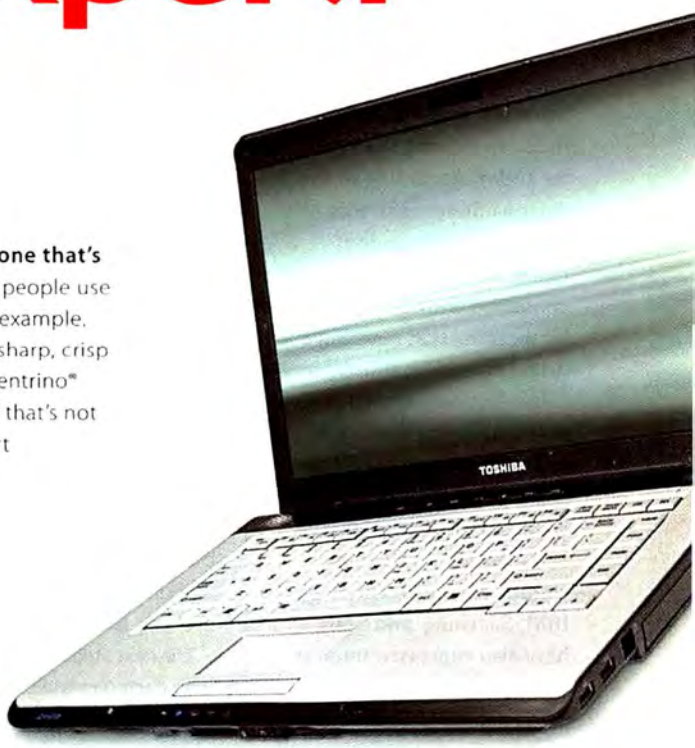
Toshiba recommends Windows Vista® Home Premium



lots of laptops. only one laptop expert.

With hundreds of laptops to choose from, we'll help find the one that's right for you. After all, we spend as much time figuring out how people use their laptops as we do building them. Take the Satellite® A205, for example. We equipped the screen with TruBrite® technology, so you get a sharp, crisp look from almost any angle. Plus it comes packed with an Intel® Centrino® Duo processor and genuine Windows Vista® Home Premium. But if that's not your cup of tea, let's find you one that is. www.toshiba.com/expert

HD DVD ROM



TOSHIBA

Leading Innovation »»

Satellite and TruBrite are registered trademarks of Toshiba America Information Systems, Inc., and/or Toshiba Corporation. Intel, the Intel logo, Centrino, Intel Core, and Core Inside are trademarks of Intel Corporation in the U.S. and other countries. Windows and Windows Vista are registered trademarks of Microsoft Corporation in the U.S. and other countries. ©2007 Toshiba America Information Systems, Inc. All rights reserved.

Successor to Flash Could Store 1000x More Data

THE HUMBLE USB drive could be storing a lot more data in the next couple of years. A new memory technology, developed at Arizona State University, could offer storage density up to 1000 times greater than that of existing flash memory.

Researchers developed the technology, known as programmable metallization cell (PMC), to counteract the physical limits of current memory storage technology. In place of the traditional-electronics approach of moving electrons among ions (charged particles), PMC cells use a technology known as nanoionics to move the ions themselves.

Best of all, the new technique can be used on existing, conventional storage materials mixed in a slightly different manner than they are today. According to the Arizona State team, this memory can be made at essentially zero extra cost compared with flash memory, meaning that new, huge drives should be affordable.

The first commercial products employing PMC technology could arrive within 18 months. PMC has already attracted interest from several memory vendors, including Micron Technology. IBM, Samsung, and Sony have also expressed interest in the technology.

—Maxwell Cooter

GADGET FREAK DAN TYNAN

The Technology Coming to a Gadget Near You

WHEN IT COMES to the "next big thing," I'm usually pretty skeptical. (It's from all those years I've spent trying to get gear to work as advertised.) But in 2008, we will see some long-promised technologies—like the connected home, truly smart "smart phones," and environmentally friendly tech—start to bloom. And even if they don't live up to all the hype, they'll make life a lot more interesting.

Tech gear in 2008 will be cleaner, greener, and more connected than ever. Here's a peek at what's coming around the corner.

In 2008 you'll see more devices connecting to the Internet and to one another. Expect your next portable media player to have a browser and Wi-Fi built in, à la the iPod Touch or the Archos 605, says analyst Rob Enderle, principal for The Enderle Group.

"If a gadget needs to grab data from somewhere and doesn't have an Internet connection, you're using last year's model," he adds.

That networking capability is also spreading to stereos, DVD players, and flat-panel TVs, says Parks Associates analyst Kurt Scherf. For example, Pioneer's S502 tabletop radio uses Wi-Fi to access MP3s on your PC, along with Internet radio stations and Rhapsody. HP MediaSmart LCD TVs have 802.11n adapters that do the same with stored video. Look for more devices of this type in 2008.

Even dorky photo frames are going Wi-Fi. By 2011, half of all digital frames sold worldwide will be wireless, according to Parks Associates. Along the way they'll evolve into information portals like the clock-radio-size Chumby (www.chumby.com), which will display news, weather reports, Flickr photos, your Netflix queue, eBay auctions, and more when it appears next year.

The next step? Enderle says that in 2008 manufacturers will begin making networking components modular, so you can upgrade your gear when standards change, without having to replace the whole device. Scherf says to look for devices employing ultrawideband—a low-power technology that transmits large amounts of data over short distances—and faster versions of Bluetooth as cable replacements when Wi-Fi is overkill.

Smart Phones With PhDs

Apple's iPhone is impressive, but its keyboard and screen are too dinky for most humans to use comfortably. Expect other vendors to challenge the übergadget with handsets that offer users better ways to get data in and out.

For example, the iMate Ultimate 8150 Windows smart phone features a slide-out QWERTY keyboard and an XGA-out port, allowing you to view your phone's display on a TV, monitor, or projector. The Redfly Mobile Companion, due in early 2008, will let you connect an 8-inch display and a keyboard to a smart phone via Bluetooth or USB, bringing your handset even closer to becoming a laptop replacement.

You'll also see a lot more handsets similar to the iPhone and the BlackBerry 8820 that use Wi-Fi to bring the Net to your pocket.

Green Day

Another thing you'll hear more about in 2008 is environmentally friendly equipment. Aside from devices such as the Solio 1000 (a solar-powered cell phone charger), however, most of the "green" will be behind the scenes: more-efficient power management, increased use of recycled materials, and better options for disposing of old electronics. "I'm still waiting for a "Toyota Prius–like poster child for environmental gadgets," says Enderle. Maybe in 2009. A lot can happen in 12 months.

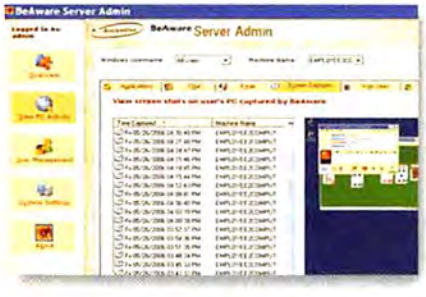
ILLUSTRATION: MARC ROSENTHAL

Reclaim Lost Productivity

Every day the average employer loses 81 minutes of productivity per employee to Web-based distractions. Most employees don't realize how quickly the stolen minutes add up. But research shows some 13% of workers habitually log two or more hours of internet-based off-task activity per day.

BeAware Corporate Edition

BeAware helps identify problem areas, offenders and frequency so you can coach employees, reduce company risk and help teams reclaim lost productivity.



BeAware allows you to view activity by user, department or enterprise.

How Does It Work?

BeAware tracks all employee PC activity through live, real-time monitoring of E-mails, Web-surfing, Chats and program usage (recording screen shots, time accessed, and content).

"BeAware showed me exactly what my team was doing so I could coach & motivate them toward our goals."

BeAware can be remotely deployed on any networked company PC (local or remote) to monitor specific individuals, departments or an enterprise up to 10,000 employees.

Administrators can view reports of on-line activity from anywhere, and receive automatic notification when select keywords, websites or specific applications are accessed.

Once problem areas are identified, you can resolve them with better policies, access control, employee coaching and motivation for improved focus and productivity.

Install BeAware Today!

- *Monitor PC and Internet use real-time*
- *Record emails, chats & web page visits*
- *Easy to install and use*
- *Full archiving of PC activity*
- *Generate reports and charts*

FREE Online Demo!
See it in action!

Download the FREE Whitepaper!
"The Benefits of Workplace Activity Management Software"

Buy it Now!

888.739.2977
www.ascentive.com/pcw6

Ask about BeAware Home Edition

Ascentive *Don't let your PC hold you back.*

First Look at NBC's Hulu Online Video Service

HULU IS THE latest site to emerge from the continuing fragmentation of online video. Now in private beta, the site does a solid job of streaming video of Fox or NBC shows and movies, but it's not without faults.

In my informal tests, I found Hulu's content selection impressive, the video quality quite good for an online streaming service, the site design elegant and simple, and the navigation and community features mainly useful.

The service hits just one sour note: Its old-guard studio owners place rather harsh restrictions on exactly when, where, and for how long you can watch the site's TV shows and movies.

Impressive Content

Hulu's main draw is access to current, prime-time TV shows such as *Heroes*, *House*, *Scrubs*, and *The Simpsons*. Hulu also features some old TV series episodes (*Kojak*, *Night Gallery*), and a few old movies (*The Blues Brothers*, *The Breakfast Club*), plus some clips (*Saturday Night Live* bits), movie trailers, and a few viral videos. Hulu shows are wrapped with ads, but I didn't find that overly annoying.

I watched Hulu's content on a Gateway home computer using a 1.5-megabits-per-second AT&T DSL connection. The quality of the service's video is quite watchable, despite some slight pixelation and a few audio and video hiccups.

Beta video portal from NBC and News Corp. features top-shelf content and among the best-quality streaming video yet seen.

When I moved the navigation slider to a future point in the program, however, I saw a considerable amount of stopping and starting as the stream buffered. That sort of thing, of course, is more noticeable in full-screen mode, and any such service is only as good as its broadband pipe. All the same, Hulu's performance is among the best I've seen for high-quality streaming video over the Internet.

HULU'S NAVIGATION AND community features, including tools for sending a friend a video clip, are well organized and useful.

Good Interface

In creating Hulu's interface, its designers appear to have done their homework, assembling a sort of "greatest hits" of navigation and community tools. The Embed tool spits out the HTML that you'll need to host Hulu video at your Web site or blog. The Details button gives you information on the show you're watching, such as its episode number and original air date. And the designers seem to have borrowed from competitor Stage 6 that service's cool "Lower Lights" feature, which dims every pixel on your monitor except those in the video window.

Hulu has one feature I hadn't seen elsewhere: Within its video-sharing tool, you can chop out a clip from a show and send it to a friend with a note.

Restrictions Apply

While Hulu may give people more flexibility in when and where they watch shows, the site imposes some fairly severe restrictions.

First, Hulu video is exclusively streamed, meaning you can't save shows to your hard drive. And streams of prime-time TV episodes expire after five weeks—so if you embed one of them in a blog, it will be a dead link after that time.

Also, you can't watch Hulu video on mobile devices, or in locations outside the United States. It's anybody's guess whether these restrictions spring from the studios' protectionist mindset, or whether they're a result of pressure from the companies' old cable and satellite distribution partners. It should be said, though, that Hulu is only in early beta, so anything could change as it develops.

Just the Beginning?

Finally, although the content is impressive, Hulu is by no means a total video destination since it contains content only from NBC/Universal and Fox (and some smaller partners): ABC, CBS, Disney, and Viacom are very unlikely to throw their video onto Hulu anytime soon. However, the smart money says that we'll eventually see two or three more large, competing Hulu-type portals launched by the other major studios, either alone or together. (Actually, ABC already has a competitor germinating at ABC.com, and the video there looks as good as, or better than, what you see at Hulu.)

If rivals do surface, how will this work for viewers? Simple: If you don't like the shows on one portal, just grab the mouse and, well, "change the channel."

—Mark Sullivan

acer

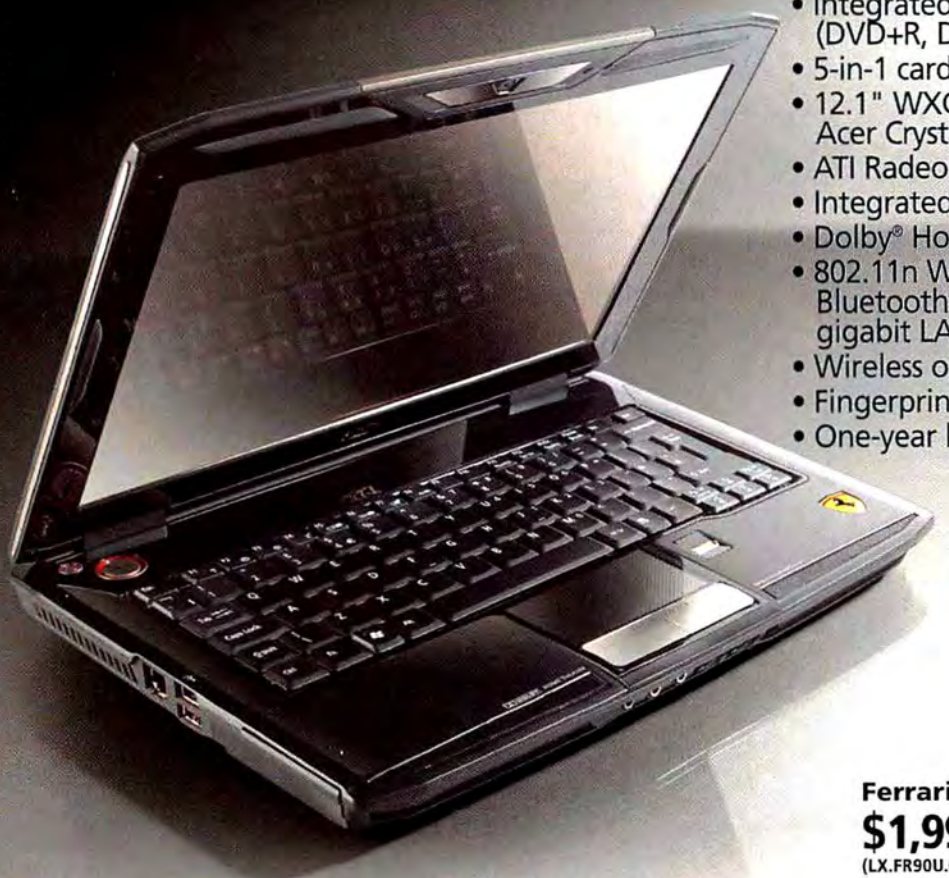
Acer recommends Windows Vista® Ultimate.

AMD Turion 64 X2 MOBILE TECHNOLOGY

December 2007/
January 2008

Ferrari 1100
Exclusive innovation

circle-line.eu - ADV



- AMD Turion™ 64 X2 Dual-Core Mobile Technology TL-66
- Genuine Windows Vista® Ultimate
- 4GB DDR2 667 SDRAM
- 250GB[1] hard drive
- Integrated slot-loaded Super-Multi drive (DVD+R, DVD-R, DVD-RAM)
- 5-in-1 card reader
- 12.1" WXGA (1280 x 800) TFT display, Acer CrystalBrite Technology
- ATI Radeon™ X1250 graphics
- Integrated Acer OrbiCam camera
- Dolby® Home Theater™
- 802.11n WLAN, Bluetooth®, Bluetooth® VoIP phone, gigabit LAN, V.92 modem
- Wireless optical mouse
- Fingerprint reader
- One-year limited warranty[2]

empowering technology

Ferrari 1100-5457

$1,999

(LX.FR90U.071)

Ferrari

OFFICIAL LICENSED PRODUCT

Produced under license of Ferrari Spa. FERRARI, the PRANCING HORSE device, all associated logos and distinctive designs are trademarks of Ferrari Spa.

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

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

acer

Acer® Aspire® 4520

- AMD Turion™ 64 X2 Dual-Core Mobile Technology TL-52
- Genuine Windows Vista® Home Premium
- 1GB DDR2 667 SDRAM
- 120GB[1] hard drive
- Integrated Super-Multi drive (DVD+R, DVD-R, DVD-RAM)
- 5-in-1 card reader
- 14.1" WXGA (1280 x 800) TFT display, Acer® CrystalBrite Technology
- NVIDIA® GeForce® 7000M graphics
- 802.11b/g WLAN, gigabit LAN, V.92 modem integrated webcam
- One-year limited warranty[2]

empowering technology

Acer Empowering Technology

One touch of the Empowering Key and you can easily take control of your notebook's security, performance, settings and communications.

Acer Aspire 4520-5582

$599

AMD Turion™ 64 X2 Dual-Core Mobile Technology TL-52
Genuine Windows Vista® Home Premium
(LX.AHS0X.170)

Acer AL2216Wbd

- 22" wide-screen TFT LCD
- 1680 x 1050 native resolution
- 700:1 contrast ratio
- 170° horizontal viewing angle
- 160° vertical viewing angle
- VGA, DVI (HDCP) signal connectors
- 300 cd/m² brightness
- 5ms response time
- Internal power adapter
- Black color

$239

(ET.2216B.0D0)

Acer AL1917 Cbmd

- 19" TFT LCD
- 1280 x 1024 native resolution
- 700:1 contrast ratio
- 150° horizontal viewing angle
- 135° vertical viewing angle
- Two 1.0W integrated speakers
- VGA, DVI signal connectors
- 300 cd/m² brightness
- 5ms response time
- Internal power adapter
- Black color

$229

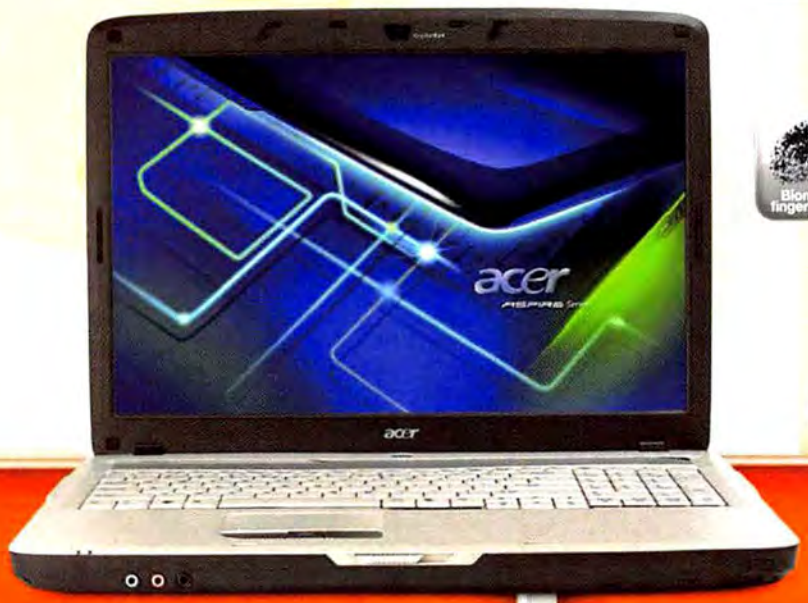
(ET.1917B.0DC)

Acer recommends Windows Vista® Home Premium.

AMD Turion 64 X2 MOBILE TECHNOLOGY

Acer® Aspire® 7520

- AMD Turion™ 64 X2 Dual-Core Mobile Technology TL-52
- Genuine Windows Vista® Home Premium
- 2GB DDR2 667 SDRAM
- 160GB[1] hard drive
- Integrated Super-Multi drive (DVD+R, DVD-R, DVD-RAM)
- 5-in-1 card reader
- 17.0" WXGA+ (1440 x 900) TFT display, Acer® CrystalBrite Technology
- NVIDIA® GeForce® 7000M graphics
- 802.11b/g WLAN, Bluetooth®, 10/100 LAN, V.92 modem, integrated webcam
- One-year limited warranty[2]



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

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

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

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

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

Acer Aspire 7520-5115
$949
AMD Turion™ 64 X2 Dual-Core Mobile Technology TL-52
Genuine Windows Vista® Home Premium
(LX.AN30X.010)

acer

For the name of a reseller near you or further information, please call Acer or visit our Web site:

800-571-2237 - acer.com/us

Acer® LCDs

Acer AL2416WBsd

- 24" wide-screen TFT LCD
- 1920 x 1200 native resolution
- 1000:1 contrast ratio
- 160° horizontal viewing angle
- 160° vertical viewing angle
- VGA, DVI (HDCP) signal connectors
- 400 cd/m² brightness
- 5ms response time
- Internal power adapter
- Silver color

$399

(ET.F16WP.B02)

Acer AL1917W Abd

- 19" wide-screen TFT LCD
- 1440 x 900 native resolution
- 700:1 contrast ratio
- 150° horizontal viewing angle
- 135° vertical viewing angle
- Two 1.0W integrated speakers
- VGA, DVI signal connectors
- 300 cd/m² brightness
- 5ms response time
- Internal power adapter
- Black color

$199

(ET.C17WP.A04)

Acer AL2616Wd

- 25.5" wide-screen TFT LCD
- 1920 x 1200 native resolution
- 800:1 contrast ratio
- 1600:1 dynamic contrast ratio
- 178° horizontal viewing angle
- 178° vertical viewing angle
- VGA, DVI (HDCP) signal connectors
- 500 cd/m² brightness
- 5ms gray-to-gray response time
- Internal power adapter
- Silver color

$649

(ET.G16WP.001)

Acer AL1916W Ab

- 19" wide-screen TFT LCD
- 1440 x 900 native resolution
- 700:1 contrast ratio
- 150° horizontal viewing angle
- 135° vertical viewing angle
- VGA signal connector
- 300 cd/m² brightness
- 5ms response time
- Internal power adapter
- Black color

$195

(ET.1916B.W08)

Acer AL1717 Fbd

- 17" TFT LCD
- 1280 x 1024 native resolution
- 800:1 contrast ratio
- 160° horizontal viewing angle
- 160° vertical viewing angle
- Two 1.0W integrated speakers
- VGA, DVI signal connectors
- 300 cd/m² brightness
- 5ms response time
- Internal power adapter
- Black color

$189

(ET.B17RP.F04)

Acer AL1716 Fb

- 17" TFT LCD
- 1280 x 1024 native resolution
- 800:1 contrast ratio
- 160° horizontal viewing angle
- 160° vertical viewing angle
- VGA signal connector
- 300 cd/m² brightness
- 5ms response time
- Internal power adapter
- Black color

$185

(ET.B16RP.F02)

Acer AL1516 Ab

- 15" TFT LCD
- 1024 x 768 native resolution
- 600:1 contrast ratio
- 130° horizontal viewing angle
- 100° vertical viewing angle
- VGA signal connector
- 250 cd/m² brightness
- 12ms response time
- Internal power adapter
- Black color

$169

(ET.1516B.000)

Acer recommends Windows Vista® Home Premium.

AMD Mobile Sempron

Acer® Aspire® 3100

ATI Radeon GRAPHICS

- Mobile AMD Sempron™ Processor 3500+
- Genuine Windows Vista® Home Basic
- 1GB DDR2 533 SDRAM
- 80GB[1] hard drive
- Integrated Super-Multi drive (DVD+R, DVD-R, DVD-RAM)
- 5-in-1 card reader
- 15.4" WXGA (1280 x 800) TFT display, Acer CrystalBrite Technology
- Integrated ATI Radeon™ Xpress 1100 graphics
- 802.11b/g WLAN, 10/100 LAN, V.92 modem
- One-year limited warranty[2]

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

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

Acer CrystalBrite
A technology that delivers enhanced video performance for brilliant images, making it ideal for sophisticated applications such as HDTV and digital games.

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

Acer Aspire 3100-1458
$509
Mobile AMD Sempron™ Processor 3500+
Genuine Windows Vista® Home Basic
(LX.AX60Y.229)

acer

For the name of a reseller near you or further information, please call Acer or visit our Web site:

800-571-2237 - acer.com/us

Acer® Veriton® M410

- AMD Athlon™ 64 X2 Dual-Core Processor
- Genuine Windows® XP Professional
- DVD-Dual drive (DVD+/-RW)
- ATI Radeon™ X1200 graphics solution
- Gigabit LAN
- Keyboard and mouse
- One-year limited warranty[2]

empowering technology

Display sold separately.

Acer Veriton M410
$579

AMD Athlon™ 64 X2 Dual-Core Processor 5000+
Genuine Windows® XP Professional
(VM410-UF9600P)
3GB DDR SDRAM and 320GB[1] SATA hard drive

Acer Veriton M410
$449

AMD Athlon™ 64 X2 Dual-Core Processor 4000+
Genuine Windows® XP Professional
(VM410-UF9500P)
2GB DDR SDRAM and 250GB[1] SATA hard drive

Acer AL2016WBbd
- 20" wide-screen TFT LCD
- 1680 x 1050 native resolution
- 800:1 contrast ratio
- 160° horizontal viewing angle
- 160° vertical viewing angle
- VGA, DVI signal connectors
- 300 cd/m² brightness
- 5ms response time
- Internal power adapter
- Black color

$219
(ET.D16WP.B04)

Acer AL1916 Cb
- 19" TFT LCD
- 1280 x 1024 native resolution
- 700:1 contrast ratio
- 150° horizontal viewing angle
- 135° vertical viewing angle
- VGA signal connector
- 300 cd/m² brightness
- 5ms response time
- Internal power adapter
- Black color

$219
(ET.1916B.00C)

Acer recommends Windows Vista® Business.

Acer® Veriton® L410

- AMD Athlon™ 64 X2 Dual-Core Processor
- Genuine Windows Vista® Business or
  - Genuine Windows® XP Professional
- 1GB DDR2 SODIMM
- 160GB[1] SATA hard drive
- Super-Multi drive (DVD+R, DVD-R, DVD-RAM)
- ATI Radeon™ X1250 graphics solution
- 802.11b/g WLAN, gigabit LAN
- USB keyboard and mouse
- 2.4" W x 9.8" D x 7.9" H
- One-year limited warranty[2]

Acer Veriton L410

$529

AMD Athlon™ 64 X2 Dual-Core Processor 4200+
Genuine Windows Vista® Business
(VL410-UD4200C) or
Genuine Windows® XP Professional
(VL410-UD4200P)

Display sold separately.

Acer Empowering Technology

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

Acer ePerformance Management
Acer ePerformance Management optimizes performance to make the most of your computer's power.

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

Acer eSettings Management
Acer eSettings Management provides easy access to boot options, security or general system information.

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

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

acer

Acer recommends Windows Vista® Business.

ATI Radeon GRAPHICS

AMD Turion 64 X2 MOBILE TECHNOLOGY

Acer® TravelMate® 5520

- AMD Turion™ 64 X2 Dual-Core Mobile Technology TL-52
- Genuine Windows Vista® Business
- Microsoft® Office Ready (60-day trial)[3]
- CD with Genuine Windows® XP Professional[4]
- 1GB DDR2 533 SDRAM
- 120GB[1] hard drive
- Integrated Super-Multi drive (DVD+R, DVD-R, DVD-RAM)
- 5-in-1 card reader
- 15.4" WXGA (1280 x 800) TFT display
- Integrated ATI Radeon™ Xpress 1250 graphics
- 802.11b/g WLAN, gigabit LAN, V.92 modem
- Fingerprint reader
- One-year limited warranty[2]

Acer TravelMate 5520-5313

$749

AMD Turion™ 64 X2 Dual-Core Mobile Technology TL-52
Genuine Windows Vista® Business
(LX.TKU0Z.001)

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

Protect Your Investment with an Acer Notebook Service Upgrade

Quality is built into every notebook Acer makes, and each comes with a one-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. Extra protection is available with one of these upgrades:

2-Year Extension of Limited Warranty (146.AB820.EX2)

$99

Prepays freight from Acer repair depot.
Excludes extension of International Traveler's Warranty.

It's a tough world out there, and accidents do happen—sticky spills, dangerous drops, nasty knocks—which is why you should consider the Total Protection Upgrade. It runs concurrently with the limited warranty[2] and limited warranty extension and covers the cost of a replacement unit if your covered notebook cannot be repaired.

2-Year Extension of Limited Warranty + 3-Year Total Protection Upgrade (146.AD077.002)

$199

Prepays freight to and from Acer repair depot.
Excludes extension of International Traveler's Warranty.

[1] When referring to storage capacity, GB stands for one billion bytes and MB stands for one million bytes. Some utilities may indicate varying storage capacities. Total user-accessible capacity may vary depending on operating environments.
[2] For a free copy of the standard limited warranty end-users should see a reseller where Acer products are sold or write to Acer America Corporation, Warranty Department, P.O. Box 6137, Temple, TX 76503.
[3] The 60-day trial of Microsoft® Office Ready is available with Genuine Windows Vista® Business only, not with Genuine Windows® XP Professional.
[4] Genuine Windows® XP Professional can be installed in place of, not in addition to, Genuine Windows Vista® Business.

© 2007 Acer America Corporation. Information and prices are subject to change without notice. Pricing is effective from December 1, 2007 through January 31, 2008. Product images are representations of some of the models available and may vary from the model you purchase. Acer, the Acer logo, Aspire and TravelMate are registered trademarks of Acer Inc. AcerPower is a trademark 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. AMD, the AMD Arrow logo, AMD Athlon, AMD Turion, AMD Sempron, AMD PowerNow!, AMD Cool'n'Quiet, ATI Radeon and combinations thereof, are trademarks of Advanced Micro Devices, Inc. HyperTransport is a licensed trademark of the HyperTransport Technology Consortium. Dolby and the double-D symbol are trademarks of Dolby Laboratories.

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

acer

Ten Things to Do When You're Ready to Buy an HDTV

Even if you plan to buy online, you should check out high-definition sets in person. Here is how you can get the most out of your store visit.

BY BECKY WARING

IN THE MARKET for a flat-screen HDTV for the holidays or the Super Bowl? Even if you're planning to buy online, you should still eyeball sets in the store. Only by checking out the types of content you watch most—movies, sports events, standard-def shows, or video games—can you evaluate subtle differences in picture quality.

Following are some tips on prepping for shopping, evaluating sets in the store, and, not least, taking delivery.

Before You Go

Check your video sources: If you don't already have high-def video sources—an HD digital cable or satellite box, a DVR, or a Blu-ray Disc or HD DVD player—at least investigate them beforehand to determine the number and types of inputs and cables you'll need. If you buy your HD gear first, an installer will be able to hook it all up to your new set and troubleshoot problems.

If the set you like is short on inputs, don't despair. Add-on HDMI 1.3 switcher boxes from Gefen, Iogear, Oppo, and others cost about $100 to $200. But refrain from purchasing add-on surround-sound speakers until *after* your HDTV is installed so that you can correctly evaluate sound quality and speaker placement with the new set.

Choose a showroom: Go first to specialty home-theater shops that stock the sets you like. They tend to have quiet, dimly lit areas much like real living rooms, while the brightly lit, noisy showrooms at the big-box stores make comparisons difficult.

ILLUSTRATION: MARK MATCHO

Bring test movies with you: They should be on both DVD and high-definition media (Blu-ray or HD DVD); rent if necessary. Last year's remake of *Casino Royale* has plenty of fast action and night scenes for comparing smooth motion and black quality.

In the Store

Look at two sources: Ask to see both standard-def and high-def sources (including live broadcast TV) on the sets you like. If possible, watch the same input simultaneously on two models you're considering. Make sure that the salesperson uses the same standard DVD player for all your tests, to eliminate quality differences in the players from your appraisals.

Tweak the settings: Ask the salesperson to set each TV to similar levels of color temperature (the optimum is 6500 Kelvin), brightness, and other picture variables, or play with them yourself. In store displays, TVs often have amped-up brightness and sharpness settings. Use movie, sports, and gaming presets (if available) as starting points for those content types.

Check image quality: Viewing from several distances, look for variations in:

- Picture quality at wide angles (LCDs can look washed out)
- Smoothness of motion in action scenes and video games (LCDs with fast response times and 120-Hz refresh rates should rival the smoother look of plasma sets)
- Brightness and contrast (LCDs typically are better)
- Color saturation and accuracy
- Deep blacks in night scenes (generally better on plasmas)
- Detail and sharpness (better on LCDs)
- Quality of video scaling. How well does the TV display standard-def images? How well does the set stretch or box 4:3 sources to fit the 16:9 wide screen of most HDTVs? »

PCWORLD.COM

LCD or plasma? Do I need CableCard slots or HDMI 1.3? If you're looking for help in choosing a set or deciphering specs, read our recent review of 40- and 42-inch HDTVs at find.pcworld.com/59183.

- Uniformity of picture from edge to edge. Does the picture have variations in brightness, especially at the edges?
- Screen reflectivity (plasmas' glass coatings and bright rooms don't mix well)

Look at other features: Double-check your screen-size choice. (We recommend a diagonal measurement that's about two-thirds the length of your typical viewing distance.) How good is the remote control? Is there a front-panel input for video games or cameras? A media card slot? Check out audio quality if you won't have separate speakers.

Drive a bargain: Ask store salespeople to match online prices. Local delivery is better—large TV sets can easily be damaged in transit, and good luck getting a replacement from most discount outlets. Ask if the seller will sweeten the deal with free cables, mounting hardware, or professional installation.

Check return policies, such as restocking fees. Don't fall for extended warranties (and note that some credit cards double already-generous warranty periods from the manufacturer).

Taking Delivery

Consider installation service: It's worth it for big-ticket screens. Not only will delivery staff carry the heavy set into your house, they will dispose of packaging, hook things up properly, calibrate the picture, and take back a dud. (If you're comfortable doing calibration yourself, try Joe Kane's Digital Video Essentials disc, available in DVD or HD DVD format, from www.videoessentials.com.)

Open the box immediately: Ask about the seller's delivery and return policies before you buy. Will the delivery staff stay long enough for you to inspect the TV and refuse delivery if the set is visibly damaged or DOA? Refusing delivery is cheaper and easier than dealing with return and restocking fees. Some retailers make you get warranty repairs rather than take back a big-screen TV.

Purchase the cables you'll need online before the set arrives. You don't want to have to dash out to buy an overpriced cable just to enjoy your new toy.

SKEPTICAL SHOPPER YARDENA ARAR

TrialPay—Free Stuff With Some Strings

TrialPay lets you get some products for free by agreeing to try out others. But I'd rather pay for the stuff I want.

I AM FOREVER amazed—and often amused—by the way digital technology has reshaped marketing. Case in point: a new service called TrialPay (trialpay.com), where you receive certain products free if you agree to participate in a trial offer for yet another product or service. You can choose the trial from a long list, and at least some of the trial offers are free or inexpensive (signing up for a credit card, say, or paying for shipping and handling of a cosmetics sample).

Bottom line, you could save money. But at what cost?

To find out, I looked at some products that I could use TrialPay to buy, along with the offers available to get those products. The first thing I noticed was that, though the products I could get for free by using TrialPay came from reputable merchants, none ranked as must-haves; they were all things I might enjoy but could easily live without. Examples: The New York Times Crossword Puzzles (which I already subscribe to); premium versions of McAfee Site Advisor (software that helps you steer clear of toxic Web sites—a basic version is free); the universal chat client Trillian (again, a basic version is free); a desktop weather-tracking app called Weather Bug; and Corel Photo Album Deluxe 6, which, according to the TrialPay offer page, normally costs $49.

An Inflated Price?

When I went to the Corel site, however, I saw that Photo Album Deluxe 6's nominal price was indeed $49, but that Corel had discounted it to only $29 (or $19 if I were upgrading from a previous version). This made me feel that TrialPay was trying to artificially inflate my perceived savings.

Clicking on the TrialPay button as an alternative to paying for the Corel software guided me to pages for viewing the offers. I encountered several dozen, organized by category. Under the Most Popular tab, I could sign up for a CitiBank or Discover credit card, enroll in BlockBuster's video service (a Netflix competitor), or try out Stamps.com for four weeks (this came with $5 worth of free postage).

Other offers involved making a purchase. For example, G By Guess (an online clothing store) required me to buy something for $50 (before taxes and/or handling charges)—significantly more than the cost of the Corel software I would be getting free. Still others entailed receiving paid services such as Gamefly's $8.95 monthly rentals.

Some limitations applied. I wasn't eligible for many offers from well-known sites that I already use (eBay, Rhapsody, and so on)—they're only for new customers.

Clearly, TrialPay offers are legit and may be useful to some buyers. But overall, I felt the service encourages people to get products they don't really need by trying out other products they don't really need.

I would rather pay for things I find valuable. I've given donations to the developer of Paint.net (a free image editor) and paid for the premium version of Trillian, as I believe they've earned my support.

If a product isn't useful enough for me to pay hard cash for, then it's not worth exposing myself to pitches for something else—or signing up for a trial service that in a worst-case scenario may prove difficult to cancel (see find.pcworld.com/59019). That's a higher price in aggravation than I'm willing to pay for almost any freebie.

ILLUSTRATION: HARRY CAMPBELL

SANYO

everypicture
everyvideo
everywhere

The waterproof* SANYO Xacti E1 captures stunning digital video and beautiful 6MP photos of whatever life throws at you...like snow, rain, and sunshine.

- Waterproof Digital Camcorder
- 6 Megapixel Still Images
- 5x Optical Zoom Lens
- 2.5-Inch LCD Display
- Up to 1hr. 20min. Digital Video Per 1GB Memory Card

www.sanyodigital.com

E1 Waterproof Camcorder

Xacti

©2007 SANYO Digital Products. All rights reserved. In tests conducted by SANYO Electric Co., Ltd., the *VPC-E1 meets the IPX8 underwater rating at depths of up to 5ft. for up to 30 minutes. Go to www.sanyodigital.com to learn more. Memory Card sold separately.

ON YOUR SIDE AMBER BOUMAN

WHEN I PURCHASED an HP DV6000 laptop from the HP Web site, I also ordered an expansion base. Two were listed on the order page: an XB2000 and an XB3000. I opted for the cheaper XB2000. But when I tried it out, it would not work with the laptop. I eventually learned that the XB2000 is not compatible with the DV6000 laptop. I requested an RMA from HP to return the product and buy the correct one. HP's response was, "We're sorry, but you're stuck with it because it has been more than 21 days"—the limit for product returns. All I want to do is to return the XB2000 and purchase the right item. *—Marion Crawford, Sacramento, California*

OYS Responds: Both expansion bases are on HP's Web site, an HP spokesperson says, but the product page for each one also lists the notebook models it supports. We recommend examining product pages carefully for issues such as this.

As a gesture of good faith, HP has agreed to exchange the XB2000 base for the XB3000 model. Crawford's experience points up another tip for technology purchases: Test the product in the ways you anticipate using it, as soon after receiving it as you can. Most companies impose a deadline on returns, so you need to know about any obvious problems quickly.

Staples vs. Staples

Reader Christopher Lewis recently wrote to alert us that after signing his company up for StaplesLink, a special site for companies having a contract with the office supply chain, he was dismayed to find much better prices for certain items on Staples.com's consumer site. For example, a Cruzer USB flash drive cost $100 more on StaplesLink. While the contract doesn't prevent Lewis from buying via Staples' main site, he dislikes having to check both to find the best deals.

Asked about these pricing anomalies, the company said Staples.com serves home offices and businesses with up to 20 employees, while StaplesLink is for larger corporate customers seeking the best prices on frequently ordered supplies. So laser printer toner refills, pens, and paper are likely to be cheaper on StaplesLink, while electronics and furniture might (at times) cost less on Staples.com. Also, the Cruzer cost more on StaplesLink because it was not covered by the reader's corporate contract.

After we contacted Staples, however, Lewis's account manager offered to match the lower price on the Cruzer.

More on ModusLink

Reader Ken Hunkin of Miniota, Manitoba, wrote to alert us that months after he applied for his Windows Vista upgrade from ModusLink—which contracted to handle Vista upgrade fulfillment for a number of vendors—he still had not received it. Worse yet, he'd been charged for shipping!

ModusLink, the subject of other reader complaints (see find.pcworld.com/59073), told Hunkin that it had shipped his upgrade, but that the package was returned as undeliverable because he had put a post office box as the shipping address. Like many firms, ModusLink has a policy of not shipping to P.O. boxes.

A ModusLink rep told us the company relies on its customers to provide accurate shipping information, and said Hunkin had been charged for shipping because ModusLink had indeed attempted to ship Vista. After we contacted ModusLink, the company asked Hunkin for an alternate address and shipped him his upgrade.

Numerous Complaints About Online Loan Company

AUTHORITIES IN CALIFORNIA and Canada say that they have received a number of complaints about MortgageTree Lending, a company that advertises loans online. The complaints say MortgageTree Lending is asking its customers to wire money to Canada to cover finance and other miscellaneous charges for loans that sometimes never materialize, according to authorities.

MortgageTree Lending lists its headquarters and central offices as being in San Jose, California. However, the local Better Business Bureau says that no such offices exist, and a search of California's Department of Corporations turns up no records for a MortgageTree Lending of San Jose.

Zach Vander Meeden, public relations director of the San Jose Better Business Bureau, says that complaints against MortgageTree Lending began on September 24. The BBB had received 14 complaints through late October, and those who have complained say that they're out a total of $20,000. Canadian authorities say that they have received several complaints about the firm, too.

Canadian law enforcement officials point out that advance-fee loan scams are finding new life as the credit market tightens and cash-strapped people with bad credit turn to lenders who advertise online. Advance-fee loan firms typically request a would-be borrower to pay fees amounting to 10 to 20 percent of the money they want to borrow.

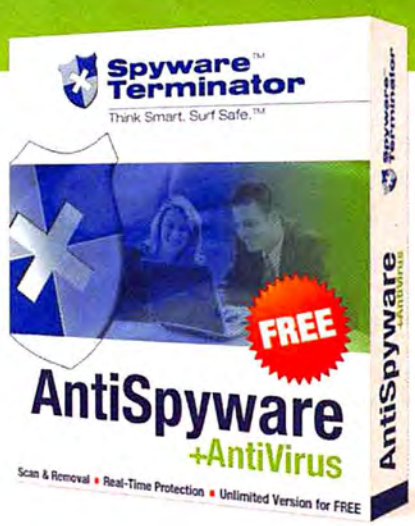
"When every traditional lender turns you away, people click onto the Internet and are surprised at how easy it is to get a loan," says Louis Robertson, corporal in charge of the criminal intelligence analysis unit for the Royal Canadian Mounted Police.

—Tom Spring

ILLUSTRATION: HARRY CAMPBELL

What are you doing to stop spyware intrusion ?

Eliminate spyware and protect your computer with **totally free** Spyware Terminator™ 2.0 Internet security suite. Prevent identity theft and invasion of your privacy. Get full real-time spyware detection, removal and protection. Use what millions of people rely on every day at home and work.



Get Total Protection – **Totally Free!**

- Safely browse the Internet while protecting your computer
- Identify safe and potentially dangerous websites in search results
- Works with other antispyware programs you may have
- Includes antivirus protection

Download FREE Spyware Terminator 2.0 at www.SpywareTerminator.com **now!**

10,984,705
Number of Installations (Nov. 2007)

Editor's Review
VERY GOOD ★★★★★
SOFTPEDIA

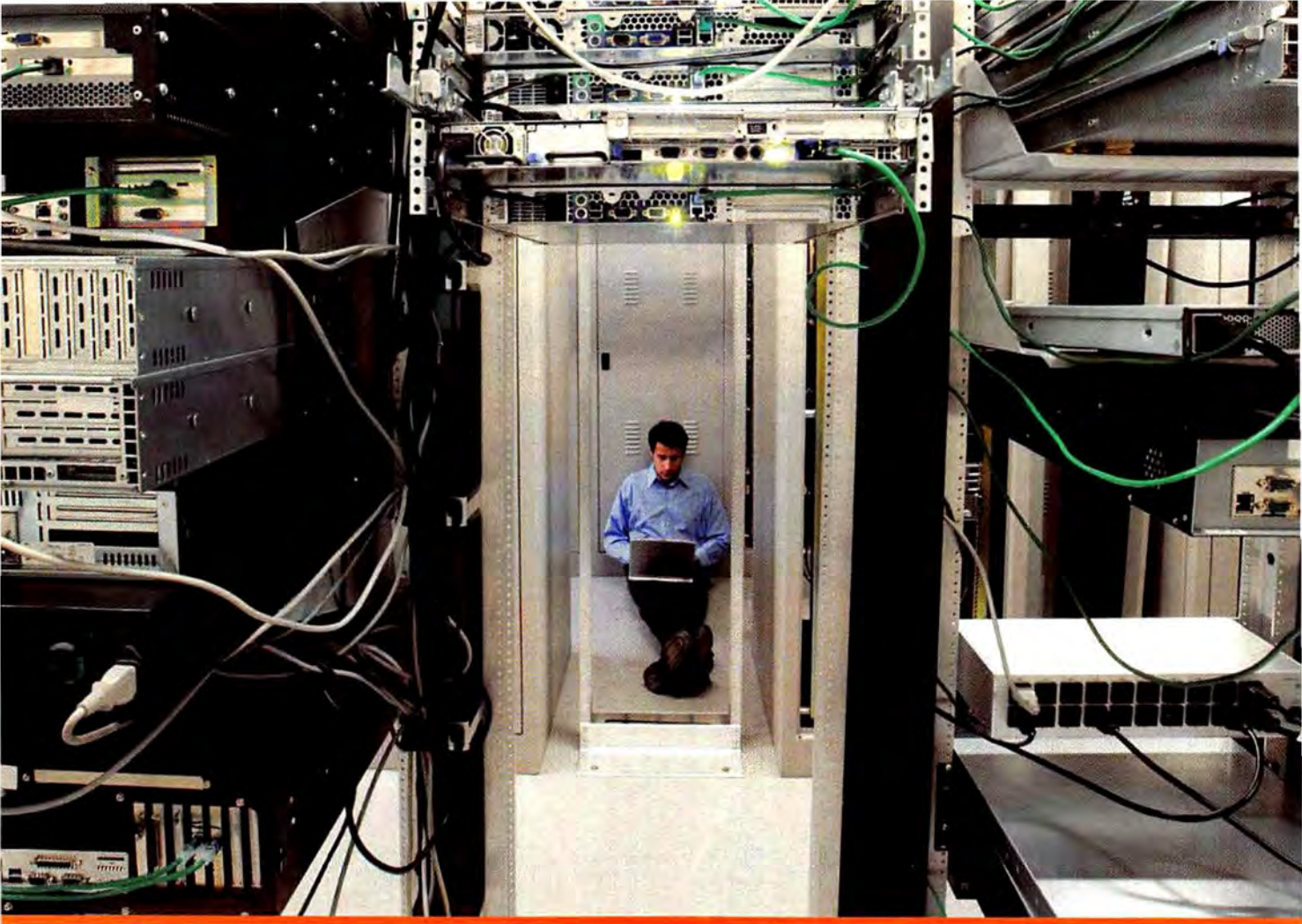
★★★★☆
CNET.COM

Spyware™ Terminator
Think Smart. Surf Safe.™

© 2007 Xacti. Spyware Terminator is a trademark of Crawler, LLC.

xacti™ Xacti Group, U.S.A.

www.SpywareTerminator.com



When you need someone to go the extra mile. Above and beyond. Far and wide – to get you the IT help you need, we're there.

More demands and more pressure. Less time and fewer resources. Business today is full of challenges. When it comes to technology, CDW will do what it takes to respond to your needs. We have products from the top names in the industry, in almost every technology category imaginable. Our dedicated account managers and technology specialists can offer advice and create solutions, from the simple to the complex. We even have a full range of custom configuration services at your disposal. So when you need IT help, think CDW. We're there with whatever you need, whenever you need it.

CDW.com | 800.399.4CDW

CDW

The Right Technology. Right Away.™

©2008 CDW Corporation

Choose the Right Backup for Your Business

LIKE REAL ESTATE, storage has some key attributes that are easy to sum up: backup, backup, and backup. Sure, storage options vary in speed, price, security, and convenience, but nothing is more important than their ability to safeguard vital data. The potential costs of media failure far exceed the financial outlay for a RAID configuration or for offline backup. Here are four strategies for achieving adequate storage capacity and the redundancy needed to keep your data safe.

> Companies often fail to appreciate a sound data backup strategy until their data goes missing. Fortunately, good, affordable backup technology is plentiful, with a flavor for every taste.

Direct-Attached Hard Drives

Direct-attached drives—the most common type of add-on storage—come in a single- or multiple-drive enclosure that typically hooks up to your PC via a USB 2.0, FireWire, or eSATA connection (eSATA is the latest and fastest of these types, but you're likely to need an adapter to connect it to your computer). If you just want the storage drive to back up the internal disk inside the PC it's attached to, a single drive works fine. The economical 500GB Apricorn EZ Bus Desktop SATA ($175) topped our performance tests (find.pcworld.com/58980) and features both eSATA and USB 2.0 ports.

If you're expanding core storage, rather than just backing it up (on a server, for example), consider investing in a multidrive RAID system with built-in redundancy. This will protect you from drive meltdowns, though you should also have an off-site or Internet backup plan to guard against disasters like fires and floods. Look for RAID 1 or RAID 5 support; either arrangement will let you replace a failed drive without losing data. Wiebetech's 1-terabyte SilverSATA II SR ($856) and LaCie's 2TB 2Big Dual ($889) are two-drive models with RAID 1; LaCie's 2TB to 4TB Biggest Quadra is a RAID 5 tower with four drives ($1160 to $2300). All of these models sport hot-swappable drives (which allow you to switch out a drive without shutting down) and both eSATA and USB 2.0 ports.

TOSHIBA'S $169 PORTABLE External Drive (left) can ride in a briefcase, while LaCie's new 2TB 2Big Dual storage drive has capacity to burn.

PHOTOGRAPH: MARC SIMON

Network-Attached Storage

For most small businesses, a NAS drive is the best option for central file storage and backup. NAS drives also provide Web and FTP access to your files, and act as print servers. After initial setup, NAS drives require little administration (a boon for small businesses without IT staffs), and they can be secured with encryption and passwords. For top performance, choose models with gigabit ethernet connections, and make sure you have gigabit routers and switches in your office. Backups can be bandwidth intensive.

Two excellent NAS products designed for small businesses are the Iomega StorCenter Pro 150d ($800 for 1TB, $1100 for 2TB, or $1700 for 3TB) and the Netgear ReadyNAS NV+. Both of these devices are hot-swappable, and they offer RAID 1 and 5 support, gigabit ethernet, Web-based administration, and software for backing up local drives.

Portable Storage

Portable USB hard disks and flash drives are great for travel, for moving large files around the office, and for laptop backup. They can be a serious security risk if lost or stolen, however, so it's imperative to »

PCWORLD.COM

For more information on storage and backup methods and products for your business, check out our online *Top 10 External Hard Drives* chart and related product reviews at find.pcworld.com/59205.

use encryption software on any drive that might leave the office. The Lexar JumpDrive Lightning (find.pcworld.com/58979) and the SanDisk Cruzer series are popular flash drives with strong encryption software. Add-on software like Migo's Digital Vault ($30) will secure any USB hard disk or flash drive.

Examples of portable drives that you can power through your USB port include Maxtor's OneTouch III Mini, Toshiba's Portable External Drive, and Western Digital's Passport. Prices are typically $100 to $200 for 100GB to 250GB drives. Note, however, that the disks in these compact cases tend to be 5400-rpm laptop drives, which are considerably slower than the 7200-rpm drives used in desktop PCs.

Online Storage

If your goal is to give employees easy access to shared files from anywhere in the world, or to support off-site backup of critical files, online storage services can make a lot of sense. Obviously, they're far slower to use than local disks, especially on the upload side, which makes them a poor choice for storing huge files. But used selectively to complement your regular, offline full-drive backups, online storage can be quite valuable.

ElephantDrive.com offers an economical service for businesses (1TB of storage for $350 a year), including selective or automatic backups, encryption, file sharing, Web browser access, and multiple user accounts. For individual computers, Carbonite.com's automatic, continuous backup service costs $50 per year, with unlimited storage. The downside is that you have to run the software continuously, with no option to do one-time or selective backups.

Businesses should also consider the forthcoming WindowsLive Workspace, a free Web-based document-sharing service from Microsoft. It won't let you upload anything except document files, so it does not constitute a complete backup option; but for the simple task of sharing files, it's priced right.

—Becky Waring

NET WORK RICHARD MOROCHOVE

Make Your Web Site Pay: Google AdSense

Your Web site or blog can make money by displaying pay-per-click search-engine ads—and they cost you nothing to try.

IF YOU RUN a popular, information-rich Web site or blog, you can earn money from the growing online advertising market—without having to approach advertisers yourself. By publishing pay-per-click (PPC) ads provided by search engines like Google and Yahoo, you earn money every time a visitor clicks one of the ads at your site.

You've probably noticed the Google AdWords text ads that appear to the right of (or sometimes directly on top of) your Google search results. Under Google's AdSense program, you can earn money by running AdWords ads at your own site. There's no guarantee that you'll actually attract clicks and get paid, but it costs you nothing to sign up and try it.

AdSense is a PPC service, not an affiliate marketing network, so you get paid whenever a visitor clicks an ad you host, regardless of whether that click turns into a sale for the advertiser.

The number of clicks an ad receives depends largely on its relevance to nearby content on your site. If the subject of an ad is closely related to the content it's placed next to, the ad is likelier to get clicked. AdSense crawls your Web pages and applies site content-analysis technology similar to that used in Google's search engine to match ads to your content.

Getting Started

To get started using AdSense, you sign up for an account and then insert Google-supplied advertising code on your site. AdSense offers various ad formats that are designed to suit different Web page layouts. You can tweak the text color, the background color, and other aspects of the ads. AdSense permits you to run up to three ad units per Web page.

Initially, AdSense may place public service announcements, which earn no click money, on your site. But Google says that the money-earning context-sensitive ads should begin showing up within 72 hours.

Your earnings from AdSense depend on several factors, including the number of visitors to your site and the nature of your content. Google doesn't disclose how it splits the ad revenue with sites that display AdSense advertisements; it keeps track of accumulated earnings and pays out monthly whenever the balance exceeds $100.

AdSense Limitations

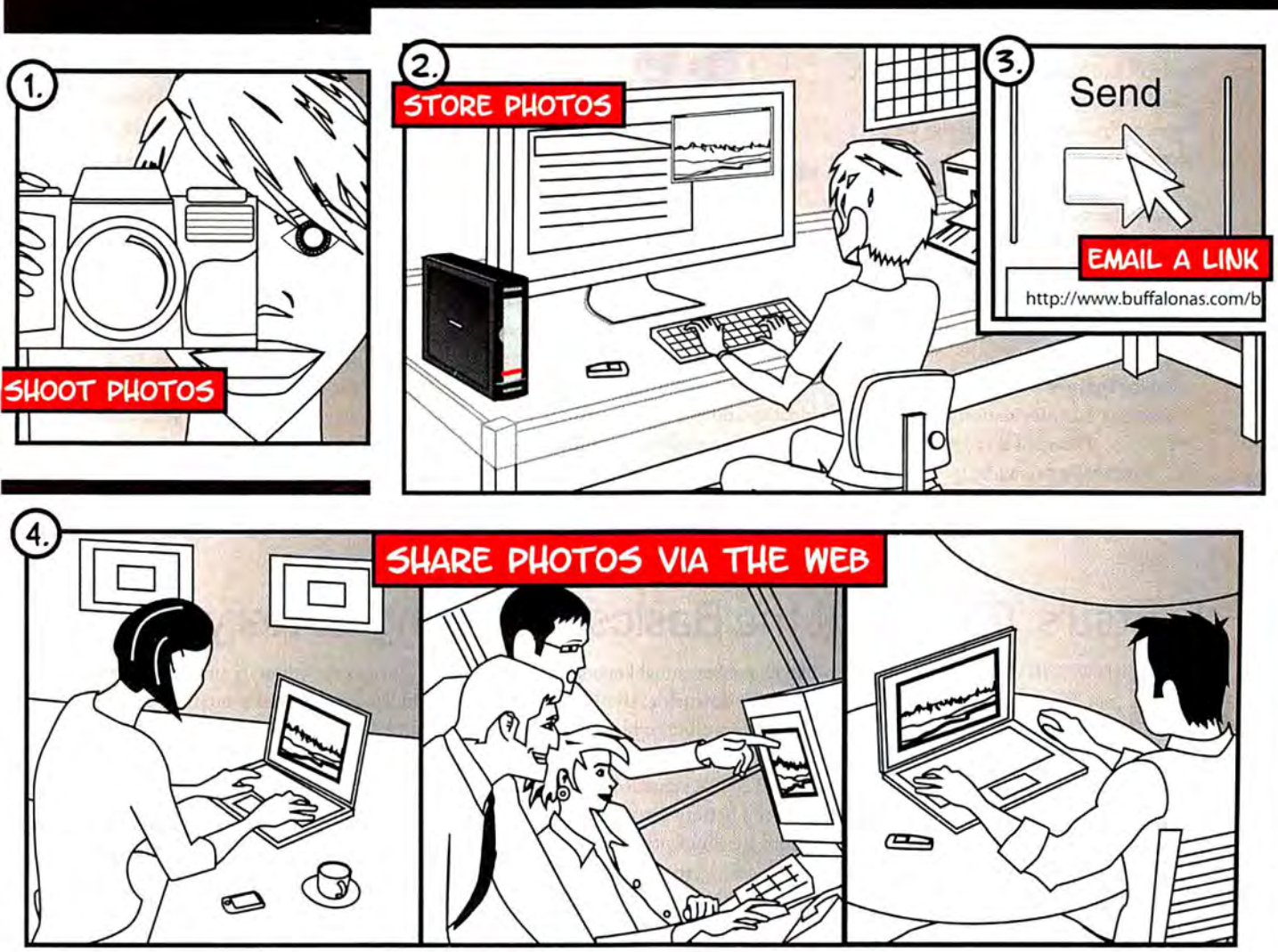
AdSense has become hugely popular, but it's not perfect. For one thing, the system's automatic ad matching process doesn't always work smoothly. When I installed AdSense on a site a couple of years ago, the ads it served were generic, resulting in a low click-through rate and poor earnings. After I positioned the ads closer to the site content, however, they became more relevant and my earnings increased almost immediately.

Google is selective about the Web sites it accepts into its AdSense program. It won't, for example, place ads on sites that display pornographic, gambling, or other controversial content.

I'm generally pleased with my earnings from AdSense, though I know some site operators who believe that entering the ad code isn't worth the effort. It's certainly worth trying once, since you risk only the investment of your time, and it's the only way to find out whether PPC advertising makes sense for you.

ILLUSTRATION: HARRY CAMPBELL

SEND ONE LINK TO SHARE IT ALL!



LinkStation Live - up to 1.0TB

TeraStation Live - up to 4.0TB

WEB ACCESS

With Buffalo's Web Access feature you can access and share your photos and other files anywhere, anytime on any computer!

Available at:

Buy.com CDW PC Connection

Fry's Electronics J&R Micro Center

BUFFALO™

STORAGE WIRELESS MULTIMEDIA MEMORY

© Buffalo Inc. 2007. BUFFALO logo, AirStation, DriveStation, DriveStation Duo, LinkStation, MiniStation, Nfiniti and TeraStation are either trademarks or registered trademarks of Melco Holdings Inc. The names and logos of other companies mentioned herein belong to their respective owners.

Six Ways to Manage Bad PR on the Web

MANY CURRENT OR potential customers obtain buying information from the Web. They may visit your site, but they will also look for a fuller picture from established news sources, from blogs, or from shopper comments at sites like Amazon and Yelp. How can you protect your company's reputation from harsh critics and/or slanderers on the Web? Here are some reliable tactics.

Monitor use of your name and reputation: To avoid being caught unawares, create a Google Alert to track mentions of your company's product or service on the Web. You can have these Alerts sent to you daily, weekly, or as mentions of your company appear.

Nip blog and review errors in the bud: Countering misinformation before it spirals out of control is crucial. If incorrect, potentially damaging information appears online, quickly contact every editor or blogger involved, politely explain the inaccuracy or mitigating facts, and request a prompt correction/clarification. Don't post corrections as blog comments unless the blogger ignores you and you have no other recourse.

Don't hide your identity: Never hide your identity and pose as a customer or reader when making comments to correct bad press. This can backfire big time: If bloggers "out" you, you'll look far worse than you did originally.

Don't be afraid of a mea culpa: Owning up to a problem and fixing it can transform bad PR into good PR. Tell people you'll correct the situation as soon as possible, and follow through. Any money you spend is likely to pay for itself in goodwill and future sales.

Refocus the discussion: If bad reviews or customer comments are justified, you can use blog comments to make sure the positive aspects of your product or service at least get equal time.

Don't bash the competition: Classic example: Prior to the iPhone launch, Verizon issued several statements critical of the iPhone to journalists and customers. This only intensified the spotlight on the iPhone and made people wonder why Verizon was so scared. Instead, Verizon should have taken advantage of the iPhone hoopla to talk about its own smart-phone products.

—Becky Waring

Fujitsu's T2010: All the Basics Plus Long Battery Life

PCW Test Center

FOR LIGHTWEIGHT, all-day computing, Fujitsu's 4-pound LifeBook T2010 convertible tablet is a solid choice. Its battery may outlast your work day, and its indoor/outdoor screen lets you get down to business almost anywhere. Eraserhead fans will like its conventional keyboard, too.

IN OUR TESTS, the Fujitsu LifeBook T2010's extended-life battery ran for almost 7 hours.

On the downside, the T2010 isn't very comfortable to hold, and the optical drive is external, not integrated.

The T2010's standard extended-life nine-cell battery set an impressive new record for longevity in our tests (almost 7 hours), surpassing the average battery life of 15 currently tested ultraportables by 2.7 hours.

Our 1.2-GHz Core 2 Duo U7600 unit, with 2GB of RAM and Windows Vista Business, collected a WorldBench 6 Beta 2 score of 52, close to the average of 54 earned by currently tested ultraportables.

The sensible design includes a first-rate keyboard layout. However, the T2010 comes with only two USB ports, and it carries a PC Card slot instead of a faster ExpressCard slot. Nevertheless, you get all the basics, including Wi-Fi and Bluetooth, plus an integrated SmartCard slot for extra security.

Once swiveled on its single hinge and laid flat against the keyboard, the sturdy 12.1-inch WXGA latchless screen is fairly bright and easy to read indoors or in shade (though the antiglare coating doesn't quite stand up to direct sun).

For what you get, the $2279 price tag ($2558 with an external optical drive) is reasonable. Alternatively, you can add an optical drive via a $350 docking station.

The T2010's roaming range will expand early next year when integrated mobile broadband will be an extra-cost option. If you're especially butter-fingered, you can get a solid-state 32GB hard drive as an upgrade option for $519 more.

—Carla Thornton

74
GOOD

LifeBook T2010 | Fujitsu
Though this convertible laptop isn't terribly comfortable to hold, its nine-cell battery lasts forever.

List: $2279
find.pcworld.com/59193

PHOTOGRAPH: ROBERT CARDIN ILLUSTRATION: HARRY CAMPBELL

Scan Anywhere.

Get Organized!

$50 OFF
Special introduction offer on
www.irislink.com/pcworld

The IRIScan™ 2 is ultra portable, USB powered and backed by an extended software suite, so you can get things done!

Portable
Light-Compact-USB

Productivity software included: Readiris Pro 11 (World's #1 OCR software), Cardiris (Business Card Recognition Software), I.R.I.S. Desktop Search (Search Engine for your PC) , Photo Suite 9 Special Edition (Photo editing made easy, by Roxio) and @Promt Office 7 (11 language pairs translation software).

Scan Business Cards
To Outlook, Outlook Express, Notes, Address Book, Act!, etc.

Scan Paper Documents
Letters, faxes, receipts, invoices, etc. Eliminate your paper clutter!

Scan Photos
Convert piles of photos into shared digital memories.

IRIScan™ 2

for Windows & Macintosh

I.R.I.S.
Document to Knowledge

T071112-01

Build your website now for success in the New Year!

$50 OFF!* First Year

At 1&1, we offer affordable web hosting plans for every customer and budget. Set goals for your business next year and let our website solutions help you achieve them.

Sign up today and improve your business with 1&1.

	1&1 BUSINESS	Yahoo! STANDARD	Go Daddy PREMIUM
Included Domains	3	1	$1.99/year with purchase
Web Space	250 GB	10 GB	200 GB
Monthly Transfer Volume	2,500 GB	400 GB	2,000 GB
E-mail Accounts	2,500 IMAP or POP3	500 POP3	2,000 POP3
Mailbox Size	2 GB	Unlimited	10 MB
Search Engine Submission	✓	✓	Extra charge applies
Website Builder	18 Pages	✓	Freeware
Flash Site Builder	18 Pages	–	–
Photo Gallery	✓	✓	✓
RSS Feed Creator	✓	–	$4.99/month
Ad-free Blog	✓	✓	Freeware
Map & Driving Directions	✓	✓	–
Dynamic Web Content	✓	✓	–
Web Statistics	✓	✓	✓
E-mail Newsletter Tool	✓	$10/month	$3.99/month
In2site Live Dialogue	✓	–	–
Chat Channels	✓	–	✓
Form Builder	✓	✓	–
1&1 Marketing Center	✓	–	–
Premium Software Suite	✓	–	–
90-Day Money Back Guarantee	✓	–	–
Support	24/7 Toll-free Phone, E-mail	24/7 Toll-free Phone, E-mail	24/7 Phone, E-mail
Price Per Month	$9.99	$19.95	$14.99
SPECIAL OFFER FOR 1 YEAR	$50 off*	–	10% off
TOTAL/YEAR	$69.88 ~~$119.88~~	$239.40	$161.88

Don't wait!
These specials are only valid through 12/31/2007!

DOMAINS

.biz only $2.99 First Year

ENTERPRISE SERVERS

$200 OFF!** First Year

We offer a variety of hosting packages and servers to fit your needs and budget.

© 2007 1&1 Internet, Inc. All rights reserved. Visit 1and1.com for full promotional offer details.
* Offer valid for Business Package only, 12 month minimum contract term required.
** Offer valid for Enterprise I and II packages only. 12 month minimum contract term required. Discounts taken monthly through the duration of the contract. Offers valid 11/2/2007 through 12/31/2007. Prices based on comparable Linux web hosting package prices, effective 10/24/2007. Product and program specifications, availability, and pricing subject to change without notice. All other trademarks are the property of their respective owners.

MEMBER OF united internet

Call 1.877.go1and1

Visit us now 1and1.com

1&1

Lock Down the Data on Your Portable Drives

BY BECKY WARING

BARELY A WEEK seems to go by without a headline story on the latest laptop data breach—millions of veterans' files here, thousands of medical records there, and credit card numbers everywhere. But laptops aren't the only targets: The proliferation of portable USB hard disks and flash drives with huge capacity makes the loss or theft of critical data likelier than ever.

A Computer Security Institute survey of 494 security practitioners in large organizations (find.pcworld.com/59074) found that though about half of respondents had had a laptop or mobile device stolen, only two-thirds used encryption to safeguard the data on their portable devices.

If security experts at large companies haven't bothered with encryption, it stands to reason that most smaller companies have not either. Why? Simply because it has been a pain for IT staff and employees. Users forget passwords (potentially locking a drive forever), and software-based encryption can sap PC performance.

New hardware and software products, however, promise to simplify portable-drive encryption, making the task fast and transparent.

New hardware and software simplify the task of keeping your sensitive information safe from data thieves.

Information Age, Meet Encryption

Many new portable drives come with encryption, but it is also available as an add-on from Cryptainer PE ($30 and up; find.pcworld.com/59106), Migo Portable Vault ($15; find.pcworld.com/59121), or TrueCrypt (free; find.pcworld.com/59075). You just type in a password to access files encrypted with strong algorithms such as 256-bit AES or 448-bit Blowfish. These are simple and inexpensive options (as long as you don't lose your password). Since they are software-based, however, they slow things down, and can be breached by an infected host PC that captures the password. You could also lock your data with Windows' built-in encryption capabilities, namely EFS in Windows XP and BitLocker in Vista Ultimate (see find.pcworld.com/59103 for how-to instructions).

For better and faster protection, consider a drive with built-in hardware encryption, such as the new Apricorn Aegis Vault (80GB to 250GB, $139 to $269; find.pcworld.com/59104), a USB hard drive with real-time 128-bit AES support, or the SanDisk Cruzer Professional (1GB to 4GB, $55 to $145; find.pcworld.com/59109), a flash drive with 256-bit AES. Both allow you to create unencrypted drive areas for public access, and since they require no software, you can take them on the road easily. SanDisk also makes an Enterprise version of the Cruzer (1GB to 4GB, $75 to $185; find.pcworld.com/59110), which allows central management of passwords.

No matter how strong the encryption, security is only as strong as your password. Biometric devices are more stringent, allowing access only to authorized users. Apricorn's Aegis Bio portable drive (80GB to 250GB, $169 to $299; find.pcworld.com/59111) provides both a fingerprint reader and 128-bit AES hardware encryption, and La Cie's SAFE Mobile Hard Drive with Encryption (160GB, $220; find.pcworld.com/59126) combines fingerprint access with 128-bit DES. Both devices allow up to five users.

Leave No Trace: Go Virtual

While encrypting the data on your portable drive is a good start and should protect your drive if it is lost or stolen, several potential security holes remain. First, as long as a drive is running, your files are unlocked, so they are vulnerable to »

ILLUSTRATION ALEX NABAUM

PCWORLD.COM

Security-software vendors are adding encryption to mobile suites (find.pcworld.com/59177). Plus: See the five steps that businesses should take to protect mobile-device data (find.pcworld.com/59179).

malware and hacking through the host PC and any network to which you are connected. Second, programs you use may leave unwanted traces on the host PC, even after you've disconnected the encrypted drive. System virtualization software such as Ceedo Personal ($30; find.pcworld.com/59123), MigoSync Premium ($50; find.pcworld.com/59122), and RingCube MojoDrive ($99; find.pcworld.com/59124) can help plug those holes by limiting your applications and settings, as well as your data, to the portable drive—that is, they let you connect to a guest PC while replicating your personal environment and keeping your files off the host. All claim to leave no trace of you on the host computer after you sign off, and MigoSync and MojoDrive also encrypt your data in case you lose the drive itself. Ceedo works with optional add-on encryption software. Lexar's JumpDrive Lightning USB flash drive (4GB, $199; find.pcworld.com/59125) bundles both Ceedo and AES encryption.

SANDISK'S Cruzer Professional and Enterprise offer self-contained encryption.

Laptop Disks Get Encryption

Hardware-based encryption is also coming in internal laptop drives from Hitachi and Seagate. Dell's new Latitude D630 (find.pcworld.com/59116) and D830 (find.pcworld.com/59117) are the first notebooks to use Seagate's Momentus 5400 FDE.2 full-disk-encryption hard drive.

While not yet built into any laptops, Hitachi's Bulk Data Encryption option (find.pcworld.com/59086) is available for all of its popular TravelStar hard drives. Since the data encryption functions work at the hardware level on these models, the performance impact is minimal, and you can make your data inaccessible instantly simply by throwing away the encryption key.

BUGS & FIXES

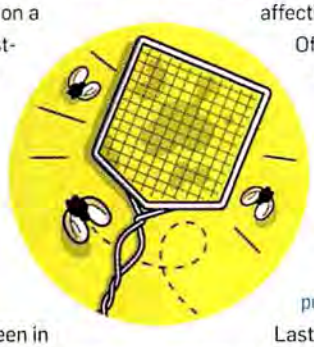
STUART J. JOHNSTON

With Exploit Out, Microsoft Rushes IE 7 Fix

Plus: Grab Microsoft's Office and mail fixes, and beware of PDF attachments.

MICROSOFT FINALLY stepped up work on a patch to address vulnerabilities in the way Internet Explorer 7 interacts with other programs. But with no fix available at press time, using IE 7 on Windows XP machines is risky business.

The problem lies in how IE 7 interacts, via its URI (uniform resource identifier) handler, with products such as Adobe's Acrobat Reader or Mozilla's Firefox. At first, Microsoft stonewalled, pointing a finger at Firefox; then, after acknowledging that the problem was its own, the company dragged its feet on a fix because no exploit existed. That changed when a PDF Trojan horse attack started making the rounds in October. Adobe patched Reader (see below), but that covers only one end of the worm hole.



Microsoft's patch has been in testing for a while and apparently will remain so for some time. My advice to Windows XP users: Stick with Firefox, version 2.0.0.6 and up, which already has a patch for the URI vulnerability. Read updated information on the URI patch for IE 7 at find.pcworld.com/59071.

PDF Joins the Risky List

The PDF attack that forced Microsoft's hand on the IE 7 fix described above also serves as a reminder: When it comes to unsolicited e-mail, trust no sender and no attachment, regardless of the file format.

The Trojan horse attack, which arrives in an infected Portable Document Format file, brings an old social-engineering ploy to PDFs, which malware filters usually don't vet. Carrying a subject line such as "invoice" or "bill", the tainted message's aim is to trick you into clicking. Don't.

Opening e-mail attachments is growing riskier. A Microsoft report (find.pcworld.com/59091) found that the first half of 2007 saw a 150 percent increase in phishing scams and a 500 percent increase in malicious payloads. Obtain the Adobe patch at find.pcworld.com/59092.

Three Critical Microsoft Fixes

Microsoft issued six security updates in its monthly Patch Tuesday round for October, including three "critical" patches. First on my list for a speedy fix installation: a memory corruption error vulnerability affecting users of Office 2000, Office XP, or Office 2004 for Mac. Get the update at find.pcworld.com/59096.

Next up is a security hole present in Outlook Express 5.5 and 6, as well as in Windows Vista's Windows Mail (find.pcworld.com/59097).

Last on this "critical" list: a patch of Kodak Image Viewer for Windows 2000 users or people who upgraded from Windows 2000 Service Pack 4 to Windows XP. If you click a malicious link or visit a Web site with a poisoned URL (in a renegade banner ad, say), then you're in trouble. You can download the patch at find.pcworld.com/59093. For more on this patch round, see find.pcworld.com/59098.

Opera Fills Browser Holes

Opera Software has patched two highly critical security flaws in its Web browser. If exploited, they could result in the complete takeover of your PC. To plug the holes, download the latest release of Opera at find.pcworld.com/59095.

BUGGED?

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

ILLUSTRATION: HARRY CAMPBELL; PHOTOGRAPH: ROBERT CARDIN

THE I.T. MANAGER'S I.T. MANAGER.

Whatever your everyday routine is like, IBM System x3655 Express can help manage routine tasks and save you time. How? It comes with IBM Director, which helps to deploy, monitor, troubleshoot, maintain and optimize your infrastructure from a single screen. It's simple and efficient.

From the people and Business Partners of IBM:
It's innovation made easy.

IBM System x3655 Express

$1,999 (Save $609)

OR $53/ MONTH[1]

ADVANCED SYSTEMS MANAGEMENT THAT HELPS SAVE YOU TIME AND MONEY.

PN: 7985EBU

- Featuring up to two AMD Dual-Core Opteron™ 2000 Series Processors
- Increased performance-per-watt efficiency with dual-core processing
- IBM Director allows you to manage anywhere from 5 to 5,000 other servers
- Xcelerated Memory Technology means faster access to memory for large memory configurations
- Comes with a 1-year on-site limited warranty[2] on parts and labor

IBM BladeCenter LS21 EXPRESS

PN: 7971E1U

- Featuring up to two AMD Dual-Core Opteron™ 2000 Series Processors
- Up to 32GB of DDR II memory to maximize the amount of memory that can be installed in the ultra-dense blade
- IBM Director allows you to manage servers remotely to help increase uptime and reduce costs
- Integrated SAS controller and connectors for 2.5-inch SFF non-hot-swap SAS HDDs

$3,769

OR $100/ MONTH[1]

(Save $138)

Special offers from IBM Express Servers:
Check out our latest offers. (And they really are our latest offers.) All are designed to help you save money and get the most from your IT investment. Visit our Web site for more details.

IBM express advantage™

ibm.com/systems/itmanager
1 866-872-3902 (mention 6N7AH42A)

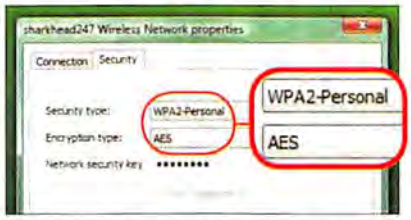
[1] IBM Global Financing offerings are provided through IBM Credit LLC in the United States, and other IBM subsidiaries and divisions worldwide to qualified commercial and government customers. Monthly payments provided are for planning purposes only and may vary based on your credit and other factors. Lease offer provided is based on an FMV lease at 36 monthly payments. Other terms/rates may apply. Rates and offerings are subject to change, extension or withdrawal without notice. All IBM hardware products are manufactured from new parts, or new and serviceable used parts. Regardless, our warranty terms apply. For a copy of applicable product warranties, write to: Warranty Information, P.O. Box 12195, RTP, NC 27709, Attn: Dept. JVLA/ 9033. IBM makes no representation or warranty regarding third-party products or services including those designated as ServerProven® or ClusterProven®. Technical support may be subject to additional charges. For more details, contact IBM. IBM warranty terms apply to machines that IBM has installed within the United States or Canada. Warranty upgrades may be available in your country of origin. Ask your IBM representative for warranty terms applicable to your specific machine. On-site warranty service may be provided by your reseller if authorized by IBM. Response time may vary by location. On-site warranty service and support may be unavailable in remote areas. Certain components are designated customer replaceable units ("CRUs") by IBM, such as keyboards, memory or hard disk drives. CRUs are designed for customer installation. You are responsible for installing replacement CRUs received for defective parts. If IBM installs the CRU at your request, you will be charged for the installation. A list of CRUs and other documentation and technical data is provided with each machine. CRU availability and service support varies by machine. Machines may require the purchase of additional features or electrical connections. Ask your IBM representative for configuration information and software updates. Software support for IBM machines is available for the duration of the warranty period. Software support is available for a fee for machines no longer under warranty. Availability of IBM and IBM-distributed software varies by location. Some software programs that are no longer orderable may be supported through the IBM Support Line or other support agreements. Please consult your IBM representative for more information. Support line hours may change without notice. Other restrictions may apply. IBM, the IBM logo, IBM Express Advantage, System x and BladeCenter are trademarks or registered trademarks of International Business Machines Corporation in the United States, other countries, or both. For a complete list of IBM trademarks, see www.ibm.com/legal/copytrade.shtml. AMD, the AMD logo, AMD Opteron and AMD PowerNow! are trademarks of Advanced Micro Devices, Inc. All prices are IBM's estimated reseller prices as of August 1, 2007. Prices may vary and do not include shipping, handling, taxes, or possible processing and delivery charges. Reseller prices may be higher or lower. Prices are subject to change without notice. Reseller offers may be withdrawn at any time without notice. Offer is limited to quantities on hand at participating resellers and may not be combined with any other offer. Offer is void where prohibited by law. Ask your reseller for complete details. IBM may not offer all the products, features, or services discussed in this document in other countries. Prices are subject to change without notice. Starting price may not include a hard drive, operating system or other features. Contact your IBM representative or IBM Business Partner for the most current pricing in your geographic area. © 2007 IBM Corporation. All rights reserved.

Users of Old Wi-Fi Security Vulnerable to New Attack

"IF IT AIN'T broke, don't fix it" is not the motto to live by when it comes to wireless-network security. Nevertheless, 41 percent of businesses—and an even higher percentage of home users, say experts—still use WEP (Wired Equivalent Privacy), an outdated and vulnerable Wi-Fi security protocol.

A WEP vulnerability was behind the biggest known U.S. data breach, at retail giant TJX last year; hackers gained access to 94 million payment card numbers. But the latest proof-of-concept breach should be even more of a clarion call to trade in WEP for the superior WPA (Wi-Fi Protected Access).

An attacker using security researcher



WPA2 WITH AES provides the best Wi-Fi security, but WPA works with all cards.

Vivek Ramachandran's "Cafe Latte" technique, as it's known, could break through WEP protection on a client machine—such as your laptop—in the time it takes to enjoy a cup of coffee.

Previously, hackers have focused on using WEP flaws to break into wireless networks, a process that involves driving to a hotspot and cracking the WEP key to gain direct access to the network. Ramachandran's technique instead targets attached devices, tricking the WEP-enabled client into thinking that it is logging on to a familiar network.

The technique would give crooks the keys to any wireless network to which the laptop or device had access, including that of a hacked-laptop owner's company.

"With the discovery of our attack, every employee of an organization is the target of an attack," says Ramachandran.

See find.pcworld.com/59049 for instructions on how to upgrade to WPA.

—Robert McMillan

PRIVACY WATCH ERIK LARKIN

Are You Wasting Your Money Buying Antispyware Software?

IS THERE ANY point to using dedicated antispyware software?

Originally it filled a need as adware pop-ups littered screens, unscrupulous spyware began tracking browsing behavior, and traditional antivirus programs proved unable to cope.

Today, every antivirus program will try to block data-stealing spyware, and most virus fighters block—or at least warn you about—adware and other unwanted programs. At the same time, in seeming recognition of an all-in-one tomorrow, antispyware companies PC Tools and Webroot are adding antivirus components to their wares.

So, is the bell tolling for stand-alone antispyware software? Not according to sales figures. Chris Swenson, director of software industry analysis with the NPD Group, says plenty of people are still buying antispyware utilities. Sales of Webroot's SpySweeper, for instance, are up about 19 percent for the year.

Popularity, however, does not equal quality (Paris Hilton, anyone?). Andreas Marx, who runs the AV-Test center in Germany and is *PC World*'s go-to guy for security software testing, says that basic antispyware features in today's antivirus applications largely match those in dedicated antispyware software. But he notes that antivirus is often better at detecting and blocking malicious software before it can actively infect your computer.

> Antivirus programs often surpass antispyware apps at detecting and blocking threats.

Case in point: PC Tools' Spyware Doctor 5.0 took top honors in our recent tests of antispyware software (find.pcworld.com/59059), but it detected only 38 percent of our inactive spyware samples. Top-tier antivirus programs (see our full roundup of 2008 antivirus suites on page 58) detect about 95 percent of inactive malware, including keyloggers, Trojan horses, and other nasties.

Yet antispyware products "are often much better at removing spyware from an infected system," Marx says. Though antivirus software frequently disables malware and removes the executable, it tends to leave files and Registry items behind. Antispyware tools are often more thorough in eliminating an infection, he says.

No single product, whether antispyware or antivirus, can detect or eradicate all threats. And though you usually can't run two antivirus programs at once, designing antispyware to avoid conflicts with antivirus is "almost a known requirement," says Michael P. Greene, vice president of product strategy at PC Tools.

Where does this leave you? If you habitually open every e-mail attachment you receive, you probably should shell out for extra antispyware coverage, or use a free program such as Lavasoft's Ad-Aware (find.pcworld.com/59060).

However, while antivirus programs' antispyware protections may not be great, they're "doing good enough most of the time for most people," Greene says. My take: Save your money. ●

ILLUSTRATION: HARRY CAMPBELL

30 million computer users don't trust the power grid.

APC **Smart-UPS® 1000** provides power protection and battery backup during power outages. *Also available in rack-mount models.*

They do trust APC. Shouldn't you?

"Overall the reliability of electrical systems in the US almost certainly will decline over the next 10 years."

– Venture Development

Think of all that you rely on your computer for: personal and business files, financial information, broadband access, videos, photos, music, and more. Increasingly, computers are the hub for managing our lives. And more people rely on APC to protect their hardware and data than any other uninterruptible power supply (UPS) brand.

Why is APC the world's best selling power protection? For 20 years, we have pioneered power protection technology. Our Legendary Reliability® enables you to save your data, protect your hardware, and prevent downtime. It also guards against a power grid that is growing less reliable every day.

According to the Department of Energy, electricity consumption will increase by 40% over the next 10 years. Yet today, investment in utilities is at an all-time low. It's a "perfect storm" for computer users, one that makes APC protection even more essential.

APC has a complete line of power protection solutions to suit a range of applications. Already an APC user? Get the latest replacement battery cartridge for your unit or upgrade to a newer model.

Find out why 30 million people don't need to worry about losing their music, photos, and financial files.

READERS CHOICE 2006

Find APC power protection products at: COMPUSA We get it. We get it. CDW Office DEPOT

APC Solutions for Every Level of Protection

Home Starting at **$59.99**
Best value battery backup and surge protection for home computers.
8 outlets, DSL protection, 44 minutes of runtime

Back-UPS® ES 550R

Home Office Starting at **$99.99**
Complete protection for home and small business computers.
10 outlets, DSL and coax protection, 70 minutes of runtime

Back-UPS® ES 750

Small Business Starting at **$459.00**
High-performance network power protection with best-in-class manageability for servers.

Smart-UPS® 1000

Register to WIN a Smart-UPS® 1000 – value $459 ERP.

Also, enter keycode to view other special offers and discounts.

APC Legendary Reliability®

Visit www.apc.com/promo and enter key code y729x • Call 888-289-APCC x4770 • Fax 401-788-2797

©2007 American Power Conversion Corporation. All rights reserved. All trademarks are the property of their respective owners.
e-mail: esupport@apc.com • 132 Fairgrounds Road, West Kingston, RI 02892 USA • BK1A7EF-EN

Reviews & Rankings

All-in-One Security Suites: Tried and Tested

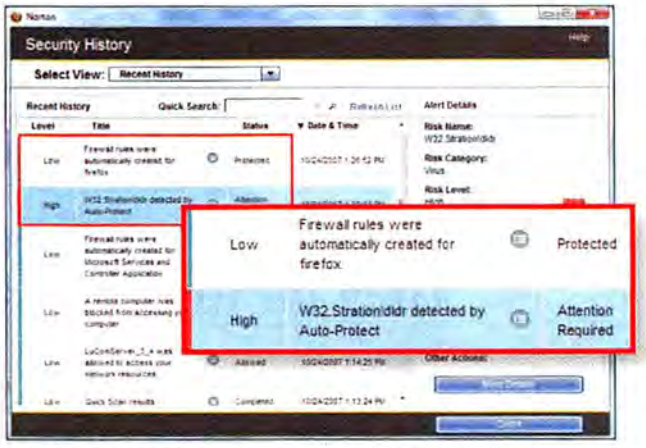
We check out eight products, from the popular to the relatively unknown. They can't protect you from everything, but some come close.

PCW Test Center

TODAY'S SECURITY suites have a difficult job. New threats constantly target Windows PCs, as do e-mail spam and phishing and other unsavory Web sites. To find out which security suites can best handle the onslaught, we put eight of them through some tough tests under the 32-bit version of Windows Vista.

German security company AV-Test.org evaluated the antivirus, antispyware, and firewall components of each suite to determine how well the software catches both known malware and new malware (detected through heuristics—recognition of the new malware's similarity to already-known bad code—or through its behavior).

In this article we provide abridged reviews of the top five products, focusing specifically on security performance. For complete reviews of all the features of the eight products—along with detailed test reports—go online to find.pcworld.com/59149.



SYMANTEC'S SUITE IS our Best Buy. Its nicely designed log viewer lets you easily find out just what the program is doing and when.

Symantec

Our Best Buy, Symantec's Norton Internet Security 2008 suite, detected an above-average 91 percent of AV-Test.org's zoo of 674,589 dormant malware samples. It is easy to use, comes with a host of extra security features, and was the only suite of the bunch that didn't cry wolf by reporting at least one false positive. Our on-demand (user-initiated) scans were more than 50 percent faster with Norton than with the next-fastest suite (Avira Premium).

Symantec's suite outperformed the other programs at getting rid of infections, too. In particular, Norton was a champion at fighting rootkits—malware designed to hide other malware. It detected every active and inactive rootkit sample, and successfully neutralized those infections. The suite was one of only two programs (Checkpoint was the other) to detect and block unidentified malware based solely on the way it behaved.

However, Symantec's suite produced the second-worst showing in heuristic tests, catching only 10 percent of samples when using one-month-old signature files to detect more-recent threats.

The Norton Confidential toolbar, designed for both Firefox and Internet Explorer, blocks phishing sites; and its Browser Defender checks for known vulnerabilities in Internet Explorer 6 and 7.

MCAFEE'S ADVANCED MODE, with tabs on the left, gives you better access to settings than its oversimplified Basic Menu does.

INSIDE

62 FUJITSU LIFEBOOK U810

62 PALM CENTRO

81 SLINGBOX SOLO, SONY LF-V30

83 COMMODORE GAMING GX

The interface is well laid-out, and pop-up detection alerts are generally understandable. Its impressive log entries simplify the task of finding out what the program has been up to.

Our one major criticism of the suite is that when we uninstalled the package, it left behind the separate LiveUpdate component. You have to know to go back and remove LiveUpdate as well.

Kaspersky Lab

Kaspersky Lab's Internet Security 7.0 pairs a top-notch interface with solid performance in threat detection. It was, however, slow at performing security scans.

The suite produced good results on most of the malware detection and disinfection tests. It did a thorough job of looking for threats hidden in file archives and in all types of e-mail traffic, and it provided the fastest response to new malware outbreaks, delivering fresh signatures within 2 hours.

Kaspersky's program was the only one to warn about a Warezov e-mail worm contained within a test archive, downloaded through the IMAP e-mail protocol. In my informal tests, it popped up a clear warning before the malicious file could write to the hard drive. And after I told it to ignore that first catch, it warned me again when the file was saved. That's just the right behavior. Its scan rate, regrettably, was the second-slowest in our eight-suite test group.

The suite's distinctive data-privacy feature warns you when other programs attempt to access or send data from a protected storage area, such as the location where Internet Explorer keeps its passwords. That way, you don't have to specify credit card numbers or other sensitive data that you want to safeguard; the suite knows to guard whatever is in that protected area.

The suite's intuitive and great-looking interface stands out. When it finishes a scan, you receive a well-presented, tabbed scan report that even identifies the settings used during the scan. The suite's only »

PC WORLD TOP 5 SECURITY SUITES

	PRODUCT	PCW Rating	Performance	Features and specifications
1	BEST BUY Symantec Norton Internet Security 2008 $70 (up to three PCs) find.pcworld.com/59112	84 VERY GOOD	• Performance score: Very Good • Detection of zoo threats: 91% • Detection of adware and spyware: 89% • Heuristic detection[1]: 10%	• Disinfection of malware: 80% • Data transfer speed with real-time detection enabled[2]: 7.09 MBps • False positive rate: 0%
	BOTTOM LINE: Norton offers solid performance, including the best behavior-based protection against unknown threats.			
2	Kaspersky Lab Internet Security 7.0 $80 (up to three PCs) find.pcworld.com/59151	83 VERY GOOD	• Performance score: Very Good • Detection of zoo threats: 96% • Detection of adware and spyware: 90% • Heuristic detection[1]: 14%	• Disinfection of malware: 70% • Data transfer speed with real-time detection enabled[2]: 5.32 MBps • False positive rate: 0.03%
	BOTTOM LINE: This top-tier security suite scans slowly, but it responds quickly to new outbreaks and has a nice design.			
3	McAfee Internet Security Suite $70 (up to three PCs) find.pcworld.com/59153	81 VERY GOOD	• Performance score: Good • Detection of zoo threats: 86% • Detection of adware and spyware: 85% • Heuristic detection[1]: 17%	• Disinfection of malware: 50% • Data transfer speed with real-time detection enabled[2]: 4.18 MBps • False positive rate: 0.02%
	BOTTOM LINE: Its ample features include a backup program and antispam plug-ins, but threat detection could be better.			
4	BitDefender Internet Security 2008 $50 (up to three PCs) find.pcworld.com/59155	81 VERY GOOD	• Performance score: Very Good • Detection of zoo threats: 98% • Detection of adware and spyware: 97% • Heuristic detection[1]: 29%	• Disinfection of malware: 30% • Data transfer speed with real-time detection enabled[2]: 5.52 MBps • False positive rate: 0.06%
	BOTTOM LINE: Excellent performer is best for experts who don't need guidance regarding security extras and pop-up alerts.			
5	Trend Micro Internet Security 2008 $50 (up to three PCs) find.pcworld.com/59158	78 GOOD	• Performance score: Good • Detection of zoo threats: 90% • Detection of adware and spyware: 84% • Heuristic detection[1]: 13%	• Disinfection of malware: 70% • Data transfer speed with real-time detection enabled[2]: 7.38 MBps • False positive rate: 0.01%
	BOTTOM LINE: A good feature set and malware disinfection are offset by below-average detection and interface bugs.			

CHART NOTES: Prices and ratings as of 11/7/07. Tests performed at default settings. [1]Heuristic detection results reflect use of one-month-old signature files. [2]To measure system slowdown, we copied 732MB of files locally on a test PC with real-time protection enabled; data transfer speeds are expressed in megabytes per second (MBps).

PHOTOGRAPHS: MARC SIMON

KASPERSKY'S ATTENTION-GRABBING WARNINGS against phishing sites pop up from the taskbar.

design drawback is that, by default, it doesn't automatically schedule regular scans.

McAfee

Though McAfee Internet Security Suite packs in a ton of features, such as backup software, it needs to improve its focus on stopping malware.

McAfee's suite detected only 86 percent of the AV-Test.org zoo threats. That relatively poor showing put it in sixth place on that test among the eight we tested. It earned a similarly below-average mark in catching spyware and adware samples.

The suite performed somewhat better in tests against unknown malware. It caught 17 percent of new malware files in heuristics tests, good for third place among the eight suites. But when the task turned to cleaning up infected PCs, the McAfee package removed only half of the files and Registry entries that malicious software had implanted. In addition, McAfee's scanner was one of the slower tools we tested.

McAfee extras include parental controls, data-privacy options, and an EasyNetwork applet to help you set up a home network.

Two last quirks: You have to be on your toes to catch the quick-fading pop-up warning that appears when the suite finds a threat on your computer. And after correctly identifying a malware sample on a thumb drive connected to the protected PC, the suite reported that it had deleted the sample—but since the drive was write-protected, the file remained. McAfee's suite could more clearly communicate its actions to the user.

BitDefender

BitDefender Internet Security 2008 outperformed every other suite in crucial malware detection tests, but it imposes an unusually unpleasant user experience.

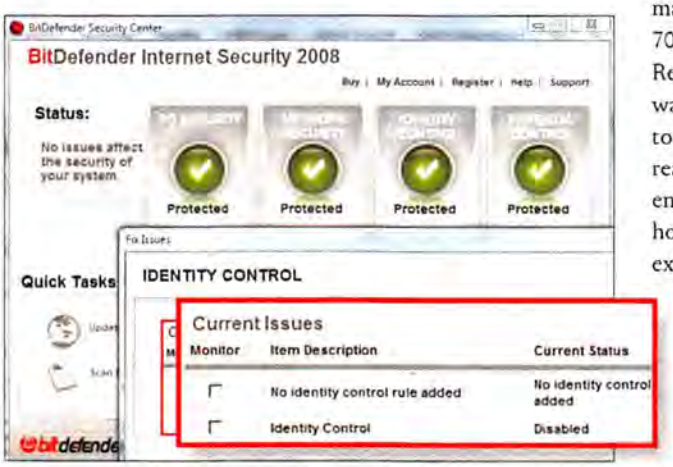
BitDefender's program did extremely well when subjected to AV-Test.org's zoo. It was the best at detecting unknown malware in heuristics tests. And it tied with Kaspersky's suite for the fastest response to malware outbreaks.

The suite detected all six inactive rootkit samples, though its efforts to disinfect one (Vanquish) crashed our Vista test PC.

As an infection remover, BitDefender didn't hold up as well. It sanitized the files related to four out of five infections, but it failed to remove Windows Registry changes.

BitDefender's firewall successfully masked a protected PC against outside scans, but it displayed needless warnings when the popular Firefox Web browser tried to access the Internet. Conversely, BitDefender's warning pop-ups did a poor job of guiding us through the steps of removing a detected e-mail worm (Warezov).

The suite offers good secondary features, including antiphishing controls, but the browser-based antiphishing tool didn't block any sites until I enabled the feature's heuristic detection.



BITDEFENDER'S INTERFACE NEEDS a little work; it reports a status of 'Protected' when its Identity Control feature is actually disabled.

Trend Micro

We got off to a rocky start with Trend Micro's Internet Security 2008 and weren't impressed with its malware-fighting performance, but the package has solid features and a good price.

The problems began immediately, when a show-stopping bug prevented us from updating the program on two different Vista PCs. The company discovered the source of the problem in a firewall component and has since fixed it.

Furthermore, when we attempted to kick off a manual scan, the button grayed out, but the scan never started. We had to log off and then back on again to start the scan—and the problem recurred later.

Trend Micro's suite posted a mediocre mark on malware detection. It finished fifth among the eight suites when pitted against AV-Test.org's zoo of malware samples. Its spyware and adware detection rate (84 percent) was also subpar, as were its heuristic detection results.

The suite did do well with malware cleanup, removing 70 percent of all files and Registry changes. Plus, it was the fastest of the group to copy 732MB of files while real-time detection was enabled—an indicator of how much of a drag you can expect from a security suite.

If you can get past the bugs, you'll like Trend Micro's clear interface. Feature settings are easy to find, and a nice weekly summary report lists all the threats it blocked.

—Erik Larkin

we protect your digital worlds®

A new way to think smart

ESET

Smart Security

Intelligent protection for your PC

There are many software security solutions to choose from, but only one can actually think. Powered by ThreatSense® technology, ESET Smart Security anticipates potential dangers, doesn't slow systems down, and excels in proactively protecting your computer. It's smart.

Antivirus + Antispyware + Antispam + Personal Firewall

Experience it free for 30 days at
www.eset.com/smartsecurity

ThreatSense technology

NOD32 technology

© 2007 ESET. All rights reserved. Trademarks used herein are trademarks or registered trademarks of ESET. Ad code: PCW

Palm's Impressive, Petite Smart Phone

PCW Test Center

IF YOU OWN an aging and bulky-looking Palm Treo but are reluctant to abandon the Palm OS, the Palm Centro may be the smart phone you've been waiting for. It lacks features that competing devices routinely have—most notably Wi-Fi and GPS support. But the Centro does deliver EvDO cellular broadband access, and it offers the Palm OS in its most contemporary and petite package yet.

The Centro is significantly tinier (4.2 by 2.1 by 0.7 inches) and lighter (4.2 ounces) than its Treo kinfolk. Because the device is so small, its keyboard is proportionately diminutive, but the keys are coated in a squishy plastic that keeps your fingers from slipping.

Web surfing over Sprint's EvDO network was a sheer delight; pages seemed to leap onto the screen. Call quality was excellent: The people at the other end sounded as good as on a landline, and they reported that I sounded great, too. Talk-time battery life was poor, though, as the Centro lasted only 4 hours, 19 minutes in our lab tests.

The Centro comes bundled with the Deluxe version of the PTunes music player—a nice addition—and music sounded surprisingly robust through the device's rear speaker. Sprint's Music Manager software, which I found made transferring tunes easy, is bundled too.

The device's 1.3-megapixel camera captures images with up to a 2X digital zoom, and it can record short videos. Image quality was adequate but nothing special.

Also accompanying the Centro are several other useful applications, including the excellent Palm client for Google Maps and DataViz's Documents to Go for at least basic editing of Microsoft Office applications.

THE 2.4-INCH TOUCH screen looks good, but it is a bit small.

The Centro isn't the most beautiful cell phone available, but it's a good-looking contemporary handset. And at $100 (with a two-year contract from Sprint), the price is attractive, too.

—Yardena Arar

81
VERY GOOD

Centro | Palm

Palm OS devotees will appreciate this good-looking handset. List: $100 (with a two-year contract)

find.pcworld.com/59131

Fujitsu LifeBook U810: Big Ambitions, Small Return

PCW Test Center

FUJITSU'S U810 convertible minitablet is a 1.5-pound, palm-size Windows Vista system whose lilliputian dimensions are both its strength and its weakness. By trying to cram in most of the features you'd expect in a larger laptop, Fujitsu satisfies consumer pleas for a convenient, portable Vista PC. But consolidating everything into a 6.5-by-5-by-1-inch chassis sharply reduces the functionality that the U810 can provide.

THE SCREEN ON the LifeBook U810 swivels, turning the notebook into a tablet light enough and compact enough to hold in your hands.

Armed with an 800-MHz Intel A110 CPU and 1GB of RAM, the unit sports a smallish 40GB hard drive, Wi-Fi, Bluetooth, a biometric fingerprint reader, and Windows Vista Business Edition. It has one USB port and both an SD Card slot and a CompactFlash slot.

WorldBench 6 Beta 2 performance was poor: The U810 received a score of 19—the lowest we've seen to date. Battery life was good, however, at 4 hours, 30 minutes.

The cramped keyboard will not work for touch typists, but the ability to use the stylus or your finger on the touch screen partly compensates for the keyboard. The 5.6-inch screen has a native resolution of 1024 by 600. Even after I switched to a mode intended to make the text more readable, I thought I needed to put on my eyeglasses—except that I was already wearing them.

So who is the target audience for the LifeBook U810? People with Superman vision, really small fingers, and plenty of patience.

—Michael S. Lasky

70
GOOD

LifeBook U810 | Fujitsu

Mininotebook crams in features best left to larger systems. List: $1099

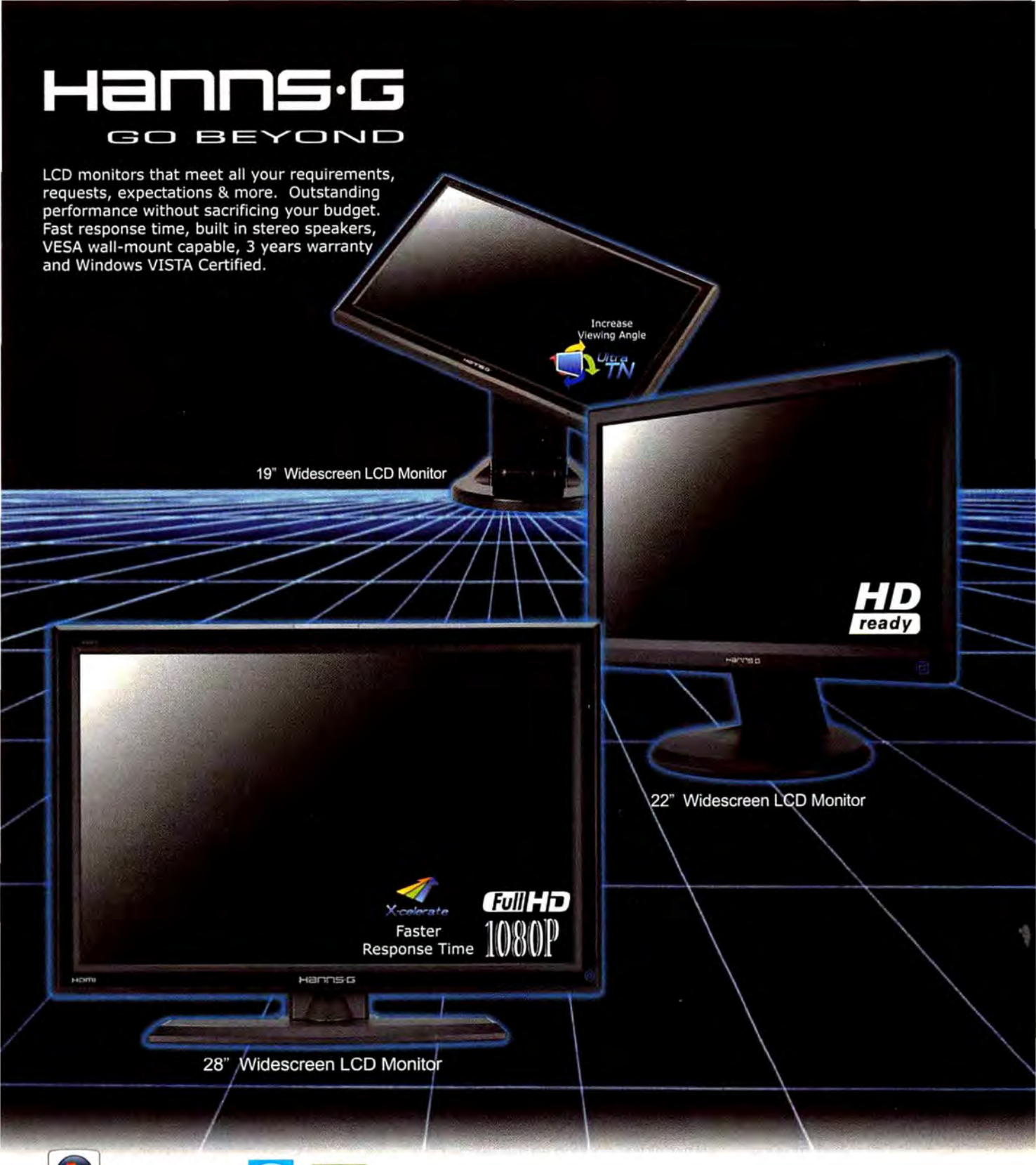
find.pcworld.com/59133

PHOTOGRAPHS: MARC SIMON

HANNS·G

GO BEYOND

LCD monitors that meet all your requirements, requests, expectations & more. Outstanding performance without sacrificing your budget. Fast response time, built in stereo speakers, VESA wall-mount capable, 3 years warranty and Windows VISTA Certified.



Windows Vista · HDMI · ENERGY STAR · RoHS

See our full line of IT monitors at **www.hannsg-usa.com**

Visit our showrooms at **Beverly Hills, CA. 310.288.0208** or **San Francisco, CA. 415.986.3300**

BEST BUY · city · STAPLES (that was easy) · amazon.com (and you're done) · newegg · TigerDirect.com · COSTCO.COM

© 2007 HANNS·G Specifications and design are subject to change without notice. All brand, product, service names and logos are trademarks and/or registered trademarks of their respective manufacturers and companies. Screen shots are simulated. Actual Viewable area for 28" LCD monitor is 27.5"

Two Gateways—A Tablet and a Bargain—Debut

PCW Test Center

IN THE MIDST of selling its business, government, and education units to MPC, Gateway placed two very different laptops on the lower half of our all-purpose chart.

In sixth place is the T-6815, still branded as a Gateway on retail shopping sites. Its $900 price is right, but its sluggish performance and dim screen aren't so attractive. The overall package is complete, though—especially if you live in e-mail or in Microsoft Word and aren't picky about screen brightness.

GATEWAY'S E-295C IS speedy, roomy, and heavy for a tablet.

It's rare to find a tablet as speedy as the former Gateway E-295C, which is now sold on MPC's site. It's also difficult to find a tablet with a screen so big and roomy. The downside of the E-295C: It's heavy to carry for long stretches, though its size makes the machine comfortable to use on a desktop.

—Carla Thornton

MORE ONLINE

For more information about laptops, including details on how we test them, see find.pcworld.com/55176.

PC WORLD TOP 10 ALL-PURPOSE LAPTOPS

	PRODUCT	PCW Rating	Performance	Features and specifications
1	BEST BUY Gateway E-475M $1300 find.pcworld.com/57130	86 VERY GOOD	• WorldBench 6 Beta 2 score: 83 Superior • Overall design: Very Good • Tested battery life: 5:17	• 2.2-GHz Core 2 Duo T7500 • 15.4-inch wide screen • 7.2 pounds • DVD±R DL/DVD±RW/-RAM
	BOTTOM LINE: Gateway's E-475M is a blazingly fast, stylish unit that will please everyone but audio aficionados.			
2	HP Pavilion dv6500t $1079 find.pcworld.com/57131	84 VERY GOOD	• WorldBench 6 Beta 2 score: 75 Very Good • Overall design: Very Good • Tested battery life: 3:57	• 2-GHz Core 2 Duo T7300 • 15.4-inch wide screen • 6.2 pounds • DVD+R DL/DVD±RW
	BOTTOM LINE: Compact, affordable multimedia notebook has a big screen and a head-turning designer case.			
3	Lenovo ThinkPad R61 $1404 find.pcworld.com/57905	82 VERY GOOD	• WorldBench 6 Beta 2 score: 80 Superior • Overall design: Very Good • Tested battery life: 3:19	• 2.2-GHz Core 2 Duo T7500 • 14.1-inch wide screen • 5.8 pounds • DVD±R DL/DVD±RW/-RAM
	BOTTOM LINE: The R61's slim size, light weight, and keyboard illumination make it ideal for taking along on the road.			
4	HP Pavilion dv2500t $1344 find.pcworld.com/58446	82 VERY GOOD	• WorldBench 6 Beta 2 score: 79 Superior • Overall design: Very Good • Tested battery life: 2:34	• 2-GHz Core 2 Duo T7300 • 14.1-inch wide screen • 5.5 pounds • DVD±R DL/DVD±RW
	BOTTOM LINE: This dv6500t sibling also has a gorgeous imprinted case, but battery life is on the short side.			
5	Toshiba Satellite A215-S4757 $900 find.pcworld.com/58445	81 VERY GOOD	• WorldBench 6 Beta 2 score: 60 Good • Overall design: Very Good • Tested battery life: 2:23	• 1.8-GHz Turion 64 X2 TL-56 • 15.4-inch wide screen • 6.2 pounds • DVD±R DL/DVD±RW/-RAM
	BOTTOM LINE: Inexpensive laptop could be a good second PC for the home. It has an ineffective volume wheel, though.			
6	MPC T-6815 $900 NEW find.pcworld.com/59031	80 VERY GOOD	• WorldBench 6 Beta 2 score: 56 Fair • Overall design: Good • Tested battery life: 3:03	• 1.5-GHz Core 2 Duo T5250 • 14.1-inch wide screen • 5.5 pounds • DVD±R DL/DVD±RW/-RAM
	BOTTOM LINE: This low-cost portable has a convenient volume swipe; less desirable are the slow performance and dim screen.			
7	Lenovo 3000 N200 $1299 find.pcworld.com/59032	80 VERY GOOD	• WorldBench 6 Beta 2 score: 80 Superior • Overall design: Good • Tested battery life: 2:33	• 2.2-GHz Core 2 Duo T7500 • 14.1-inch wide screen • 5.3 pounds • DVD±RW/-RAM
	BOTTOM LINE: The Lenovo 3000 N200 is no multimedia machine, but it has a nice keyboard and is comfortably designed.			
8	Dell Inspiron 1420 $1789 find.pcworld.com/59033	79 GOOD	• WorldBench 6 Beta 2 score: 83 Superior • Overall design: Very Good • Tested battery life: 4:49	• 2.2-GHz Core 2 Duo T7500 • 14.1-inch wide screen • 6.0 pounds • DVD±R DL/DVD±RW/-RAM
	BOTTOM LINE: Midsize consumer notebook has a high-quality design, good performance, and stand-alone media buttons.			
9	MPC E-295C $1628 NEW find.pcworld.com/59035	77 GOOD	• WorldBench 6 Beta 2 score: 85 Superior • Overall design: Good • Tested battery life: 4:39	• 2.2-GHz Core 2 Duo T7500 • 14.1-inch wide screen • 7.0 pounds • DVD±R DL/DVD±RW/-RAM
	BOTTOM LINE: Now sold by MPC, this fast convertible has a huge screen for a tablet—but it's too heavy to hold for long periods.			
10	Sony VAIO VGN-FZ180E/B $1999 find.pcworld.com/57907	72 GOOD	• WorldBench 6 Beta 2 score: 75 Very Good • Overall design: Good • Tested battery life: 4:28	• 2-GHz Core 2 Duo T7300 • 15.4-inch wide screen • 5.7 pounds • BD-R/RE/DVD±R DL/DVD±RW
	BOTTOM LINE: Expensive notebook with Blu-ray Disc drive and nice screen turned in great performance and long battery life.			

CHART NOTES: Prices and ratings as of 11/2/07. Weight does not include AC adapter, power cord, docking station, or extra batteries.

PHOTOGRAPH: MARC SIMON

nero 8

ULTRA EDITION

Windows Vista™ READY

The Ultimate Solution for Your Digital Life

This holiday season give the gift of digital memories

Create & Edit
Convert & Share
Home Entertainment
Rip & Burn
Backup

www.nero.com

Enjoy your content at home, on-the-go, and online!

Available online at www.nero.com and at participating retail stores.

Napster, Amazon: Digital Music Done Differently

WHEN IT COMES to acquiring digital music, is it better to rent or buy? Napster's recently renovated music-subscription service and Amazon.com's newly erected MP3-download store make compelling arguments on each side. Napster 4.0 presents more options than ever, while Amazon's store makes song downloading about as easy and affordable as it gets.

The basic premise of Napster remains the same: Pay $10 per month, and have at the service's entire catalog of tunes—add songs to your library, create playlists, and listen to everything on your PC for as long as you're paid up. Lay down an extra $5 a month for Napster To Go, and you can load all those tunes onto any PlaysForSure portable device.

NAPSTER'S NEW AUTOMIX feature will create playlists of songs it thinks you will enjoy.

Now, though, you can listen to tunes via Napster's Web site, rather than having to download an application to your PC—handy if you're using a public computer or if your office's IT person is particularly uptight. To purchase or transfer tunes to a portable player, you'll still need to use the desktop app, which has been nicely updated to mirror the Web interface. Unsurprisingly, online performance lags that of the desktop app (page loads take several seconds).

ONCE YOU CLICK the 'Buy MP3' button in Amazon's store, songs download to your hard drive or transfer to your music application.

Pay to Own

Amazon's MP3-download store has two things going for it: Its music is cheap and can play on pretty much any MP3 player. Amazon doesn't dabble in subscriptions—pay 89 or 99 cents for a track, and it's yours. Whether you'll find what you're looking for is hit-and-miss, however. Sure, Amazon offers DRM-free songs from both EMI and Universal (as well as indies such as Merge and Rounder). But it has only 2.3 million songs, compared with Napster's total of over 5 million tracks.

Amazon's store is still in beta, but it feels polished. From the home page, you can view new and notable albums, the day's top songs and artists, and other highlights; a list of genres resides in the left sidebar.

Once you home in on a song or artist, click the play button next to any track to listen to a quick-loading 30-second preview, or go straight for the purchase by clicking the Buy MP3 button. You can download 256-kbps songs to your hard drive or use Amazon's application, which manages your purchases and easily transfers them directly to iTunes or Windows Media Player.

Napster provides endless listening options anywhere you can get your hands on a PC. But if you want to buy a song or an album, check first at Amazon: It's cheap, it's unrestricted, and it offers seamless transfers.

—Cathy Lu

84
VERY GOOD

Napster 4.0 | Napster
Offers killer playlists and listen-anywhere convenience.
List: $10 per month
find.pcworld.com/59139

88
VERY GOOD

Amazon MP3 (Beta)
Amazon.com
Watch out, iTunes: This easy-to-navigate store has cheap music.
List: $0.89 or $0.99 (single tracks)
find.pcworld.com/59141

ASK OUR EXPERTS

Connect USB External Drives Wirelessly?

Are there any Wi-Fi access points with USB ports that would let me use my two external hard drives as network-attached storage?

Dan Erni, via e-mail

Senior Editor Yardena Arar responds: You could use USB port–equipped routers in access-point mode, but you'd need one router for each drive (you can't attach a USB hub to a router's USB port). You'd also have to back up each drive, as the software needed to make them into network-attached storage would destroy your data.

Avoid the hassles with IO Gear's $160 Wireless USB Hub and Adapter kit (find.pcworld.com/59217), which uses ultrawideband wireless technology to enable a high-speed, short-range (ideally within 15 to 20 feet) hookup. It's fast, and it saves you from reformatting the drives.

Networks People Trust™

www.trendnet.com

Share

what you value most

Fast

Win a Wireless N Gigabit Router at www.trendnet.com/giveaway

Use promotional code MP09PW07 to double your prizes

300Mbps Wireless N Home Router
TEW-632BRP

Easy to Setup and Use

Install your wireless n router in minutes with TRENDnet's Easy-Go installation

Extreme Performance

Experience lag-free surfing, streaming video, gaming and more with 12x the speed and 4x the coverage of wireless g

Advanced Security

Protect your network with next generation wireless encryption and one step security synchronization (WPS)

Visit **www.trendnet.com** or call **1.888.326.6061** for more information

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. Entries must be received from August 15, 2007 to March 31, 2008. One entry per person. For a complete set of rules, visit www.trendnet.com/giveaway.

COMPUSA Buy.com TigerDirect.com newegg.com amazon.com JR MICRO CENTER

TRENDnet®

© 2007 TRENDnet. All rights reserved.

What You Get (or Don't) From a $30 Inkjet

PCW Test Center

LEXMARK'S Z1300 inkjet printer, which costs just $30, inspires questions both silly and serious: Does it run on electricity, or on squirrels? (The former.) Which costs more, the printer or the ink? (The latter, because the included tricolor cartridge costs $30 to replace, and the optional black-ink cartridge costs $25.) But this sparsely featured model performs adequately and produces nice photos.

The rest of our holiday fare is decidedly richer—in features and in price. Canon's new Pixma iP3500 and iP4500 top our rankings this month. The $80 iP3500 is surprisingly capable considering its low price, while the $130 iP4500 is superfast and offers duplexing. The $100 HP Photosmart D5360 takes the duplexing, adds an LCD, and tops them off with CD/DVD printing.

—Melissa Riofrio

JUST $30 WILL buy you Lexmark's Z1300 inkjet printer.

MORE ONLINE

For more information about inkjet printers, including details on how we test, go to find.pcworld.com/59181.

PC WORLD TOP 10 INKJET PRINTERS

	PRODUCT	PCW Rating	Performance	Features and specifications
1	BEST BUY Canon Pixma iP3500 $80 NEW find.pcworld.com/59043	83 VERY GOOD	• Text quality: Very Good • Graphics/photo quality: Good/Superior • Tested speeds (ppm): 8.3 text/3.2 graphics	• 25 ppm text • 17 ppm graphics • 4800-by-1200-dpi maximum resolution
	BOTTOM LINE: The Pixma iP3500 offers impressive speed, very good output, and useful features for a low price.			
2	Canon Pixma iP4500 $130 NEW find.pcworld.com/59044	82 VERY GOOD	• Text quality: Very Good • Graphics/photo quality: Good/Superior • Tested speeds (ppm): 11.7 text/3.7 graphics	• 31 ppm text • 24 ppm graphics • 9600-by-2400-dpi maximum resolution
	BOTTOM LINE: Faster than even some low-end lasers, the Pixma iP4500 prints great text and photos.			
3	HP Photosmart D7160 $120 find.pcworld.com/56057	80 VERY GOOD	• Text quality: Good • Graphics/photo quality: Fair/Superior • Tested speeds (ppm): 7.5 text/2.9 graphics	• 32 ppm text • 31 ppm graphics • 4800-by-1200-dpi maximum resolution
	BOTTOM LINE: Crisp, natural photo quality and a moderate price help this printer rise above the pack.			
4	HP Photosmart D5360 $100 NEW find.pcworld.com/59045	79 GOOD	• Text quality: Good • Graphics/photo quality: Good/Superior • Tested speeds (ppm): 7.4 text/2.4 graphics	• 32 ppm text • 24 ppm graphics • 4800-by-1200-dpi maximum resolution
	BOTTOM LINE: This printer deftly balances photo-printing features with perks for office and school users.			
5	HP Photosmart D7460 $180 find.pcworld.com/58731	76 GOOD	• Text quality: Good • Graphics/photo quality: Fair/Superior • Tested speeds (ppm): 6.9 text/2.7 graphics	• 34 ppm text • 33 ppm graphics • 4800-by-1200-dpi maximum resolution
	BOTTOM LINE: Ethernet, 802.11b/g wireless, and a large touch screen make this printer advanced but pricey.			
6	HP Photosmart D7360 $150 find.pcworld.com/55296	76 GOOD	• Text quality: Good • Graphics/photo quality: Fair/Superior • Tested speeds (ppm): 7.4 text/2.8 graphics	• 32 ppm text • 31 ppm graphics • 4800-by-1200-dpi maximum resolution
	BOTTOM LINE: Photos suffer on plain paper, but shine on photo paper; photo-processing options are plentiful.			
7	Epson Stylus Photo R380 $130 find.pcworld.com/56055	76 GOOD	• Text quality: Fair • Graphics/photo quality: Fair/Very Good • Tested speeds (ppm): 3.9 text/2.9 graphics	• 30 ppm text • 30 ppm graphics • 5760-by-1440-dpi maximum resolution
	BOTTOM LINE: Its CD/DVD printing is cool enough to compensate for shortcomings in speed and output quality.			
8	Canon Pixma iP6700D $150 find.pcworld.com/54674	76 GOOD	• Text quality: Fair • Graphics/photo quality: Good/Superior • Tested speeds (ppm): 4.2 text/2.0 graphics	• 18 ppm text • 17 ppm graphics • 9600-by-2400-dpi maximum resolution
	BOTTOM LINE: A price cut makes this feature-rich printer a better deal, even with its so-so text performance.			
9	Lexmark Z1300 $30 NEW find.pcworld.com/59046	75 GOOD	• Text quality: Good • Graphics/photo quality: Fair/Very Good • Tested speeds (ppm): 8.4 text/1.1 graphics	• 22 ppm text • 16 ppm graphics • 4800-by-1200-dpi maximum resolution
	BOTTOM LINE: The Z1300's photo printing is its best attribute, but the ink is too pricey for high-volume users.			
10	HP Deskjet 6980 $150 find.pcworld.com/56056	74 GOOD	• Text quality: Very Good • Graphics/photo quality: Very Good/Very Good • Tested speeds (ppm): 9.1 text/2.5 graphics	• 36 ppm text • 27 ppm graphics • 4800-by-1200-dpi maximum resolution
	BOTTOM LINE: The Deskjet 6980 delivers solid print performance without distracting or costly extras.			

CHART NOTES: Prices and ratings are as of 11/7/07. Speeds are in pages per minute (ppm); resolutions are in dots per inch (dpi).

PHOTOGRAPH: MARC SIMON

Find Out How Your Employees Use Company PCs

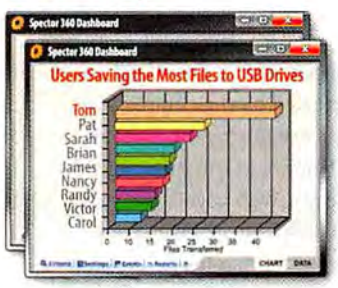
See all PC activity company-wide.
Pick problem employees right out of the crowd!

Company-Wide Employee Monitoring

Spector 360 is the world's first monitoring solution that makes it easy to detect inappropriate employee behavior. At the touch of a button, you will see ALL PC & Internet activity for your entire company and pick problem employees right out of the crowd. Find out which employees are harming your business and destroying your bottom line with Spector 360.

Maximize Productivity & Minimize Liability

Spector 360 records every detail of employee computer & Internet activity, including:



- Web Sites Visited
- Emails sent and received
- Chats & Instant Messages
- Keystrokes Typed
- Network Traffic
- Google Searches
- Files Transferred to removable media ... and much more.

Spector 360 produces more than 50 charts and reports that allow you to quickly and easily identify your top achievers, productivity wasters, and anyone engaging in inappropriate or potentially damaging conduct.

TOP 5 THINGS YOU WILL DISCOVER

1. Which employees spend the most time working and which spend the most time goofing off.
2. Who is leaking company confidential information via chat, web mail or removable media (such as flash/USB drives, DVDs, CDs...)
3. Which employees spend the most time surfing web sites and see EXACTLY what they do on them.
4. What employees search for on Google, MSN, Yahoo and more.
5. Which employees are posting resumes on Monster.

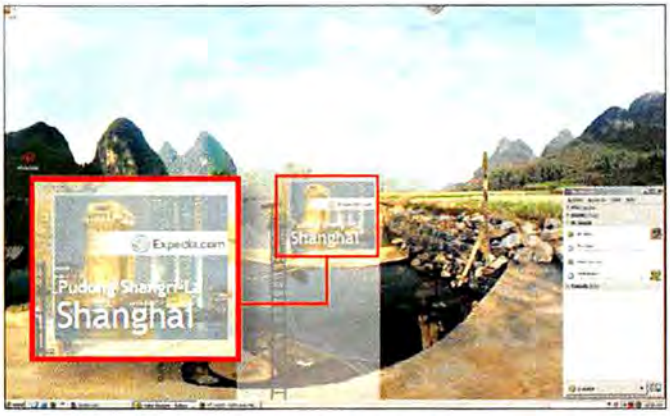
Return on Investment

With Spector 360, you'll have no doubt about whether your employees are working, playing, doing their job efficiently or putting your business at risk by engaging in illicit or illegal behavior. The typical Spector 360 customer sees a full return on their software investment within 90 days or less.

Spector 360™
Company-Wide Employee Monitoring Software

Get Started Today!
To learn more visit **Spector360.com**
or call us toll-free at **(888) 598-2788**

Reviews&Rankings



360DESKTOP WILL BE a free service when the final version launches, but it will display graphical ads on your desktop.

360desktop Spins Up More Screen Real Estate

CRAVING MORE ELBOW room on your computer screen? 360desktop can help. The platform replaces your traditional PC desktop with a scrollable, 360-degree panorama, effectively quadrupling—at least—your real estate. We tested an alpha version (a public beta is due in early December) and found it easy to use. But this free service will come with a price: ads on your desktop.

360desktop lets you create your own panoramic desktop image or download one created by the company or, eventually, by other users. Panoramas can display RSS feeds, Web pages, and more.

360desktop's WebStickers, a sort of rich-media desktop sticky note, promises to allow use of any service's widget (such as Facebook's, Google's, or Yahoo's), or your Facebook or MySpace page, for example, on the desktop. This feature was not available in our alpha version, but I could see setting up a Gmail or other mail inbox on 360desktop as a productivity booster.

Once the panorama displays, you can scroll 360 degrees horizontally across the content; your main desktop application windows can stay fixed or can move with you as you scroll.

360desktop will be free when released, but it will have graphical ads sprinkled about. The alpha we tested had slots for banner and button ads, and advertisers and promoters will be able to create desktops for download, such as ones for movie releases with trailers ready to play from the desktop.

Most people who try 360desktop will likely welcome the extra space that it offers, and panning through it is easy. But advertising on people's desktops may prove to be a sticky issue.

—Mike Barton

360desktop
360desktop, Pty Ltd.
Alpha version, not rated
Service is promising, but ads may be hard to swallow. Free
find.pcworld.com/59159

Introducing the NEW Bose® Computer MusicMonitor.™

We strive to always introduce new products that provide real benefits to users over what exists. Once in a while, a product comes from our research laboratories that exceeds all our expectations and genuinely excites the people in our other departments who are exposed to it during the testing phase. When this happens we generally contain our enthusiasm, talk in ads about the new technology that made the product possible, and leave it to others to comment on the performance. This time we are bursting with enthusiasm and we decided to share it. So here we go!

BEWARE THIS IS THE MANUFACTURER TALKING!

1. **WE BELIEVE** that, with respect to the accuracy of music reproduction, the Computer MusicMonitor™ establishes for us a new threshold for two-piece computer sound systems.
2. **WE BELIEVE** that the Computer MusicMonitor™ also comes the closest to our goal that sound is meant to be heard and not seen. It is the first time we have been able to produce sound quality like this with only two such small enclosures containing all the electronics and speakers. And we think that you will appreciate the appearance of the little that you do see.
3. **WE BELIEVE** it is truly a simple system to install. It should take you about as long to connect it as it takes to remove it from the box.
4. **WE BELIEVE** that it is what **YOU BELIEVE** that counts.

THUS OUR RECOMMENDATION IS:

Drop into any one of our Bose Stores for a five-minute demonstration and join in our enthusiasm! We think that your eyes may not believe your ears!

For your nearest Bose Store, contact 1-800-407-2673, ext. CH109 or visit www.Bose.com/CMM.

BOSE®
Better sound through research®

©2007 Bose Corporation. Patent rights issued and/or pending.

Bargain LG Drive Writes to Blu-ray, Reads HD DVD

THE GGW-H20L CAN write to Blu-ray Discs, and can read HD DVD-ROM discs.

PCW Test Center

FOR THOSE WHO can't choose between Blu-ray and HD DVD, LG's format-agnostic high-def optical drives are good options. Its newest, the $400 GGW-H20L—LG's second-generation Blu-ray Disc burner and HD DVD-ROM reader—delivers on its promises of functionality and performance. Better yet, it does so at a significant savings over the company's $1199 first-generation drive.

87
VERY GOOD

GGW-H20L Super Multi Blue BD Drive/HD DVD Reader
LG Electronics
Offers format harmony at a highly competitive price. List: $400
find.pcworld.com/59233

The GGW-H20L is the first Blu-ray Disc burner to support 6X speed for writing to BD-R, up from 4X on the GGW-H10N. Our PC World Test Center evaluation reflected these boosted specs: On our disc-mastering test, the GGW-H20L was nearly 6 minutes (22 percent) faster than its predecessor, itself a speedy performer. Formatting and packet writing to rewritable BD-RE media also showed a boost: The GGW-H20L was 23 percent faster than the previous model, taking 1 hour, 43 minutes.

The GGW-H20L can also play both HD DVD and Blu-ray movies (assuming you have a system with HDCP-certified graphics and an HDCP monitor, both of which are required to play back copy-protected high-def content). It includes CyberLink's PowerDVD player software, as well as CyberLink's Power2Go (a DVD/CD burning utility) and PowerDVD Producer (a DVD authoring app).

Unlike early Blu-ray Disc burners, LG's GGW-H20L makes no compromises in its DVD and CD features. Not only is this the first Blu-ray burner to feature LightScribe Disc Labeling, but it is also the first to hit 16X write speed for DVD-R/+R, and 40X write/rewrite speed for CD-R/RW. Those ratings mark a significant boost over the older GGW-H10N; that drive maxed out at 8X for DVD-R and +R writes, and at 16X for CD-R/RW writes.

This drive's noteworthy low price (versus its predecessor), its fast BD-R and BD-RE writing, and its format-bridging abilities all make the LG GGW-H20L one of the best peripheral deals around.

—Melissa J. Perenson

USB Modem Benefits From GPS, Extra Storage

YOUR MICROSD CARD slips into the slot on the side of the modem.

A CELLULAR MODEM that plugs into your laptop's USB port is one of the easiest ways to get Web access almost anywhere. However, Sprint's $130 Ovation U727 from Novatel Wireless does more: It also adds GPS and removable media storage.

The modem supports Sprint's EvDO Revision A network, which promises average download speeds of 600 kilobits per second to 1.4 megabits per second and average upload speeds of 350 to 500 kbps. If EvDO is out of range, the modem should connect at CDMA 1xRTT speed, averaging 50 kbps.

Sprint offers two service plans: $40 for 40MB of data usage per month without a contract, or unlimited usage for $60 per month with a two-year contract.

The modem's embedded GPS receiver and software worked great; it identified my laptop's location, so I didn't need to enter my address manually in an online mapping tool. By default, the app launches Microsoft Live's maps on your browser automatically, showing both your location and those of nearby points of interest. If you prefer, you can use Google Maps, MapQuest, or Yahoo Maps instead.

The U727, which is about the size of a small pack of chewing gum, includes a slot for a microSD memory card (you must buy that separately; a 2GB card is about $40). The device works like an external drive when shuttling files between your phone and your PC.

Would I buy this product? Absolutely. It's an easy way to get a broadband connection anywhere Sprint's network is available. It's also a good option for folks who want to browse the Web during a long commute.

—Grace Aquino

90
SUPERIOR

Sprint Ovation U727
Novatel Wireless
Offers a fast Web connection, plus bonus storage and GPS. List: $130
find.pcworld.com/59219

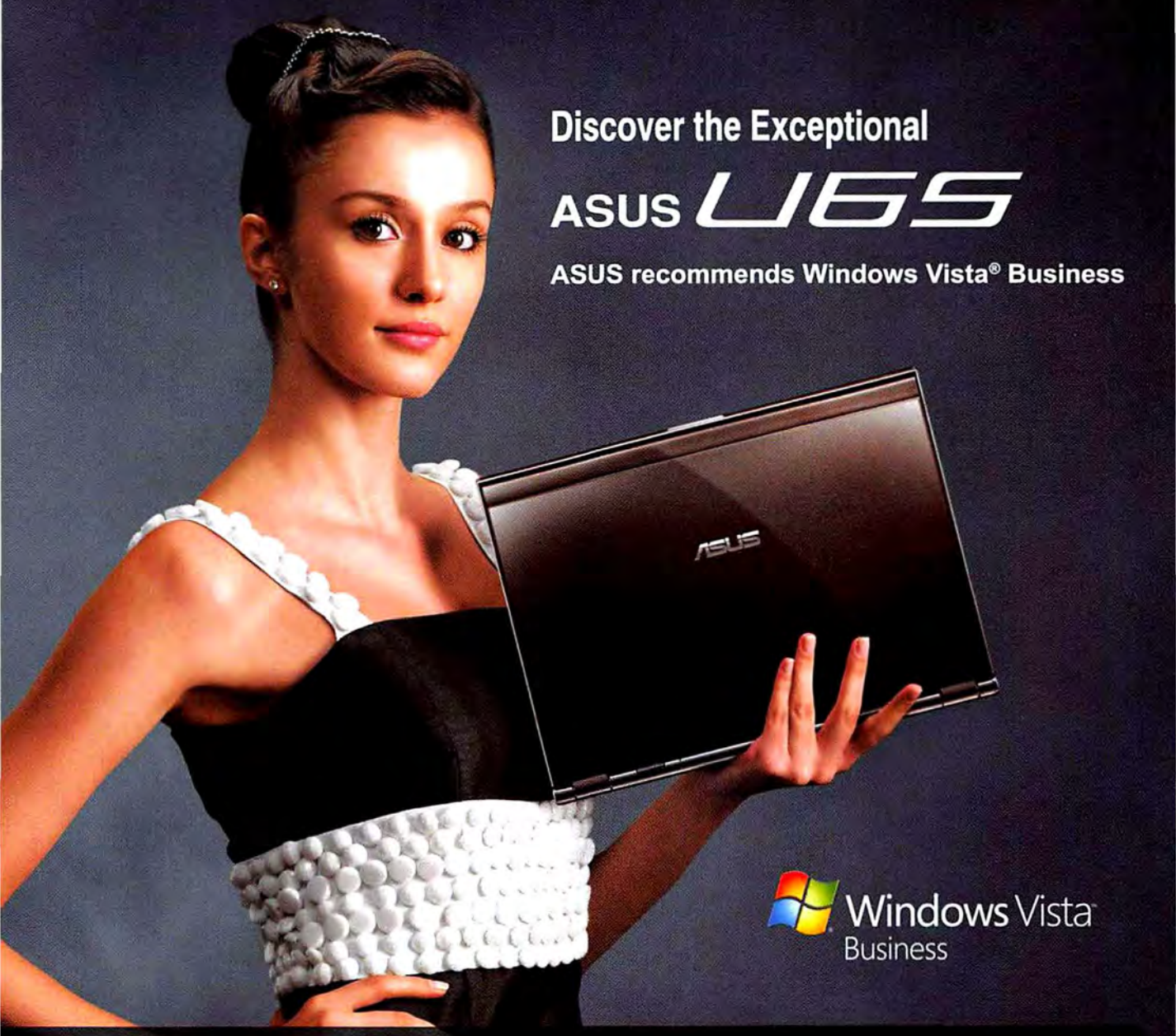
PHOTOGRAPHS: MARC SIMON

ASUS®

Rock Solid · Heart Touching

HOLIDAY GIFT GUIDE

Recommendations from the Experts



True Brilliance

Sparkling metallic espresso gleams under a mirror-finished cover. A leather-wrapped palm rest entices your fingertips, while a brushed metal touchpad and stainless steel accents bring mobile sophistication to a new standard. The ASUS' U6 delivers LED backlit technology, 12" portability, and dedicated graphics in a delicious feast for the senses. The new level of design sophistication is further complemented with state-of-the-art Intel® Centrino Duo Processor Technology and Genuine Windows Vista® Business.

U6E-A1

- Intel® Core™2 Duo T7500 2.20 GHz
- Genuine Windows Vista® Business
- 12.1" Color Shine widescreen display (1280x800 WXGA)
- 160 GB hard drive, 2 GB DDR2 memory
- WLAN 802.11 A/G/N, built-in webcam, Bluetooth V2.0+EDR
  Super Multi DVD/RW dual layer, fingerprint authentication with TPM

USD $1,749 CAD $1,749

Or upgrade to **U6S-A1**

- NVIDIA GeForce G8400M G 128 MB

USD $1,799 CAD $1,799

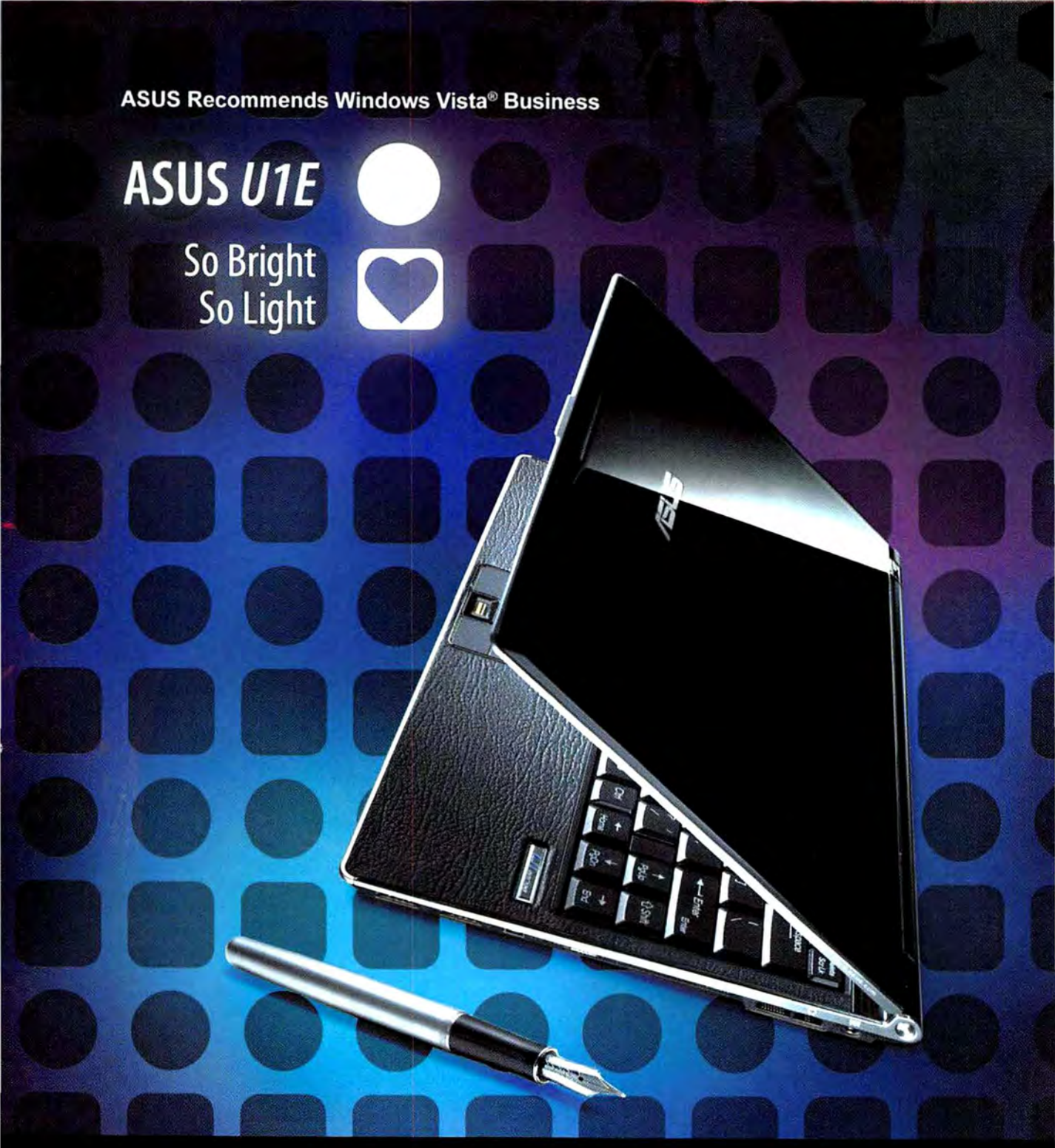
DGE

intel Centrino Duo Core™2 Duo inside™

ASUS Recommends Windows Vista® Business

ASUS *U1E*

So Bright
So Light



Sleek and Slim Computing Redefined—a 0.25" Ultra Thin LCD and an 2.2 lb. Ultra Light Design

The compact 11.1" widescreen U1F is tailor-made for metropolitan professionals who stay on the move with style. From its exterior piano painted LCD cover, stainless steel contour to its genuine leather bound palm rest, the U1F exudes luxury with unique sophistication. ASUS' U1 offers more perfomrmance and more possibilities with the latest Windows Vista® operating system.

U1E-A1

- Intel® Core™ Duo Processor ULV U7500 1.06 GHz
- Genuine Windows Vista® Business
- 11" Color Shine widescreen display (1366 x 768 WXGA)
- 80 GB hard drive, 1.5 GB DDR2 memory
- WLAN 802.11 A/G/N, integrated webcam, Bluetooth V2.0+EDR, carrying bag and Bluelooth mouse, external ODD drive (optional)
- LED backlight LCD for lighter, thinner, brighter images and lower power consumption
- Hard drive shock protection 3D sensor IC

USD $2,199 CAD $2,199

Fingerprint authentication and TPM

Built-in webcam for easy video communication

Leather bound palm rest

Piano paint finish and elegant stainless steel frame

Windows Vista Business

intel Centrino Duo Core 2 Duo inside

ASUS F8P Amazing White

Leather's New Guise — F8P

Genuine snow white leather, glossy piano paint, and silver metallic accents make this notebook sparkle like a diamond. The F8P also offers a dedicated graphics engine, a fingerprint reader, and a swiveling webcam – all at a great price.

F8P-A1W (white)

- Intel® Core™2 Duo T7500 2.20 GHz
- Genuine Windows Vista® Business
- 14" Color Shine widescreen display (1280x800 WXGA)
- ATI Radeon HD 2400 256 MB
- 160 GB hard drive, 2 GB DDR2 memory
- WLAN 802.11 A/G/N, 1.3 megapixel webcam with 240° swivel, Bluetooth V2.0+EDR,fingerprint authentication, Super Multi DVD/RW dual layer with LightScribe

DGE

USD $1,399 CAD $1,399

ASUS recommends Windows Vista® Business

F9 12" Portable Power Serious Security

This ultra-light notebook provides you with a long battery life, advanced security, and a webcam.

F9S-B1
- Intel® Core™2 Duo T7500 2.20 GHz
- Genuine Windows Vista® Home Premium
- 12.1" Color Shine widescreen display (1280x800 WXGA)
- NVIDIA GeForce G8400M G 128 MB
- 160 GB hard drive, 1 GB DDR2 memory
- WLAN 802.11 B/G, 1.3 megapixel webcam with 240° swivel Bluetooth V2.0+EDR, Super Multi DVD/RW dual layer, fingerprint authentication

USD $1,299 CAD $1,299

DGE

F8 Smart Design and Outstanding Performanc for Work or Play

The F8 looks as sharp as an Armani suit, but it knows how to loosen its tie. It gives you all the power you need for the most demanding multitasking at the offi ce, or the most thrilling DirectX 10 gaming and multimedia at home.

F8SV-B1
- Intel® Core™2 Duo T7700 2.40 GHz
- Genuine Windows Vista® Home Premium
- 14" Color Shine widescreen display (1440 x 900 WXGA+)
- NVIDIA G8600M GT 256 MB
- 250 GB hard drive
- 2 GB DDR2 memory + 1 GB Turbo Memory
- 5.7 lbs., 13.6" x 9.8" x 1.5"
- WLAN 802.11 A/G/N, 1.3 megapixel webcam with 240° swivel, Bluetooth V2.0+EDR, Super Multi DVD/RW dual layer with LightScribe, fingerprint authentication, scratch resistant In-Mold Decoration (IMD)

USD $1,599 CAD $1,599

DGE

intel
Centrino Duo
Core™2 Duo inside™

Windows Vista Business

U3 13.3" Revolutionary Notebook with GPS

Minimal mass, minimal design. Weighing at 3.85 lbs., the U3 is an effortlessly portable solution. Polished stainless steel edges accent the outer frame, and a leather palm rest invites intimacy.

U3S-A1W (white), **U3S-A1B** (black)
- Intel® Core™2 Duo T7500 2.20 GHz
- Genuine Windows Vista® Business
- 13.3" Color Shine widescreen display (1280x800 WXGA)
- NVIDIA GeForce G8400M G 128 MB
- 160 GB hard drive, 1.5 GB DDR2 memory
- WLAN 802.11 A/G/N, 1.3 megapixel webcam, Bluetooth V2.0+EDR
  Fingerprint authentication and TPM
  Built-in GPS antenna with personal intelligent assistant

DGE

USD $1,599 CAD $1,599

Bluetooth V2.0+EDR
Expandability without wires

Bluetooth V2.0+EDR (Enhanced Data Rate) transfers three times faster than standard Bluetooth for better connectivity and synchronization between digital devices.

Power4 Gear+
Work longer. Play longer

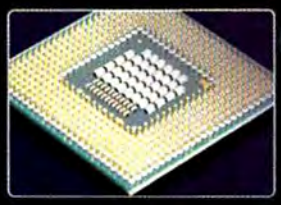
ASUS Power4Gear technology extends notebook battery life 20%-30% by intelligently regulating power usage. Four useful settings include Quiet Office, Entertainment, High Performance, and Power Saving.

Wireless LAN
Faster connectivity

The latest Draft N wireless allows connection speeds up to 50 times faster than the previous generation.

High Performance & Power Saving
Work longer. Play longer

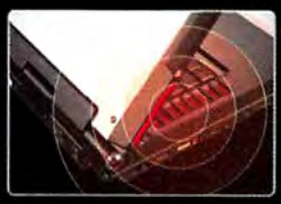
ASUS Power4Gear technology extends notebook battery life 20%-30% by intelligently regulating power usage. Four useful settings include Quiet Office, Entertainment,



1 *Optimized for your Game*

When the fighting gets intense, ordinary notebooks crash and burn. Want extraordinary power? The G2S and G1S feature top tier processors and DGEs that support Direct X10.

Windows Vista Ultimate



2 *Sounds as Good as It Looks*

Hook up to your home system with Dolby Digital Live (G2S) and experience sharp, multi-channel theater sound via a single digital connection.

PC WORLD Best BUY

G2P-7R009C
August 2007

	Single layer / Dual Layer
HD content:	4.5 Hrs / 9 Hrs
Data:	25 GB / 50 GB
DVD DATA:	4.7 / 8.5 GB

3 *Blu-ray*

Store 6 times the data of a DVD with the latest in optical drive technology. Blu-ray drives allow up to 9 hours of high definition content, or 50 GB of data from a dual layer Blu-ray disc.

4 *Gaming Backpack*

While your buddies are breaking their backs lugging desktops, monitors, and peripherals - just bring this stylish bag with your secret weapon in stow. Our matching backpacks include protective layers for your notebook, ample padding for your shoulders, and plenty of extra pockets.

"If your dream laptop is a desktop replacement that doubles as a lights-flashing gaming machine, look no further."

-- PC World awarded **ASUS G2P** **Desktop Replacement Best Buy**

ASUS recommends Windows Vista® Ultimate

G2S-B1

- Intel® Core™2 Duo Processor T7700 2.40 GHz
- Genuine Windows Vista® Home Premium
- 17.1" Color Shine widescreen display with dual lamp high brightness & 8 ms response time (1920x1200 WUXGA)
- NVIDIA 8600M GT 256MB GDDR III
- 200 GB (7200 RPM) hard drive
- 2 GB memory + 1 GB Turbo Memory
- WLAN 802.11 A/G/N, 1.3 megapixel webcam, Bluetooth V2.0+EDR, 5.1 Dolby Digital Live, gaming backpack and gaming mouse, 8X Super Multi DVD/RW dual layer with LightScribe, HDMI connection

USD $2,199 CAD $2,199

Built to Win

Powerful technology, exclusive features, and aggressive styling
- ASUS gaming notebooks offer a winning combination for elite mobile warriors.

Only a system built from the ground up for gamers could be this much fun. Featuring robust specs, a striking design and convenient portability, the 15.4" (1680x1050) G1S is a lean, mean, green machine. Thinking bigger? Our metalic silver G2S boasts a gorgeous 17" (1920x1200) dual lamp screen, Dolby Digital Live sound, and a Blu-ray option, making it a superb multimedia desktop replacement. Both ASUS G series notebooks have won noteable awards in PC World (G2P, August 2007) and Laptop Magazine (G1S, August 2007) in addition to winning satisfied gamers worldwide.

5 *Highlighted Gaming Keyboard*
Furious multiplayer FPS games mean your nimble fingers must switch from movement (WASD) to chat mode (ASDF) in a flash. Quick reference highlights make for easy transitions.

6 *OLED—Interruption Free Live Information Update*
Why Alt-Tab out of your fullscreen game? Get your IM, system info and more from the onboard OLED display.

7 *In-Mold Decoration*
This edgy suit of armor is ready for battle. In-Mold Decotration (IMD) protects your system from the bumps and scratches of intensive gaming and in-between LAN parties.

"Combining multimedia capabilities with strong gaming performance, the G1 is a powerful gaming laptop ready to take on the competition."
-- Computer Shopper selected **ASUS G1S** as a **Top 3 Gaming Laptop**

G1S-B1
- Intel® Core™2 Duo Processors T7700 2.40 GHz
- Genuine Windows Vista® Home Premium
- 15.4" Color Shine widescreen display (1680 x 1050 WSXGA+)
- NVIDIA GeForce G8600M GT 256 MB DDRIII
- 200 GB hard drive (7200 RPM)
- 2 GB memory + 1 GB Turbo Memory
- WLAN 802.11 A/G/N, 1.3 megapixel webcam, Bluetooth V2.0+EDR, gaming backpack and gaming mouse, 8x Super Multi DVD/RW dual layer with LightScribe, HDMI connection

USD $1,999 CAD $1,999

intel
Core™ 2
Extreme
inside™
Dual-core.
Do more.

Rock Solid · Heart Touching

Model	Price	LCD	Weight	Webcam	Dedicated Graphics Engine	ASUS 360	ADW
U6E-A1	$1,749	12.1"	3.5 lbs.	✓		✓	✓
U6S-A1	$1,799	12.1"	3.5 lbs.	✓	NVIDIA G8400M G 128 MB	✓	✓
U1E-A1	$2,199	11"	2.2 lbs.	✓		✓	✓
F8P-A1W	$1,399	14"	5.7 lbs.	✓ (swivel)	ATI Radeon HD2400 256 MB	✓	✓
F9DC-B1	$999	12.1"	4.2 lbs.	✓ (swivel)	NVIDIA G8400M G 128 MB	✓	✓
F9S-B1	$1,299	12.1"	4.2 lbs.	✓ (swivel)	NVIDIA G8400M G 128 MB	✓	✓
F8SV-B1	$1,599	14"	5.7 lbs.	✓ (swivel)	NVIDIA G8600M GT 256 MB	✓	✓
U3S-A1W U3S-A1B	$1,599	13.3"	3. lbs.	✓	NVIDIA G8400M G 128 MB	✓	✓
G2K-A1	$1,699	17.1"	9.5 lbs.	✓	NVIDIA G8600M GT 256 MB	✓	✓
G2S-B1	$2,199	17.1"	9.5 lbs.	✓	NVIDIA G8600M GT 256 MB	✓	✓
G1S-B1	$1,999	15.4"	6.8 lbs.	✓	NVIDIA G8600M GT 256 MB	✓	✓

ASUS 360

It's the best standard notebook coverage [illegible] industry and [illegible]. With ASUS 360 you get:

2 year global warranty
Double the length of most standard warranty.

Zero bright dot LCD guaranty
We only use flawless zero bright dot displays [illegible] the only company that can back up that claim with a guaranty.

Two-way Fedex standard over-night two way shipping
for a quicker turnaround time.

24/7 tech support
We're there when you need [illegible]

See http://[illegible]/ASUS360 for the terms and conditions.

Complimentary ASUS Accidental Damage Warranty

Accidents are unavoidable, but with ASUS they are far less expensive. That's because if your ASUS notebook is damaged by an accidental electric surge, fire, drop, or spill, we will repair or replace it for you. Some companies charge as much as $150 for similar service, but you can register for ASUS' Accidental Damage Warranty for free.

DROPS · FIRE · SPILLS · SURGE

See http://[illegible] for terms and conditions.

FOR MORE INFORMATION
Visit us on the web at:
usa.asus.com/pcworld
ca.asus.com/pcworld

Find ASUS Notebooks here:

Agear Notebooks
www.agearnotebooks.com

Alice Computer
www.alicecomputer.com

Best Buy
www.bestbuy.com

BTO Tech
www.btotech.com

Buy.com
www.buy.com

Canada Computers
www.canadacomputers.com

CDW
www.cdw.com

Central Computer Systems
www.centralcomputers.com

Computer Sonics
www.computersonics.com

Costco
www.costco.com

Data Vision
www.datavis.com

Ecost.com
www.ecost.com

Excaliber PC
www.excaliberpc.com

GenTech Computers
www.gentechpc.com

Infonec
www.infonec.com

InfoTech Systems Inc.
www.infotechnow.com

Lu Computers
www.lucomputers.com

Memory Express
www.memoryexpress.com

MilestonePC
www.milestonepc.com

Mwave
www.mwave.com

NCIX
www.ncix.com

NewEgg
www.newegg.com

Pacific Notebook
www.pacificnotebooks.com

PC Buzz
www.pcbuzz.com

PC Club
www.pcclub.com

PC Portable
www.baynotebook.com

PC Village
www.pcvonline.com

Portable One
www.portableone.com

Proportable
www.proportable.com

RCS
www.rcsnet.com

Star Tech Inc.
www.stipc.com

Target
www.target.com

Tigerdirect
www.tigerdirect.com

Xotic PC
www.xoticpc.com

Viewmicro
www.viewmicro.com

ZipZoomFly
www.zipzoomfly.com

Pricing and specifications subject to change without notice. © 2007 ASUS Computer International. All Rights Reserved. ASUS is a registered trademark of ASUSTek Computer International. Centrino, Centrino Logo, Core Inside, Intel, Intel Logo, Intel Core, Intel Inside, Intel Inside Logo are trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

Sony LocationFree Tops Slingbox Solo

SLING MEDIA AND Sony have updated their respective place-shifting devices for remotely viewing television and DVR content. I tested the $180 Slingbox Solo and the $250 Sony LF-V30 LocationFree Base Station, and found that the Sony delivered consistently higher video quality.

Like their predecessors, both devices sit between your cable or satellite box, DVR, or DVD player and your TV. (Your video source links to the TV via a pass-through connector.) The magic is in the hardware's ability to create an on-the-fly video stream, albeit at reduced quality, that you can view remotely using the included software (Sling Media's SlingPlayer and Sony's LocationFree client program). These apps—which you must install on each PC and handheld unit that you want to use to view your device's content—allow you to control the device as if you were sitting in front of it. Both apps display a virtual remote control that resembles the actual remote you have in your home. To use the software-based controls, you must attach an infrared (IR) blaster, included with both products, to your device. When you use the virtual remote to change the channel, for example, the request travels over the Internet and broadcasts via the IR device to your cable box, which then turns the channel.

THE SLINGBOX SOLO (left) and the Sony LF-V30 feature sleek, attractive designs.

Now in High-Def

The big news for both the Slingbox Solo and the LF-V30 is their ability to accept high-definition input. (The older Slingbox Pro supported HD only through a $50 HD Connect accessory.) Setup for both units was easy, though the Sony had the edge: After I turned the LF-V30 on, my Vista PC found it on my wireless network and prompted me to connect to it. (With Windows XP you first have to connect the LF-V30 to your home network via a cable and then configure the device. Then you can set it up anywhere within range of your wireless router.) The Slingbox Solo comes only in an ethernet version, though you can add an optional $80 power-line networking kit (which I used for my tests).

The LF-V30 downscales video to a 640-by-340-pixel window, according to Sony, whereas the Slingbox Solo downscales to a 640-by-480-pixel window. The Solo had a slight advantage in video quality on my home network, but the Sony consistently delivered sharper, higher-quality video and better audio over the Internet. The effect of HD support was negligible, though, as video quality is largely determined by the available bandwidth, and even high-definition video quality degraded severely when I viewed it remotely.

The SlingPlayer software supports an impressive number of devices, including both Windows and Mac computers and a wide range of smart phones. The only mobile device the LF-V30 supports is the Sony PlayStation Portable. The biggest drawback to the LF-V30, however, is that Sony includes just one copy of its LocationFree client software; you must pay $30 for each extra copy.

If you want to stream your TV content to your smart phone, buy the Slingbox Solo. If you simply want remote access to your TV content, I recommend the Sony LF-V30 chiefly because it's easier to set up and delivers better video.

—Tom Spring

82
VERY GOOD

Slingbox Solo | Sling Media
Multiple OS and device support makes this a good choice for mobile users. List: $180
find.pcworld.com/59138

87
VERY GOOD

LF-V30 LocationFree Base Station | Sony
Easy-to-set-up device delivers crisp video and audio. List: $250
find.pcworld.com/59137

TECH TREND

High-Def Player Prices Plunge

GREAT NEWS FOR movie buffs this gift-buying season: Since we published our "High-Def Video Superguide" in May (find.pcworld.com/59211), the prices of high-definition Blu-ray Disc and HD DVD players have fallen dramatically. Our Best Buy, Samsung's BD-P1000, now sells for half its original $800 price. Meanwhile, the new, basic 40GB Sony PlayStation 3—which doubles as a solid Blu-ray Disc player—is just $400. And Toshiba has slashed the cost of its HD DVD players, too, pricing its newly released entry-level HD-A3 model at $299. That's $200 less than what its predecessor, the HD-A2, cost back in May. As for the HD-A2, it's priced under $200...if you can still find it. Expect prices to fall even further next year, as manufacturers ramp up player production.

—Melissa Perenson

PHOTOGRAPH: MARC SIMON

Penryn PC Takes Power Prize

THE FIRST PC we've tested that features Intel's new high-end Penryn processor and a well-designed small-form-factor PC from HP are the highlights of this month's batch of power systems.

PCW Test Center

CyberPower's Power Infinity Pro, which leads our Top 5 Power Desktops chart, is equipped with Intel's recently released 3-GHz QX9650 Core 2 Extreme CPU, codenamed Penryn. Unlike existing Core 2 chips that the company produces using a 65-nanometer manufacturing process, Penryn CPUs such as the QX9650 are fabricated in a 45nm process that packs more transistors—in effect, more processing power—into the same amount of space on a chip.

We pitted the Power Infinity Pro against power desktops that use Intel's previous high-end CPU, the 3-GHz Core 2 Extreme QX6850: HP's Blackbird 002 LCi, the third-ranked CyberPower Infinity Pro, Polywell's P3503-3DT, and War Machine's M1 Elite. Running our WorldBench 6 Beta 2 and graphics tests, we compared the Power Infinity Pro's scores against the scores that these other systems earned in imaging, 3D rendering, video encoding, and gaming.

The results showed an average performance gain of just 8.5 percent in imaging, 12.5 percent in 3D rendering, 8.5 percent in video encoding, and 12.5 percent in gaming. Granted, those aren't quite the percentages that Intel claims (see find.pcworld.com/59207), but they still show a definite performance boost. One possible explanation for these results is that the applications in our WorldBench test suite are not yet optimized to take advantage of Penryn's new instruction set, called Streaming Single Instruction, Multiple Data Extensions 4 (SSE4), which can greatly speed up tasks such as some key operations in video encoding in an SSE4-enabled app. (Intel's in-house benchmarks, and the demonstrations that we saw at last fall's Intel Developer Forum, back up those claims for SSE4.)

HP'S PAVILION SLIMLINE s3200t (left) and CyberPower's hulking Power Infinity Pro.

PC WORLD TOP 5 DESKTOP PCs

	POWER DESKTOP	PCW Rating	Performance	Features and specifications
1	BEST BUY CyberPower Power Infinity Pro NEW $4299 find.pcworld.com/59163	83 VERY GOOD	• WorldBench 6 Beta 2 score: 120 • WorldBench 6 Beta 2 rating: Superior • Overall design: Very Good • Graphics: Superior	• 3-GHz Core 2 Extreme QX9650 • 1.8TB (RAID) drive capacity • Two 22-inch Sylvania SK2201W-B LCDs • 768MB EVGA 8800 GTX
	BOTTOM LINE: This Penryn-based PC packs a big punch in gaming performance, but it will also wallop your wallet.			
2	Xi MTower PCIe NEW $3149 find.pcworld.com/59164	83 VERY GOOD	• WorldBench 6 Beta 2 score: 121 • WorldBench 6 Beta 2 rating: Superior • Overall design: Very Good • Graphics: Superior	• 3-GHz Core 2 Duo E6850 • 300GB (RAID) drive capacity • 24-inch DCL 24a LCD • 768MB XFX 1X 8800 GTX
	BOTTOM LINE: First-rate desktop PC offers sterling performance, a large LCD, and plenty of expandability at a nice price.			
3	CyberPower Infinity Pro $4999 find.pcworld.com/58653	82 VERY GOOD	• WorldBench 6 Beta 2 score: 124 • WorldBench 6 Beta 2 rating: Superior • Overall design: Very Good • Graphics: Superior	• 3-GHz Core 2 Extreme QX6850 • 1.8TB (RAID) drive capacity • Two 22-inch ViewSonic Q22WB LCDs • 768MB EVGA eGeForce 8800GTX
	BOTTOM LINE: Excellent all-purpose system for serious power users has record speed, vast storage, and dual 22-inch LCDs.			
4	Gateway GM5632E NEW $1800 find.pcworld.com/59165	82 VERY GOOD	• WorldBench 6 Beta 2 score: 108 • WorldBench 6 Beta 2 rating: Very Good • Overall design: Very Good • Graphics: Poor	• 2.4-GHz Core 2 Quad Q6600 • 1TB drive capacity • 24-inch Gateway LP2407 LCD • 256MB nVidia GeForce 8500GT
	BOTTOM LINE: Low-priced media center PC includes a TV tuner and a large LCD, but its poky graphics won't please gamers.			
5	HP Pavilion Slimline s3200t NEW $1599 find.pcworld.com/59166	79 GOOD	• WorldBench 6 Beta 2 score: 88 • WorldBench 6 Beta 2 rating: Good • Overall design: Very Good • Graphics: Poor	• 2.2-GHz Core 2 Duo E4500 • 500GB drive capacity • 22-inch HP w2207 LCD • 256MB nVidia GeForce 8500GT
	BOTTOM LINE: This stylish, compact desktop computer excels as a media center system, but it's too sluggish for gamers.			

CHART NOTE: Prices and ratings are as of 11/2/07.

Power Without Penryn

As our chart indicates, you don't need a quad-core Penryn PC to obtain a desktop system capable of stellar performance. The Xi MTower PCIe's high scores for its overall performance and design, combined with a reasonable price, helped it reach second place. Using a 3-GHz Core 2 Duo E6850 (a dual-core CPU with a smaller L2 memory cache and a lower price than quad-core, QX-series chips), the Xi MTower PCIe earned a WorldBench 6 Beta 2 mark of 121.

That score is one point better than the QX9650-based Power Infinity Pro's WorldBench 6 Beta 2 score

PHOTOGRAPHS: MARC SIMON

of 120—a difference due to the latter PC's inexplicably lackluster results in our Nero image-burning and WinZip tests. But thanks to its sterling graphics performance, the Power Infinity Pro did well enough overall to become our Best Buy.

The older, QX6850-based CyberPower Infinity Pro's WorldBench 6 Beta 2 score of 124 remains the highest we've seen to date; this result and its excellent graphics scores helped it to third place on our chart. However, its very steep price—it costs even more than the newer Power Infinity Pro—kept it from ranking higher.

Three new QX6850-based systems—the HP Blackbird 002 LCi, the Polywell Poly P3503-3DT, and the War Machine M1 Elite—have solid credentials as worthwhile power PCs, but they didn't make the chart.

The superbly designed Blackbird 002 LCi is a creation of boutique gaming-PC maker VoodooPC, which HP acquired in 2006. Its WorldBench 6 Beta 2 score of 123 was second-fastest in this group, but our test model missed the Top 5 because of its premium $5900 price. (See our video and full review of the system at find.pcworld.com/59189.)

The Poly P3503-3DT earned high marks in our graphics tests, but its mundane design and steep price offset its benefits enough to keep it from ranking.

The M1 Elite received high scores for its overall performance and its considerable expandability, but it wasn't as well equipped as other models (only one optical drive and no card reader, for example)—including some systems that cost less.

Affordable Gateway and HP Media Centers

Two brand-name media center PCs made our chart, and though they can't match the performance of other chart models, both are very inexpensive compared with the performance-oriented power PCs we test in this category.

The stylish and compact HP Pavilion Slimline s3200t is designed for small spaces; it would make an ideal living-room PC. Our loaded test system came with a TV tuner, a remote control, and a Blu-ray/HD DVD (reader) and dual-layer DVD/CD (writer) combo drive. The bundled w2207 22-inch wide-screen LCD (our current Best Buy; see find.pcworld.com/59190) delivers great color images, and it has both pivot capability and double-hinge height adjustment.

The Gateway GM5632E is a minitower system with reasonably impressive specs and expandability options. It comes with a DVD burner, a TV tuner, and a terabyte of hard-disk space for recording hundreds of hours of shows. Best of all, our test configuration's price includes Gateway's own 24-inch LP2407 wide-screen LCD that delivers gorgeous color images and sharp text.

Aside from their intended use as basic multimedia systems (or lounge-room PCs), neither the Slimline s3200t nor the Gateway GM5632E is well suited for fast-action gamers; the 256MB nVidia GeForce 8500GT graphics card that both units use earned comparatively low ratings due to plodding frame rates in our graphics tests. But if you want an entertainment PC that's easy to set up and use, both remain good choices.

Visit find.pcworld.com/59191 for full reviews of all the power systems on our chart.

—Richard Jantz

DESIGNER DESKTOP

Back to the Future With Commodore

FOR THOSE WHO grew up in the 1980s, the name Commodore is synonymous with computer gaming. The latest rebirth of the legendary name comes via Commodore Gaming, which is now taking orders in North America. The company gave us first dibs on testing the Commodore GX, a PC boasting features that any power user might want, including a 2.4-GHz Core 2 Quad Q6600 CPU, plenty of room for expansion, and dual graphics board capability; we opted, though, to test a $3000 configuration that has a single 768MB GeForce 8800 GTX graphics board and a 22-inch wide-screen Samsung monitor, so as to compare it against other models in our power-PCs chart, which is oriented toward mainstream users.

COMMODORE GAMING GX.

You can choose from over 100 different paint jobs, ranging from colorful gaming-themed artwork to landscapes, photos, and retro art concepts. The design is baked onto four panels (both sides, the top, and the front), and covered with an antiscratch layer. The GX also sports Commodore's unique cooling system, called Ice Cube, which converts heat from the power supply into cold air that is then circulated throughout the machine; it uses a built-in sensor to measure the dew-point temperature to prevent condensation.

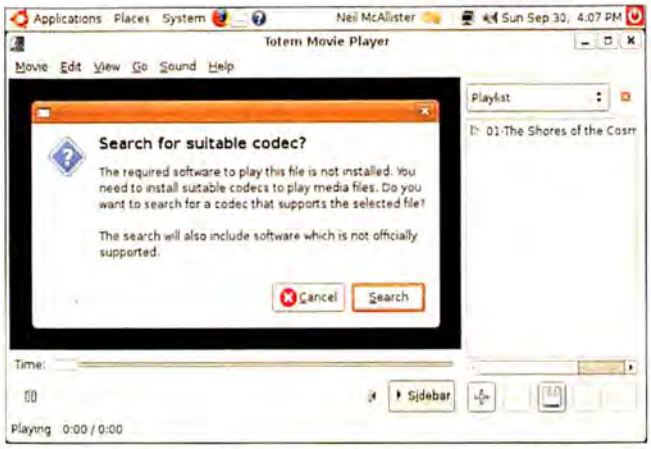
The GX's performance wasn't strong enough to help the system earn a spot on our chart (see the full review at find.pcworld.com/59169). But be sure to stay tuned: We'll test a high-end GX soon for our Top Gaming PCs chart.

Gutsy Gibbon: Desktop Linux OS Made Easy

DESKTOP LINUX HAS always been a challenge—that's why Ubuntu's version of the Linux operating system caused such a buzz when it first appeared. Ubuntu 7.10, code-named Gutsy Gibbon, surpasses its predecessors, offering better graphics, simplified software installation, and improved handling of multimedia files.

The OS is simple and streamlined, with one word processor, spreadsheet program, and movie player. You can install more apps later by choosing 'Add/Remove' from the Applications menu.

Support in Linux for multimedia formats such as MP3 and DivX has always been problematic; Gutsy, however, gives you the option to install the appropriate codecs with the click of a button the first time that you try to play an unsupported file.



GUTSY GIBBON PROMPTS you to install the codecs necessary to support popular multimedia formats the first time you play a file.

94
SUPERIOR

Ubuntu 7.10 ("Gutsy Gibbon")
Canonical
This is the desktop Linux to beat.
Free as download
find.pcworld.com/59129

Similarly, font rendering is much improved in this version. Ubuntu's font display is now comparable to that of Mac OS X—a major achievement, considering the anemic type handling of past Linux distributions.

The release does have rough spots—for example, I found power management especially troublesome, as Suspend and Resume almost never worked on my PC.

Despite those criticisms, Ubuntu 7.10 is the desktop distribution to beat.

—Neil McAllister

Turn Any Computer Into Your Computer

With GoToMyPC, you can work on your office PC from any computer.
It's like taking your office with you wherever you go.

FREE for 30 Days
GoToMyPC.com/pcworld

GoToMyPC®

© 2007 Citrix Online, LLC. All rights reserved. Citrix® is a registered trademark of Citrix Systems, Inc. in the United States and other countries.
GoToMyPC® is a registered trademark of Citrix Online, LLC, in the United States and other countries. All other trademarks and registered trademarks are the property of their respective owners.

A Drawing Tablet for Beginners

DRAWING TABLETS HAVE long been geared exclusively toward graphic designers, but Wacom hopes to change that with its $199 consumer-friendly Bamboo Fun.

The 6-by-8-inch slate connects to your PC via USB, and lets you use the included pen to move your cursor or pointer around the screen.

The point of the Bamboo is to improve the ease and accuracy of illustration and photo touch-ups, since the twitchy nature of a mouse

USE THE BAMBOO'S cordless mouse on the tablet's surface.

makes it imperfect for delicate drawings. In actual use, the Bamboo is not as refined as pricier professional counterparts. Casual users may not mind, though, as it makes drawing far easier whether you're fixing a photo or just doodling to pass the time.

—Christopher Null

87
VERY GOOD

Bamboo Fun Tablet | Wacom
It's challenging to master, but it makes drawing fun. List: $199
find.pcworld.com/59135

DOWNLOAD THIS LAURA BLACKWELL

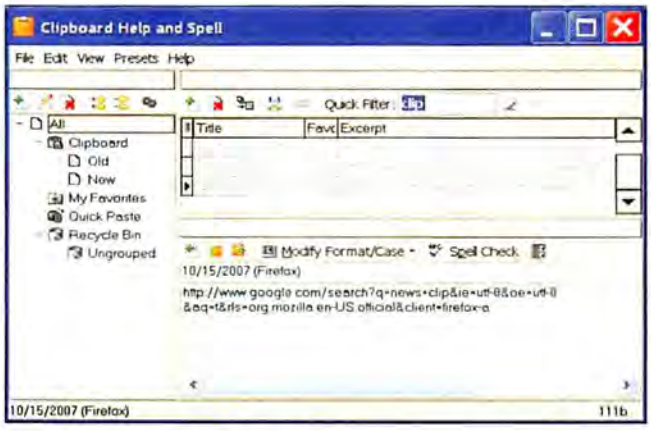
Three Different Approaches to Old Standbys

FRESH PERSPECTIVES REVITALIZE drab and ineffectual routines. These three programs—an incredibly easy command-line utility, a full-featured Clipboard replacement, and a graphic storyteller—offer new takes on familiar tasks.

Run Apps From One Starting Point

You want your PC to be easy to use—but taking the helm at the command prompt is satisfying too. SlickRun helps in both respects. This free utility from Bayden Systems, which initially appears as a tiny floating window showing the date and time, provides convenient time-savers as well as powerful command-line access via a simple left click. But it gets better: Right-click the window to view the app's collection of MagicWords—keywords for taking various actions, such as launching programs, opening URLs or folders, or switching to standby mode. Click a MagicWord, and SlickRun performs the task for you.

Creating your own MagicWords is a snap. When you click on a field in SlickRun's MagicWord-adding window, you see an explanation of its use. Once you've made your addition, you can click 'Test this MagicWord' and watch SlickRun perform its new trick. It really speeds up common tasks. Free, find.pcworld.com/59079.



CLIPBOARD HELP+SPELL stores text in a searchable database.

Expand Clipboard's Memory

The Windows Clipboard is just a short-term holding tank; make your snips more hip with Clipboard Help+Spell. When running, this powerful freebie automatically stores all the text copied to your Clipboard, turning it into a huge searchable database.

Clipboard Help+Spell marks every entry with the date, and it lets you sort the entries into groups. The Quick Filter function searches for entries containing the words you specify.

Other functions make Clipboard Help+Spell even more useful. For example, you can type directly into Clipboard Help+Spell and then press a button to paste the text into the last open window of any program that accepts text. And as you might guess, it checks spelling.

Clipboard Help+Spell costs nothing to use, but the author—known as Mouser of DonationCoder.com—accepts donations for his work. Free/donationware, find.pcworld.com/59080.

Paint Them a Picture

Never mind deathless prose—sometimes you need a few good pictures to make your point. Comic Book Creator helps you turn a folder of images into graphic stories with punch. This feature-packed desktop publisher gives you the tools to make professional-looking comics.

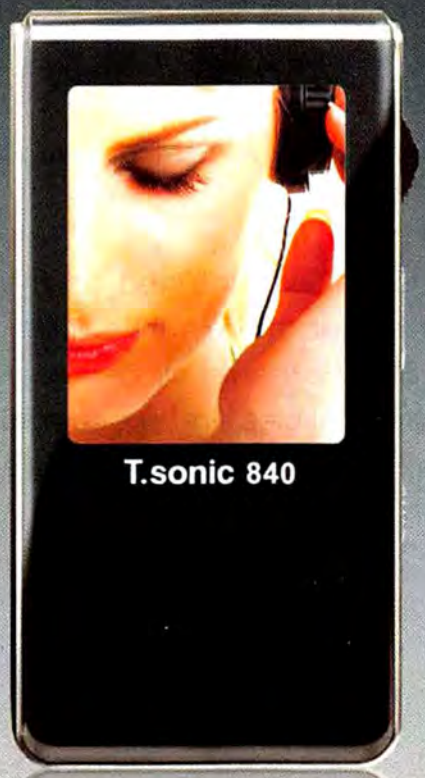
Creating comics is simple. Choose a page layout from a selection of templates, then plug artwork and photos into it. Dragging images and zooming in and out to get the panels you want is easy. With movable, resizable balloons and text—and a small but decent array of fonts—making a readable comic doesn't take long.

Comic Book Creator comes in two sizes: The larger download has a generous content pack (figures, word balloons, and backgrounds), while the other, much smaller download does not. If you prefer, you can take the basic file first and pick up the free content pack from vendor Planetwide Games' site later. Note that the ten-day demo version does not allow you to print comics; for that feature, you'll need to spring for the $50 full version. $50, ten-day free trial, find.pcworld.com/59081.

PHOTOGRAPH: MARC SIMON

Transcend

Exceeding Your Expectations



Music. Pure and Simple.

- Easy navigation wheel
- 1.8" vivid color screen
- Sleek metal casing

T.sonic™ 840

MP3 Player (2GB / 4GB)

Authorized e-tailers

BuyMemory.com newegg.com TigerDirect.com Buy.com

Order Line
1-800-886-5590

www.transcendusa.com

© Transcend 2007. All rights reserved. Transcend and Transcend logo are registered trademarks of Transcend. Transcend reserves the right to change, without notice, product offerings or specifications. All other products, brand names, company names and logo are trademarks of their respective owners.

Going Green

Eco-friendly computing in the SMB space isn't just the right thing to do; it is the affordable thing to do, too

BY PETE BARTOLIK

Whether you're philosophically inclined to the "green" movement or not, there's little question that with the dawn of $100-a-barrel oil, developing environmentally sensitive policies and processes for buying and using computers can have a positive impact on the bottom line.

Manufacturers and their customers are more frequently finding themselves on the same side in pushing for products that are more efficient to operate and have a less-costly ecological impact. Federal and state governments are increasingly urging or requiring that agency procurement policies move in the same direction.

In January 2007, for example, President George W. Bush signed an executive order mandating that federal agencies operate "in an environmentally, economically and fiscally sound, integrated, continuously improving, efficient and sustainable manner."

More specifically, President Bush mandated that 95 percent of eligible electronic products be registered in the EPEAT system (Electronic Product Environmental Assessment Tool), which enables purchasers to compare and select desktop computers, notebooks and monitors based on their environmental attributes. He also required use of the ENERGY STAR feature on computers and monitors, policies to extend the useful life of equipment, and environmentally sound equipment disposition.

ENVIRONMENTAL COMPLIANCE REGISTRY

EPEAT is a registry of electronic products in which suppliers declare their conformance in relation to 51 total environmental criteria contained in IEEE 1680, the first U.S. standard to supply environmental guide-

SPONSORED BY:
Antec
www.antec.com
Fujitsu
www.fujitsu.com
HP
www.hp.com
StoreVault
www.storevault.com

PCWorld Advantage Marketing

Fujitsu: A commitment to eco-friendly computing

Fujitsu wears its environmental reputation proudly. It's been working since 1994 on environmentally friendly programs and is in the fifth stage of its environmental protection program, each of which projects over three years.

Fujitsu's efforts to produce "super green" products have resulted in production of a biodegradable laptop casing, utilizing a plastic made from cornstarch. While not yet available in the U.S., the innovative LifeBook model reflects efforts under way since 2002 to replace petroleum-based plastic in computer products.

Business units at Fujitsu have been directed to increase "super green" products by 20 percent through 2009. Just recently, Fujitsu introduced for small and midsize organizations the ETERNUS2000 storage system, which it says is the industry's most eco-friendly product in that category.

In Silicon Valley, Fujitsu is the first to install its own hydrogen fuel-cell power plant. The company has set a goal for 2010 of reducing emissions from manufacturing operations to 20 percent less than the level for 1990 and is committed to a 3R approach (reduce, reuse, recycle) to create best-of-breed eco-friendly products.

Fujitsu recommends Windows Vista® Business.

Small wonder.

Family of Notebooks

U800 Ultra-Mobile PC

P1600 Portable PC

*T2000 Tablet PC***

*T4200 Tablet PC***

**Fujitsu T2000 and T4000 series Tablet PCs feature Intel® Core™ 2 Duo processor technology.

All the functionality. Half the size.

The new 1.5-pound Fujitsu U800 Ultra-Mobile PC is massively versatile and wonderfully small. With its Intel® Pentium® M processor, you can easily launch Microsoft Vista® applications and YouTube™ videos and view them on a vivid 5.6-inch monitor/touch-screen. Share data and peripherals effortlessly with built-in Bluetooth® technology. And keep all your data ultra-safe with biometric security. It's even Wireless WAN enabled* and includes a webcam. To learn more go to **us.fujitsu.com/computers/smallwonder**

FUJITSU

THE POSSIBILITIES ARE INFINITE

©2007 Fujitsu Computer Systems Corporation. All rights reserved. Fujitsu, the Fujitsu logo and LifeBook are registered trademarks of Fujitsu Limited. Centrino, Intel, Intel Core, Core Inside, the Centrino logo, Pentium M, and the Intel logo are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. Microsoft and Windows are registered trademarks of Microsoft Corporation. All other trademarks are the property of their respective owners.
*Wireless WAN not available on all models

U800 Ultra-Mobile PC

- *Runs on Genuine Windows Vista® Business*
- *1.5lbs*
- *5 hour battery life*
- *40GB hard drive*
- *Webcam included*
- *Bluetooth®*
- *5.6" screen*
- *Wireless WAN enabled**

intel Centrino Duo Core™2 Duo inside™

lines for institutional purchasing decisions involving desktop and laptop computers and monitors. While designed to help large purchasers, the EPEAT registry is freely available online at www.epeat.net.

A recent IBM survey of 1,400 small and midsize businesses (SMBs) around the world found that energy expenses were the biggest cost increase over the past two years, surpassing increases for health care, payroll, rent and equipment. A clear majority, 58 percent, expressed concern about the environment, and 44 percent have put environmental policies in place.

According to the EPA report, existing technologies and strategies could reduce typical server energy use by an estimated 25 percent.

What can the average SMB do about energy consumption? Apparently, quite a bit. According to an industry organization, the Climate Savers Computing Initiative, more than half of the power for a typical desktop PC is wasted as heat and never reaches the processor, memory, disks or other components. Servers are typically more efficient, but still waste 30 to 40 percent of the input power. That not only impacts the cost of running systems, but also adds to the air conditioning demand.

There is good news, though: "With proven technology and at a modest additional cost, the vast majority of these energy losses can be eliminated," according to Climate Savers.

For example, new ENERGY STAR 4.0 ratings that went into effect in mid-2007 now require desktop power supplies to be 80 percent efficient, compared with the 65 to 70 percent efficient supply for the typical desktop PC in use today According to the Environmental Protection Agency (EPA), the new ratings will save consumers and businesses more than $1.8 billion in energy costs over the next five years and prevent greenhouse gas emissions equal to the annual emissions of 2.7 million vehicles.

The ENERGY STAR 4.0 rating is intended to be more exclusive than previous criteria, and products with the rating may initially be priced at a premium. However, says Climate Savers, the premium appears to be only $20 to $30, but the return on investment is two to three years for a PC that is powered on 40 hours a week for 50 weeks a year, and less than a year for a system that stays on around the clock. Server savings will be even greater.

StoreVault helps reduce the energy footprint, and costs

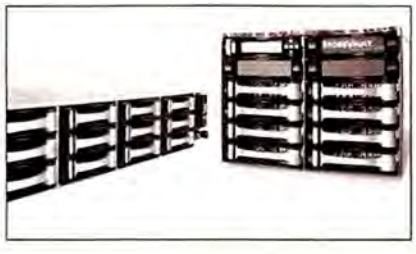
Many organizations are focused on more efficient data storage. Some even factor that into more environmentally friendly energy use policies. StoreVault products go one step further and help modify the energy production landscape in the United States.

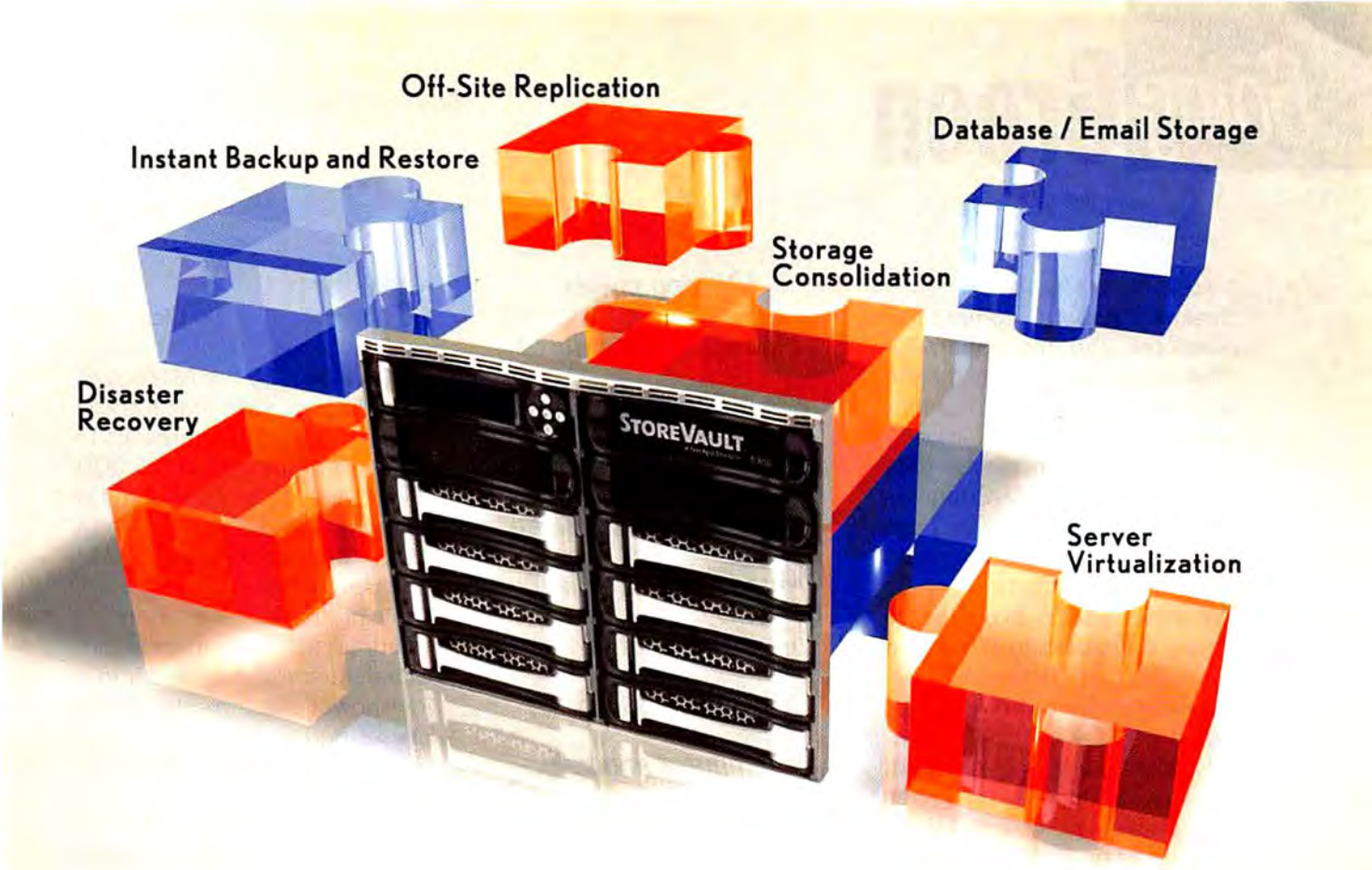
StoreVault is a Network Appliance division that offers a line of network storage solutions tailored for SMB customers. Demand for network storage is expected to boom among smaller businesses in coming years.

Consolidating file and application server storage into one single location reduces power and cooling expenses even before StoreVault's energy-efficient features kick in. Technologies such as thin provisioning and snapshots reduce the number of empty spinning disks, and multiple, complete data copies can be stored in a fraction of the space normally required for a backup. Storing more data in less space uses less energy and is the first step toward conservation.

Secondarily, with each system sold StoreVault has purchased a Renewable Energy Credit (REC) to supply the national electric grid with 365 days worth of equivalent energy produced by renewable sources. StoreVault RECs shift energy production toward renewable sources such as wind farms and biomass generation facilities, but don't cost the consumer a penny.

Developing new software and hardware designs that further reduce overall energy consumption takes time. Meanwhile, StoreVault's high-efficiency features and REC program provide an option to make an immediate impact through your data storage operations.





IT'S A PERFECT FIT!

INTRODUCING THE STOREVAULT S300 FOR UNDER $3K

ENTERPRISE TECHNOLOGY FOR YOUR SMALL BUSINESS STORAGE NEEDS

If you are looking for instant back up and data recovery, with RAID DP protection against dual drive failure, you've found the perfect fit. With NAS, iSCSI SAN, and DAS right out of the box, the StoreVault product family provides storage solutions that will grow with your business needs. NetApp enterprise-proven technologies provides a rich feature set, including simple on-the-fly provisioning and off-site data replication. StoreVault's Advanced Protection Architecture includes features that inherently reduce the overall energy footprint in your IT closet and lower power and cooling bills.

It's truly the perfect fit to maintain business continuity and regulatory compliance.

The new **S300** starting at under **$3,000**
or the **S500** starting at **$5,535**

StoreVault S500
2007 Winner!
Windows IT Pro
Editor's Best Award

Call us today at 800-206-5363
Learn more about our **Special Offers**
at **www.storevault.com**

NetApp®

StoreVaults are powered by Renewable Energy

STOREVAULT™
A NetApp Division

DEALING WITH DEMAND

Business growth, competitive pressures and the continuing drive for greater efficiency and automation add up to continued growing demand for computer products. A recent EPA report requested by Congress found that U.S. energy consumption of servers and data centers has doubled in the past five years and is expected to almost double again in the next five years to more than 100 billion kilowatt-hours (kWh), costing about $7.4 billion annually.

According to the EPA report, however, existing technologies and strategies could reduce typical server energy use by an estimated 25 percent. Widespread adoption of best practices, the agency says, could reduce energy use by 45 percent, and operating at maximum possible energy efficiency using only the most efficient technologies and best management practices available today would cut energy use by 55 percent.

More efficient practices are also helping. Analyst groups such as Gartner and Forrester Research are urging organizations to adopt server and storage system virtualization and workload balancing to consolidate systems and gain more efficiency. A recent *Computerworld* survey found that almost half of SMBs polled are already using server virtualization, and 24 percent are considering it in the coming year.

An IDC report on server power and cooling projections through 2010 estimates that for every dollar spent on servers in 2005, enterprises spent 48 cents for power and cooling, and this is projected to rise to 71 cents in 2010. In 2000, the cost was just 21 cents per server.

Utilizing power management features to automatically put computers and monitors into a low-power sleep mode after a preset period of inactivity can save $25 to $75 per computer annually.

KEEP IT SIMPLE

Sometimes, the simplest answers can be the most effective. A report by the Alliance to Save Energy says that 10,000 PCs left on overnight results in waste of more than $165,000 a year in electricity costs and is responsible for more than 1,381 tons of carbon dioxide released into the atmosphere. Utilizing power management features to automatically put computers and monitors into a low-power sleep mode after a preset period of inactivity can save $25 to $75 per computer annually.

For SMBs, that not only makes good sense, it saves dollars and cents.

Pete Bartolik is a Hopkinton, Mass.-based freelance writer.

Antec has answers for power-hungry, environmentally conscious users

Whether you're an energy-conscious business user or a performance-hungry extreme gamer, Antec, Inc. has a high-efficiency power supply to satisfy your desire for environmentally sensitive computing.

The 80 PLUS certified TruePower Quattro 850

Antec, a global supplier of power supplies and cases for workstation, gaming and server markets, was one of the first to register its power supplies with 80 PLUS® (www.80plus.org), an electric utility-funded program to integrate more energy-efficient power supplies into desktop computers and servers.

The 80 PLUS power supply efficiency requirements for desktop computers are incorporated into the ENERGY STAR Computer Specification (Version 4.0). Both require an energy efficiency of 80 percent or greater at low, medium and high utilization rates.

Antec's EarthWatts model is available in three highly efficient models–380 Watt, 430 Watt, and 500 Watt–and the TruePower Quattro is ideally suited for handling the most demanding system specs with 850-Watt and 1,000-Watt versions. Both lines are 80 PLUS certified and up to 85 percent efficient. Antec also offers a large range of cases with 80 PLUS certified power supplies.

Antec believes everybody can help the environment with efficient power supplies that save money and provide cooler, quieter operation.

80 PLUS®
www.80PLUS.org
More than 80% efficient at 20%, 50% & 100% load

"Environmentally friendly" might not be the first thing that comes to mind when you think about high quality PC components. At Antec, we believe strongly in protecting the environment, and that's why many of our new products meet 80 PLUS®, the highest independently certified standard in energy efficiency. Like the EarthWatts line of power supply units, which lower your electrical bill while delivering the same quality Antec performance. In addition, many of our cases are now powered by 80 PLUS certified PSUs. No matter what your needs are, Antec enables quieter, cooler, and greener computing. Find out more at www.antec.com.

Antec
The Power of You

BEST BUY COMPUSA CITY J&R MICRO CENTER STAPLES Fry's Outpost.com amazon.com buy.com newegg

Responsible Disposal

Energy, of course, is just one of many environmental issues with which government and businesses are grappling. One area where small to mid-size businesses can take an active, direct role is in the proper disposal of old computing equipment. In 2005, according to the EPA, used or unwanted electronics amounted to approximately 1.9 to 2.2 million tons. Of that, about 1.5 to 1.9 million tons were primarily discarded in landfills, and only 345,000 to 379,000 tons were recycled.

Every business needs to ensure it has a policy for discarding obsolete equipment in a legal and responsible manner. Electronic equipment can contain lead, chromium, cadmium, mercury, beryllium, nickel, zinc and brominated flame retardant, so tossing them into the dumpster is not an option.

SMBs should review their equipment disposition practices to determine if they have an effective reuse and recycling policy to keep computing equipment out of landfills. Although computer products often have a relatively short lifecycle due to changing technology, when equipment needs to be replaced SMBs should evaluate the possibilities of reusing components, selling or giving away systems to employees, passing them on to another department, or donating to a nonprofit organization.

If the equipment no longer has any practical operational use, make sure that it gets recycled in the most efficient manner. Many vendors, resellers and retailers now have active "take back" policies to process obsolete equipment and ensure it is disposed of correctly. But just because somebody claims to be a recycler doesn't necessarily mean that they provide environmentally sound disposal–it's believed that as much as 50 to 80 percent of "recycled" electronics products from North America are actually dispatched to Third World countries, where any valuable content is reclaimed and the remainder is dumped.

And of course, disposing of equipment generally means that you're replacing it with newer items. SMBs can look at purchasing equipment that is the most energy efficient, incorporates the fewest components, or features the most recyclable content. While the initial cost may be somewhat higher, the payback in reduced energy bills for computer use and air conditioning may be surprisingly quick, especially if energy prices continue to climb. And developing a "green" profile may also pay off in greater employee morale and loyalty.

–Pete Bartolik

RECYCLING OPTIONS

In the United States, the EPA's Plug-In To eCycling website, www.epa.gov/epaoswer/osw/conserve/plugin, provides information on how and where to donate or to safely recycle old electronics–namely TVs, computers and cell phones–with links to vendor and retailer recycling program information. Another site, E-cycling Central, www.eiae.org, from the Electronic Industries Alliance, offers a state-by-state recycling directory and information about national programs.

At HP, smart environmental thinking starts with intelligent systems design

HP believes that the environmental performance of products is largely determined at the design stage, and that through intelligent design it can reduce the environmental impact of its products.

HP was the first major PC manufacturer to have business PCs configurable to meet the hardware standards of the more stringent ENERGY STAR 4.0 specification that went into effect in mid-2007. It was also the first major PC manufacturer to offer "80 percent efficient" power supplies that, along with other ENERGY STAR 4.0 hardware requirements, can reduce total system power consumption as much as 52 percent.

The company's Design for Environment program, initiated back in 1992, is focused on energy efficiency both in the manufacture and use of its products; reducing the use and environmental impact of materials; and greater recyclability. Product designers are urged to place environmental stewards on every design team to help decrease the environmental impact throughout a product's lifecycle.

This commitment is clearly getting noticed. In 2007, *Fortune* magazine named HP one of "10 Green Giants" for having gone beyond what the law requires to operate in an environmentally responsible way.

hp invent

AMD 64 Athlon X2

HP recommends Windows Vista® Business.

EARTH FRIENDLY. BUDGET FRIENDLIER.

Consume up to 52% less energy[4] while consuming less of your budget, with the HP Compaq Business Desktop dc5750.

Our 80 PLUS® power supply is just one of the reasons why HP became the first to offer a line of ENERGY STAR® 4.0 products. Combined with AMD Cool'n'Quiet™ technology, our desktops help ensure quieter operation with reduced power requirements. And saving up to 52% on PC power consumption is good for the environment—and great for business.

The HP Compaq Business Desktop dc5750

$699

Was $964, you save $265.[7]
Lease it for just $18 per month[3]

- AMD Athlon™ 64 X2 Dual-Core Processor 4000+[5,6]
- Genuine Windows Vista Business[1]
- ENERGY STAR® 4.0 compliant; 80 PLUS® power supply
- 80 GB[7] SATA hard drive; 1 GB 667MHz DDR2 memory

Smart Buy PN: RT856UT#ABA

Be more productive, use less energy.
HP L1906 19" TFT Flat Monitor

$249

Lease it for just $6 per month[3]
Smart Buy PN: PX850A8#ABA

HP is the world's #1 provider of business portables.[8]

Own it today.

1-888-491-8371

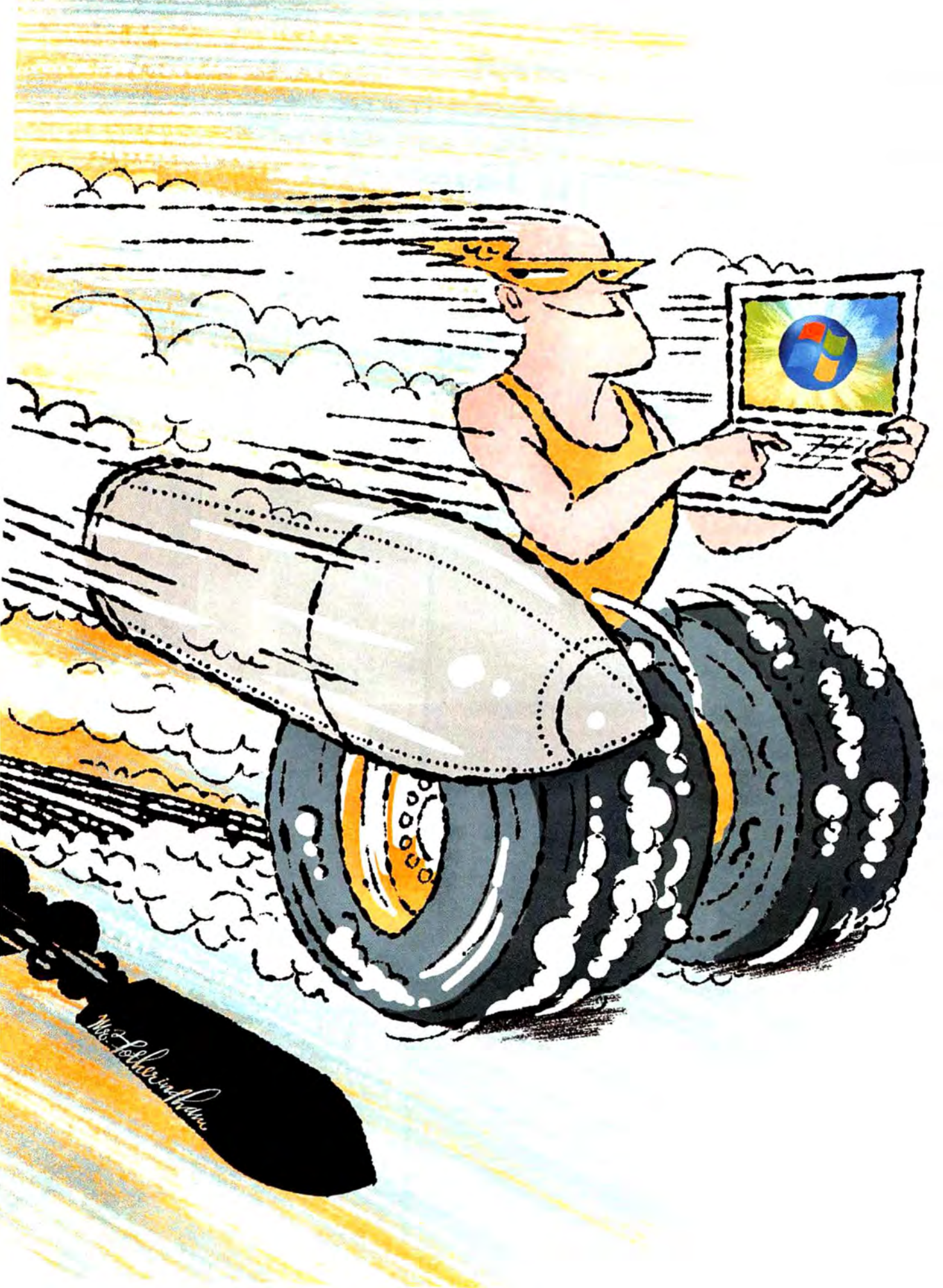
hp.com/go/friendly
hp.com/go/reseller

ENERGY STAR

Learn more about ENERGY STAR® 4.0 compliance at hp.com/go/energystar4

hp

Prices and promotions are subject to change without notice. Supply is limited. Visit our site or call for the latest deals. All offers available from HP Direct and participating resellers. Prices shown are HP Direct prices, are subject to change, and do not include applicable state and local sales tax, or shipping to recipient's destination. Simulated screen. Photography may not accurately represent exact configurations priced. Associated values represent HP published list price. **1.** Certain Windows Vista product features require advanced or additional hardware. See http://www.microsoft.com/windowsvista/getready/hardwarereqs.mspx and http://www.microsoft.com/windowsvista/getready/capable.mspx for details. **2.** Instant savings available through HP Direct and participating resellers. Offer valid through January 31, 2008. For details, visit www.hp.com/go/specials. **3.** Financing available through Hewlett-Packard Financial Services Company (HPFS) to qualified commercial customers in the U.S. and subject to credit approval and execution of standard HPFS documentation. Prices shown are based on a lease 48 months in term with a fair market value purchase option at the end of the term. Rates based on an original transaction size between $3,000 and $25,000. Other rates apply for other terms and transaction sizes. Financing available on transactions greater than $349 through January 31, 2008. HPFS reserves the right to change or cancel these programs at any time without notice. **4.** Savings calculations based on PCMark05 benchmark testing results. Internal testing; customer results will vary. Variables include customer-determined percentage of sleep state, idle state, productive state, and peak-usage state. Also, manufacturing variability will affect the savings a customer may see. HP advises customers to test a system with an 80% efficient power supply in their environment to determine potential savings. **5.** This system requires a separately purchased 64-bit operating system and 64-bit software products to take advantage of the 64-bit processing capabilities of AMD Athlon 64 X2 technology. Dual-core processing available with Athlon 64 X2 technology is a recent technology innovation designed to improve performance of this system. Given the wide range of software applications available, performance of a system including a 64-bit operating system and a dual-core processor will vary. **6.** AMD's numbering is not a measurement of clock speed. **7.** GB = 1 billion bytes. Actual formatted capacity is less. Up to 10 GB of system disk is reserved for system recovery software. **8.** Source: IDC's Worldwide Quarterly PC Tracker, September 2007. Portables include Notebooks and Ultra Portable PCs. Microsoft and Windows are U.S. registered trademarks of Microsoft Corporation. Windows Vista is either a registered trademark or trademark of Microsoft Corporation in the United States and/or other countries. AMD, the AMD Arrow logo, AMD Athlon and combinations thereof, and Cool'n'Quiet are trademarks of Advanced Micro Devices, Inc. © Copyright 2008 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein shall be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.



Fast Windows Fixes

From bullet-fast startups and shutdowns to automatic data protection, **here are 31 tweaks** to make Vista and XP **smarter,** more reliable, and **more efficient.**

BY SCOTT DUNN
ILLUSTRATIONS BY EDWIN FOTHERINGHAM

DESPITE YEARS OF refinement and the collective experience of millions of users, Windows remains as buggy, enigmatic, and failure-prone as ever. Each new release of the operating system adds a little glitz and a handful of new features, but also just as many new headaches. Sometimes Vista's new features and improved functions seem to be more trouble than they're worth, and older sibling XP certainly isn't getting any easier to live with as it ages.

Fortunately, you don't have to spend hours researching the cures for Windows' ills. We've distilled the most important fixes, and slick improvements, into steps that you can implement in mere minutes. These tips will accelerate your startups and shutdowns, automate your system maintenance, and even get you browsing at full throttle.

Put Some Sizzle in Your Startups

Problem: Windows never seems to start fast enough for me.

Fast Fix 1: Your computer could be loading device drivers for hardware you no longer use. To save on system resources, uninstall those drivers. Since a careless choice can cause your machine to lose an important function, however, create a restore point in System Restore before proceeding.

By default, Device Manager doesn't show devices that aren't currently connected to your system. To make them visible, press **<Windows>-R** to open the Run box, type **cmd**, and press **<Enter>**. At the command prompt, type **set devmgr_show_nonpresent_devices=1** and press **<Enter>**. Leave the command-prompt window open.

Now press **<Windows>-R** again, type **devmgmt.msc**, and press **<Enter>**. In the Device Manager window, choose *View•Show Hidden Devices*. Click the plus sign (+) next to each of the branches to examine all of the drivers on your system. Devices that are not currently connected appear with a pale version of the icon. If you come across a device that you're sure you no longer use, right-click it and choose *Uninstall*. Then follow the prompts shown on screen to complete the process. When you're done, close the command-prompt window to rehide your unconnected devices.

Fast Fix 2: Once you have mapped a network drive to a letter on your computer, Windows will automatically restore that connection by default whenever you log on. Since resuming network connections takes time, you can speed your startups by dropping the connections you aren't using.

Press **<Windows>-E** to launch Windows Explorer, and type **<Alt>-T, D** to open the Disconnect Network Drives dialog box. Pick the drives to disconnect, and click *OK*.

In the future, if you connect a drive only for the current session, simply enter its UNC path (this appears in the address bar when you select the drive in Explorer, and in the Run box). Or, if you use the Tools•Map Network Drive command in Explorer, make sure *Reconnect at logon* is unchecked before you click *Finish*.

Fast Fix 3: You'll free your system's memory and recover processor cycles by clearing out the clutter that starts each time you log in to Windows—and you may even discover some malware in the process. Check out the free Autoruns program from Microsoft-owned Sysinternals (find.pcworld.com/59017; see the screen shot below).

How do you distinguish the useful startup programs from the useless ones? You can consult Autoruns' built-in research tools, or you can visit Paul Collins's Startup Applications List at find.pcworld.com/59018. This searchable and downloadable list of common startup items provides a description and rating for each one, indicating how likely the item is to be required on a typical system.

START UP SOONER by unchecking unwanted startup apps in the Autoruns Logon tab.

OPTIMIZE VISTA HOME Basic and Premium by shutting off System Protection—which the OSs don't support—for nonsystem disks.

Stifle Shadow Copies' Wastefulness

Problem: Vista is saving my data, but won't let me recover it.

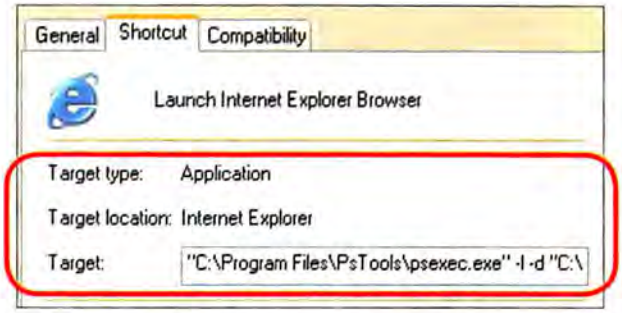
Fast Fix: Vista's Business, Enterprise, and Ultimate Editions include Shadow Copies (or Previous Versions), which lets you recover a file's older version. Vista Home Basic and Home Premium lack this feature but save the data anyway, wasting CPU cycles and disk space. To stop the waste, put all of your documents and other files on a drive or partition other than your Windows disk. Then click *Start*, type **SystemPropertiesProtection**, and press **<Enter>**. In the list of disks, uncheck the one that contains personal data. Click *Turn System Protection Off* when prompted, and click *OK* to close System Properties (see the screen shot above).

Use Windows' Own Speed Tweakers

Problem: My computer is relatively new, but it's not nearly fast enough.

Fast Fix: Use the performance tools built into Windows to maximize memory, disk space, and other resources. Browse to find.pcworld.com/59015 for a handy guide to these utilities.

Reduce the Power That Apps Have Over Your System



RESTRICT APPLICATION PRIVILEGES in Windows XP by using the free PsExec utility to launch the programs.

Problem: I don't want a Trojan horse or other malware to be able to take over my computer, but logging in as a standard user is too restrictive.

Fast Fix: Even if you log in as an administrator, you can launch your applications with limited privileges. Begin by downloading Microsoft's free PsTools utility collection at find.pcworld.com/59027. Unzip the contents to a folder, and move the folder where you normally store your apps. The PsExec tool was intended for launching apps remotely, but you can use it to launch programs with reduced privileges as well.

To create a shortcut that opens Internet Explorer 7 or any other app with restrictions, right-drag its shortcut to a new location. (You might want to use the normal, high-privilege version of the shortcut, so leave that original unchanged.) Choose *Copy Here*. Right-click the copied shortcut and select *Properties*. With the Shortcut tab active, click at the beginning of the Target box and type **"C:\Program Files\PsTools\psexec.exe" -l -d "C:\Program Files\Internet Explorer\iexplore.exe"** (with a space before 'Explorer' but not after the slashes; your paths may differ; see the image above). Click *Change Icon•OK*. Specify the path to the original file (**iexplore.exe** here) and click *OK* until all dialog boxes close.

To avoid restrictions on such activities as installing plug-ins for your browser, you will have to run the browser in its normal, high-privilege mode. »

Living in a Dual OS World

NOT EVERYONE USES just XP or just Vista. Between work and home, lots of people must use both operating systems, experiencing no end of confusion as they cope with the two OSs' differences. These tips will help you switch from one to the other with ease.

Enhance Find: Perhaps the most obvious difference between XP and Vista is the Find box that appears on the Start menu. If you like the new Vista feature that lets you launch programs as well as search for files on your PC or the Web, you can add this to XP by downloading and installing Microsoft's Windows Desktop Search for XP (find.pcworld.com/59047). The tool puts a search box in the taskbar, or you can open the program's main window by pressing **<Windows>-F**.

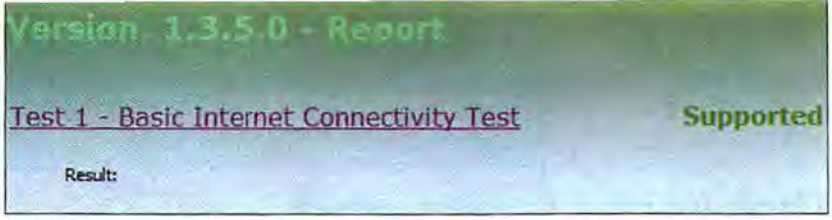
Make matching Start menus: If using two different Start-menu flavors is driving you bonkers, you can revert to the Windows 9x–style Start menu in both XP and Vista: In each OS, right-click the *Start* button and choose *Properties*. Select *Classic Start menu* and click *OK*. Organize icons and submenus in both systems to match so you don't waste time looking for what you need. For keyboard access, check out "Add Custom Accelerator Keys to Your Start Menu" at find.pcworld.com/59048.

"Da Doo Run Run Run, Da Doo Run Run": Many Vista users soon come to miss the Run box on XP's Start menu, which provides a history of recently used commands. The Run command is still in Vista, but you have to get into the habit of pressing **<Windows>-R** to open it in either OS. Another option is to restore the Run box in Vista: Right-click the *Start* button, choose *Properties*, click *Customize*, check either *Run command* or *Display Run*, and click *OK* twice.

Hire a Defender: Vista comes with its own antispyware tool, Windows Defender. If you want to add the same tool to XP, you can grab the free Windows Defender for XP at find.pcworld.com/59050. Note that to install the program, you must run Microsoft's own Windows Genuine Advantage spyware (ironic, isn't it?).

Equalize account control: Vista's User Account Control may generate a lot of annoying pop-ups as you work, but it does keep your system more secure. If you're sick of its prompts, you can minimize or remove them as explained at find.pcworld.com/59051. To get comparable protection in XP, log in as a standard user or as a power user rather than as an administrator; for details, see tips 19 and 20 at find.pcworld.com/59052.

Bring back menu bars: If you find yourself stumbling over the missing menu bars in Vista's version of Explorer and Internet Explorer, one solution is to get in the habit of pressing the **<Alt>** key to reveal the menu bar and then using hot-keys to choose the command you need. Or bring the menus back for good by opening Explorer and choosing *Organize•Layout•Menu Bar*, or *Tools•Menu Bar* in Internet Explorer.



MICROSOFT'S FREE SERVICE alerts you to a router that's slowing down your Net connection.

Diagnose Your Internet Connection

Problem: I pay every month for an Internet connection, but if my router isn't up-to-date, I may not be getting all the speed I'm due from my ISP.

Fast Fix: Microsoft's Internet Connectivity Evaluation Tool can tell you whether your router supports technologies for faster connections. (The tool won't give accurate results if you're behind a corporate firewall.) Go to find.pcworld.com/59041 and follow the instructions (see the screen shot above). The test can interrupt running connections, so try it at a time when you aren't actively using the Internet.

If the results show that your system doesn't support many of the technologies listed, you might want to look into the possibility of purchasing a newer router or (if you are an XP user) upgrading to Vista. The Microsoft site just happens to include links to routers that have earned the Windows Vista logo.

IE Flashback

Problem: Internet Explorer has become completely unusable for browsing the Web.

Fast Fix: Reset all of IE's options to their original state. IE temp files, cookies, browsing history, stored passwords, sites added to your trusted zones, and more settings will be obliterated or returned to their default values. If you don't mind any of that, open IE and choose *Tools•Internet Options*. Select the *Advanced* tab, and click the *Reset* button. Click *Reset* again to confirm your decision, and then click *Close*, and *OK* twice. Finally, restart your revitalized IE.

Our Favorite Fix-It Freebies

SOMETIMES, TO GET the job done, you need specialized tools. Whether their purpose is to filter spam, to recover lost data, or to perform other housekeeping tasks, these utilities make Windows a better OS, and they won't cost you a dime.

Keep spam at bay: As PC problems go, few are more annoying or more widespread than spam. And as free fixes go, few are as handy and helpful as SpamBayes, a program that comes with plug-ins for Outlook, Outlook Express, and other POP3 e-mail clients. It uses a statistical algorithm that helps it learn what you consider spam, improving its filtering the more you use it. You can train it by sorting mail into 'spam' and 'not spam' folders, or just let it watch as you correct or confirm its guesses. find.pcworld.com/59053

Start stuff on shutdown: Windows conveniently provides a Startup group so that you can run applications automatically each time you log in. But why not add something that runs programs whenever you log out? For example, you could set it to make backups of the day's work files, or to scan for viruses. LastChance lets you do just that. The program intercepts shutdown commands and runs your chosen apps before your computer calls it quits. You can also set the utility to run programs when a resource (such as a network drive) becomes available, and to schedule shutdowns to occur automatically. find.pcworld.com/59054

Recover deleted files: If you tend to empty your Recycle Bin or to permanently delete files using <Shift>-<Delete> a little too quickly, Restoration (with a bit of luck) can save your bacon—or at least your deletions. Specify a folder location, or instruct the program to search the whole drive, and Restoration will do its best to recover the lost data. The program needs no installer, and it's so small that you can run it from a floppy disk, flash drive, or other portable medium. find.pcworld.com/59055

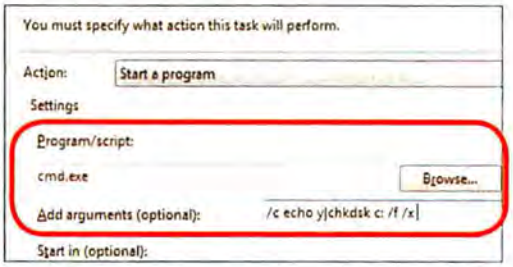
Rename files in a flash: Nearly everyone has a massive collection of digital photos and music files on their hard drive. Renaming all those files for sensible organization and quick recognition can be onerous. But Lupas Rename 2000 handles the chore with ease and sophistication. It can replace text; crop at the beginning, end, or any other position; and auto-number files, with a host of options. The program's preview pane lets you confirm that you have the settings you want before committing to the changes. find.pcworld.com/59056

Manage proliferating passwords: Tracking the passwords to the Web sites you visit doesn't get any easier as their number increases and you get older. The open-source database KeePass Password Safe stores your passwords in an encrypted database. All you have to do is remember the master password that unlocks them all. It's not as convenient as using your dog's name for every password, but it's a lot more secure. The Auto-Type command helps you enter your account names and passwords. find.pcworld.com/59057

Automate Your Disk Checking

Problem: Plenty of programs can protect my data by checking my PC's disks for flaws and fixing problems. Unfortunately, I rarely take the time to use the tools.

Fast Fix: To automate disk checking in XP, choose *Start•All Programs•Accessories•System Tools•Scheduled Tasks*. Double-click *Add Scheduled Task* to start the Scheduled Task Wizard, and click *Next*. In the Application list, select *Command Prompt* and click *Next*. If you don't see an entry for Command Prompt in the list, click *Browse*, find and select the file 'cmd.exe' in Windows' System32 folder, and click *Open*. Choose a time interval (*Monthly* is a good choice) and click *Next*. Specify the time, day, and months, and click *Next* again. Enter the account name and password that you use for logging in, and click *Next* once more. Check *Open advanced properties for this task when I click Finish*, and then click *Finish*. With the *Task* tab selected, edit the text in the Run box so that it reads **c:\windows\system32\cmd.exe /c echo y|chkdsk c: /f /x** (your path and options may differ). Click *OK*, and enter your account name and password again. Finally, click *OK* one more time (you may be asked to confirm your log-in ID and password once more).



DISK CHECKING IS EASY once you schedule an automatic scan via theTask Scheduler in Windows XP and Vista.

To automate disk checking in Vista, choose *Start•All Programs•Accessories•System Tools•Task Scheduler*. In the Actions pane on the right, click *Create Task*. Use the appropriate boxes to type a name for the task and, if you want, a description. Check *Run with highest privileges* and any other settings you wish. Select the *Triggers* tab and click the *New* button. Set the interval for checking your drive: For example, choose *Monthly*, *Select all months* in the Months drop-down menu, click *On*, and select *First* in the first drop-down to the right of the button and *Monday* in the second drop-down. Specify the time and other settings if you wish, and click *OK*. Select the *Actions* tab and click the *New* button. For 'Program/script', type **cmd.exe**. For 'Add arguments (optional)', type **/c echo y|chkdsk c: /f /x** (your options may differ; see the screen shot above). When you've completed these steps, click *OK*.

Analyze Your System Security

Problem: I'm not certain how secure my system is, but the last thing I want to do is pay some high-priced consultant to test it for me.

Fast Fix: Download the free Microsoft Baseline Security Analyzer (MBSA) and let the program perform a security check of your computer. MBSA also analyzes the security of Office, Exchange, and other Microsoft products. Download either the current version 2.0.1 or the beta 2.1 release at find.pcworld.com/59023. After installing the program, launch it and follow the prompts to analyze your own system or multiple computers. »

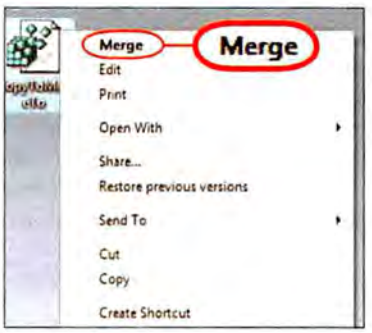
FIND OUT WHERE YOUR security is lax with the free Microsoft Baseline Security Analyzer.

Manage Files From Your Right-Click Menu

Problem: My right mouse button has delete, cut, and copy commands, but to copy or move a file, I then have to open a new Explorer window (or lose my place in the current Explorer window) to use the Paste command that completes the operation.

Fast Fix: You can invoke a prompt that asks for the destination folder by adding 'Copy to Folder' and 'Move to Folder' commands to your right-click menu.

First, create a Registry backup by setting a new restore point in System Restore. With your Registry backup in place, launch Notepad, click the *Format* menu, and make sure 'Word Wrap' is unchecked. Type these three lines:



ADD NEW COPY and move commands to your right-click menu by merging a short file into your Windows Registry.

Windows Registry Editor Version 5.00

[HKEY_CLASSES_ROOT\AllFilesystemObjects\shellex\ContextMenuHandlers\{C2FBB630-2971-11D1-A18C-00C04FD75D13}]

[HKEY_CLASSES_ROOT\AllFilesystemObjects\shellex\ContextMenuHandlers\{C2FBB631-2971-11D1-A18C-00C04FD75D13}]

Save the file and exit Notepad. Now right-click the file and choose *Merge* (see the screen shot above).

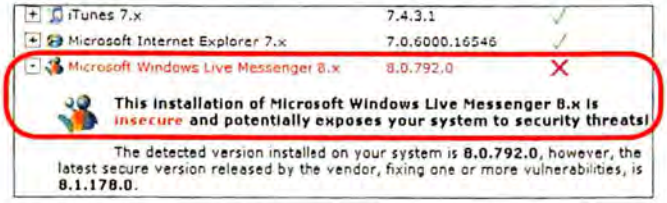
The next time you right-click a file, you'll see two new commands: 'Copy to Folder' and 'Move to Folder'.

Patch Your Apps and OS Together

Problem: I always grab the latest Windows security patches, but I sometimes neglect the other programs that pose a security risk when they're not kept up-to-date.

Fast Fix: To test the security of your applications, use the free online Secunia Software Inspector at find.pcworld.com/59026. You don't need to install anything; simply click *Start* and follow the instructions (see the screen shot below).

The analysis identifies applications that are outdated. Click the plus sign next to an entry for more details, and for links to the latest version.



CHECK YOUR PROGRAMS' security with the Secunia Software Inspector.

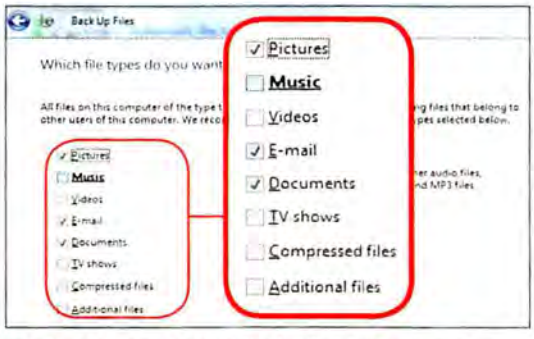
Back up your PC before you begin deleting or uninstalling older versions of any applications.

Stay Safe: Back Up by Bot

Problem: I know that backing up can save my hide—but I keep forgetting to do it.

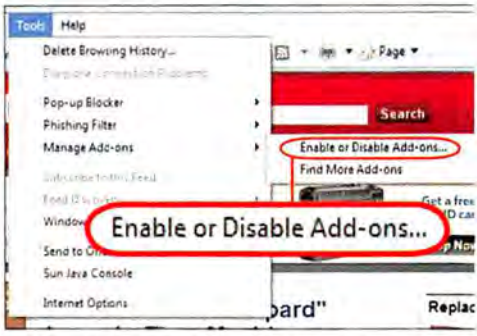
Fast Fix: The backup tools built into many editions of Windows XP and Vista let you schedule and perform automatic backups. Unfortunately, only XP Pro and Vista Business, Enterprise, and Ultimate include these tools by default. XP Home users, however, will find a backup program on their Windows CD: Navigate in Explorer to the *valueadd\msft\ntbackup* folder, right-click the *Ntbackup* file, and choose *Install*. If you use Vista Home Premium, you'll have to find a backup program elsewhere; see find.pcworld.com/59021 and go to "Make Image Backups" for more on backing up Home Premium.

In XP, click *Start•All Programs•Accessories•System Tools•Backup*. If it's already set to start in Advanced mode, choose *Tools•Switch to Wizard Mode*. Step through the wizard, specifying what to back up and where. At the 'Completing the Backup or Restore Wizard' screen, click *Advanced*. Specify the type of backup (such as *Incremental*) and click *Next*. Set other options on the subsequent screens, and click *Next* for each. At 'When to Back up,' check *Later*, type a name for the backup, and then click *Set Schedule*. Use the settings listed under the Schedule and Settings tabs in the Schedule Job dialog box to customize when and how often to back up, and click *OK*. Enter your log-in name and password twice, and then click *OK* again. Click *Next*, enter your password two more times, and click *OK* and *Finish*.



MAKE NO-BRAINER BACKUPS in Vista by following the prompts in the Backup Status and Configuration wizard.

In Vista, choose *Start•All Programs•Accessories•System Tools•Backup Status and Configuration*. Click *Set up automatic file backup*. Follow the prompts to set what, where, and when to back up (see the image above). To make changes later on, return to this utility and click *Change backup settings* or *Turn off* to modify or disable your backup bot.



TRACK DOWN PESKY plug-ins in IE7 via the 'Enable or Disable Add-ons' command.

Solve Sluggish Surfing

Problem: My Web browsing is slow and sometimes stops altogether.

Fast Fix 1: If surfing is less responsive or impossible, your PC may have caught an infection. Use an antivirus utility or a repair tool to check for problems. Or try Microsoft's free Malicious Software Removal Tool (find.pcworld.com/59042); just download the applet and follow the instructions.

Fast Fix 2: Install a new version of your browser, or patch your current one. To obtain the latest version of IE 7, choose *Tools•Windows Update*. In Mozilla Firefox, click *Help•Check for Updates*.

Fast Fix 3: You may have an issue with browser plug-ins or add-ons. To test this, disable all add-ons. If the problem goes away, enable one add-on and test again. Repeat until you find the culprit.

To disable add-ons in Firefox, choose *Tools•Add-ons*, and click *Disable* by each item until all are off. Close the window and restart Firefox. If the problem is solved, reopen the Add-ons window, click *Enable* for one entry, close, and restart. Rinse and repeat as needed.

In IE 7, choose *Start•All Programs•Accessories•System Tools•Internet Explorer (No Add-ons)*. If that solves the problem, restart IE normally and choose *Tools•Manage Add-ons•Enable or Disable Add-ons* (see the image above). Pick an add-on and click *Disable*. Repeat this for all but one, and click *OK* twice. Restart IE. If everything is still fine, select another disabled add-on, and click *Enable*. Click *OK* twice and restart IE. Repeat until you find the misbehaving add-on. »

Xtreme Gear recommends Windows Vista™ Home Preimum

AMD Smarter Choice

AMD 64 Athlon X2

- Run all your gadgets quickly, seamlessly and simultaneously.
- Smarter use of your time; do more in less time because now you can do multiple things faster than ever before.
- Video & photo editing, content creation and audio mixing.

AMD Turion 64 X2 MOBILE TECHNOLOGY

- AMD PowerNow!™ for longer battery life.
- True multi-tasking capability – get more done in less time.
- Get creative. Get mobile. Get going.

XG ACTION 6000

AMD Turion™ 64 X2 Mobile Technology TL-60

Genuine Windows Vista™ Home Preimum
AMD Turion™ 64 X2 Mobile Technology
- AMD PowerNow! Technology
- HyperTransport Technology
- Enhanced Virus Protection Technology

15.4" WXGA Wide-Screen TFT Display 1280x800 Pixels
Corsair® 2048MB DDR-2 667 Dual Channel
120GB 5400RPM SATA Notebook Drive
NVIDIA® GeForce® Go 7600 256MB Video
8X DVD+-RW Drive
802.11G 54Mbps Wireless Network 10/100 NIC and 56k V.92 Modem
6 Custom Colors to Choose From
1 Year Limited Warranty + Lifetime Toll Free 24/7 Techsupport
Free 1GB Pen Drive

$ 965

FREE SHIPPING

Configure your Dream System at Xtreme Gear Today!

XG XION 9000

AMD Athlon™ 64 X2 6400+ Processor Black Edition

Genuine Windows Vista™ Home Preimum 64 Bit Edition
NVIDIA® nForce® 570 SLI™ Dual 16X PCI-E Mainboard
Vigor Mooinsoon II Lite Air Conditioning Cooling Sys.
Corsair® 4096MB PC6400 DDR-2 800 Dual Channel
1TB (2X500GB) Serial ATA150 7200RPM 16mb HD
Dual (2) NVIDIA® 8800 GTX with 740MB in SLI™ Mode
20X DVD+-RW with Lightscribe Technology
16X-DVD ROM Drive
7.1 nForce® 3D Audio
Logitech 5.1 Subwoofer Speakers
Gigabit Network Card
PCI 802.11G 54 Mbps Wirless Network Card
SilverStone TJ09 Game Server Case 600Watt Power
1 Year Limited Warranty + Lifetime Toll Free 24/7 Techsupport
Free 1GB Pen Drive

$ 2325

XG XION 7000

AMD Athlon™ 64 X2 6000+ Processor

Genuine Windows Vista™ Home Preimum
NVIDIA® nForce® 570 SLI™ Dual 16X PCI-E Mainboard
Corsair® 2048MB PC6400 DDR-2 800 Dual Channel
320GB Serial ATA150 7200RPM 16mb Cache HD
NVIDIA® 8800 GT 1GB DDR3 16X Video
20X DVD+-RW Drive
16X-DVD ROM Drive
7.1 nForce® 3D Audio
Logitech Stereo Speakers
Gigabit Network Card
PCI 802.11G 54 Mbps Wirless Network Card
Antec Nine Hundred Tower Case 500Watt Power
1 Year Limited Warranty + Lifetime Toll Free 24/7 Techsupport
Free 1GB Pen Drive

$ 959

XG XION 4000

AMD Athlon™ 64 X2 5200+ Processor

Genuine Windows Vista™ Home Preimum
NVIDIA® nForce® 570 SLI™ Dual 16X PCI-E Mainboard
Corsair® 2048MB PC6400 DDR-2 800 Dual Channel
320GB Serial ATA150 7200RPM 16mb Cache HD
NVIDIA® 8600 GT 512MB 16X Video
20X DVD+-RW Drive
16X-DVD ROM Drive
7.1 nForce® 3D Audio
Logitech 5.1 Subwoofer Speakers
Gigabit Network Card
PCI 802.11G 54 Mbps Wirless Network Card
Turbo X-Cruiser Case 420Watt
1 Year Limited Warranty + Lifetime Toll Free 24/7 Techsupport
Free 1GB Pen Drive

$ 719

XG XION 3000

AMD Athlon™ 64 X2 4200+ Processor

Genuine Windows Vista™ Home Preimum
NVIDIA® nForce® 570 SLI™ Dual 16X PCI-E Mainboard
Corsair® 1024MB PC6400 DDR-2 800 Dual Channel
250GB Serial ATA150 7200RPM 8mb Cache HD
NVIDIA® 8400 GS 512MB 16X Video
20X DVD+-RW Drive
16X-DVD ROM Drive
7.1 nForce® 3D Audio
Logitech Stereo Speakers
Gigabit Network Card
PCI 802.11G 54 Mbps Wirless Network Card
Xion II Mid-Tower Case 420Watt Power
1 Year Limited Warranty + Lifetime Toll Free 24/7 Techsupport
Free 1GB Pen Drive

$ 599

TOLL FREE 1-888-937-5580 WWW.BUYXG.COM

AMD®, the AMD® Arrow logo, AMD® Athlon™, and combinations thereof are trademarks of Advanced Micro Devices, Inc. All prices are subject to change without notice or obligation. XtremeGear is not responsible for any typographical and photographic errors. Copyright © 2007 XtremeGear. All rights reserved. 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

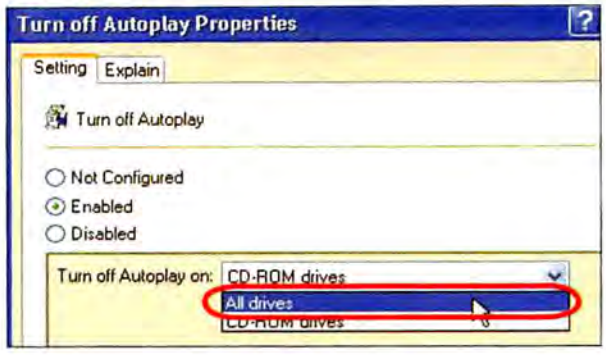
Make Windows Defrag for You

Problem: As with any PC housekeeping chore, finding the time to defrag my disks is getting tougher and tougher.

Fast Fix: Make Windows do the disk-defragmenting. In XP, follow the same steps as in "Automate Your Disk Checking" on page 101 to create a Scheduled Task, but when editing the command line in Advanced Properties, change it to **cmd.exe /c defrag c: -f -v > "c:\doc\report.txt"** (your switches and the path to your report file may be different).

In Vista, change the text in the 'Add arguments (optional)' box to **/c defrag -c -f -v -w > "c:\doc\report.txt"** (your switches and report path may differ).

Turn Off Autoplay



GET RID OF RISKY autoplay for all devices through the Group Policy Editor.

Problem: Autoplay works not only on CD-ROMs, but also on the flash drives and external hard drives that I connect to my PC. I'm worried that if some piece of malware gets on one of those devices, Autoplay will give it a clear path onto my system.

Fast Fix: Set your version of Windows to disable the Autoplay feature for all of your system's drives. The quickest way I know of to accomplish this result is to establish a group policy for your computer.

In XP, press **<Windows>-R**, type **gpedit.msc**, and press **<Enter>**. In the tree pane on the left, navigate to and select *Local Computer Policy\Computer Configuration\Administrative Templates\System*. Scroll in the right pane and double-click *Turn off Autoplay*. In the 'Turn off Autoplay Properties' dialog box, click *Enabled* and choose *All drives* from the drop-down list underneath (see the screen shot above). Click *OK*.

In Vista, press **<Windows>-R**, type **gpedit.msc**, and press **<Enter>**. Click *Continue* when prompted by User Account Control. In the tree pane on the left, navigate to and select *Local Computer Policy\Computer Configuration\Administrative Templates\Windows Components\AutoPlay Policies*. Double-click *Turn off Autoplay*. Click *Enabled* and *OK*. Next, double-click *Default behavior for AutoRun*. Click *Enabled*, and choose *Do not execute any autorun commands* in the resulting drop-down list. Finish by clicking *OK*.

Use Keys to Start Quick Launch Items

Problem: I want to be able to launch items in my taskbar's Quick Launch toolbar without reaching for my mouse.

Fast Fix: In XP, you can assign keyboard shortcuts either to items on your Desktop or to entries on your Start menu. The latter is a cleaner solution, so right-click the *Start* button and choose either *Open* or *Explore*. Double-click the *Programs* folder. To keep things organized, right-click in that window and choose *New• Folder*. Name the folder something like **Keyboard shortcuts**, and press **<Enter>**. Now double-click that folder, right-click and drag items from the Quick Launch bar into this folder one at a time, and choose *Copy Here*. Right-click each newly copied shortcut and select *Properties*. With the Shortcut tab highlighted, click in the 'Shortcut key' box and press the keys that you'll use to launch the program; they must begin with **<Ctrl>-<Alt>**, **<Ctrl>-<Shift>**, **<Shift>-<Alt>**, **<Ctrl>-<Shift>-<Alt>**, or a function key (**<F1>** through **<F12>** on most keyboards). Click *OK*.

CHANGE YOUR PC's keyboard shortcuts for Quick Launch icons in Vista by dragging an icon to a new position.

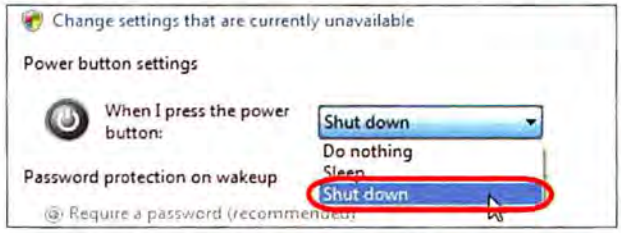
In Vista, the system automatically assigns <Windows>-key shortcuts to Quick Launch items based on their order in the toolbar. Launch the first item by pressing **<Windows>-1**, the second by pressing **<Windows>-2**, and so on (see the image above).

Shut Down Instantly

Problem: When I want to shut off my computer, I want to do it *now*, without my having to point and click interminably.

Fast Fix: Reprogram your system's power button to exit Windows, without any prompts (except to save unsaved work, as needed). In XP, open Control Panel. In the 'Performance and Maintenance' category, launch *Power Options*. Click the *Advanced* tab. Under 'When I press the power button on my computer', select *Shut down*. Then click *OK*.

In Vista, click the *Start* button, type **power options**, and press **<Enter>**. In the upper left, click *Choose what the power button does*. Next to 'When I press the power button', select *Shut down* (see the image below). Finally, click *Save Changes*.



TURN OFF WINDOWS with the press of your PC's power button by selecting this setting in your Power Options Control Panel app.

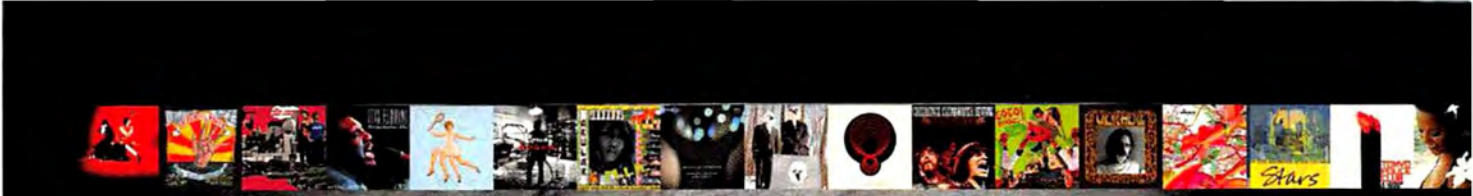


photo by Bill Bernstein

WE'RE THE HOME FOR ARTISTS FROM LITTLE TOWNS AS FAR AWAY AS SAY, LIVERPOOL.

Paul McCartney
memory almost full
download at www.emusic.com/pcworld07

WORKS ON ANY MP3 PLAYER - INCLUDING THE IPOD.®

Get up to 25 downloads with a free 14-day eMusic trial subscription. Offer available to first-time eMusic customers only. Credit card required. Music offer and eMusic's prices are subject to change without notice and are subject to eMusic's terms of use. eMusic is a registered trademark and the eMusic logo is a trademark of eMusic.com Inc in the USA and other countries. iPod is a registered trademark of Apple Computer, Inc. Apple is not a partner or sponsor of eMusic.

eMusic

№1 Site for Independent Music

Pocket-Perfect

These sleek point-and-shoot cameras reach resolutions as high as 12 megapixels, have fancy features such as image stabilization and face detection, and come in snazzy colors. Better yet, some very capable models cost as little as $200.

Picture Takers

BY GREG ADLER, TRACEY CAPEN, PAUL JASPER, NARASU REBBAPRAGADA, AND ALAN STAFFORD

PCW Test Center

A CRY FOR attention, or simply an exuberant display of personal style? For camera makers and camera owners, it's tough to stand out in a crowd where so many products have lots of megapixels, tiny bodies, and low prices—the reason, perhaps, why many new point-and-shoot models come clad in electric blue, powder-puff pink, race-car red, or foreboding black.

But while most camera makers are producing snazzier-looking models, they're not getting by on looks alone; they're also making better units. Of the 16 cameras we tested for this roundup, the lowest resolution we saw was 7 megapixels, and the highest was 12.2 megapixels. »

PHOTOGRAPH: MARC SIMON

We saw some excellent shots in our tests, and unlike the compact cameras that we've tested in years past, practically every model had a strong, long-running battery. The Casio Exilim EX-1080 held out for 500 shots—our test maximum—and even the most power-hungry camera in the group, the Nikon Coolpix S51, took 190 shots.

All but one of the units we examined had image stabilization features—some models use hardware-based systems, while others can boost their light sensitivity to as high as ISO 6400, which allows them to use a higher shutter speed, thus reducing blur (but risking increased image noise). Many had face-detection features to help them capture portraits in focus and with the proper exposure. Fujifilm's FinePix F50fd, our top-rated model, had the company's newest face-detection circuitry, which helped it recognize people's mugs whether they were looking straight at the camera or at our feet. All units rely heavily on having lots of scene modes (the Exilim EX-1080 tops the field with an indecision-inducing 41).

TINY BUTTONS ON our Best Buy camera, the Fujifilm FinePix F50fd, control its image stabilization (top) and face detection features (back). Most of the cameras in our roundup include these two features.

The other significant trend among point-and-shoot cameras is toward big LCDs. Screens in pocket cameras used to be tiny, but the latest units have ones measuring as large as 3.1 inches. A few have a wide screen—they capture widescreen stills and, in a very few, video.

Fujifilm's FinePix F50fd won our best buy with the top overall performance score, tons of useful features, and a fair price—but flashy, it's not. Among the cameras that we also tested but that did not make our chart are the Canon PowerShot SD870 IS, the HP Photosmart R742, the Kodak EasyShare M853, the Olympus Stylus 820, the Nikon Coolpix S51, and the Sony DSC-T70; you can read their reviews and peruse the extended features of all the cameras in our roundup at find.pcworld.com/59161.

Fujifilm FinePix F50fd

Portly and plain are not the most compelling adjectives for a point-and-shoot digital camera, but the $300 Fujifilm FinePix F50fd has very high resolution, offers tons of features, and performed quite well in our tests. It may look a bit dull, but the looks are only shell-deep.

Though it weighs more than most of the units in this roundup, it also has a larger-than-average LCD panel, at 2.7 inches, and a higher resolution (12 megapixels) than most. Fujifilm gave the F50fd all of the latest gee-whiz digital camera features too, including image stabilization and, according to the company, a newer version of the face-detection technology Fujifilm uses that can detect faces at up to a 90-degree angle (30 degrees is the limit for the company's older models). The F50fd did seem to lock on to faces more easily than the other units I tried, doing so whether they were looking at the camera or not. And it starts up quickly, though its LCD panel seemed a little slow to adjust to changing lighting conditions.

You can choose a power-management mode to save battery power, another mode to make the autofocus system as quick as possible, and a third to max out the LCD's clarity (it also, it seemed to me, quickened the autofocus). I like having the option of saving power, but I didn't like having to choose between the other two. In the default, power-saving mode, the F50fd took 276 shots over about 2.5 hours in our tests.

In our image-quality tests, the F50fd earned the highest mark in the group for having the least distortion, and also received very high marks for sharpness. Because its flash is a bit weak, the unit did not get high scores for its flash shots, but overall it earned a rating of Very Good for its performance.

Fujifilm offers flashier, more-colorful models, including the FinePix Z-10, which comes in six fruity hues. But if you're more concerned with what your pictures look like than what your camera looks like, the unassuming F50fd is probably a better bet. —*A.S.*

Casio Exilim EX-Z1080

The first things anyone would notice about the $280, 10.1-megapixel EX-Z1080 we tested are its metallic-pink shell and the big sticker touting its YouTube-capture mode (the camera also comes in blue, black, and silver). The camera's 2.6-inch LCD fits within a 3.5-inch-wide body. But a narrow column on the wide-format screen's left side holds the unit's settings menu, so the viewing area during shooting is more like 2.25 inches. That said, I found the viewfinder exceptionally clear and sharp, even in bright sunlight.

When you dock the camera in its cradle and press the USB button, the included software detects video files and lets you upload them to the YouTube site in a couple of clicks. The camera has a daunting 41 scene modes, but it presents them nicely with colorful samples and short descriptions of each.

Images looked sharp and accurately exposed, with pleasing though not

PHOTOGRAPHS: MARC SIMON (LEFT); ROBERT CANDY

especially saturated colors. The only shortcoming of our lab shots (taken under artificial light) was a slight green tinge to our neutral-gray background.

I liked the EX-Z1080 for its small size and quick control menus. But unless you're a YouTube junkie, there's little to set this camera apart from the dozens of other compact models. —*T.C.*

Canon PowerShot SD850 IS

Sleek and silvery, the $350 PowerShot SD850 IS exemplifies Canon's Digital Elph line: solidly built, beautifully designed, and sweet to use. One of three Elphs we reviewed together (the other two being the $450 SD950 IS and the $400 SD870 IS), this model has a simpler set of features compared with its siblings. Whereas the SD870 IS (which did not make our chart) has a 3-inch LCD and a 28mm zoom, the SD850 IS still offers a sharp, bright 2.5-inch LCD and a 4X optical zoom that starts at a more traditional 35mm. It has an optical view- »

Fujifilm's Best Pocket Camera Wins but Doesn't Come in Flashy Colors

	POINT-AND-SHOOT CAMERA	PCW Rating	Performance	Features and specifications	Bottom line
1	BEST BUY Fujifilm FinePix F50fd $300 find.pcworld.com/58997	78 GOOD	• Image quality: Very Good • Battery life: Good • Overall design: Good	• 12 megapixels • 35mm to 105mm zoom • 14 scene modes • 6.3 ounces	Though it looks dull compared with some of the flashier models we tested, it has all the latest features and takes great shots.
2	Casio Exilim EX-Z1080 $280 find.pcworld.com/59002	77 GOOD	• Image quality: Good • Battery life: Superior • Overall design: Good	• 10.1 megapixels • 38mm to 114mm zoom • 41 scene modes • 5.4 ounces	Small size, quick operation, and long battery life make this a great pocket camera. It's available in several colors.
3	Canon PowerShot SD850 IS $350 find.pcworld.com/58998	77 GOOD	• Image quality: Good • Battery life: Good • Overall design: Very Good	• 8 megapixels • 35mm to 140mm zoom • 11 scene modes • 6.7 ounces	The SD850 IS performs similarly to the newer SD870 IS but has a smaller LCD, a lens that isn't as wide—and a better price.
4	Pentax Optio M40 $200 find.pcworld.com/59012	77 GOOD	• Image quality: Fair • Battery life: Good • Overall design: Very Good	• 8 megapixels • 36mm to 108mm zoom • 11 scene modes • 4.6 ounces	Not the jazziest-looking camera, the M40 earned its chart spot with a sturdy body and a low price. Flash shots looked drab.
5	Canon PowerShot SD950 IS $450 find.pcworld.com/59000	77 GOOD	• Image quality: Very Good • Battery life: Good • Overall design: Very Good	• 12.1 megapixels • 36mm to 133mm zoom • 11 scene modes • 6.7 ounces	It's very expensive for a pocket camera—and too large for many pockets—but it's also quite well made and performs admirably.
6	Olympus FE-280 $200 find.pcworld.com/59007	76 GOOD	• Image quality: Good • Battery life: Good • Overall design: Good	• 8 megapixels • 36mm to 108mm zoom • 21 scene modes • 3.9 ounces	The FE-280 is the lightest camera on the chart and one of the least expensive, but its images scored about average in our tests.
7	Panasonic Lumix DMC-FX100 $400 find.pcworld.com/59009	76 GOOD	• Image quality: Very Good • Battery life: Very Good • Overall design: Very Good	• 12.2 megapixels • 28mm to 100mm zoom • 22 scene modes • 6.2 ounces	A close cousin to Panasonic's DMC-FX55, this model has a higher resolution and a higher price, but a slightly smaller LCD.
8	Panasonic Lumix DMC-FX55 $350 find.pcworld.com/59011	76 GOOD	• Image quality: Good • Battery life: Good • Overall design: Very Good	• 8.1 megapixels • 28mm to 100mm zoom • 22 scene modes • 5.1 ounces	The DMC-FX55 has a superb 3-inch LCD, but that screen saps battery life, and images weren't as sharp as those of the DMC-FX100.
9	Casio Exilim EX-S880 $250 find.pcworld.com/59001	76 GOOD	• Image quality: Fair • Battery life: Very Good • Overall design: Good	• 8.1 megapixels • 38mm to 114mm zoom • 35 scene modes • 5.1 ounces	The EX-S880 costs less than the EX-Z1080, but it has a lower resolution, too. Uploading video from it to YouTube is nearly automatic.
10	Kodak EasyShare V1253 $300 find.pcworld.com/59005	76 GOOD	• Image quality: Fair • Battery life: Very Good • Overall design: Good	• 12.1 megapixels • 37mm to 111mm zoom • 22 scene modes • 6.1 ounces	You can shoot high-definition video on the V1253 and, with an optional HDTV docking station, display it on your television.

CHART NOTES: Ratings and prices are as of 11/07/2007.

finder, too, which the SD870 IS lacks.

In look and operation, the 8-megapixel SD850 IS is virtually a twin to the 12-megapixel SD950 IS (also reviewed on this page). Both come wrapped in a rugged-feeling metal shell (the latter's is titanium). The SD850 IS costs about $100 less than its sibling, though.

According to their published specifications, all three cameras use the same LCD technology. In bright sunlight, however, wearing my expensive prescription (and polarized) sunglasses, I could easily view the LCD of the SD850 but not the LCDs of the other two.

The innovative focus-check window, shown during the instant shot review, magnifies a portion of your photo, enabling you to see whether that future enlargement will be sharp.

Images shot with the SD850 IS were a bit underexposed, but still pleasing, and they looked sharp. Landscapes had good color saturation, though the color balance was a touch on the bluish side.

While the SD850 IS may not have the large LCD of the SD870 IS or the high megapixel count of the SD950 IS, it is still a fine point-and-shoot—and a better value than its two siblings. *—T.C.*

Pentax Optio M40

The 8-megapixel Optio M40 is an affordable $200. It has a brushed aluminum finish, which looks a bit dated now that cameras come in so many different colors.

Its 2.5-inch LCD has a relatively low 150,000-pixel resolution. A button lets you delete images in playback mode or while the instant review appears on screen after the camera takes a shot, but you can program it to work as a shortcut to various menu functions.

The M40 detects faces and sets the appropriate focus and exposure automatically in its portrait and 'natural skin' scene modes. In my tests, this capability didn't work as well as the face-recognition features on other cameras did; I couldn't get it to lock on to more than one face at a time.

Our lab tests saw mostly acceptable results, with one exception: Flash photos of our test mannequin showed flat skin tones, dull colors, and dark shadows. We were able to take 266 shots on a single charge of the unit's lithium ion cell—about average for this group.

The Optio M40 is mostly average in its performance and features. Nevertheless, for $200 it remains a good buy. *—P.J.*

Canon PowerShot SD950 IS

At the top of Canon's Digital Elph line, the $450 SD950 IS looks stylish and is a pleasure to use. Wrapped in a titanium shell, it should handle bumps better than the average snapshot camera.

The SD950 takes videos at 1024 by »

Where Have All the Advanced Cameras Gone?

CANON'S INTRODUCTION OF the Digital Rebel single-lens reflex (SLR) camera in fall 2003—soon followed by inexpensive digital SLRs from other makers—put a serious dent in a category of digital cameras that *PC World* calls "advanced." Neither as large as SLRs nor as simple as point-and-shoots, advanced models have fixed lenses, sophisticated manual exposure controls, and high resolution. But if you can get an SLR for little more than the price of a fixed-lens advanced camera, why would you buy the latter?

CANON POWERSHOT G9

The advanced models that are still available provide some conveniences that SLRs don't: They are smaller and lighter than an SLR. Canon's PowerShot G9 weighs nearly a third less than the original PowerShot G1 (an advanced model), and roughly half what the latest Digital Rebel weighs with a lens attached. Also, all advanced models offer a live image preview on their LCDs, whereas most SLRs still lack one. And though few people now purchase wide-angle or telephoto adapters for advanced cameras—photographers who want those features usually buy SLRs—underwater housings are smaller and considerably less expensive for the advanced units.

In addition, prices have come down for advanced cameras. For example, Nikon's recent Coolpix P5100 costs $400, or less than half what a Coolpix 8800 cost in 2005; Olympus' SP-560Z is priced at $500, or half what the company sold its C-8080 for in 2004.

But SLRs still have a decided edge in several areas, according to Canon spokesperson Chuck Westfall. SLRs have less shutter lag than a typical compact camera does, and they offer better image quality—especially at higher ISOs—in large part because their bodies can accommodate larger sensors, which require less signal amplification and thus generate less image noise. Westfall says that camera makers today are capable of fitting an SLR-size sensor into a camera the size of the PowerShot G9, but that the supporting circuitry still needs to be scaled down.

But before you mourn the scarcity of advanced models, pause to celebrate the declining prices of consumer digital SLRs. Not only do many new SLRs cost less than they did before, they cost less than many advanced models used to. *—Alan Stafford* »

PHOTOGRAPHS: MARC SIMON (BOTTOM); ROBERT CARDIN

768 pixels—a significant improvement over the 640-by-480 limit that most models have. But the Canon records those higher-resolution movies at 15 frames per second (versus 30 fps at 640 pixels), so movies can be a little jumpy.

The SD950 IS lets you delete a photo immediately after you take a shot, but this unit (like its siblings, the SD870 IS and the SD850 IS, also included in our roundup) takes quick review a step further: A small window shows a magnified portion of your shot, so you can double-check focus. You can check the original points of focus and move the window to any other part of your photo.

In our rigorous lab tests, the 12.1-megapixel SD950 IS produced sharper image details than did 8-megapixel point-and-shoot models. Test photos were free of distortions such as color banding and speckling (or noise). In most shots, images looked slightly underexposed, and colors weren't as warm as we'd have liked. But overall, we were quite pleased with the results. We also ran an unscientific test of the SD950 IS's optical image stabilization. It worked well when shooting objects in shade at full telephoto—a tough situation where seemingly minor camera shake can ruin an otherwise great shot.

At $450, the SD950 IS is pricey for a point-and-shoot, but if you're looking for a compact camera that goes well beyond happy snaps, this Canon is an extremely attractive package. —*T.C.*

HELP ME! THE Olympus FE-280 has text-based help wizards that adjust settings for you.

Olympus FE-280

The 8-megapixel Olympus FE-280 costs $200—a pretty nice price. Its 2.5-inch LCD becomes extra bright when you hold the shutter release halfway down, but its real-time preview can look grainy.

We had a good laugh with the Smile Shot mode, which automatically takes a picture of a subject when he or she smiles. Olympus says that this mode employs the FE-280's face-detection technology and uses an algorithm to look at the jawline, neck, and teeth to recognize a smile. In our tests it sometimes failed to recognize a solo smiling subject, and it never recognized the smiles of multiple subjects. Honestly, you'd be better off pressing the shutter release and taking the picture yourself.

The FE-280 did not excel in any of our five image-quality tests, aside from a second-place score for exposure quality. I found pictures of a still life and a female mannequin to be drab but with good contrast. And in our black-and-white line-art tests, it definitely wasn't the sharpest tool in the shed.

One setting on the mode dial, called Guide, gives you instructions for experimenting with different zoom, exposure, color, and effects settings. Of the options available here, I found the 'Color effects' preview the most useful. It gave me a four-way split window for displaying the results of different white-balance effects, so that I didn't have to try each one from the regular camera menu.

I liked the FE-280 because it's cheap and cute, and it fits easily in my pocket. Anyone with greater ambitions, however, will outgrow it quickly. —*N.R.*

Panasonic Lumix DMC-FX100

Panasonic's elegantly styled Lumix DMC-FX100 is a near-twin to the DMC-FX55 (below), differing primarily in maximum resolution and LCD size: The $400 DMC-FX100 records a whopping 12.2 megapixels versus 8.1 megapixels for the $350 DMC-FX55. But the DMC-FX55 has a 3-inch LCD versus a 2.5-inch screen for the DMC-FX100.

Beyond that, the two cameras have much in common. You get a smooth, precise 3.6X zoom lens that starts at 28mm, giving you significantly more coverage than the 35mm wide-angle found in most small digital cameras. One unique feature of the DMC-FX100 is its E.Zoom button, which swiftly shifts the zoom from one end of the focal-length range to the other.

The DMC-FX100's color and exposure accuracy were about average for recently tested point-and-shoots—good, but not outstanding. In image sharpness, however, the DMC-FX100 excelled, earning the second-highest score among the cameras in our roundup.

Bottom line: The DMC-FX100 is a pleasing package of solid construction, flexible and user-friendly controls, and high resolution for big prints. —*T.C.*

Panasonic Lumix DMC-FX55

Panasonic's Lumix DMC-FX55 is as handsomely designed as it is functional. This 8.1-megapixel camera is not quite small enough to slide comfortably into a shirt pocket, but it has the feel of a solidly built machine that should stand »

up to many photo-worthy travels.

In place of the four-way thumb button that most cameras have for navigating settings menus, the DMC-FX55 has a mini-joystick that handles multiple tasks, such as quickly changing flash settings or shifting exposure compensation. Its Function menu, though valuable, is not quite as useful as the similarly labeled control included in the Canon Digital Elph models we reviewed.

Each scene mode includes a brief, unhelpful text description. For example, the text for the Aerial Photo scene says: "For taking pictures through an airplane window. Please turn off the camera when taking off or landing."

The image quality is average for a recently tested 8-megapixel camera. The DMC-FX55 earned middle-of-the-field scores from the PC World Test Center for sharpness and for color and exposure accuracy. Scenic shots taken in bright sun had good color saturation; wide-angle shots had nice detail, but those taken at full telephoto were a little soft.

There's much to like about the $350 DMC-FX55: It's easy to use and is well put together. For the price, though, we'd like to see better image quality. —*T.C.*

Casio Exilim EX-S880

The slim and attractive Casio Exilim EX-S880 ($250) features a bright and sharp 2.8-inch LCD screen with an unusual 14:9 aspect ratio. The maximum video resolution is 848 by 480 pixels—short of HDTV quality, but a higher resolution than most cameras can manage.

With face detection enabled, the live preview puts a box around up to ten faces detected by the camera. You can also program the EX-S880 to recognize family members or friends and to assign them a priority order. The EX-S880 also offers a tracking mode for its autofocus system. In conjunction with face detection, auto-tracking helps to keep portraits in focus and correctly exposed, even when the subjects won't stay still.

TO CHARGE THE Casio EX-S880's battery, you must use its included dock, AC adapter, and cord; Canon models have a charger with fold-away prongs.

The Best Shot button gives a choice of 41 scene modes, including one called 'For YouTube' (it's also on the Exilim EX-Z1080). When you dock the camera in its cradle and press the USB button, the included software detects any video files in a special folder and helps you upload them to the YouTube Web site.

In our laboratory tests, the EX-S880 produced some of the most accurately exposed flash photos we've ever seen. Unfortunately, results weren't as good for daylight shots. Distortion and sharpness were below par too. But we took an above-average 332 shots on a single charge in our battery tests. To recharge the lithium ion cell, you dock the camera into an included cradle.

If you often shoot family portraits or are hooked on YouTube, the Casio Exilim EX-S880 could be a good choice. But its inconsistent image quality is a good reason to shop around. —*P.J.*

Kodak EasyShare V1253

Kodak EasyShare V1253 is a great camera for shooting photos and video to display on your HDTV. You get the benefit of the $300 camera's full 12.1-megapixel resolution when you take 4:3 aspect ratio photos. However, I found myself more likely to shoot in its 16:9 widescreen mode, which records at a still ample 9 megapixels, because I could display those shots full-screen, without cropping, on an HDTV. The V1253 can shoot HDTV video as well: It captures 1280-by-720-pixel footage at 30 frames per second and records stereo sound from two microphones on the front.

The tiny joystick to the right of the screen is a little fiddly, but the menus are attractive and intuitive. You can obtain a brief help message on any menu item by flicking the zoom button.

The plastic case seems tough enough to survive most knocks, and it looks attractive. The camera did a good job of setting the focus and exposure correctly for a single face, even in wide-screen portraits, which usually look better when you place the subject off-center, but I had a harder time locking in on more than one person at a time. The unit is somewhat slow to focus too.

The V1253's image quality impressed our panel of judges. We saw excellent daylight exposure accuracy, bright color fidelity, and razor-sharp details. Only a flash exposure left significant room for improvement.

You can recharge the camera's lithium ion battery only by using the included USB cable. In our tests, we were able to take 240 shots on a single charge, which was about 17 percent below the average for cameras in this roundup.

If you want to shoot photos and then display on your HDTV, you'll love the Kodak EasyShare V1253. It looks smart and is a breeze to use. —*P.J.* ●

PHOTOGRAPHS: MARC SIMON (TOP); ROBERT CARDIN

The new SE110 Sound Isolating™ Earphones from Shure use the same technology professional musicians use. Only you don't have to be a rock star to afford them. Rock out to your music while blocking out background noise for full, rich, detailed sound. All for under $100.00. Check out a pair or see our full line of Sound Isolating earphones at shure.com.

SHURE®

LEGENDARY
PERFORMANCE™

www.shure.com

© 2007 Shure Incorporated

CASH REGISTER EXPRESS™

More Profit! • More Sales! • More Customers!

Save Time, Reduce Theft, Speed Checkout, Increase Accuracy,
Reduce Costs, Make Better Business Decisions by Computerizing your Retail Store

The World's Fastest Cash Register

- RATED #1
- Single or Multi-User
- One Store or Multiple Store
- Credit Card Authorization in 2-3 Seconds
- Gift Cards & Loyalty Cards
- Track Your Inventory and Customers
- Detailed Sales Reports
- FAST and EASY Checkout
- Convenience Stores & Grocery Stores
- Gift Shops
- Apparel / Clothing
- Liquor & Tobacco Stores
- Cellular & Electonics
- Restaurants, Delis
- Any Store Requiring a Cash Register

Bar Code Scanners ~~$295~~
Metrologic, Symbol, HHP, PSC

Receipt Printers ~~$299~~
Epson, Star, Ithaca, Citizen

Portable Invoicing, Inventory/Asset Tracking & Data collecton - ~~$499~~
Symbol, HP Palm

Cash Drawers ~~$189~~
MMF, Indiana, APG, Logic Controls

Bar Code Printers ~~$499~~
Cognitive Solutions, Fixed & Portable

Pole Displays ~~$289~~
Logic Controls

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

Cash Register Express software for Windows $495
Replace your Cash Register with Cash Register Express in any type of retail store. With over 1,000 of the most desired point of sale features, Cash Register Express will help you compete in a difficult retail environment by controlling your costs, reducing errors, increasing efficiency, increasing your profits and increasing your sales.

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

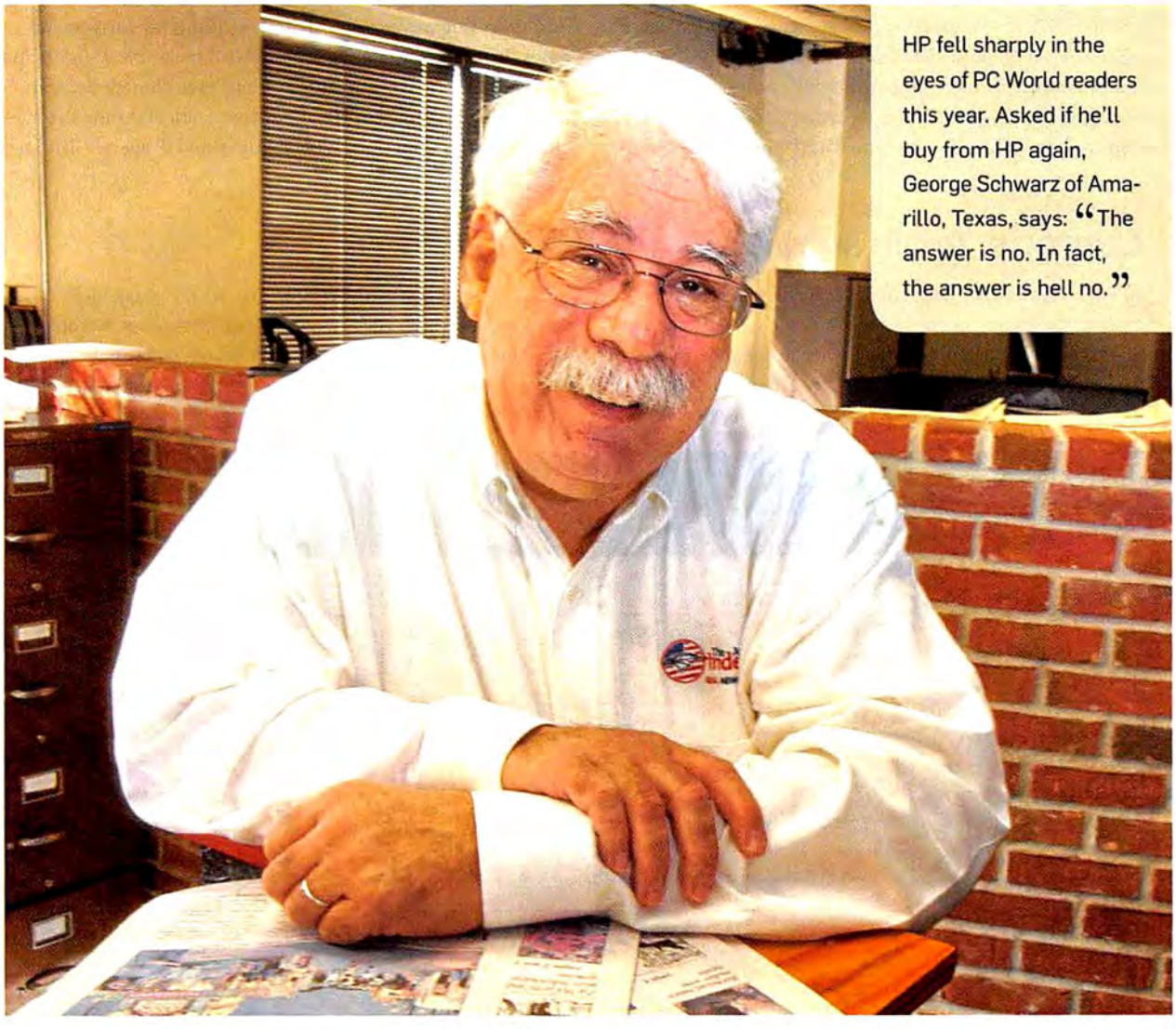
CALL TOLL FREE: 1-800-722-6374 • PH: 845-920-0800 • FX: 845-920-0880
PC AMERICA, 1 Blue Hill Plaza, Second Floor, Box 1546, Pearl River, NY 10965

Go to find.pcworld.com/58772

Technology's Most (and Least) Reliable Brands

Which companies can you trust?

We asked **60,000 PC World readers**—and they **told us about** their **experiences with** PCs, printers, cameras, routers, **and more.** »



HP fell sharply in the eyes of PC World readers this year. Asked if he'll buy from HP again, George Schwarz of Amarillo, Texas, says: "The answer is no. In fact, the answer is hell no."

BY JEFF BERTOLUCCI | PHOTOGRAPH BY RALPH DUKE

Note to tech companies: When you don't deliver on your promises, watch out. Customers have long memories—and they hold grudges. And if you wrong them, they won't come back. Just ask Curtis Gans and George Schwarz.

Gans, who lives in Lovettsville, Virginia, favors Hewlett-Packard these days but says that he is no longer a fan of Dell: "I've had relatively good service from HP, and sufficiently terrible service from Dell," says Gans, a faculty member at American University in Washington, D.C. He soured on Dell a year and a half ago, following a couple of bad tech-support calls. The low point occurred when a disc became stuck in his Dell PC's CD-ROM drive. A Dell tech support rep instructed Gans by phone to dismantle his PC, and then "ended his workday and left me with a machine in pieces on the floor." Even worse, the tech never got back to Gans, who had forgotten to write down the man's name or number. In the end, Gans paid a "local geek" to repair his PC. As a result, Gans is done with Dell: "I will never buy from them again."

Schwarz, of Amarillo, Texas, holds the opposite opinion. "I've found HP to be incredibly unresponsive to customers," says Schwarz, who publishes a small local newspaper, the *Amarillo Independent*, and who has four HP computers—three at work and one at home. Though Schwarz considers his HP systems to be reliable, he's had it with HP support. The vendor never responded to two of his written queries—the first on the subject of shipping HP systems via UPS, and the second regarding problems with downloading HP software updates. In a separate incident, an HP technician wouldn't help him repair an out-of-warranty system, even though Schwarz had originally contacted HP about the problem during the machine's warranty period. Will he buy from HP again? "The an-

Winners and Losers

APPLE, CANON, AND Lenovo did best overall in our study. Apple earned 14 better-than-average scores across four product categories. Canon took 16 high marks in just two categories, while Lenovo took 5 in laptops. In the losers' bracket, HP received 15 worse-than-average scores over four device categories, while Lexmark managed 6 subpar grades in just the printer category.

PRODUCT	WINNERS	LOSERS
Laptops	Apple, Lenovo	Averatec
Desktops	Apple	CyberPower, HP
Printers	Canon	Lexmark
Cameras	Canon	HP
Routers	Cisco, Linksys	D-Link
MP3 Players	Apple, Toshiba	None

Laptops: Apple and Lenovo Top the Field

APPLE AND LENOVO (formerly IBM) customers are happier than most with the service and support their laptops received after the sale; Lenovo in particular got high marks for not leaving customers hanging on hold when they need to talk to a support rep. Overall, both vendors' customers had fewer complaints, on average, than owners of other brands about their notebooks' reliability. Readers who owned Compaq or Averatec portables were less happy. A disproportionate number of Compaq customers said that their laptops were less reliable in general, while Averatec owners reported more component failures.

COMPANY	Reliability measures					Service measures			
	Problem on arrival	Any significant problem	Any core component problem[1]	Any failed component replaced	Overall satisfaction with reliability	Phone hold time	Average phone service rating	Problem was never resolved	Service experience
Apple	▲	▲	◆	◆	▲	[2]	[2]	▲	▲
Lenovo	◆	◆	◆	◆	▲	▲	▲	▲	▲
Acer	◆	◆	◆	▲	◆	▲	▲	◆	◆
Gateway	◆	◆	◆	◆	◆	▲	◆	◆	◆
Asus	◆	◆	◆	◆	◆	[2]	[2]	[2]	[2]
Dell	◆	◆	◆	◆	◆	▼	◆	▲	◆
Fujitsu	◆	◆	◆	◆	◆	[2]	[2]	[2]	[2]
Sony	◆	◆	◆	◆	◆	[2]	◆	◆	◆
Toshiba	◆	◆	◆	◆	◆	◆	◆	◆	◆
Compaq	◆	◆	◆	◆	▼	◆	◆	◆	◆
HP	◆	◆	◆	◆	◆	◆	▼	◆	▼
Averatec	▼	▼	▼	▼	◆	[2]	[2]	[2]	[2]

◆ AVERAGE ▲ BETTER ▼ Worse FOOTNOTES: [1] We categorize six laptop PC components as "core components": CPU, motherboard, RAM, graphics chip, hard drive, and power supply. [2] We received too few responses to rate the company on this measure.

swer is no. In fact, the answer is hell no," he says adamantly.

Vendors cringe at such stories, but they say they're working to improve their customers' experience. Says Dell vice president of customer support Dick Hunter: "There are no silver bullets in this. What we're trying to do is go back to the basics, which is taking care of the customer's problem on the first call."

On the other hand, when tech companies consistently deliver rugged, reliable products, customers are eager to talk about it. Allen Brooks, a computer support professional in Austin, Texas, owns three Lenovo ThinkPad R61 laptops, plus an older IBM R51 portable. "I consider them like the old Checker Cabs—big and bulky but really sturdy," he says. "We like the keyboards. Everyone likes them. They're pretty much indestructible unless the user really gets mad and throws one through the window."

Who's the Best?

It has been two years since *PC World* last asked its readers to rate the service and product reliability of the leading computer and peripheral vendors. This time more than 60,000 of you—nearly double our previous survey's number of respondents—weighed in.

As they did two years ago, *PC World* readers gave their highest praise to Apple, Canon, and Lenovo. The worst performers overall were Hewlett-Packard and Lexmark.

Apple and Lenovo (formerly IBM) remain the most admired notebook vendors, each garnering higher-than-average scores in five categories, including customers' overall satisfaction with their service experience and with product reliability. Apple did well in desktops too, as did eMachines, which Acer recently acquired. People who bought systems built at mom-and-pop computer stores reported more reliability problems but were very happy with the service they received. No vendor stood out in the MP3 player section, though Apple, Sony, and Toshiba scored slightly better than average in some areas.

Routers, too, had no superstars, but Cisco and Linksys earned better-than-average marks on two criteria each. Canon posted positively stellar marks in both the printer and camera sections, with excellent scores in eight of the nine categories. Samsung did well in printers, too, and Panasonic, Nikon, and Sony finished high among cameras.

Dell, whose customers have flogged it in recent years for its poor tech support, earned mixed scores. Readers grumbled about lengthy hold times for Dell's phone support, but they praised the vendor's ability to resolve desktop and notebook problems. Dell's printers didn't fare nearly as well, however, receiving low scores on reliability and ease of use.

CyberPower, a California-based vendor that builds gaming PCs, earned unusually low marks in four desktop reliability »

What the **Measures** Mean

WE ASKED *PC World* readers to rate vendors in six product categories: laptops, desktops, printers, digital cameras, routers, and MP3 players. Each category contained nine subsections for rating a vendor in specific areas of customer service or product reliability. Each company was judged relative to its competitors.

In each subsection, we distributed every vendor's score into one of three rating categories: significantly better than average, not significantly different from average, or significantly worse than average. If a vendor drew fewer than 50 responses in a subsection, we discarded the results as statistically unstable. Some smaller vendors received too few votes for us to accurately rate their reliability and service.

Reliability Measures

- **Problems on arrival (all devices):** Based on the percentage of survey respondents who reported one or more problems with the device right out of the box.
- **Any hardware or software problem (all devices):** Based on the percentage of survey respondents who reported any problem at all during the product's lifetime.
- **Satisfaction with reliability (all devices):** Based on the owner's overall satisfaction with the reliablity of the device.
- **Failed component (laptops and desktop PCs):** Based on the percentage of survey respondents who reported replacing one or more original components because they failed.
- **Core component problem (laptops and desktop PCs):** Based on the percentage of survey respondents who reported problems with the CPU, motherboard, power supply, hard drive, system memory, or graphics board/chip at any time during the life of their laptop or desktop PC.
- **Severe problems (printers, cameras, routers, and MP3 players):** Based on the percentage of survey respondents who reported a problem that rendered their device impossible to use.
- **Ease of use (printers, cameras, routers, and MP3 players):** Based on the percentage of survey respondents who rated their device as extremely or very easy to use.

Service Measures

- **Phone hold time:** Based on the average time a product's owners waited on hold to speak to a phone support rep.
- **Phone rating:** Based on a cumulative score derived from product owners' ratings of several aspects of their experience in phoning the company's technical support service. Among the factors considered were whether the information was easy to understand, and whether the support rep spoke clearly and knowledgeably.
- **Failure to resolve problem:** Based on the percentage of survey respondents who said the problem was never resolved after contacting the company's support service.
- **Service experience:** Based on a cumulative score derived from product owners' responses to a series of questions focusing on 11 particular aspects of their experience with the company's service department.

categories—a repeat of the vendor's performance two years ago. CyberPower CEO Eric Cheung responded that his company's component failure rate is within industry guidelines, and that CyberPower is working to improve its tech support offerings by expanding the capacity of its support center.

Dell and HP **laptop users** complained of phone support hold times of around **11 minutes** on average.

The biggest surprise in this year's results is Hewlett-Packard's poor performance. In our survey two years ago, HP—which is now the largest computer manufacturer in the world—did well, aside from a few poor ratings for its printers and Compaq-brand laptops. (Hewlett-Packard makes both HP- and Compaq-brand products. Though we rated HP and Compaq products separately, our evaluation of HP's overall performance includes scores for both product brands.)

Respondents were less kind this time around. Readers put HP near the bottom in diverse categories (desktop PCs, laptops, printers, and digital cameras). In desktop PCs, problem areas span both support and reliability. Readers who own HP cameras or printers reported a higher-than-average incidence of problems arising at some point in their product's life. (As we went to press, the company announced that it will stop making its own cameras early next year. For more, see find.pcworld.com/59251.) Readers also say that HP products are more likely than competing models to arrive with "out-of-the-box" problems. Jim Kahler, HP's director of consumer warranties, had no direct explanation for his company's poor showing in reliability. HP's reliability rates, Kahler says, "are dramatically improving across our product line. Our product quality metrics are trending in the right direction." (See "HP Tumbles" on page 121 for additional details.)

Hewlett-Packard wasn't the only vendor to feel some heat this year. Lexmark earned poorer-than-average marks on six of the printer measures—similar to its showing last time. Other lowlights include Averatec laptops, Epson and Xerox printers, and Kodak cameras. On the bright side, some vendors fared better this time: 2Wire improved in the router category, Brother moved up in printers, and RCA stepped forward in MP3 players.

Are service and reliability improving overall? Anecdotal accounts from readers indicate that long waits on hold, clueless support reps, and slapdash workmanship haven't gone away by any means. But other respondents report a largely hassle-free experience, albeit one garnished with occasional gripes about quirky or hard-to-use features. The good news: Industry analysts tell us that many companies are improving.

Desktop PCs: HP Gets Lousy Grades; Apple Heads the Class

HP OWNERS REPORTED significantly fewer failures of the component parts inside their desktop PCs, but they also had a higher-than-average number of complaints about HP's service and its phone support. These are marked changes from HP's middling performance in these categories on our 2005 survey. Meanwhile, for its part, gaming PC maker CyberPower received low marks two years ago, and did not improve: Customers reported a higher-than-normal number of problems out of the box and throughout the life span of their PCs. At the high end of the scale, Apple customers reported relatively few problems with the innards of their machines and had fewer complaints about the way Apple services its products after the sale.

COMPANY	Reliability measures					Service measures			
	Problem on arrival	Any significant problem	Any core component problem[1]	Any failed component replaced	Overall satisfaction with reliability	Phone hold time	Average phone service rating	Problem was never resolved	Service experience
Apple	▲	▲	◆	▲	▲	[2]	[2]	▲	▲
eMachines	▲	◆	◆	◆	◆	[2]	▲	◆	◆
Independent suppliers	◆	▼	▼	▼	▲	▲	▲	▲	▲
Compaq	◆	◆	▲	▲	▼	◆	◆	◆	◆
Dell	◆	◆	◆	◆	◆	▼	◆	▲	▲
Gateway	◆	◆	◆	◆	◆	▲	◆	◆	◆
Alienware	▼	◆	◆	◆	◆	[2]	[2]	[2]	[2]
Sony	◆	◆	◆	◆	◆	[2]	◆	▼	◆
Systemax	◆	◆	◆	▼	◆	[2]	[2]	[2]	[2]
CyberPower	▼	▼	▼	▼	◆	[2]	[2]	[2]	[2]
HP	▼	◆	▲	▲	▼	▼	▼	▼	▼

◆ AVERAGE ▲ BETTER ▼ Worse FOOTNOTES: [1] We categorize six desktop PC components as "core components": CPU, motherboard, RAM, graphics chip, hard drive, and power supply. [2] We received too few responses to rate the company on this measure.

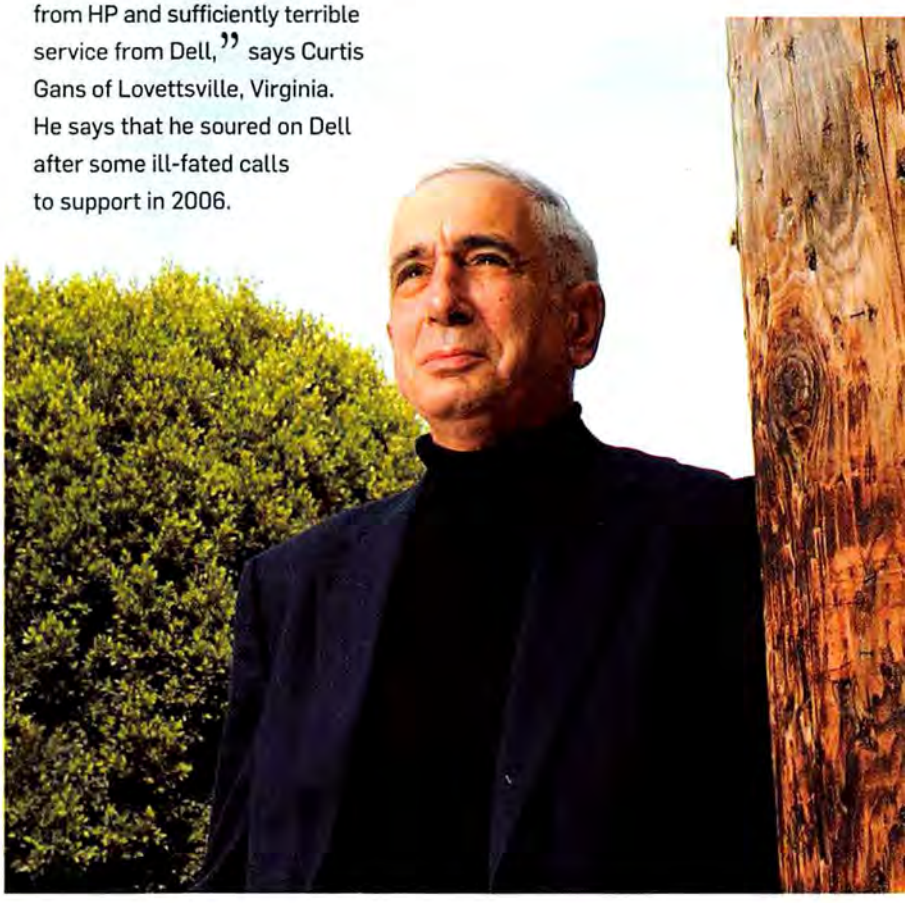
Reliability Getting Better

Hardware vendors hit their low point in reliability three or four years ago, says Gartner research VP Leslie Fiering, who tracks reliability issues. Price wars had impelled vendors to cut corners in design and engineering, as well as to unload a great deal of the quality-assurance testing they once did to component suppliers, Fiering explains.

"Well, guess, what? Suppliers were not totally honest. Certain things were not caught," says Fiering. Industrywide problems, including (in 2005) faulty 60GB notebook hard drives and (more recently) problems with defective and exploding batteries, affected just about every vendor, she says. Computer makers were then forced to reexamine their cost-cutting efforts, and concluded that they had made a mistake. "All that money they thought they were saving on the front end, they were hemorrhaging on the back end through warranty support," she says.

Since then, vendors have improved the reliability of their products somewhat by increasing system testing and by hiking the penalties they impose on component »

"I've had relatively good service from HP and sufficiently terrible service from Dell," says Curtis Gans of Lovettsville, Virginia. He says that he soured on Dell after some ill-fated calls to support in 2006.



PHOTOGRAPH: ROBERT CARDIN

Printers: Lexmark Receives Low Grades All Around

PRINTER PRICES HAVE been falling for the past two years, so vendors depend on ink cartridge sales to make up the difference. Our survey suggests that this isn't helping the overall reliability of these products. Lexmark, Epson, and Dell customers had unusually high complaint rates regarding the general reliability of their printers. Dell, Epson, and HP owners had problems getting service and support for broken printers. Readers were most irked by Lexmark and its printers, much as in our 2005 survey. Lexmark could take a lesson from Canon, which nearly ran the table with better-than-average scores on all but one measure.

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

◆ AVERAGE ▲ BETTER ▼ Worse FOOTNOTE: *We received too few responses to rate the company on this measure.

suppliers who deliver junky equipment. In a 2006 Gartner study of enterprise PCs, Fiering estimated that reliability had improved by about 25 percent since its nadir a few years earlier.

Tighter system integration has been another boon to reliability. A few years ago, the average desktop PC motherboard held an assortment of video, networking, and modem cards—each one a potential point of failure. Computer manufacturers now integrate these features into chips included on the motherboard. As a result, the computer operates using fewer independent components from fewer vendors, and the chance of system failure is much reduced.

Some vendors **succeed by doing** just a few things and doing them very well. Canon, for instance, **earned the best** reliability and service scores overall. "Whether film or digital, they're good cameras," says IDC's Chute.

Better Support

Readers continue to complain about thick-accented phone support representatives. Several Dell and HP customers we interviewed griped about the language barrier. "When you talk to somebody and you can't understand their thick accent, normally they don't get what you say either," Schwarz says. Vendors, however, have been working diligently to remedy this particular problem. "A lot of overseas organizations have addressed the language question more effectively," says Gartner hardware analyst Ron Silliman. "It's true that you may run into an accent, but it's less likely that you'll run into slipshod call center procedures."

When it comes to support personnel who are based overseas, "you're dealing with, for the most part, a very highly educated and extraordinarily polite and patient pool of people who are doing their best," says Gartner's Fiering. "In all the calls I've made, I've run into only a couple of people who I've had a hard time understanding," she adds.

Vendors say that they've listened carefully to their customers' complaints and are making the necessary adjustments among their support staffs. "We've put in very rigorous prehire screens on voice and grammar," says Dell's Hunter. "We now know that people coming in the door are quite capable."

HP tells a similar story. Resolving the accent issue is "a pretty significant focus on our part," says Kahler of HP. "We're monitoring our partners and our call center sites very closely for language skills, and making sure we're hiring and training for language and cultural sensitivity."

Of the major computer vendors, Dell and Hewlett-Packard received the largest proportion of customer complaints about hold times for phone support. Both vendors report that their studies show they've shortened the wait in recent months. "When a customer waits for tech support more than 7 to 8 minutes, they start getting angry," says Hunter, adding that Dell now averages a queue time of 2 minutes, down from 6 to 8 minutes 18 months ago. HP's in-house stats are similar: 80 percent of customers who phone in get their call

Cameras: Canon Zooms; Kodak and HP Lose Focus

READERS LIKE THE ruggedness of Canon cameras—and the way Canon services them when something breaks. But only a couple of camera brands—Kodak and HP—earned noticeably low marks in these areas. Owners of those cameras reported a higher-than-normal number of technical problems, including those discovered immediately after opening the box for the first time. Those issues probably helped form users' negative opinions of the overall reliability of Kodak and HP cameras.

COMPANY	Reliability measures					Service measures			
	Problem on arrival	Any significant problem	Severe problem	Ease of use	Overall satisfaction with reliability	Phone hold time	Average phone service rating	Problem was never resolved	Service experience
Canon	▲	▲	▲	▲	▲	◆	▲	▲	▲
Panasonic	▲	▲	▲	◆	▲	·	·	·	·
Sony	▲	▲	◆	▲	◆	·	◆	◆	◆
Nikon	◆	◆	▼	▼	▲	◆	▲	▲	▲
Casio	◆	◆	▼	▲	◆	·	·	·	·
Fujifilm	◆	◆	◆	◆	◆	·	·	·	·
Olympus	◆	◆	◆	▼	◆	·	◆	◆	◆
Pentax	◆	◆	◆	▼	◆	·	·	·	·
Samsung	◆	◆	◆	◆	▼	·	·	·	·
Kodak	▼	▼	▲	▲	▼	◆	◆	▼	◆
HP	▼	▼	▼	◆	▼	·	·	◆	◆

◆ AVERAGE ▲ BETTER ▼ Worse FOOTNOTE: *We received too few responses to rate the company on this measure.

answered within 3 minutes, and the maximum wait is 6 to 7 minutes.

Those numbers may be rosy, but our readers beg to differ. Desktop users, for instance, slapped Dell and HP with worse-than-average grades for phone hold time (an average of more than 10 minutes for Dell owners and close to 12 minutes for HP owners). Both Dell and HP laptop users complained that they were left on hold for around 11 minutes on average.

William Hanson of Winston-Salem, North Carolina, says that he chose a SanDisk MP3 player in part because of the sturdy flash drive it has inside.

Get Off the Phone

Vendors continue to fine-tune their support offerings, including online chat and automated diagnostic and repair tools designed to wean customers away from phone support. Breaking that habit may be difficult, however. JupiterResearch forecasts that the number of service queries handled online will double by 2012, but that the telephone will remain most users' preferred support tool.

Not everyone prefers the phone, however. Younger users, who've grown up with the Internet, prefer online over phone support, according to HP's Kahler. Roger Kay, technology analyst and president of Endpoint Technologies Associates, agrees: "People really like good self-help. If they can go to a Web site and do a self-diagnosis quickly, and then download a driver or call up a diagram that shows how to install a piece of hardware, they really like that."

Help tools such as HP's Instant Care allow a technician, with the customer's permission, to take control of the computer's desktop through a broadband connection. This interactive approach is often superior to phone support, proponents say, particularly for novice users who scratch their heads when a tech adviser talks about msconfig or the printer driver. "It enhances the troubleshooting process, and takes some of those communication barriers out of the loop," says Kahler. "The agent can go in and do troubleshooting steps directly on the user's PC."

Other vendors are implementing their own automated features. For example, for the past year Dell systems have come with a support icon included on the desktop. When users click the icon, a dialog box opens, asking whether they want system information and software updates to be sent automatically to their computer. So far, "30 million people have clicked 'yes'," says Dell's Hunter. "They want that."

PHOTOGRAPH: WILL McINTYRE

HP Tumbles

HP's bad report card surprised us, particularly since readers seemed reasonably upbeat about the vendor two years ago. Though pinpointing the exact cause of HP's downfall is difficult, some analysts suspect that the vendor may be a victim of its own success. In the past two years, HP has leapfrogged Dell to become the world's most prolific PC maker, with much of its growth due to rapid expansion into consumer markets, where novice users typically need a lot of assistance. "It may be that HP is now exposed to a larger range of consumers, rather than just corporate accounts, as was the case a few years ago," says Gartner's Silliman.

"That's part of the story, but that's not an excuse," responds HP's Kahler. "If you can build enough products to grow, you should be prepared to support that many products." HP has made a large investment over the past year to improve its support operations, Kahler says, taking steps to add support staff, reduce hold times for phone help, improve the English-language skills of its overseas tech reps (and of its third-party support providers), and find better component suppliers. Kahler wouldn't say how much HP is spending on the efforts, nor how many support staffers the company is adding. The improvements are ongoing, he says, and the first set of changes were launched in September 2007.

Better support will certainly come as good news to HP customer Glen Ulrici of Richmond, Virginia. Ulrici reports that he's generally pleased with his Compaq laptop, which he has owned for two and a half years. But though he's contacted HP regarding only a few minor tech issues during that time, Ulrici feels that the vendor's support has declined. "It's the language barrier, the voice inflection and words—it's a struggle to »

get through," says Ulrici, who would rather chat online via keyboard with a tech rep to remove accents from the equation. "Chat works really well with HP."

Meanwhile, IDC analyst Matt Healey, who covers software and hardware support services, is surprised by HP's poor showing in customer support. "They have a very good track record on the enterprise side across multiple products," Healey says.

Survey Methodology

WE POLLED MORE than 60,000 *PC World* and PCWorld.com readers who responded to print advertisements and e-mail messages. We used methods of statistical analysis to determine which companies were significantly better or worse than the average, based on all responses about a certain product type.

Because our survey sample consists entirely of *PC World*'s generally tech-savvy readers, it may not be representative of the general population, which may have different expectations and experiences with technology products.

Laptops and Gadgets

Notebooks are more delicate than desktops—a fact that is painfully obvious to anyone who has ever dropped one. Fortunately, laptop design continues to improve, says analyst Kay of Endpoint Technologies. In the two years since our previous Reliability and Service survey, more vendors have added features to boost durability, such as accelerometers that detect when the laptop is falling and park the hard drive's head.

Screen breakage used to be the number one vulnerability of portables, but it's less of a concern now that vendors have strengthened laptops with magnesium alloy frames that reduce torque, resulting in less panel damage. "There's an added cost involved, but it's a trade-off that companies are willing to make," says Kay. "It works in the vendor's favor because it reduces warranty costs, and that's a pretty important thing."

In the future, the expected switch to solid-state hard drives will make laptops even more durable. "Once you have those, you've eliminated a huge source of failure, and that's the spinning media," Kay says. "Coming up, that's going to be one of the most important changes in reliability for notebooks." Solid-state drives haven't made a big impact yet because they're too expensive for mainstream use. Putting a solid-state hard drive into a Dell Precision M4300 notebook, for instance, cost an extra $554 at press time. And that solid-state drive was only 32GB, less than half the capacity of the 80GB traditional hard drive that comes standard. That gap will shrink, however, as solid-state manufacturing improves.

Brooks, the longtime IBM/Lenovo user we spoke with, agrees that today's laptops offer better durability, computing power, and connectivity: "Overall, I believe they're better. Especially the hard drives—they live a lot longer than they used to, and the displays are better."

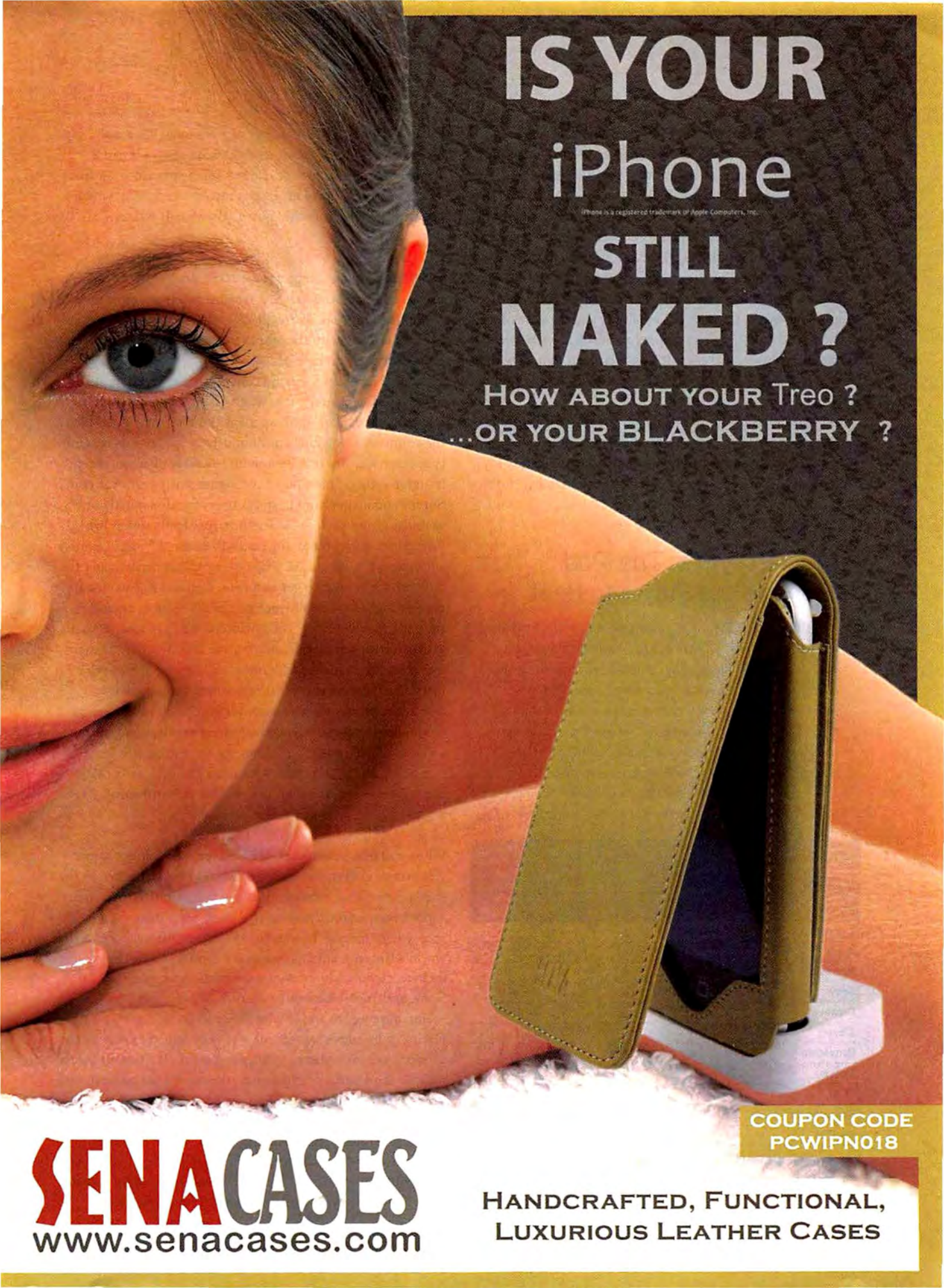
Survey respondents were happier about the reliability and service for their MP3 players, routers, and digital cameras, on the whole, than they were about desktop PCs, laptops, and printers. Among MP3 vendors, for instance, Panasonic, »

Routers: Only D-Link Garners Reliability Complaints

THOUGH SOME READERS complained about the usable range of their routers, most seemed fairly content with the products' durability and with the manufacturer's service. On the positive side, Cisco and Linksys received higher-than-average marks for the reliability of their routers; and a high proportion of Apple, 2Wire, and Belkin owners talked up their products' ease of use. Only D-Link customers expressed dissatisfaction with their routers' reliability in higher-than-usual numbers.

COMPANY	Reliability measures					Service measures			
	Problem on arrival	Any significant problem	Severe problem	Ease of use	Overall satisfaction with reliability	Phone hold time	Average phone service rating	Problem was never resolved	Service experience
Cisco	▲	◆	▲	◆	◆	*	*	*	*
Linksys	◆	◆	◆	◆	▲	◆	◆	▲	◆
2Wire	◆	◆	◆	▲	◆	◆	◆	◆	◆
Apple	◆	◆	◆	▲	◆	*	*	*	*
Belkin	◆	◆	◆	▲	◆	◆	◆	◆	◆
Buffalo	◆	◆	◆	◆	◆	*	*	*	*
Motorola	◆	◆	◆	◆	◆	*	*	*	*
Netgear	◆	◆	◆	◆	◆	◆	◆	◆	◆
US Robotics	◆	◆	◆	◆	◆	*	*	*	*
D-Link	◆	◆	◆	◆	▼	◆	◆	◆	◆

◆ AVERAGE ▲ BETTER ▼ Worse FOOTNOTES: *We received too few responses to rate the company on this measure.


IS YOUR
iPhone
iPhone is a registered trademark of Apple Computers, Inc.
STILL
NAKED ?
HOW ABOUT YOUR Treo ?
...OR YOUR BLACKBERRY ?
COUPON CODE
PCWIPN018
SENACASES
www.senacases.com
HANDCRAFTED, FUNCTIONAL,
LUXURIOUS LEATHER CASES

Samsung, and Sony were the only vendors to receive even two subpar scores apiece. Why? Because MP3 players, cameras, and routers have very few moving parts to break.

William Hanson of Winston-Salem, North Carolina, says that he bought a SanDisk MP3 player because he didn't want to be locked into Apple's iTunes format, but also because he prefers flash drives over hard drives. "I did not want to deal with anything mechanical because they're not as durable," he says.

Readers gave camera vendors—in particular, Canon and Sony—high marks for both the reliability and the ease of use of their products. "Product failures are few and far between in digital cameras, and unless it's a specialized camera with a unique feature, most of the problems are user error," says IDC digital camera analyst Chris Chute.

And what sorts of things qualify as "user error"? First and foremost, Chute says, digital cameras are often dropped or set down in places where they can come to harm, Chute says.

Similarly, our readers reported few major reliability problems with routers. Jeff Babcock of Kaukauna, Wisconsin, says his Linksys router works fine, though he wishes it had a stronger wireless signal: "I live in a small one-bedroom apartment, and when I take my laptop into the bedroom, which is probably 60 feet from the router, [the signal] is flaky."

MP3 Players: The iPod Remains the Player to Beat

NOT SURPRISINGLY, IPOD users gave Apple high marks for making the product easy to use. The iPod's simple, elegant, and intuitive design may color the overall good feeling users have about the reliability of the devices. That may also cast a bad light on competing players: Users of almost all non-iPod players had complaints about the ease of use of their devices. But readers had some nice things to say about iPod competitors, too. For example, relatively few users of Toshiba and Sony MP3 players reported having technical problems over the lifetime of their products.

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

◆ AVERAGE ▲ BETTER ▼ Worse NOTE: The Service measurements are omitted from the MP3 player category because of an insufficient number of survey responses.

Problems With Printers

Of all the product categories we asked readers to talk about, printers received the harshest treatment. Five companies garnered three or more worse-than-average grades, and Lexmark placed dead last with six subpar scores in various reliability, phone service, and ease-of-use sections.

This was Lexmark's second consecutive appearance at the bottom of the printer pack. When asked to comment on its low scores, Lexmark spokesperson Tim Fitzpatrick said that the company is working continuously to improve its reliability and service, and that its in-house surveys of customer satisfaction ratings "have improved significantly year over year." Survey comments from Lexmark users focused mostly on usability issues such as "Make the paper feed more reliable," "The paper loader for faxing needs to be fixed," and "Lexmark announces the ink is low, when it's not." Lexmark wasn't the only printer vendor to get slammed; Dell and Epson customers also had an unusually high rate of complaints regarding the general reliability of their printers. Why are readers so dissatisfied with printers? Ironically, one reason might be their low cost. Prices for these peripherals have dropped so dramatically in recent years that retailers commonly toss in a free inkjet printer with a computer purchase. To keep costs down, Fiering suspects, manufacturers may be using cheaper and less reliable parts, and skimping on testing.

In addition, printers have a lot of mechanical parts that can break down—and software drivers that are notoriously flaky.

Outsourcing: Everybody Does It

When you buy a computer, MP3 player, or other consumer electronics gadget, the company whose brand appears on the shell probably isn't the product's actual manufacturer. Many vendors outsource the work to a third-party manufacturer somewhere in Asia. Taiwan-based Quanta, for instance, is the world's largest manufacturer of notebooks; its customers include a who's who of computer vendors: Apple, Dell, HP, Sony, and Toshiba, among others.

Outsourcing is a way of life. "They all do it," says Gartner's Fiering, who adds that reliability is determined mostly by the vendor's commitment to quality assurance. If a vendor uses a reliable third-party manufacturer, the results are positive and predictable. "You get what you pay for," Fiering says.

In intensely competitive markets, the challenge for vendors is to create reliable products, support them well, and still turn a profit. "The industry knows how to build quality, but the problem is pressure on price," Fiering says. "Given that, everybody's always looking for ways to cut corners." ●

InfoGation

NAVTEQ ON BOARD.

Wanna go out somewhere?

The Sharper Image GPS will guide you to your destination safely and also accompany you with music, photo and video wherever you are.

P100 4.3" Navigation

Pre-loaded 2.6GB full USA and Canada Map
Speaks street names (TTS)
6 Million POI data
4GB SDHC memory card
Image viewer
Simple memo pad
MS Windows CE 5.0
Video & Audio player
Multi-language support
Pocket-sized and light-weight
High sensitive GPS receiver (Sirf-III)
4.3" wide TFT LCD with touch screen

THE SHARPER IMAGE®

Available in December at your nearest **The Sharper Image Store**

Here's How

Eleven Undocumented Firefox Tips

Don't like the way Firefox works? Then change it! The alternative browser offers plenty of ways to customize. Here are some great tweaks that you might not know about.

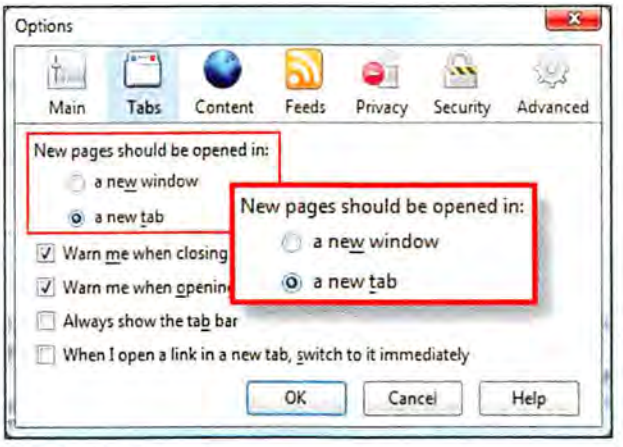
BY LINCOLN SPECTOR

MICROSOFT'S INTERNET Explorer remains the most popular Web browser, but there's a reason why many techies (and PCWorld.com visitors, as well) prefer Mozilla's Firefox: control. Firefox gives you more ways to customize your browsing experience, so you can get more work done in less time. Here are my favorite productivity tweaks for Firefox 2.0.

Keep Tabs on Your Tabs

One of Firefox's best features is its ability to display multiple pages that you can view by clicking their tabs. But rather than click through menus to create a new tab, press **<Ctrl>-T** to open a blank page on a new tab, with the cursor in the address bar.

To have a link open in a new tab, either right-click the link and select *Open Link in New Tab*, or highlight the link and click the mouse wheel. To have links that would normally launch a new browser window open instead in a new tab, select *Tools•Options•Tabs*, choose *a new tab* (as shown in the screen above), and click *OK*.



TELL FIREFOX TO open links in a new tab rather than in a new browser window by selecting this setting in the browser's Options dialog box.

To move between tabs by using the keyboard, press **<Ctrl>-<Tab>** to open the tab to the right, or **<Ctrl>-<Shift>-<Tab>** to go left. Browse to find.pcworld.com/58975 to download the FLST extension, which lets you toggle between two tabs by pressing **<Ctrl>-+**.

Save Time: Use Your Keyboard

One way to improve your browsing speed is by leaving your mouse alone and controlling Firefox from your keyboard. Here are some useful keyboard shortcuts:

To enter a URL or search criterion into the address bar, press either **<Ctrl>-L** or **<Alt>-D**. If you just entered a domain name into the address bar, don't bother adding ".com"; instead, press **<Ctrl>-<Enter>** to insert that suffix and to go to the page. For ".org," use **<Ctrl>-<Shift>-<Enter>**; for ".net," **<Shift>-<Enter>**.

To enter search criteria into the Search Bar, press **<Ctrl>-K**. Next, press **<Ctrl>-<Down Arrow>** or **<Ctrl>-<Up Arrow>** to cycle through the available search services. To search for text on the current page, press **<Ctrl>-F** to open the Find toolbar, or just / (the forward-slash key) to access the Quick Find toolbar. The former provides a couple of basic search options, the latter only a text box for entering your search term. To jump to the next instance of the search term, press **<F3>**.

Two eyesight-saving shortcuts: To toggle full-screen view on or off, press **<F11>**. And to increase or decrease the Web page's font size, press **<Ctrl>-=** or **<Ctrl>--** (**<Ctrl>** and the equal sign or minus sign, respectively).

EXPAND YOUR BOOKMARK options by creating new folders in the Add Bookmark dialog box.

Find Your New Bookmarks a Good Home

Whenever you want to bookmark the current page, simply select *Bookmarks•Bookmark This Page*, or press **<Ctrl>-D**. In the resulting Add Bookmarks dialog box, click the 'Create in' menu's down arrow to see a list of folders that you've recently added bookmarks to.

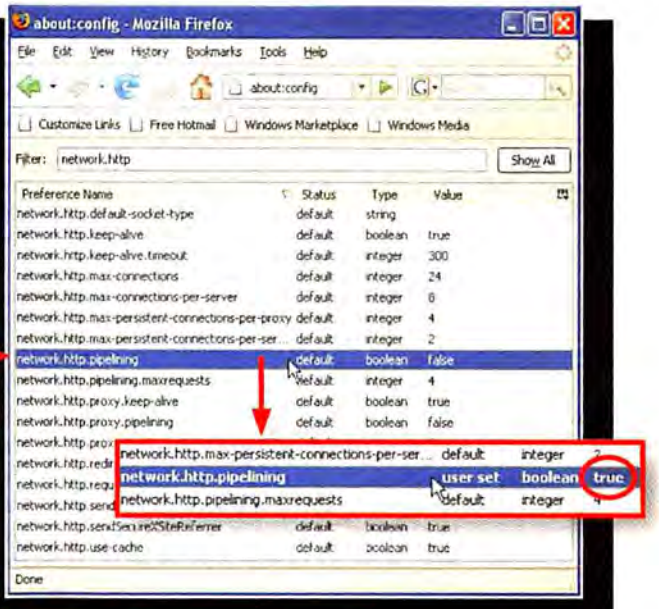
If you don't see the desired folder there, click the down arrow located to the far right of the 'Create in' op-

Optimize for Broadband

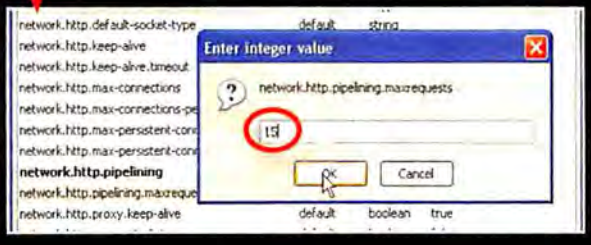
BELIEVE IT OR NOT, Firefox is optimized for dial-up connections by default. You need to change several different settings to enjoy the browser's best performance over DSL, cable, or other broadband links.

Before you change anything, back up Firefox's configuration file; see "Back Up Firefox's 'Registry'" on page 128 for details. Next, open Firefox and press **<Ctrl>-L** to place the cursor in the address bar. Type **about:config** and press **<Enter>**. Then enter **network.http** in the filter field. Now make the following five changes:

1 Double-click 'network.http.pipelining' to set it to 'true'.



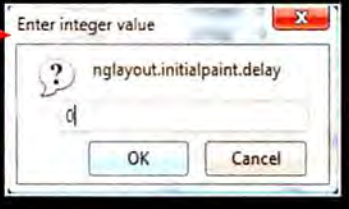
2 Double-click *network.http.pipelining.maxrequests* to bring up the 'Enter integer value' dialog box. Enter a higher number than the default 4; **15** works for me. Click *OK*.



3 Double-click *network.http.proxy.pipelining* to set it to 'true'.

4 Right-click anywhere on the page and select *New•Integer*. Enter **nglayout.initialpaint.delay** and then click *OK*.

5 Finally, set the integer value to **0** (zero), and click *OK* again.



tion. This expands the Add Bookmark dialog box, allowing you to select any folder or to create a new one (see the screen shot at the bottom of the previous page). When you're done, click *OK*.

Prune Dead Bookmarks

Well organized or not, your bookmarks won't save you much time if you have to scroll through ones you no longer use to find the shortcuts you need. If you discover that one of your Bookmarks submenus has too many entries, right-click it and select *Open All in Tabs*. As its name implies, this option opens each bookmark listed in the folder in a new tab. If a tab reads '404 Not Found', the page is history. Click the tab, note the URL in the address bar, and delete the corresponding shortcut from the menu.

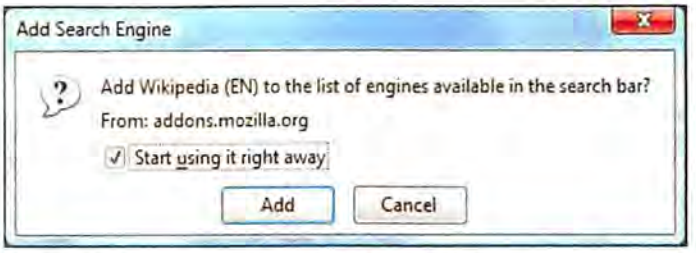
If you can't match the URL with a bookmark, you can usually guess which one has the bad link by seeing which other URLs are next to it (the tabs open in the same order that the bookmarks are listed in). Or you can right-click the bookmark, select *Properties*, and compare the URL contained in the bookmark with the one on the tab.

Better Default Google Search

One of Firefox's coolest features (though it's hardly undocumented) is its ability to let you search from the address bar. When you enter a search term in the address bar, the browser automatically goes to Google and searches the term. But the results are of Google's 'I'm Feeling Lucky' persuasion: You jump to the most popular page that matches your criteria. The search engine lists everything it finds only if no clear winner emerges.

If you'd rather not trust the luck of the Google, alter this setting by editing Firefox's configuration file. This is a crucial file, so back it up first; see "Back Up Firefox's 'Registry'" on page 128 for details. With your backup in place, type **about:config** in Firefox's address bar and press **<Enter>**. In the resulting page's Filter field, enter **keyword** (you won't have to press ‹Enter› this time).

Next, double-click the *keyword.URL* entry, enter the string **http://www.google.com/search?btnG=Google+Search&q=**, and click *OK*. Now when you enter a search term in the address bar, you'll get a full page of search results, »



ADD THE SEARCH engines of your choice to the list of services on Firefox's Navigation toolbar by selecting them from the 'Get more search engines' list.

just as if you had entered the keyword on Google's home page. If you decide later on that you should have trusted Google (an all-too-familiar refrain in Silicon Valley), reverse your fortunes by repeating the steps, but enter **http://www.google.com/search?ie=UTF-8&oe=UTF-8&sourceid=navclient&gfns=1&q=**.

Back Up Firefox's 'Registry'

The 'about:config' screen in Firefox is similar to Windows' Registry: It contains important information but is obtuse and dangerous to fiddle with. So back up the configuration file before you make any changes: Close Firefox, select *Start•Run* (just *Start* in Vista), type **%appdata%\mozilla\firefox\profiles**, and press **<Enter>**. The resulting Windows Explorer window will have a folder with a strange name—something like '4hw0enat.default'. Open that folder, and copy the file prefs.js to a safe location.

Better yet, make sure that the Profiles folder is included in your regular, daily backup routine. Should you mess something up in 'about:config', simply close Firefox and copy the backup of prefs.js back to its original location.

Add to the Search Bar

You can add, remove, and organize the services listed on the Search Bar in the Firefox window's upper-right corner. To do so, click the area to the left of the search box and select *Manage Search Engines* from the drop-down menu that appears. To view a list of available search services, click *Get more search engines* in the Manage Search Engine List dialog box. To add a service, simply select it and click *Add*. If you want Firefox to use that service as its default search engine, check *Start using it right away*, and then click *Add* (see the screen shot above).

Since you can use the address bar to search through Google, you might want to remove Google from this list. To do so, select the entry for it and then click *Remove*.

Revise Your History

Firefox provides a convenient way to delete selected pages from your browsing history and from your address bar history while retaining everything else. If you would like to delete an entry in the address bar's drop-down menu of recently visited pages, point to the item with your mouse and press **<Delete>** (instead of clicking the item). To edit your browsing history, press **<Ctrl>-H** to open the History sidebar. Right-click the page you want to remove and select *Delete*. If you are trying to delete a bunch of adjacent pages (for example, several pages from the same site), simply right-click the first one and select *Delete*. When it disappears, the one immediately beneath it will be highlighted, so you can just press **<Delete>** on the keyboard repeatedly as you work your way through them until they're all gone.

Safely Store Passwords

Using a different password for each site you visit is good security practice, but remembering them all can be difficult. Unfortunately, Firefox's password manager isn't safe unless you use its Master Password option. To set this up, select *Tools•Options* and click the *Security* icon. Check *Remember passwords for sites* and *Use a master password*. In the Change Master Password dialog box, enter a password that you can remember but that no one else can guess. Go to find.pcworld.com/58971 for advice on selecting a safe yet memorable password.

Once you've set your master password, managing your Web passwords is easy: Whenever you enter a password on a page, a dialog box will ask if you want Firefox to remember it. When you return to that page, the browser will automatically fill in the password, with one important exception: If this is the first time you've returned to a page (since you last launched Firefox) for which you've asked Firefox to remember the password, you'll have to enter your master password first.

SECURITY

Purge Your Private Data

FIREFOX RECORDS WHERE you've been browsing to help you retrace your steps quickly. But this feature lets other people who use your PC see what you've been up to. To customize these settings, select *Tools•Options*, and click the *Privacy* icon.

If you don't want to save your browsing history at all, uncheck *Remember visited pages for the last [X] days*. You can also choose not to record the text you enter in Web forms or search boxes, and the programs you've download.

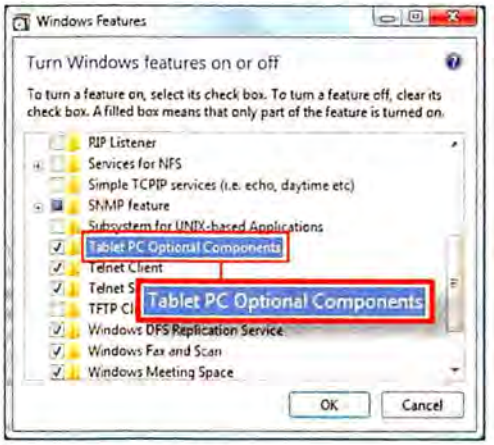
To clean out your private data, check *Always clear my private data when I close Firefox*. Then click the *Settings* button to fine-tune the options. What should you leave checked and unchecked in the Clear Private Data dialog box? Checking the 'Browsing History' and 'Cookies' sections will override any changes you made in the other sections of this dialog box, so leave them unchecked. Checking 'Cache' may slow Firefox down a bit, but probably not noticeably if you have a fast Internet connection. Deleting 'Saved Passwords' is entirely pointless. You should check every other option. Click *OK* to close the Clear Private Data dialog box, and then uncheck *Ask me before clearing private data* to avoid this annoying pop-up.

Activate Windows Vista's Handy Snipping Tool

AFTER SEEING MY tips on Windows Vista's Snipping Tool (find.pcworld.com/58977), reader Clayton Chinn noted that he couldn't find the Snipping Tool on his PC and wondered whether he had the wrong edition of Vista—in his case, Vista Basic.

If you have Vista Basic, you have the wrong edition all the way around. Vista Basic is essentially an updated version of Windows XP—but without the attractive Aero environment that other Vista editions have. Also missing are Vista's Shadow Copies feature, its scheduled backups, and the Snipping Tool.

Sorting out the differences between Vista editions isn't easy, though some sites offer to help you compare features. The comparison charts on Paul Thurrott's SuperSite for Windows (find.pcworld.com/58978) are my favorites. But Vista itself has a helpful feature: To reach it, open Control Panel and launch *Windows Anytime Upgrade*. At the base of the window, click *Compare versions* for details matching your flavor of Vista against those you can upgrade to.



ADD VISTA'S SNIPPING Tool screen-capture utility and other stylus-oriented apps by checking this option.

If you have a version of Vista other than Home Basic, you already have the Snipping Tool screen-capture utility: Choose *Start•All Programs•Accessories•Snipping Tool*. If you don't see it there, it may not be activated. Go to Control Panel and open *Program and Features* (you may have to click *Programs* first). In the task pane on the left, click *Turn Windows features on or off*. If necessary, click *Continue* when prompted by User Account Control. Scroll through the list of features, check the box next to *Tablet PC Optional Components*, and click *OK* (see the screen shot at left). Turning this set of features on gives you not only the Snipping Tool but also the Tablet PC Input Panel, the Windows Journal, and other stylus-related features.

—Scott Dunn

ANSWER LINE

Why can't I send outgoing e-mail from a friend's house?

Bill Case, Belville, North Carolina

THE PROBLEM IS, someone else's ISP can't be sure that you're you. Neither, for that matter, can your ISP, if the e-mail isn't coming over the service's own lines. Most spam and virus-laden messages carry fake From addresses, so the concern is understandable.

You have three strategies to consider. And even if neither of the first two options works for you, the final one surely will.

The first is to set up Secure Password Authentication for your own ISP. In Outlook 2003 (the instructions should be very similar in other POP e-mail programs), select *Tools•E-mail Accounts•View or change existing e-mail accounts*. In Outlook 2007, click *Tools•Account Settings*. In both versions, select your account and click the *Change* button. Check *Log on using Secure Password Authentication*, click *Next*, and then click *Finish* (see the image at right).

Option number two is to send your outgoing mail through your friend's mail server. If you still want to be able to send mail from your home network connection, you'll need to create a new e-mail account that uses your incoming mail server and your friend's outgoing mail server. To do this, use Secure Password Authentication, as described above, with one added step: Click *More Settings•Outgoing Server* so you can log on with your friend's user name and password. You may need to ask your friend's ISP for help with this.

SELECT THIS OPTION in your home e-mail account's properties box to gain the ability to log in to that account when you're on the road.

If neither of those approaches suits you, use a Web mail account when you're not at home; your ISP probably offers this service. You can integrate any POP account with your Gmail or Yahoo Mail inbox, too, so messages going to one destination also go to the other; browse to find.pcworld.com/58981 for instructions for Gmail.

—Lincoln Spector

Send your technology-related questions to Lincoln Spector at answer@pcworld.com. We pay $50 for published items.

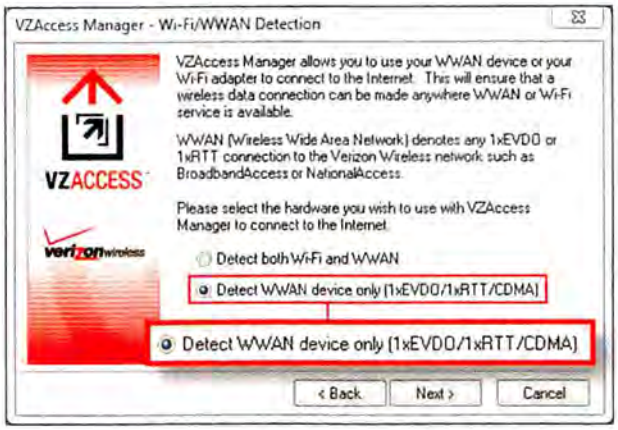
Use Your Cell Phone as a Modem for Your PC

MANY CELL PHONES can pull double duty as a modem for connecting notebooks and PCs to the Net. All you need is a phone with modem circuitry enabled, a wireless data-access plan that supports using the phone as a modem, and appropriate software for your computer.

AT&T, Sprint, and Verizon sell monthly data plans designed for people who want to use their cell phone as a modem (sometimes called "tethering"). If you use your phone in this manner on a standard data plan—not the carrier's phone-as-modem service—you may incur additional fees (for example, charges per kilobyte of data transferred). T-Mobile does not offer phone-as-modem service per se, but you can use its Dash, Wing, or any of several other handsets as modems. Though the company doesn't offer tech support or drivers, help is available from Howard Forums (www.howardforums.com) and About.com's Mobile Office guide (find.pcworld.com/58951).

Most cell phones connect to computers via USB cable, and many PDA phones come with the necessary cable. If yours doesn't, you'll have to spend about $20 for one, or rely on a wireless Bluetooth connection. If your cell phone supports high-speed 3G data service, you can achieve download rates of 220 to 700 kilobits per second, comparable to slowish DSL. T-Mobile hasn't yet deployed 3G technology; its EDGE service is only slightly faster than dial-up. If 3G is not a viable option for your phone, the connection slows to approximately 50 to 80 kbps, which is about the rate of a dial-up connection.

Any calls you receive while using your phone as a modem will go straight to voice mail. And if you place a call, your modem connection will end automatically.



CHOOSE THIS OPTION in Verizon's VZAccess Manager software to link your PC with your cell phone in order to gain Internet access.

Use AT&T's Phone-as-Modem Service

To use AT&T's service, first download the company's free Communication Manager software at find.pcworld.com/58984. Install the application on your phone, and connect the phone to your PC via USB. Some handsets require that you enable the modem feature before linking to the PC. For example, to activate the modem on a Samsung BlackJack, go to *Start•Settings•Connections•USB* on the phone, scroll to the *Modem* option, and click *Done* three times. Go to find.pcworld.com/58985 for tips on setting up a specific handset. In the Search field enter **phone as modem** plus your phone model, and press **<Enter>**. After the AT&T software identifies your device, launch the Communication Manager application and click *Connect* in the setup box (see the image below).

To get started with Sprint's service, you must first download the free Sprint PCS Connection Manager software (available at find.pcworld.com/58987) and then install it on your PC—but don't open the program yet. Instead, connect your cell phone to your computer, and then launch the Connection Manager application. Click the *Go* button, and you're done.

ONCE AT&T'S COMMUNICATION Manager software recognizes your phone, you can use it for browsing.

Modemize a Verizon Wireless Phone

For Verizon customers, the VZAccess Manager software should already be on the phone—if it isn't, download it at find.pcworld.com/58992. Most standard cell phones also need the Mobile Office Kit ($40), which includes a USB cable and PC software.

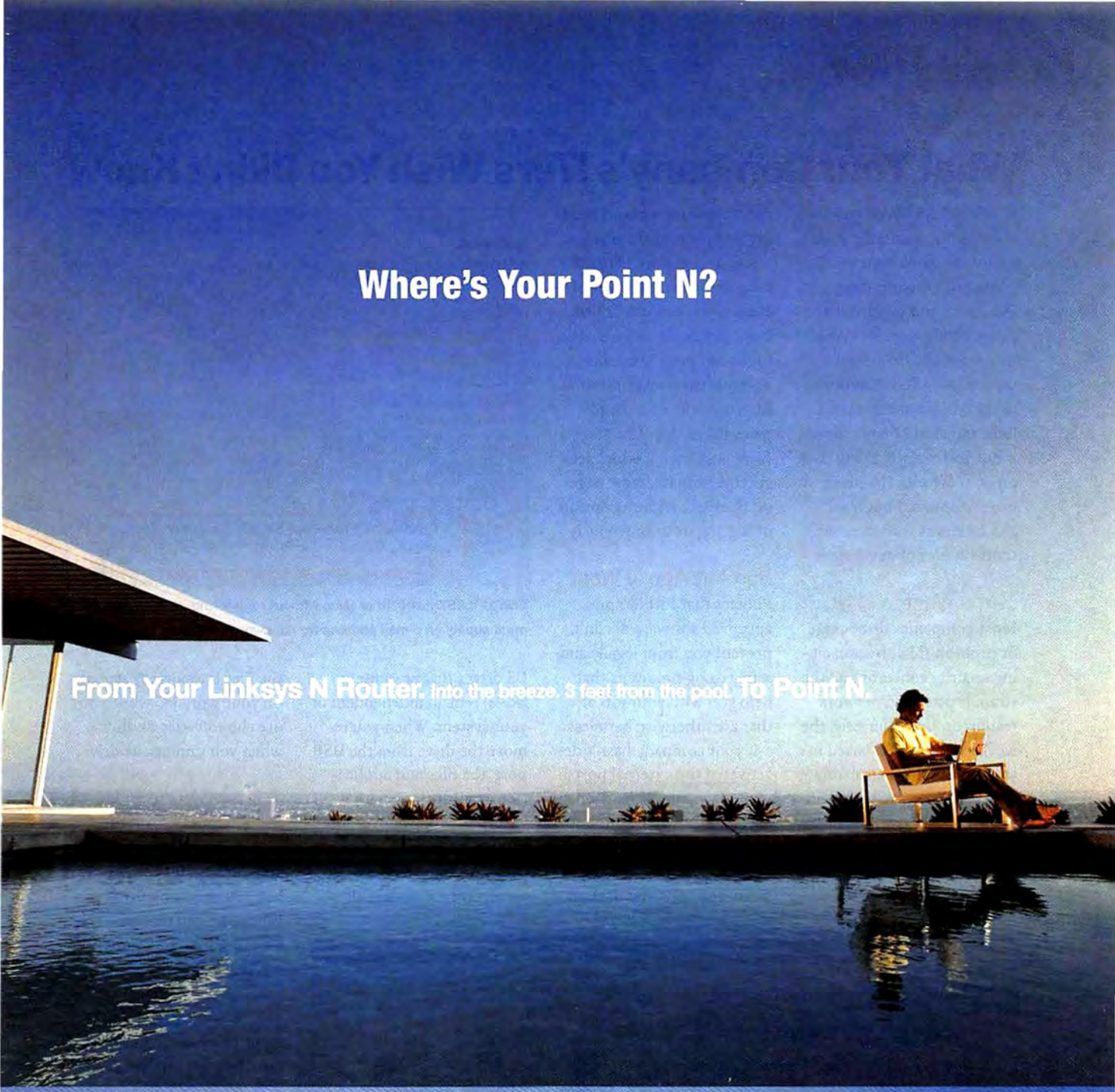
Next, you need to install and open VZAccess Manager on your computer. Step through the wizard, click *Next•Detect WWAN device only* (see the screen shot at left), and click *Next* twice more. Select *Data Cable (For tethered handsets and PDAs/Advanced Devices)*, and click *Next* again.

Now connect your cell phone to your PC. When the app identifies your phone (showing your handset's manufacturer and model name in a pop-up window), click *Yes* and then *Next*. Your cell phone number will appear on the next screen. If it's correct, click *Next* and *Finish* to exit the setup routine.

VZAccess Manager starts automatically. Select *NationalAccess - Broadband Access*, and then click *Connect*. Finally, click *Continue*.

Browse to find.pcworld.com/59175 for instructions on installing and using T-Mobile's phone-as-modem plan.

—Grace Aquino


Where's Your Point N?
From Your Linksys N Router. Into the breeze. 3 feet from the pool. To Point N.

N ULTRA RANGE*PLUS*

Point N is the place you never thought a wireless router could reach. It's sharing photos beside the pool. Watching videos on the veranda. Sending emails from the second floor bedroom. There are thousands of places you can connect from, but only one way to get there... Linksys Wireless-N Ultra Range*Plus* routers.

Find out where N will take you. www.linksys.com

WRT150N

BEST BUY · city · Office DEPOT · STAPLES that was easy

Linksys is a registered trademark or trademark of Cisco Systems, Inc. and/or its affiliates in the U.S. and certain other countries. Maximum performance derived from IEEE Standard 802.11 specifications. Actual performance can vary, including lower wireless network capacity, data throughput rate, range and coverage. Performance depends on many factors, conditions and variables, including distance from the access point, volume of network traffic, building materials and construction, operating system used, mix of wireless products used, interference and other adverse conditions. Copyright © 2007 Cisco Systems, Inc. All rights reserved.

LINKSYS®
A Division of Cisco Systems, Inc.

What Your Company's ITers Wish You Didn't Know

IT STAFFERS HAVE good reasons for restricting your use of company systems. To guard your organization's PCs, data, and bandwidth, the pocket-protector crowd may frown on IM software on company PCs, ban unauthorized software use, and limit transfers of large files.

But you can still safely chat on your favorite IM client, use unapproved but legal and harmless software, and transmit files of many sizes.

If You Want to Chat...

Most companies discourage or prohibit IM software, citing security concerns and the strain it places on network resources. Unfortunately, the workaround—Web-based instant messaging—probably uses even more system bandwidth; but at least offerings such as AOL's AIM Express (aim.com/aimexpress.adp) and Google's IM service (google.com/talk) work without needing any additional software.

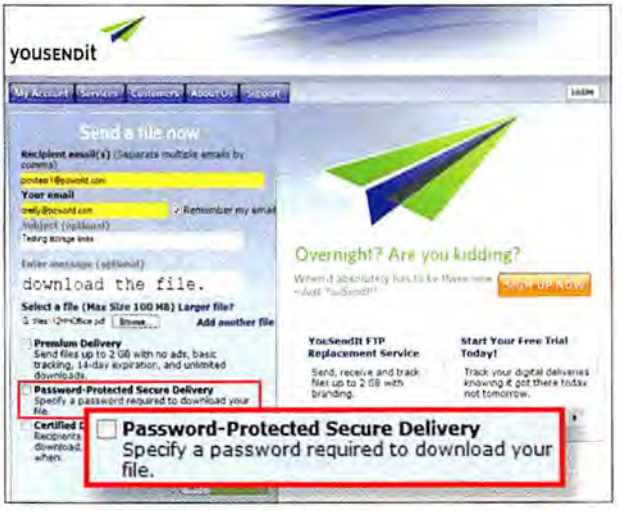
If your company's IT staff hasn't blocked multiple-IM clients, you can use Trillian Basic (find.pcworld.com/58996) for added privacy because it encrypts the communication. Alternatively, use a third-party IM enabler like Meebo (www.meebo.com), which lets you IM from its home page on the Web, with the option of logging on anonymously.

Run Any App at Work

Policies that forbid non-approved software needn't prevent you from legally and safely using programs that help you with your job or that are otherwise harmless.

If your company hasn't deactivated the external ports on its PCs, simply load whatever software you want onto a U3-enabled USB flash memory drive or portable hard drive. The apps and data on U3 drives (find.pcworld.com/58995) remain independent of your system. When you remove the drive from the USB port, the files and applications vanish along with it.

PortableApps.com offers free open-source software that you can save to any external storage device; all of the files temporarily stored on your work PC while you use the software disappear when you unplug the drive.



SEND FILES OF 100MB or less, without registering, at YouSendIt; you must supply an e-mail address for password-protected transfers.

Transfer Huge Files

Most businesses impose a ceiling on the size of e-mail attachments they'll accept, but you needn't let that prevent you from receiving the files required for your work.

Box.net, SendSpace (www.sendspace.com), SendThisFile (www.sendthisfile.com), and YouSendIt (www.yousendit.com) offer free file-transfer services, low-cost premium plans for sending giant files, and password-protected transmission. For example, YouSendIt lets you send files of 100MB or less without requiring you to register (see the screen shot above); other sites insist that you provide an e-mail address when you sign up. Recipients usually have a week to click the link in their e-mail to download a file from the service's server.

—Michael Lasky

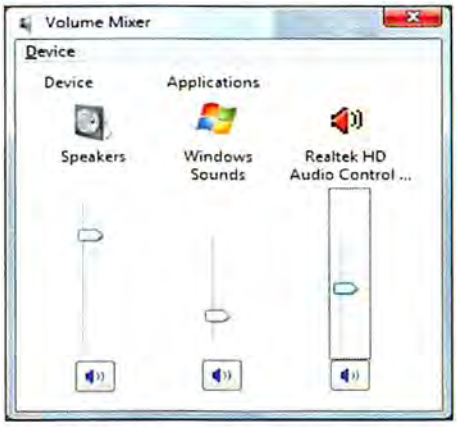
ANSWER LINE

How do I get loud music and soft Windows sounds?

Tom McGilligan, San Clemente, California

IN WINDOWS XP, you can't do much to customize your volume levels. Make sure that the volume in your media player software is cranked up as high as it can go. To turn off Windows sounds entirely, select *Start*›*Run*, type **mmsys.cpl**, and press ‹**Enter**›. Click the *Sounds* tab, choose the Sound scheme *No Sounds* (or alternatively, save your existing scheme), and click *OK*.

Vista's Volume Mixer allows you to set individual audio levels for different programs that deliver sound (XP's Volume Control looks similar to the later operating system's Volume Mixer, but it does not do the job). To reach Vista's tool, right-click the speaker icon in your system tray and select *Open Volume Mixer*. If you don't see a speaker icon, click *Start*, type **sndvol**, and press ‹**Enter**›.



ADJUST YOUR SPEAKER volume independent of Windows sounds via Vista's Volume Mixer.

—Lincoln Spector

SAVE YOUR WORLD

in a USB Flash Drive.

Nobility Series: PD17

Sport Series: RB1

Classic Series: PD2

Your world has many photos, documents, music and homework files that need storage. A-DATA USB Flash Drives offer a portable storage solution that is designed to fit your digital lifestyle and comes with a limited lifetime warranty, works with Windows® Vista™ and made lead-free to protect the environment.

RoHS

Lifetime Warranty

Windows Vista

newegg.com TigerDirect.com amazon.com Fry's ELECTRONICS MICRO CENTER

A-DATA®

www.adatausa.com

©2007 A-Data Technology Inc. All rights reserved. All trademarks are the property of their respective owners. 3149 Skyway Court, Fremont, CA 94539 USA 1.888.YO.ADATA

Optimize Wi-Fi for VoIP, Video, and Gaming

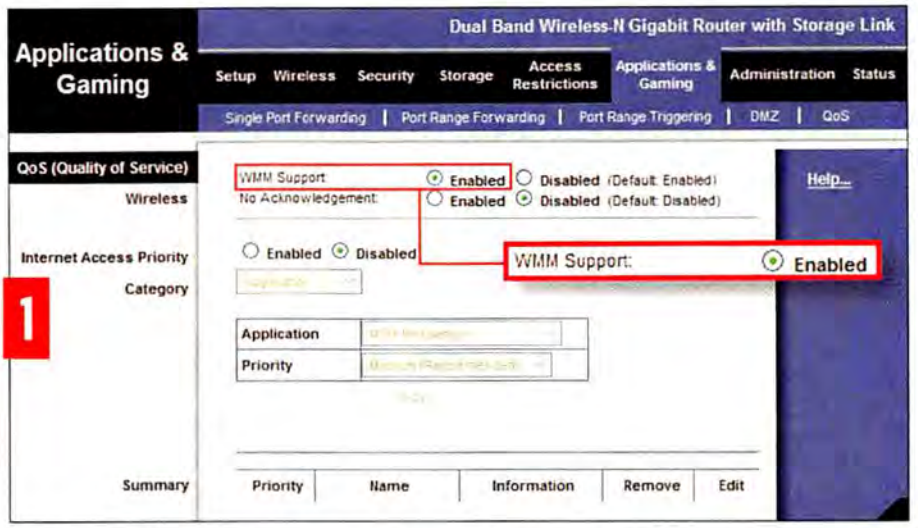
IF YOUR SKYPE or Second Life sessions start breaking up, or your iTunes stream gets clogged whenever your teenager starts playing World of Warcraft, you may be able to improve matters without buying a new router. Most routers sold in the past couple of years have a quality-of-service (QoS) feature, though you may need to update your router firmware to activate it.

To illustrate, we'll use the configuration program for Linksys routers; it has a QoS tab under 'Applications & Gaming' (first make sure that *WMM Support* is enabled; see image 1, above right). By the way, "WMM" stands for "Wi-Fi Multimedia."

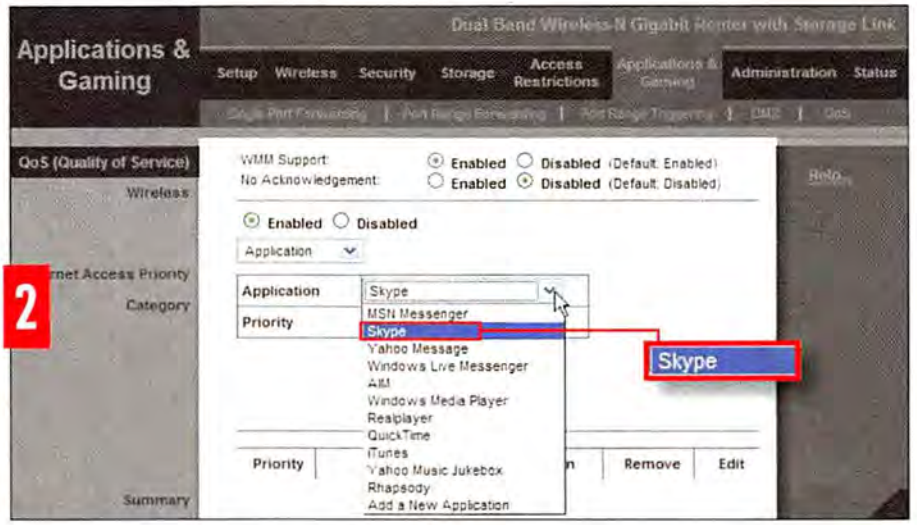
Next, turn on Internet Access Priority for your voice and media apps: Select each app from the drop-down list (see image 2, right); choose *High*, *Medium*, *Normal*, or *Low* as the priority; and click the *Add* button (see image 3, below right). You may want to give BitTorrent and other download services a low priority and give your VoIP service a high priority, for example.

Note that the Linksys utility lets you set the priority for specific voice devices, such as VoIP phones that connect directly to your network, as well. Not all routers can prioritize particular applications or devices; but at the very least, you should turn QoS or WMM on, which automatically attempts to optimize media traffic. This setting is off by default on many routers.

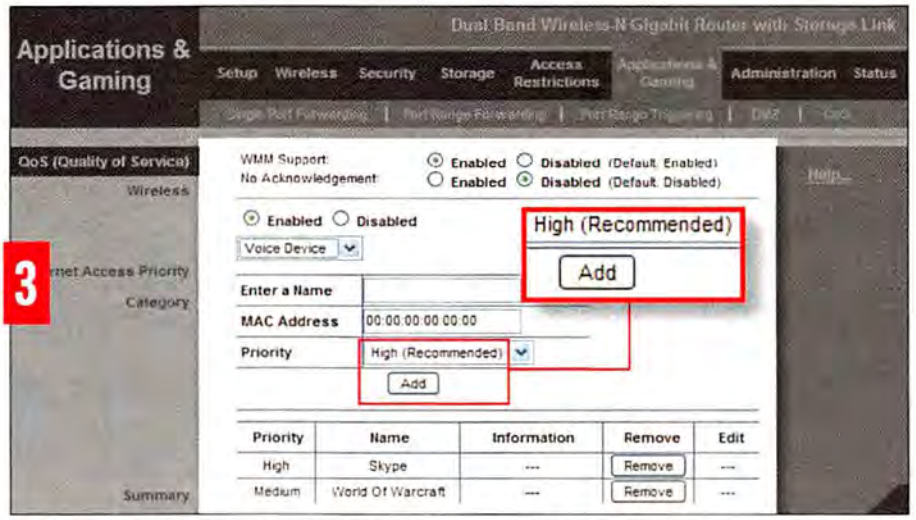
—Becky Waring



SET YOUR WI-FI router to give priority to multimedia bits by enabling this option in its setup program.



DETERMINE THE PRIORITY of your network apps one by one via the Internet Access Priority list.



GIVE YOUR VOICE and media applications higher priority than such download services as BitTorrent.

STEVE BASS'S HASSLE-FREE PC

Save Time and Protect Your Data With Three Next-Generation Tools

Drop USB for eSATA, swap your notebook hard drive for flash, and try a super recovery utility.

SOMEDAY, YOU'LL BOOT your PC, and the only thing you'll see on the screen is the message 'disk error'. Don't worry, I've got your backup. And since I know you're in a hurry (who isn't?), I'll make sure the process doesn't keep you tapping your foot impatiently.

Backups in a Blink

The Hassle: *I want to back up everything stored on my hard drive to an external USB drive, but the backups seem to take forever.*

The Fix: I feel your pain. Used to, anyway. Now I back up to an external eSATA drive that's blazingly fast. Compare it: eSATA's throughput is 300 megabytes per second (MBps); USB tops out at a paltry 60 MBps. In the real world, that speed boost means I can back up 100GB of files in about 5 minutes instead of 25.

External eSATA drives are available from many different vendors; just make sure you purchase one that uses a Silicon Image Steel-Vine Storage Processor. LaCie's d2 eSATA II 500GB Hard Drive

costs only $150, but I prefer Iomega's $220 500GB UltraMax Desktop Hard Drive (shown at left), which contains FireWire 800, FireWire 400, and USB 2.0 connections along with its eSATA port. That versatility makes the UltraMax perfect for backing up other systems that don't have an eSATA connection. Note that if your PC doesn't already have one, you'll need to purchase an eSATA card (priced at about $70) and install it in one of your system board's open slots.

Bump-Proof Your Laptop's Drive

The Hassle: *How can I reduce the likelihood that my notebook's hard drive will receive a hard knock and expire at a crucial moment?*

The Fix: Besides keeping it in bubble wrap? Seriously, you can make your notebook less susceptible to jarring by swapping out its hard drive and replacing it with a $30 Addonics Embedded IDE-CF Adapter, which accommodates two Compact Flash cards.

The benefits are that flash memory is faster than your notebook's older 5400-rpm hard drive and that flash is definitely less fragile. The negatives are limited capacity and high cost: You're stuck with 32GB of storage (each card stores a maximum of 16GB), and the cards will set you back more than $600, which is roughly $200 more than the cost of a new hard drive.

To learn about hybrid drives, which combine traditional hard-disk and flash-memory technologies, browse to find.pcworld.com/58945.

Revive a Failing Drive

The Hassle: *You keep harping about backups. But if my drive ever does fail, why can't I just use the restore CDs that came with my PC?*

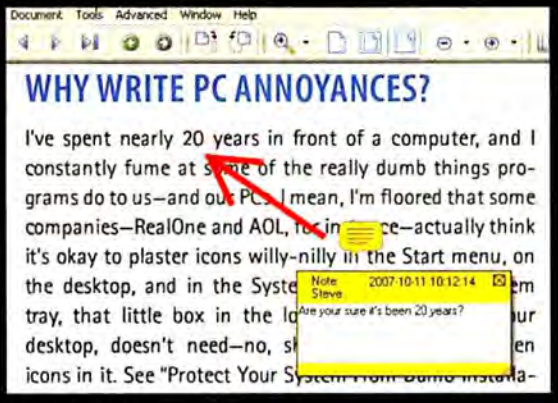
The Fix: It sounds ideal, but if your hard drive goes south, the *last* thing you'll want to use to bring it back are those "restore" CDs. That's because the discs return your PC to its factory state, destroying all of your files and settings, and wiping out any new apps that you don't have CDs for. So instead, use a program that will attempt to pry this data loose from a drive gone bad. The utility that I recommend has pulled my drives out of the ditch more than once (I won't reveal exactly how often because it's too embarrassing). That's why I don't flinch at the price, though it may startle you: It's DiskInternals' $140 Partition Recovery (find.pcworld.com/58947).

The program restores damaged, missing, or deleted files, even on reformatted partitions. It supports drives formatted as FAT or as NTFS. If your PC isn't bootable, download Partition Recovery on a buddy's machine, and then download the free BartPE tool (find.pcworld.com/58948), burn it onto a CD, and boot the sick PC from that CD long enough to install and use Partition Recovery. ●

TOOL OF THE MONTH

Foxit Reader Outfoxes Adobe

ARE YOU TIRED of having Adobe Reader hog almost 23MB of your system's disk space, constantly phone home for updates, and deliver sluggish performance? (See "Before They Spoiled the Software" at find.pcworld.com/58949 for details.) Then switch to Foxit Reader (find.pcworld.com/59115), a willowy, 2MB download that's fast, free, and more versatile than Adobe's bloatware. For instance, Foxit permits you to annotate a PDF with text or graphics (as in the screen below), and save the PDF forms you fill out.



GET THE BEST features of Adobe Reader—without all the memory and processing overhead—by using Foxit Reader.

Students Save. Others Don't.
SAVE UP TO 85% Off Retail Pricing
Thousands of Titles Available!
ADOBE CREATIVE SUITE 3 DESIGN PREMIUM
www.JourneyEd.com
1.800.874.9001
journeyEd.com

FIND.PCWORLD.COM/58578

Systor Systems, Inc.
Lowest Prices - Best Service
www.esystor.com/pcw 866-444-1876
Do-It-Yourself Duplication You Can Afford
Standalone CD DVD Duplicators
Autoloader
Daisychain CD DVD Duplicators
Copy up to 300 DVDs in 6-8 minutes
CD DVD Printers
Publishers
media & packaging

FIND.PCWORLD.COM/58746

QUALITY MEMORY UPGRADES FOR DESKTOPS, LAPTOPS, SERVERS, DIGITAL CAMERAS, CELL PHONES, AND EVERYTHING IN BETWEEN.
Instantly find the right upgrade with our state of the art memory selector at MemorySuppliers.com
MEMORYSUPPLIERS.COM
TWO EASY WAYS TO FIND YOUR MEMORY UPGRADE
SELECT YOUR DEVICE TYPE: Desktop/Server
Laptop
Digital Camera
Motherboard
OR
ENTER YOUR DEVICE TYPE: i.e. Latitude X1
Enter the coupon code "PCWorld0108" at checkout and receive an additional 15% off our already low prices.
Our Services:
- Memory Selector
- Battery Configurator
- Customized Promotional USB Flash Drives
- Guaranteed Same Day Shipping
The MemorySuppliers' Advantage:
- 110% Lowest Price Guarantee
- Same Day Shipping
- 30 Day Money Back Guarantee
- Free Shipping Both Ways
LIFETIME LIMITED WARRANTY
30 money back day guarantee
FREE SAME DAY Shipping
LOWEST PRICE 110% GUARANTEE!
We will beat any competitor's price by 10%
Call us toll free: 800-979-9707
MEMORYSUPPLIERS.COM
YOUR ONE STOP MEMORY SOLUTION
tel: 800-979-9707
www.memorysuppliers.com
sales@memorysuppliers.com

FIND.PCWORLD.COM/58742

Celebrate the New Year with new
Smartphone Accessories!
Over 3,000 products in stock, same day shipping

Special New Year Offer **10% OFF** any accessory order!

Coupon Code: NEWYEAR2008

Expires 1/31/08

Treo™	TreoCentral.com	(800) 557-6819
BlackBerry™	CrackBerry.com	(866) 904-5772
iPhone™	PhoneDifferent.com	(866) 757-7752
Windows Mobile™	WMExperts.com	(866) 904-5882

Smartphone Experts

All brand names, product names, or trademarks belong to their respective holders

FIND.PCWORLD.COM/58745

AmericasPrinter.com
The easiest way to print today.

Presentation Folders starting at only $629
TriFold Brochures starting at only $179
Sales Sheets starting at only $99
Letterhead starting at only $129
Postcards starting at only $79
Business Cards starting at only $39
Catalogs starting at only $339
Doorhangers starting at only $179

To show that our Quality is the Best!
PC World SPECIAL
Get a FREE 1000 Business Cards ($39.00 value) With your first Postcard or Brochure Order
use promotion code PCW507

16pt we print the Thickest Cardstock in the Industry standard

Mixed & Match Coating Ways
Overall Gloss UV • Spot Gloss UV • Matte Aqueous
on ALL 16pt Cardstock Orders...

We print 24 hours a day Nationwide

- FREE Sample Kit!
- 2,000+ products in our Price Guide
- Great Pricing with Fast Turnaround
- 15,000+ Customers Nationwide
- Full Commercial Heidelberg Printshop
- Print & Ship Anywhere in the USA

We Accept VISA MasterCard
Preferred Shipping Carriers UPS FedEx Federal Express

800.552.1303 toll free
714.521.1100 CA | 714.521.5650 fax
6910 Aragon Circle, Buena Park, CA 90620
www.AmericasPrinter.com

FIND.PCWORLD.COM/58748

World's Most Attractive Logo Design Package

- ✓ $1 deposit to start
- ✓ Unlimited logo concepts & revisions
- ✓ Fastest turnaround time
- ✓ 5 designers assigned to every project
- ✓ Only $259 flat-rate

Logocare
877.918.9188
www.LogoCare.com/pcw
Design . Print . Promote

FIND.PCWORLD.COM/58529

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.™

FIND.PCWORLD.COM/58750

Quality Inks at Discounted Prices
Free Shipping on all Orders Over $45.00

NOW AVAILABLE!

RECYCLED Canon Chipped Cartridges

- Remanufactured Inkjet Cartridges
- Compatible Ink Cartridges
- Ink Cartridge Refill Kits
- Cheap Discount Combo-Pac Deals!
- OEM Original Inkjet Printer Cartridges

www.atlanticinkjet.com
We Offer a Large Selection of Recycled HP and Lexmark Cartridges
AtlanticInkjet
For All Your Inkjet Cartridge Needs!

FIND.PCWORLD.COM/58781

Disc Printers from $695*

GX Disc Publisher

- Inkjet Printing—Lowest Cost in Industry
- DVD/CD Publisher
- Burn DVDs at 18X and CDs at 48X
- Small Footprint: Just 11.5" Wide!
- True 50-Disc Input/Output
- USB 2.0 Connectivity

Now Available: Print-Only Solutions!

Based on the award-winning GX Disc Publisher come two great new additions to the GX Series. The all-new GX AutoPrinter (left) prints 50 discs unattended! The GX Disc Printer (right) is an economical manual-loading single-disc printer.

$1495*

Print & Burn!

GX® SERIES

*MAP Pricing

Also try... WaterShield™

Water-Resistant CD-R and DVD-R Media from TAIYO YUDEN®

MICROBOARDS Technology

microboards.com 800.646.8881

from this...

...to this!

FIND.PCWORLD.COM/58743

QUALITY MEMORY UPGRADES FOR DESKTOPS, LAPTOPS, SERVERS, DIGITAL CAMERAS, CELL PHONES, AND EVERYTHING IN BETWEEN.

Instantly find the right upgrade with our state of the art memory selector at MemorySuppliers.com

MEMORYSUPPLIERS.COM

TWO EASY WAYS TO FIND YOUR MEMORY UPGRADE

SELECT YOUR DEVICE TYPE: Desktop/Server (Laptop, Digital Camera, Motherboard) OR ENTER YOUR DEVICE TYPE: i.e. Latitude X1

Enter the coupon code "PCWorld0108" at checkout and receive an additional 15% off our already low prices.

Our Services:
- Memory Selector
- Battery Configurator
- Customized Promotional USB Flash Drives
- Guaranteed Same Day Shipping

The MemorySuppliers' Advantage:
- 110% Lowest Price Guarantee
- Same Day Shipping
- 30 Day Money Back Guarantee
- Free Shipping Both Ways

LIFETIME LIMITED WARRANTY
30 day money back guarantee
FREE SAME DAY Shipping
LOWEST PRICE 110% GUARANTEE!
We will beat any competitor's price by 10%
Call us toll free: 800-979-9707

MEMORYSUPPLIERS.COM
YOUR ONE STOP MEMORY SOLUTION

tel: 800-979-9707
www.memorysuppliers.com
sales@memorysuppliers.com

FIND.PCWORLD.COM/58741

Get your Degree in Accounting and Business Management!

Train at home in your spare time like I did!

In as little as 16 months, you can earn your nationally accredited Associate Degree in Accounting & Business Management! McKinley College's distance-learning program can pave the way for better promotions, a new career and more income – up to $50,000 a year *or more* with experience!

This is complete training – custom textbooks, learning aids, software and video instruction are all included at no extra cost. There are no classes to attend or schedules to keep! Study at your own pace in the comfort of your own home.

Accredited • Affordable • Approved

McKinley College

Get Free Facts!
Call toll-free or write today!

800.947.6210, Dept. PCWAC7
McKinley College, Dept. PCWAC7
2001 Lowe Street, Fort Collins CO 80525

FIND.PCWORLD.COM/58755

USB SERIAL ATA

Emergency Drive Copy

Granite D·I·G·I·T·A·L

The tool every computer user must have. Copy, Backup, Duplicate, Recover, Repair, Restore, Archive, and Test any SATA or IDE Hard Drive. Make a duplicate copy of critical data without having to open up the computer.

USB 2.0 *to* SATA/IDE Cable... $24.95

Drive Shield Protection

Protect any 2.5" and 3.5" hard drive mechanism. Slide in the drive and protect them from static electricity, short circuits, and impacts.

Silicon Shields 2.5" & 3.5" Kit... $9.95

• granitedigital.com • 510-471-6442 •

FIND.PCWORLD.COM/58802

CyberLock® The Lock on Intelligence

Complete Access Control in Every Lock Cylinder

Replace standard door lock cylinders with CyberLock cylinders in minutes.

Install CyberLock cylinders
— without wiring —
in doors, safes, padlocks, and cabinets!

- Schedule access times
- Record all openings and attempts
- Replace mechanical cores with CyberLocks
- Update user permissions remotely
- Eliminate key control problems

Secure storage units and file cabinets and get an access history.

Videx

www.videx.com/lock29
541-758-0521 • sales@videx.com

FIND.PCWORLD.COM/58747

Students & Teachers: We've got you covered this holiday season!

Prices may be subject to change.

Alias®
Maya Unlimited 8.5 ..... $389
Maya Complete 8.5 ..... $289

Sibelius®
Sibelius 5 ..... $249

MakeMusic®
Finale 2008 ..... $259

Native Instruments®
Kontakt 2 ..... $229
Guitar Rig 2 ..... $429

Adobe®
Acrobat Pro 8 ..... Save 67%
Photoshop CS3 Ext. ..... Save 71%
InDesign CS3 ..... Save 73%
Flash CS3 Pro ..... Save 66%

Total Training®
Acrobat 8 Pro Training $89
Photoshop CS3 Ext. Training $69
After Effects CS3 Training $89

Microsoft®
Vista Home Upgrade $144

PARENTS! These are great gifts for your kids!
Items in stock today!
Save up to 85%!
FREE Shipping! When you order online!

ACADEMIC SUPERSTORE
Come Shop Today! 1-800-580-9237
PW.AcademicSuperstore.com
source code A157

FIND.PCWORLD.COM/58488

http://www.pcgalaxy.com

PCGALAXY.com™

- Computer Systems
- Software
- System Components
- Printers / Office Equipment
- Displays
- Accessories
- Audio / Video Devices
- Cables
- Communications
- Imaging Devices
- Input / Output Devices
- Network Devices
- POS / AIDC / Barcode
- Power / Rack Equipment
- Presentation Devices
- Security Products
- Service / Warranties
- Storage Devices
- Supplies & Media
- Training
- Video Gaming

FREE Shipping with Discount Code **PCWPCG108** expires 1/10/08*

*Discount Code **PCWPCG108** must be entered at time of order. Discount applies to orders placed via the web site only: http://www.pcgalaxy.com

Huge Selection
One Stop Shopping
Over 1,000 Brands!

Low Prices on Everything You Need!
Servers, Workstations, Notebooks, Printers, Hardware, Software, Accessories & Supplies

IDP.NET

(800) 878-0790
(703) 591-7118
sales@pcgalaxy.com

PCGalaxy.com is a trademark of Integrated Data Processing, Inc..

FIND.PCWORLD.COM/58573

AMERICA'S MEDIAMARKETING
For Ad Rates Call:
1-800-374-3850

INVENTIONS

INVENTORS: We can help try to submit ideas to industry. Patent services. Call InventHelp(sm) **1-800-INVENTION**

BUSINESS OPPORTUNITIES

Ready to retire young? Not making $ $ Take first step. **1-800-385-9637** www.kanuimagine.net

A-1 BIZ OPPORTUNITY Millionaire Mentor Seeks Entrepreneurs 1.888.623.1227 www.attractingwealth.mobi

SOLAR HEATING PRODUCTS

REDUCE HIGH HOME HEATING COSTS with solar heating drapes or solar forced air heaters from ClearDomeSolar.com or call **619-990-7977.**

FINANCIAL

MONEY PROBLEMS? 1-800-604-0873 GUARANTEED HELP NOW. FREE CALL NOW. **1-800-604-0873.**

NEW UNSECURED VISA! Get $500-$10,000 fast! Bad/No Credit OK! Build Credit! **1-888-252-5150** 24/hours

OF INTEREST TO ALL

CARS AND TRUCKS FROM $500. Police Impounds! For Listings Call: (800)749-4260 Ext. 7550

FREE MUSIC DOWNLOAD
SAMPLE FOR YOUR... I-POD
NEW ARTIST - NEW SONGS - NEW STYLES
-----LOG ON NOW!-----
HELLO UNKNOWN ARTIST
IF YOU HAVE A SONG ON CD
Get It Out there
List YOUR SONG ON OUR SITE
www.major-music.com

FIND.PCWORLD.COM/58749

PCWorld
» MarketPlace «
For Advertising Information Call
888-254-0711

Peace of Mind in the Digital World

Send Thieves to Someone Else's Computer ▸

The Best Price in Town ▸

STOP-Lock: Two-In-One Notebook Security Tracking and Locking System!

Police-identifiable tag removes resale value. Locking cable prevents walk-off theft. Double-protection at a price lower than single-protection solutions. The STOP-Lock plate is easy to install and gives around-the-clock security protection.

Only $39.95

The Sonic Shock Alarm simply stops LCD projector theft.

Ideal for LCD and Plasma TVs too!

A standard security item for colleges and institutions, the Sonic Shock Alarm repels thieves with a two-hour-long, 117 dB siren that can't be stopped. Easy to use and reuse. Never a false alarm. The Sonic Shock sends thieves elsewhere.

$85.95

Kāblit™ computer security packages save data.

Financial records. Your identity. Your technology. It's not the computer, it's the data and time you can't afford to lose. At Secure-It, we understand this reality. Our desktop security systems prevent theft of your data, your time, and your emotions.

From $29.95

3M™ Privacy Filters protect sensitive information.

3M premium-quality notebook and LCD monitor privacy filters excel at stopping prying eyes from viewing your monitor. Enables you to work privately in open, high-traffic environments.

3M is a trademark of 3M Company.

From $45.95

Secure-It
Safeguarding your Digital World since 1983

For details on these products and other security solutions visit **www.Secure-It.com** or call **800-451-7592.**

FIND.PCWORLD.COM/58744

PRESIDENT, CEO Mike Kisseberth

PCW

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

INTEGRATED ADVERTISING SALES

SENIOR VP/GROUP PUBLISHER
Michael Carroll (508/370-0842)

ASSOCIATE PUBLISHER/NATIONAL DIRECTOR Mark Barreca (732/544-2006)

ASSOCIATE PUBLISHER/INTEGRATED SALES AND CUSTOM PUBLISHING
Kathy McKay (847/251-9274)

SALES ASSOCIATE
Shari Redan (508/370-0819)

EAST

SOUTH EAST DIRECTOR, INTEGRATED SALES Amy Singer (201/634-2317)

ACCOUNT EXECUTIVE
Kathy Snow (508/820-0440)

SALES ASSOCIATE
Jolene Westerling (508/370-0830)

WEST

NORTH WEST DIRECTOR, INTEGRATED SALES Alicia Langer (415/267-4578)

SOUTH WEST DIRECTOR, INTEGRATED SALES
Cindy Hamilton (949/442-4005)

SALES ASSOCIATE
Billie Sutherland (949/442-4014)

WESTERN DIRECTOR, PC WORLD ONLINE
Melissa Gruber (415/974-7373)

INSIDE PRINT SALES & FREMONT DIRECTOR, INTEGRATED SALES
Duane Hampson (415/978-3133)

PC WORLD MARKETPLACE

Neal Mandel (888/254-0711)

PC WORLD REPRINTS

Ashley Rinier (717/399-1900 x125)

CUSTOM PUBLISHING

ASSOCIATE PUBLISHER/MIDWEST, INTEGRATED SALES & CUSTOM PUBLISHING
Kathy McKay (847/251-9274)

PCWORLD.COM AD OPERATIONS

AD OPERATIONS/AD DESIGN MANAGER
Kevin Barden (415/975-2673)

AD PROJECT COORDINATOR
Leilani Lopez (415/978-3125)

AD OPERATIONS COORDINATOR
Keri Campbell (415/978-3317

MARKETING

SENIOR DIRECTOR OF MARKETING
Sandy Wong

SENIOR MARKETING SPECIALIST
Michelle Kloss

MARKETING SPECIALIST Rose Kwass

RESEARCH

SALES AND RESEARCH SPECIALIST
Angela Beaudoin

CONSUMER MARKETING

DIRECTOR David Cobb

SINGLE COPY SALES DIRECTOR
Holly Drawbaugh

DIRECTOR, RETENTION MARKETING
Lisa Radler

SENIOR SUBSCRIPTION MARKETING
Linda Trinh

SENIOR RETENTION MARKETING
Robyn Patty

SUBSCRIPTION MARKETING MANAGER
Jennifer Ma

RETENTION MARKETING SPECIALIST Shavon Burden

PRODUCTION

DIRECTOR, PRINT AND ONLINE PRODUCTION Nancy Jonathans

PRODUCTION MANAGER Lisa S. Mireles

ASSISTANT PRODUCTION MANAGER
Eliza Wee

ONLINE MANAGEMENT

SENIOR VP/GENERAL MANAGER, ONLINE Stephan Scherzer

VICE PRESIDENT, BUSINESS DEVELOPMENT Ulla McGee

DIRECTOR, BUSINESS AND LEGAL
Sue Krenek

DIRECTOR, BUSINESS DEVELOPMENT & AD OPERATIONS Brian Buizer

MANAGER, BUSINESS DEVELOPMENT
David Lake

DIRECTOR, ONLINE MARKETING
Alexa Wriggins

DIRECTOR, WEB DESIGN
Jason Brightman

NEWSLETTER SERVICES MANAGER
Michael E. England

EMAIL MARKETING MANAGER
DW Malouf

BUSINESS DEVELOPMENT COORDINATOR Alisha Billingsley

HUMAN RESOURCES

VICE PRESIDENT, HUMAN RESOURCES
Kate Coldwell

HUMAN RESOURCES REPRESENTATIVE
Ellen Malinowski

TECHNOLOGY

CHIEF TECHNOLOGY OFFICER
Aaron Jones

DIRECTOR, IT & WEB OPERATIONS
Sean Greathouse

IT MANAGER Walter Clegg

NETWORK MANAGER Rodney Barnes

IT DEVELOPMENT Stan Erhart

SYSTEMS ANALYST Eileen Quan

IT SPECIALIST Scott Reyna

SENIOR SYSTEM/NETWORKS ADMINISTRATOR Wil Schultz

SYSTEM/NETWORKS ADMINISTRATOR
John Wang

DIRECTOR, APPLICATIONS DEVELOPMENT Jim Hutson

SENIOR APPLICATIONS DEVELOPERS
Arturo Flores, Wei Ming Xu, Bill Cappel, Alexis Barrera, Greg Trester

APPLICATIONS DEVELOPER
Justin Counts,

QA ENGINEER Matthew Newton

PROJECT MANAGER Kayan Wong

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.	52	58767
Acer America Corp.	33-40	58789
A-DATA Technology	133	58768
Alienware	5	58768
AltiGen	23	58797
Antec Inc.	93	58752
APC	57	58798
APC	C3	58805
Apricorn	16	58806
Ascentive, LLC	31	58775
ASUS	73-80	58790
BitDefender Security	27	58753
Bose	71	58801
Brother	6	58757
Buffalo Technology	49	58756
CDW	C2-1	58758
CDW	46	58759
CyberPower PC	9	58777
CyberPower PC	17	58778
CyberPower PC	103	58779
DeLorme	8	58791
eMusic.com	105	58770
Eset (NOD32)	61	58804
eWiz	84	58782
Fujitsu	89	58799
Full Sail	70	58760
GoToMyPC	85	58769
Hanns.G	63	58754
HP	21	58783
HP	95	58803
IBM	55	58800
IOGEAR Inc.	16A	58809
IRIS Inc.	51	58771
Linksys	131	58761
Microsoft Windows Mobile	10, 11	58796
Moneual Lab	125	58751
Nero	65	58762
pcAmerica	114	58772
QuickBooks	2-3	58784
Samsung Americas	16C	58808
SanyoDigital.com	43	58785
Sena Cases	123	58786
Shure	113	58763
Siber Systems, Inc.	4	58774
Sony Electronics	C4	58807
SpectorSoft Corp	69	58773
Spyware Terminator	45	58766
StoreVault (NetApp)	91	58792
Toshiba	29	58780
Transcend Inc.	87	58764
TRENDnet	67	58787
Wacom	25	58794
Webroot Software	12	58795
Wi-Ex	14	58765

International Data Group (IDG) is the world's leading technology media, research, and event company. A privately-held company, IDG publishes more than 300 magazines and newspapers including Bio-IT World, CIO, CSO, Computerworld, GamePro, InfoWorld, Network World, and PC World. The company features the largest network of technology-specific Web sites with more than 400 around the world. IDG is also a leading producer of more than 170 computer-related events worldwide including LinuxWorld Conference and Expo®, MacworldConference and Expo®, DEMO®, and IDC Directions. IDC provides global market research and advice through offices in 50 countries. Company information is available at http://www.idg.com.

Full Disclosure

STEPHEN MANES

It Plugs! It Plays! What a Surprise!

WHEN YOU COVER an industry whose typical level of quality routinely begets stories like "How to Survive the Worst PC Disasters" and "Wipe Out Windows Annoyances," you come to expect that dealing with new tech equipment will bring irritations, aggravations, and delays. Purchase a new computer, and you anticipate several days of woe. Install a new network, and you know you'll be running from room to room in search of the mojo that will let computer A see computer B—and, when you get that right, vice versa.

But even a task as apparently straightforward as attaching a peripheral is rarely easy. Plug in a smart phone, and you'll find yourself installing synchronization software and maybe a driver, and babying them into submission. Fire up a new multifunction printer, and several hours of software installation later, some of the functions may actually work.

You might think no such problems could possibly arise with a product as simple as a mouse. But they do. The optical model that came with my latest PC had unacceptably stiff buttons and a shape that hurt my hand. Its replacement—an ancient mechanical Microsoft one I cannibalized from my old system—began insisting on bouncing the cursor around the screen no matter how often I cleaned its ball and fuzzy innards. I realized it was time to go shopping.

Once, a computer mouse was pretty much just a computer mouse. No more. In the aisles of a nearby office-supply store I found an overabundance of mice of every possible variety. Corded mice, USB-only and with PS/2 connectors. Cordless mice, rechargeable and not, Bluetooth and proprietary. Notebook mice with retractable cords. Mice with antibacterial housings. Mice with a ball where the scroll wheel should be. Mice in white, black, silver, gray, and even cute tiger stripes. Sixty-dollar mice, and mice for a ten-spot.

None were unwrapped and open for testing, so some culling was necessary. Cordless mice were out: the last time I tested one, I kept getting messages about driver errors every time I booted up. Besides, I have enough batteries to manage without adding yet another. And hey, my desktop machine isn't likely to wander any farther than the length of the cord.

Ultracheapies? Too much like the throw-in loser I received with my PC. Extra buttons? Too much effort to program and learn 'em. Funny shapes and configurations? Too much of an ergonomic gamble. In the end, I went with a $20 Microsoft Wheel Mouse Optical, with both USB and PS/2 connectors.

Pleasing plus: The plastic bubble sealing the mouse in its package required only fingers to open it. Annoying minus: The box included a CD-ROM. Having been burned in the past by add-on pointing software, I ignored it.

I plugged the mouse into the PS/2 port and booted up. No messages about new drivers. No software to install. No additional effort or learning curve. The mouse felt fine in my hand, the buttons were satisfyingly responsive, and though the scroll wheel seemed a tad loose, I was happy. The thing even tracked well on my off-white Formica desktop, allowing me to keep my workspace mouse-pad-free. Success!

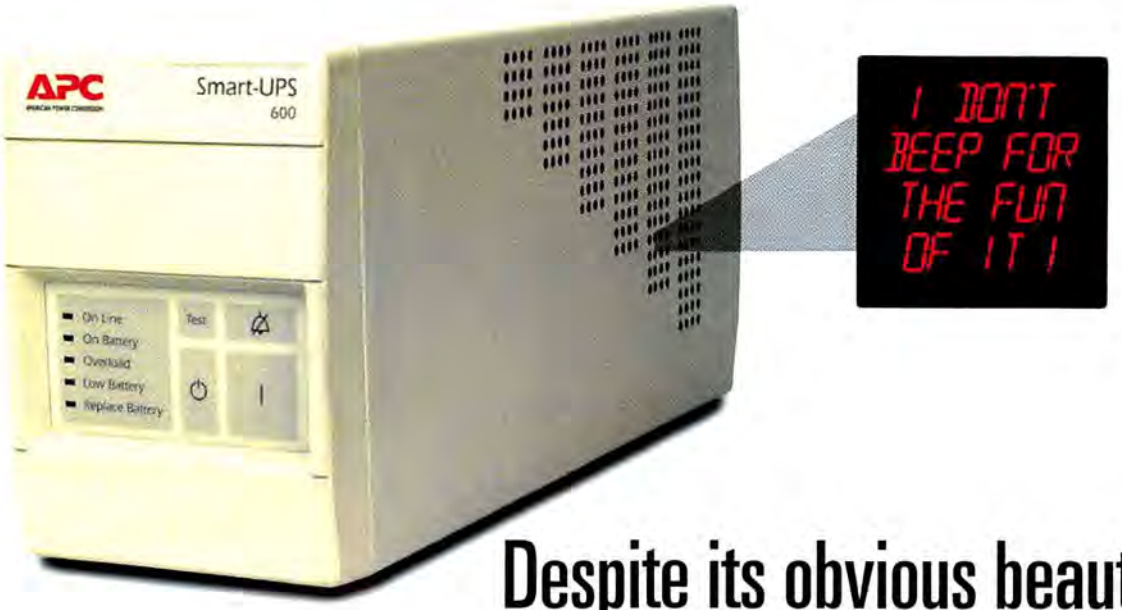
It's kind of thrilling when the process of buying and installing a tech product goes without a hitch.

Remember the broken promise called "Plug and Play"? Remember when Microsoft touted the hapless Windows Me with the slogan "It Just Works"? Then you'll realize how pleasantly surprising it is to see, for once, a glimmer of the simplicity that by now should be second nature in the PC world—but almost never is. ●

ILLUSTRATION: JOHN CUNEO

IDG

Volume 26, number 1 *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 #300, 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 #2483993. 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 © 2007, 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



Despite its obvious beauty, an aging UPS is easy to overlook (that's why it beeps).

Upgrade, or juice up, your old UPS today for a happy tomorrow.

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

Luckily, there is a simple solution for renewed peace of mind — APC Trade-UPS. With the Trade-UPS program, you can trade in your aging UPS for a new unit and receive a 35% discount on your new purchase, plus more runtime and enhanced manageability of networked power and cooling. Not only will you see improvement in performance, you'll also see improvements in your utility bill.

So if you love your UPS reliability, make it last forever. Don't wait for your aging UPS to fail you — Trade UP today.

Three easy steps to improved power protection.

You can get the latest in UPS technology, at 35% off, with the APC Trade-UPS program.

Step 1: Tell us what you have
- manufacturer/model
- serial number
- capacity in volt/amps (VA)
- number of units

Step 2: Choose what's best for you by
- price
- features
- capacity

Step 3: Checkout
- Get up to 35% off the price of each new UPS
- New 2 year warranty
- FREE return shipping of old units
- FREE environmentally friendly disposal of your old UPS

Trade-UPS

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

Trade-UPS

Upgrade today and save!

Visit APC online and receive up to 35% off the latest in UPS technology.

APC
Legendary Reliability®

Visit www.apc.com/promo Key Code y416x • Call 888.289.APCC x4752 • Fax 401.788.2797

©2007 American Power Conversion Corporation and MGE UPS Systems, Inc. All rights reserved. All APC trademarks are property of APC-MGE
e-mail: esupport@apc.com • 132 Fairgrounds Road, West Kingston, RI 02892 USA

EDL4B7EE_EN

SONY

Sony recommends Windows Vista® Ultimate

People will stare. Even when you're not playing a movie.

For special offers and to learn more about the beautiful wall-mountable Sony® VAIO® PC/TV with Windows Vista® go to **sonystyle.com/vaiovista.**

Screen image simulated.

© 2007 Sony Electronics Inc. All rights reserved. Reproduction in whole or part without written permission is prohibited. Sony, the Sony logo, VAIO, the VAIO logo, Handycam, and like.no.other are trademarks or registered trademarks of Sony. Windows Vista is either a registered trademark or trademark of Microsoft Corporation in the United States and/or other countries.

like.no.other™

Windows Vista® Ultimate